

Institut für Energetik und Umwelt
gemeinnützige GmbH

Institute for Energy and Environment



Appendix

Sustainable Strategies for Biomass Use in the European Context

Analysis in the charged debate on national guidelines and the competition
between solid, liquid and gaseous bioenergy sources



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Legislation and support programmes for bioenergy

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A 1 Austria

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	78,1 %
National			
Share of biomass, geothermal, solar and wind power in the electricity supply		2003	2 %
		2005	3 %
		2007	4 %
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
Political Instruments to Promote the Use of Biomass /5/, /7/, /9/			
Electric Energy /11/			
Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs		
Tax relief	Electricity Delivery Law (since 1996, modified 2000) Tax relief for the production of RE-electricity for own consumption up to 5000 kWh/a 11,8 % of the revenues are allocated to the states for the promotion of RE-projects		
Feed-in tariffs	Eco-Power-Law (since 2003) Feed-in tariffs are guaranteed for at least 10 years (2002: 13 years) biomass 10,2 to 16,5 €/t/kWh depending on the installed electrical power, used technology and used kind of biomass (solid, liquid, gaseous; waste,,)		
System of quota / certificates	—		
NFFO	—		
Miscellaneous	Investment incentives for RE at a state level		

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ‚de-minimis’-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels</p> <p>unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

A 2 Belgium

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NFFO	—		
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Feed-in tariffs	—
System of quota / certificates	—
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A 3 Cyprus

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System of quota / certificates	—		
NFFO	—		
Miscellaneous	Investment incentives for RE at a state level		

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Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

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A 4 Czech Republik

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System of quota / certificates	—		
NFFO	—		
Miscellaneous	Investment incentives for RE at a state level		

Heat

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Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

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A 5 Denmark

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/	2010		78,1 %
National			
Share of biomass, geothermal, solar and wind power in the electricity supply	2003		2 %
	2005		3 %
	2007		4 %
Fuels			
EU			
Share of biofuels and other renewable fuels	2005		2,0 %
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System of quota / certificates	—		
NFFO	—		
Miscellaneous	Investment incentives for RE at a state level		

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Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
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A 6 Estonia

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
	2007	4 %
Fuels		
EU		
Share of biofuels and other renewable fuels in the energy content of all fuels /3/	2005	2,0 %
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Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

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System of quota / certificates	—
NFFO	—
Miscellaneous	Investment incentives for RE at a state level

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Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
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Fuels

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A 7 Finland

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
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Fuels		
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Share of biofuels and other renewable fuels in the energy content of all fuels /3/	2005	2,0 %
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Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs
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Feed-in tariffs	—
System of quota / certificates	—
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A 8 France

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	2005	3 %
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System of quota / certificates	—
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Fuels

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A 9 Germany

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Electric Energy		
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Miscellaneous	Investment incentives for RE at a state level

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

A 10 Greece

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
	2007	4 %
Fuels		
EU		
Share of biofuels and other renewable fuels	2005	2,0 %
in the energy content of all fuels /3/	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs
Tax relief	Electricity Delivery Law (since 1996, modified 2000) Tax relief for the production of RE-electricity for own consumption up to 5000 kWh/a 11,8 % of the revenues are allocated to the states for the promotion of RE-projects
Feed-in tariffs	Eco-Power-Law (since 2003) Feed-in tariffs are guaranteed for at least 10 years (2002: 13 years) biomass 10,2 to 16,5 €/t/kWh depending on the installed electrical power, used technology and used kind of biomass (solid, liquid, gaseous; waste,,)
System of quota / certificates	—
NFFO	—
Miscellaneous	Investment incentives for RE at a state level

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

A 11 Hungary

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
	2007	4 %
Fuels		
EU		
Share of biofuels and other renewable fuels in the energy content of all fuels /3/	2005	2,0 %
	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs
Tax relief	Electricity Delivery Law (since 1996, modified 2000) Tax relief for the production of RE-electricity for own consumption up to 5000 kWh/a 11,8 % of the revenues are allocated to the states for the promotion of RE-projects
Feed-in tariffs	Eco-Power-Law (since 2003) Feed-in tariffs are guaranteed for at least 10 years (2002: 13 years) biomass 10,2 to 16,5 €/t/kWh depending on the installed electrical power, used technology and used kind of biomass (solid, liquid, gaseous; waste,,)
System of quota / certificates	—
NFFO	—
Miscellaneous	Investment incentives for RE at a state level

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

A 12 Ireland

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
	2007	4 %
Fuels		
EU		
Share of biofuels and other renewable fuels	2005	2,0 %
in the energy content of all fuels /3/	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs
Tax relief	Electricity Delivery Law (since 1996, modified 2000) Tax relief for the production of RE-electricity for own consumption up to 5000 kWh/a 11,8 % of the revenues are allocated to the states for the promotion of RE-projects
Feed-in tariffs	Eco-Power-Law (since 2003) Feed-in tariffs are guaranteed for at least 10 years (2002: 13 years) biomass 10,2 to 16,5 €/t/kWh depending on the installed electrical power, used technology and used kind of biomass (solid, liquid, gaseous; waste,,)
System of quota / certificates	—
NFFO	—
Miscellaneous	Investment incentives for RE at a state level

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

A 13 Italy

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	78,1 %
National		
Share of biomass, geothermal, solar and wind power in the electricity supply	2003	2 %
	2005	3 %
	2007	4 %
Fuels		
EU		
Share of biofuels and other renewable fuels	2005	2,0 %
in the energy content of all fuels /3/	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	Environmental Promotion Law (UFG (Umweltförderungsgesetz); since 1993, modified 2002) for the support of innovative technologies 10 to 30 % of the investment costs
Tax relief	Electricity Delivery Law (since 1996, modified 2000) Tax relief for the production of RE-electricity for own consumption up to 5000 kWh/a 11,8 % of the revenues are allocated to the states for the promotion of RE-projects
Feed-in tariffs	Eco-Power-Law (since 2003) Feed-in tariffs are guaranteed for at least 10 years (2002: 13 years) biomass 10,2 to 16,5 €/t/kWh depending on the installed electrical power, used technology and used kind of biomass (solid, liquid, gaseous; waste,,)
System of quota / certificates	—
NFFO	—
Miscellaneous	Investment incentives for RE at a state level

Heat

Investment incentives	<p><u>Small private plants</u> are supported in line with the housing support scheme (e, g, additional eco-fee depending on the energy characteristic and floor space) or specific biomass promotion (often as a one-time grant to the investment costs), the conditions for and the degree of the support are different in the individual states, /15/</p> <p><u>Commercial plants</u> are supported in line with the environmental promotion, e, g, Tyrol Environmental promotion is handled as ,de-minimis'-grant in the sense of EU-jurisdiction and is valid until December 31st 2006, The following measures are supported: operative measures for an alternative use of energy (e, g, biomass plants), construction investments (incl, capitalised services), equipment investments (incl, capitalised services) and other equipment as well as immaterial costs (e, g, external surveys or concepts), Only costs with a direct connection to the project can be supported, This costs may only include the additional costs to reach the environmental targets, The support is given as one-time grant in the height of max, 10 % of the eligible costs (assessment basis for promotion), /15/</p>
Tax relief	—
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	<p>Mineral Oil Taxation Law (BGBl 1995/630); since 1995 100 % tax relief for biodiesel and bioethanol partial tax relief for fuel mixes (up to 5 % biodiesel) production of biodiesel is not taxable, if the biodiesel is used exclusively in the agriculture</p>
R & D	Especially in local traffic
Miscellaneous	<p>Fuel Decree (BGBl 1992/123); since 1992 it regulates the use of liquid fuels unlimited production of biodiesel</p> <p>Austrian Decree on Transportation Fuels up to 3 % of biodiesel can be mixed with conventional diesel</p>

LatviaNFFO —

Sonstiges **F & E – Programm** (1998-2004)
 insgesamt 257 Mio, €
 Schwedische Energieagentur für Umsetzung verantwortlich

Wärme

Investitionsförderung Es gab lokale Investitionsprogramme zur nachhaltigen Entwicklung, in deren Rahmen u.a, auch Bioheizungen gefördert wurden,

Steuervergünstigung Es wurden unterschiedliche Maßnahmen zur Förderung der Biomassenutzung eingeleitet, Hierzu zählen die Steuerbefreiung (Steuer auf fossile Brennstoffe) und die CO₂-Steuer, so dass Biomasse zu den kostengünstigsten Einsatzenergien zur Wärmezeugung gehört,

Einspeisevergütung —

Quotenregelung /
Zertifikate —

NFFO —

Kraftstoff

Steuervergünstigung **Energy tax exemption**
 Biokraftstoffe sind von der Energie- und Umweltsteuer sowie von Abgaben befreit (CO₂, Schwefel)

R & D **Forschungsprogramme** der Schwedischen Energieagentur

A 14 Latvia

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 15 Lithuania

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 16 Luxembourg

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 17 Malta

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 18 Poland

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia
Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 19 Portugal

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
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Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 20 Slovakia

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
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Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 21 Slovenia

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia

Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 22 Spain

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia
Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 23 Schweden

Targets		Year	
Electric Energy			
EU			
Share of RE in the gross electricity consumption (ind.) /2/		2010	49,3 %
National			
<hr/>			
Fuels			
EU			
Share of biofuels and other renewable fuels		2005	2,0 %
in the energy content of all fuels /3/		2010	5,75 %
<hr/>			
Political Instruments to Promote the Use of Biomass /5/, /8/, /10/			
Electric Energy			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs			Regulation No, 9 "Requirements for co-generation plants and the procedure of setting price for purchase of excess electricity" (since 2002) higher payments for electricity from domestic sources biogas / waste feed-in tariffs comply with the market price
System of quota / certificates			Regulation No, 28 "On total installation capacities for each type of electricity generation if RES are utilised" (since 2002) every year the installed electrical power from renewable sources is revised 2004: 1 MW _{el} from solid biomass (wood or peat) 1 MW _{el} from biogas or municipal waste
NFFO	—		
<hr/>			
Heat			
Investment incentives	—		
Tax relief	—		
Feed-in tariffs	—		

System of quota / certificates	—
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NFFO	—
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Fuels

Miscellaneous	Up to now biodiesel is not used; to make biodiesel competitive with fossil fuels public support is necessary,
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National Program on Production and Use of Biofuel in Latvia
Production and use of biodiesel from 2010
adaptation of diesel engines to biodiesel

A 24 The Netherlands

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	9,0 %
National		
Share of RE in the primary energy consumption	2010	5,0 %
	2020	10,0 %
Share of RE in the gross electricity consumption	2020	17,0 %
Fuels		
EU		
Share of biofuels and other renewable fuels	2005	2,0 %
in the energy content of all fuels /3/	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	<p>Energy Investment Deduction (EIA, since 1997) Deduction of the taxable income to a certain share (2002: 55 %) of the investment costs in the first year max, deduction of the taxable income: 99 Mio, € min, investment costs: 1900 €</p> <p>Subsidy Regulation on Energy Supply in Non-profit and Private Sectors (EINP, since 1997) only for investments higher than 1 750 € non-profit organisations: up to 18,5 % of the investment costs private households: up to 20,0 % of the investment costs</p>
Tax relief	<p>Regulating Energy Tax (REB, since 1997, modified July 2003) Energy tax <u>and</u> subsidies for the production of RE-electricity (since 2003 no subsidies for electricity from biomass) Charges for small and medium energy and gas consumers since 2001 Introduction of certificates Tax relief for RE-electricity biomass (100 % and small plants): 2,9 €/kWh</p>
Feed-in tariffs	<p>Environmental quality of electricity production (MEP, since July 2003) Feed-in tariffs guaranteed for max, 10 years can be used additionally to the REB-relief biomass (small plants): 6,8 €/kWh</p>

System of quota / certificates	—
NFFO	—
Miscellaneous	Support for R&D biogas projects, pilot projects Promotion of CHP no plants > 100 MW _{el} and hereby support of local power supply and biomass co-combustion

Heat

Investment incentives	—
Tax relief	Energy Investment Allowance is a tax deduction for investments in energy efficiency and for renewable energy cooperation, The advantage is based on a deduction of the taxable income to a certain share (from 2001: 55 %, before 40 %) of the investment costs,
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	100 % tax relief for the use of cold-pressed vegetable oil in certain vehicles, Tax relief for refined biofuels and lubricants,
R & D	Test of the use of biodiesel in vehicles,

A 25 United Kingdom

Targets	Year	
Electric Energy		
EU		
Share of RE in the gross electricity consumption (ind.) /2/	2010	9,0 %
National		
Share of RE in the primary energy consumption	2010	5,0 %
	2020	10,0 %
Share of RE in the gross electricity consumption	2020	17,0 %
Fuels		
EU		
Share of biofuels and other renewable fuels	2005	2,0 %
in the energy content of all fuels /3/	2010	5,75 %

Political Instruments to Promote the Use of Biomass /5/, /7/, /9/

Electric Energy /11/

Investment incentives	<p>Energy Investment Deduction (EIA, since 1997) Deduction of the taxable income to a certain share (2002: 55 %) of the investment costs in the first year max, deduction of the taxable income: 99 Mio, € min, investment costs: 1900 €</p> <p>Subsidy Regulation on Energy Supply in Non-profit and Private Sectors (EINP, since 1997) only for investments higher than 1 750 € non-profit organisations: up to 18,5 % of the investment costs private households: up to 20,0 % of the investment costs</p>
Tax relief	<p>Regulating Energy Tax (REB, since 1997, modified July 2003) Energy tax <u>and</u> subsidies for the production of RE-electricity (since 2003 no subsidies for electricity from biomass) Charges for small and medium energy and gas consumers since 2001 Introduction of certificates Tax relief for RE-electricity biomass (100 % and small plants): 2,9 €/kWh</p>
Feed-in tariffs	<p>Environmental quality of electricity production (MEP, since July 2003) Feed-in tariffs guaranteed for max, 10 years can be used additionally to the REB-relief biomass (small plants): 6,8 €/kWh</p>

System of quota / certificates	—
NFFO	—
Miscellaneous	Support for R&D biogas projects, pilot projects Promotion of CHP no plants > 100 MW _{el} and hereby support of local power supply and biomass co-combustion

Heat

Investment incentives	—
Tax relief	Energy Investment Allowance is a tax deduction for investments in energy efficiency and for renewable energy cooperation, The advantage is based on a deduction of the taxable income to a certain share (from 2001: 55 %, before 40 %) of the investment costs,
Feed-in tariffs	—
System of quota / certificates	—
NFFO	—

Fuels

Tax relief	100 % tax relief for the use of cold-pressed vegetable oil in certain vehicles, Tax relief for refined biofuels and lubricants,
R & D	Test of the use of biodiesel in vehicles,

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Appendix B
Wood potential¹

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B 1 Austria

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	3,354	3,398	3,433
Standig volume	bdm	495,956	517,909	533,11
Theoretical potential of raw wood	bdm	16,211	15,775	16,520
Felling	bdm	8,298	10,940	13,182
From that roundwood	bdm	5,208	7,586	9,140
firewood	bdm	1,430		
logging residues	bdm	1,037		
Technical potential of raw wood from unused growth	bdm	7,914	4,835	3,338
Technical potential of raw wood from unused felling	bdm	2,467	3,355	4,042
Total technical potential of raw wood	bdm	10,381	8,190	7,380

B 2 Belgium and Luxembourg

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	314	324	332
Standig volume	bdm	33,081	41,936	48,928
Theoretical potential of raw wood	bdm	1,240	1,259	1,296
Felling	bdm	649	557	602
From that roundwood	bdm	440	385	415
firewood	bdm	80		
logging residues	bdm	81		
Technical potential of raw wood from unused growth	bdm	591	702	694
Technical potential of raw wood from unused felling	bdm	161	173	187
Total technical potential of raw wood	bdm	752	875	881

B 3 Bulgaria

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	3,121	3,121	3,121
Standig volume	bdm	202,336	205,951	209,567
Theoretical potential of raw wood	bdm	3,438	3,416	3,394
Felling	bdm	2,990	2,851	3,080
From that roundwood	bdm	1,339	1,962	2,119
firewood	bdm	1,054		
logging residues	bdm	374		
Technical potential of raw wood from unused growth	bdm	448	565	314
Technical potential of raw wood from unused felling	bdm	1,427	890	961
Total technical potential of raw wood	bdm	1,875	1,454	1,275

B 4 Czech Republik

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	2,561	2,574	2,587
Standig volume	bdm	391,153	400,827	395,655
Theoretical potential of raw wood	bdm	12,306	11,884	11,106
Felling	bdm	9,026	10,737	12,163
From that roundwood	bdm	6,751	8,123	9,201
firewood	bdm	470		
logging residues	bdm	1,128		
Technical potential of raw wood from unused growth	bdm	3,280	1,147	-1,057
Technical potential of raw wood from unused felling	bdm	1,598	2,615	2,962
Total technical potential of raw wood	bdm	4,878	3,762	2,962

B 5 Denmark

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	440	446	451
Standig volume	bdt	38,488	48,949	56,865
Theoretical potential of raw wood	bdt	1,949	2,139	2,108
Felling	bdt	1,846	1,111	1,130
From that roundwood	bdt	1,247	1,089	1,107
firewood	bdt	230		
logging residues	bdt	231		
Technical potential of raw wood from unused growth	bdt	103	1,028	979
Technical potential of raw wood from unused felling	bdt	461	22	23
Total technical potential of raw wood	bdt	564	1,050	1,001

B 6 Estonia

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,919	1,966	2,014
Standig volume	bdt	206,224	203,627	201,030
Theoretical potential of raw wood	bdt	5,444	5,172	4,899
Felling	bdt	5,569	4,955	5,306
From that roundwood	bdt	3,635	3,933	4,061
firewood	bdt	820		
logging residues	bdt	696		
Technical potential of raw wood from unused growth	bdt	-125	217	-407
Technical potential of raw wood from unused felling	bdt	1,516	1,023	1,245
Total technical potential of raw wood	bdt	1,516	1,239	1,245

B 7 Finland

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	20,551	19,951	19,470
Standig volume	bdt	999,387	1,048,303	1,064,166
Theoretical potential of raw wood	bdt	38,554	36,501	36,023
Felling	bdt	33,914	32,661	35,363
From that roundwood	bdt	25,074	25,563	27,678
firewood	bdt	2,058		
logging residues	bdt	4,239		
Technical potential of raw wood from unused growth	bdt	4,640	3,841	660
Technical potential of raw wood from unused felling	bdt	6,297	7,098	7,685
Total technical potential of raw wood	bdt	10,936	10,938	8,345

B 8 France²

	units in 1000	2001	2010	2020
Commercially exploitable wooded areas	ha	14,497	14,949	15,310
Standig volume	bdt	1,599,464	1,666,480	1,731,016
Theoretical potential of raw wood	bdt	39,424	37,724	39,429
Felling	bdt	24,894	31,249	32,790
From that roundwood	bdt	18,736	21,104	22,145
firewood	bdt	1,180		
logging residues	bdt	3,112		
Technical potential of raw wood from unused growth	bdt	14,529	6,475	6,639
Technical potential of raw wood from unused felling	bdt	4,292	10,145	10,645
Total technical potential of raw wood	bdt	18,821	16,620	17,284

² The data of France refer to the year 2005 because of the storm „Lothar“.

B 9 Germany³

	units in 1000	2001	2010	2020
Commercially exploitable wooded areas	ha	10,142	10,403	10,612
Standig volume	bdt	1,690,301	1,769,572	1,906,010
Theoretical potential of raw wood	bdt	45,051	43,394	42,027
Felling	bdt	24,677	27,122	29,262
From that roundwood	bdt	18,251	20,613	22,239
firewood	bdt	1,491		
logging residues	bdt	3,085		
Technical potential of raw wood from unused growth	bdt	17,412	16,273	12,765
Technical potential of raw wood from unused felling	bdt	7,537	6,509	7,023
Total technical potential of raw wood	bdt	24,949	22,782	19,788

B 10 Greece

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	2,596	2,596	2,596
Standig volume	bdt	69,676	68,403	68,130
Theoretical potential of raw wood	bdt	1,759	1,759	1,759
Felling	bdt	1,403	1,345	1,431
From that roundwood	bdt	322	1,076	1,145
firewood	bdt	801		
logging residues	bdt	175		
Technical potential of raw wood from unused growth	bdt	355	414	328
Technical potential of raw wood from unused felling	bdt	976	269	286
Total technical potential of raw wood	bdt	1,331	683	614

³ The data of Germany refer to the year 2005 because of the storm „Lothar“.

B 11 Hungary

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,703	1,739	1,768
Standig volume	bdt	158,323	176,086	185,113
Theoretical potential of raw wood	bdt	4,855	4,667	4,573
Felling	bdt	3,688	3,392	3,790
From that roundwood	bdt	1,653	2,713	3,032
firewood	bdt	1,298		
logging residues	bdt	461		
Technical potential of raw wood from unused growth	bdt	1,166	1,275	783
Technical potential of raw wood from unused felling	bdt	1,759	679	758
Total technical potential of raw wood	bdt	2,925	1,954	1,541

B 12 Ireland

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	581	600	615
Standig volume	bdt	47,335	73,176	93,403
Theoretical potential of raw wood	bdt	2,971	3,697	3,764
Felling	bdt	1,671	1,532	1,835
From that roundwood	bdt	1,300	1,379	1,651
firewood	bdt	37		
logging residues	bdt	209		
Technical potential of raw wood from unused growth	bdt	1,300	2,165	1,930
Technical potential of raw wood from unused felling	bdt	245	153	184
Total technical potential of raw wood	bdt	1,546	2,318	2,113

B 13 Italy

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	6,015	6,041	6,052
Standig volume	bdt	597,223	705,715	775,013
Theoretical potential of raw wood	bdt	14,165	13,699	12,584
Felling	bdt	5,831	5,470	6,072
From that roundwood	bdt	1,825	4,986	5,536
firewood	bdt	2,840		
logging residues	bdt	729		
Technical potential of raw wood from unused growth	bdt	8,334	8,229	6,512
Technical potential of raw wood from unused felling	bdt	3,569	484	537
Total technical potential of raw wood	bdt	11,903	8,713	7,048

B 14 Latvia

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	2,424	2,489	2,554
Standig volume	bdt	243,847	227,441	211,035
Theoretical potential of raw wood	bdt	7,010	7,099	7,188
Felling	bdt	8,940	8,067	9,040
From that roundwood	bdt	6,312	5,869	6,577
firewood	bdt	840		
logging residues	bdt	1,118		
Technical potential of raw wood from unused growth	bdt	-1,931	-968	-1,852
Technical potential of raw wood from unused felling	bdt	1,958	2,198	2,463
Total technical potential of raw wood	bdt	1,958	2,198	2,463

B 15 Lithuania

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,679	1,712	1,745
Standig volume	bdt	171,608	176,289	180,971
Theoretical potential of raw wood	bdt	4,882	4,721	4,560
Felling	bdt	3,438	3,663	4,262
From that roundwood	bdt	2,025	2,769	3,221
firewood	bdt	725		
logging residues	bdt	430		
Technical potential of raw wood from unused growth	bdt	1,445	1,058	298
Technical potential of raw wood from unused felling	bdt	1,155	895	1,041
Total technical potential of raw wood	bdt	2,599	1,953	1,339

B 16 Poland

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,679	1,712	1,745
Standig volume	bdt	171,608	176,289	180,971
Theoretical potential of raw wood	bdt	4,882	4,721	4,560
Felling	bdt	3,438	3,663	4,262
From that roundwood	bdt	2,025	2,769	3,221
firewood	bdt	725		
logging residues	bdt	430		
Technical potential of raw wood from unused growth	bdt	1,445	1,058	298
Technical potential of raw wood from unused felling	bdt	1,155	895	1,041
Total technical potential of raw wood	bdt	2,599	1,953	1,339

B 17 Portugal

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,679	1,712	1,745
Standig volume	bdt	171,608	176,289	180,971
Theoretical potential of raw wood	bdt	4,882	4,721	4,560
Felling	bdt	3,438	3,663	4,262
From that roundwood	bdt	2,025	2,769	3,221
firewood	bdt	725		
logging residues	bdt	430		
Technical potential of raw wood from unused growth	bdt	1,445	1,058	298
Technical potential of raw wood from unused felling	bdt	1,155	895	1,041
Total technical potential of raw wood	bdt	2,599	1,953	1,339

B 18 Slovakia

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,679	1,712	1,745
Standig volume	bdt	171,608	176,289	180,971
Theoretical potential of raw wood	bdt	4,882	4,721	4,560
Felling	bdt	3,438	3,663	4,262
From that roundwood	bdt	2,025	2,769	3,221
firewood	bdt	725		
logging residues	bdt	430		
Technical potential of raw wood from unused growth	bdt	1,445	1,058	298
Technical potential of raw wood from unused felling	bdt	1,155	895	1,041
Total technical potential of raw wood	bdt	2,599	1,953	1,339

B 19 Slovenia

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,041	1,059	1,074
Standig volume	bdt	164,186	186,881	202,522
Theoretical potential of raw wood	bdt	3,409	3,397	3,433
Felling	bdt	1,408	1,532	1,819
From that roundwood	bdt	861	1,332	1,582
firewood	bdt	266		
logging residues	bdt	176		
Technical potential of raw wood from unused growth	bdt	2,001	1,866	1,614
Technical potential of raw wood from unused felling	bdt	442	200	237
Total technical potential of raw wood	bdt	2,443	2,066	1,851

B 20 Romania

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	5,567	5,394	5,254
Standig volume	bdt	759,450	893,229	961,409
Theoretical potential of raw wood	bdt	19,316	18,254	16,094
Felling	bdt	8,218	8,559	10,189
From that roundwood	bdt	5,058	6,859	8,166
firewood	bdt	1,516		
logging residues	bdt	1,027		
Technical potential of raw wood from unused growth	bdt	11,099	9,695	5,905
Technical potential of raw wood from unused felling	bdt	2,543	1,700	2,023
Total technical potential of raw wood	bdt	13,642	11,395	7,928

B 21 Spain

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	1,041	1,059	1,074
Standig volume	bdt	164,186	186,881	202,522
Theoretical potential of raw wood	bdt	3,409	3,397	3,433
Felling	bdt	1,408	1,532	1,819
From that roundwood	bdt	861	1,332	1,582
firewood	bdt	266		
logging residues	bdt	176		
Technical potential of raw wood from unused growth	bdt	2,001	1,866	1,614
Technical potential of raw wood from unused felling	bdt	442	200	237
Total technical potential of raw wood	bdt	2,443	2,066	1,851

B 22 Sweden

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	21,239	21,114	21,014
Standig volume	bdt	1,382,449	1,513,834	1,598,218
Theoretical potential of raw wood	bdt	47,858	48,946	49,357
Felling	bdt	39,563	38,284	41,090
From that roundwood	bdt	28,700	31,380	33,680
firewood	bdt	2,950		
logging residues	bdt	4,945		
Technical potential of raw wood from unused growth	bdt	8,296	10,663	8,267
Technical potential of raw wood from unused felling	bdt	7,895	6,904	7,410
Total technical potential of raw wood	bdt	16,191	17,566	15,677

B 23 The Netherlands

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	314	324	332
Standig volume	bdm	33,081	41,936	48,928
Theoretical potential of raw wood	bdm	1,240	1,259	1,296
Felling	bdm	649	557	602
From that roundwood	bdm	440	385	415
firewood	bdm	80		
logging residues	bdm	81		
Technical potential of raw wood from unused growth	bdm	591	702	694
Technical potential of raw wood from unused felling	bdm	161	173	187
Total technical potential of raw wood	bdm	752	875	881

B 24 Turkey

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	8,627	8,587	8,547
Standig volume	bdm	587,335	580,765	574,195
Theoretical potential of raw wood	bdm	14,504	13,686	12,869
Felling	bdm	10,492	11,736	14,357
From that roundwood	bdm	5,215	9,491	11,611
firewood	bdm	3,179		
logging residues	bdm	1,311		
Technical potential of raw wood from unused growth	bdm	4,012	1,951	-1,488
Technical potential of raw wood from unused felling	bdm	4,490	2,245	2,746
Total technical potential of raw wood	bdm	8,502	4,195	2,746

B 25 United Kingdom

	units in 1000	2000	2010	2020
Commercially exploitable wooded areas	ha	314	324	332
Standig volume	bdm	33,081	41,936	48,928
Theoretical potential of raw wood	bdm	1,240	1,259	1,296
Felling	bdm	649	557	602
From that roundwood	bdm	440	385	415
firewood	bdm	80		
logging residues	bdm	81		
Technical potential of raw wood from unused growth	bdm	591	702	694
Technical potential of raw wood from unused felling	bdm	161	173	187
Total technical potential of raw wood	bdm	752	875	881

Appendix C
Population development

C 1 Population development

	2000	2010	Change 2000 - 2010	2020	Change 2000 - 2010
	millions	millions	%	millions	%
Germany	82.188	83.066	1,07	82.822	-0,29
Great Britain	59.623	61.747	3,56	63.900	3,49
France	58.749	60.614	3,17	61.280	1,10
Italy	57.680	58.565	1,53	58.123	-0,75
Spain	39.733	39.799	0,17	39.331	-1,18
Netherlands	15.864	16.864	6,30	17.492	3,72
Belgium/Luxembourg	10.675	10.969	2,75	11.212	2,22
Greece	10.554	10.712	1,50	10.642	-0,65
Portugal	10.198	10.309	1,09	10.526	2,10
Sweden	8.861	9.183	3,63	9.505	3,51
Austria	8.103	8.222	1,47	8.318	1,17
Denmark	5.330	5.505	3,28	5.642	2,49
Finland	5.171	5.264	1,80	5.322	1,10
Ireland	3.777	4.103	8,63	4.282	4,36
EU-15	376.482	383.355	1,83	385.847	0,65
Poland	38.649	38.359	-0,75	37.712	-1,69
Czech Republic	10.267	10.158	-1,06	9.932	-2,22
Hungary	10.266	9.961	-2,97	9.628	-3,34
Slovakia	5.400	5.400	0,00	5.350	-0,93
Lithuania	3.500	3.358	-4,06	3.214	-4,29
Latvia	2.373	2.248	-5,27	2.129	-5,29
Slovenia	1.967	1.959	-0,41	1.917	-2,14
Estonia	1.367	1.309	-4,24	1.272	-2,83
Cyprus	786	881	12,09	972	10,33
Malta	392	411	4,85	426	3,65
EU-25	451.449	457.399	1,32	458.399	0,22
Turkey	68.234	78.081	14,43	86.774	11,13
Romania	22.117	21.287	-3,75	20.396	-4,19
Bulgaria	7.997	7.446	-6,89	6.859	-7,88
World	6.085.572	6.842.923	12,45	7.577.899	10,74

Data sources:

Row 1: Statistisches Bundesamt, Bevölkerung Deutschlands bis 2050, 10. Koordinierte Bevölkerungsvorausberechnung, Wiesbaden 2003; Rows 2-15: Europäische Kommission, Sozialstatistik Bevölkerung, Themenkreis 3 Bevölkerung und soziale Bedingungen, Europäische Bevölkerungsstatistik 2002, Eurostat; Rows 16-30: <http://esa.un.org//unpp/> World Populations Prospects, The 2004 Revision Population Database, medium variant

Appendix D

Food consumption per capita

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D 1 Germany: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		72,3	74,6	75,0	74,9	76,1	77,6	76,0	83,7	89,0
Potatoes		72,8	72,8	73,3	72,3	70,6	70,0	70,0	68,5	67,0
Sugar		33,0	32,6	33,5	32,5	32,6	32,8	35,3	34,2	35,2
Vegetable oils		9,9	11,4	12,8	13,2	12,8	12,3	14,3	12,3	12,5
Beef/veal meat		17,5	16,6	15,2	14,5	15,1	15,1	14,0	9,9	12,0
Pork		55,5	54,9	54,7	53,8	56,1	56,9	54,2	54,0	54,0
Poultry meat		12,8	13,5	14,1	14,8	15,2	15,3	16,0	18,2	17,2
Eggs		13,3	13,7	13,6	14,0	13,7	13,9	13,8	13,6	13,5
Milk products		89,2	91,1	90,7	87,8	88,3	89,4	89,9	90,9	90,5
Cheese ¹⁾		17,7	18,4	18,8	19,1	19,0	19,3	19,7	20,1	20,2
Butter		6,9	7,2	7,3	7,1	6,8	6,7	6,6	6,5	6,5
in kg GE²⁾										
Cereals	1,07	77,4	79,8	80,3	80,1	81,4	83,0	81,3	89,6	95,2
Potatoes	0,22	16,0	16,0	16,1	15,9	15,5	15,4	15,4	15,1	14,7
Sugar	1,89	62,4	61,6	63,3	61,4	61,6	62,0	66,7	64,6	66,5
Vegetable oils	6,00	59,4	68,4	76,8	79,2	76,8	73,8	85,8	73,8	75,0
Beef/veal meat	11,80	206,5	195,9	179,4	171,1	178,2	178,2	165,2	116,8	141,6
Pork	4,55	252,5	249,8	248,9	244,8	255,3	258,9	246,6	245,7	245,7
Poultry meat	3,78	48,4	51,0	53,3	55,9	57,5	57,8	60,5	68,8	65,0
Eggs	2,57	34,2	35,2	35,0	36,0	35,2	35,7	35,5	35,0	34,7
Milk products	0,95	84,7	86,5	86,2	83,4	83,9	84,9	85,4	86,4	86,0
Cheese ¹⁾	7,31	129,4	134,5	137,4	139,6	138,9	141,1	144,0	146,9	147,7
Butter	19,80	136,6	142,6	144,5	140,6	134,6	132,7	130,7	128,7	128,7
Total		1107,5	1121,4	1121,1	1108,1	1118,9	1123,5	1117,1	1071,3	1100,8

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
Data source: StJELF

D 2 United Kingdom: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		80,0	80,6	85,0	85,3	87,0	87,7	88,4	87,9	86,8
Potatoes		104,7	101,6	107,1	103,3	97,2	107,1	111,4	101,7	125,7
Sugar		37,3	36,8	38,1	37,6	36,0	38,0	35,5	36,4	40,2
Vegetable Oils		10,8	10,5	15,1	13,0	10,7	22,0	24,5	19,0	16,3
Beef/veal meat		18,1	17,5	14,2	16,4	16,2	17,2	17,2	18,6	20,3
Pork		23,8	23,4	23,7	23,4	23,9	23,3	23,7	25,1	25,5
Poultry meat		21,8	25,1	27,0	26,6	28,0	28,7	28,8	28,9	28,8
Eggs		10,2	10,1	10,7	10,9	10,5	10,0	10,3	11,3	12,8
Milk Products		127,2	131,2	129,9	128,1	128,4	128,5	127,4	128,2	131,1
Cheese ¹⁾		7,4	7,8	8,8	8,7	8,9	8,9	8,1	9,0	8,9
Butter		4,1	3,3	2,3	2,9	2,6	2,6	2,9	2,6	3,0
in kg GE ²⁾										
Cereals	1,07	85,6	86,2	91,0	91,3	93,1	93,8	94,6	94,1	92,9
Potatoes	0,22	23,0	22,4	23,6	22,7	21,4	23,6	24,5	22,4	27,7
Sugar	1,89	70,5	69,6	72,0	71,1	68,0	71,8	67,1	68,8	76,0
Vegetable Oils	6,00	64,8	63,0	90,6	78,0	64,2	132,0	147,0	114,0	97,8
Beef/veal meat	11,80	213,6	206,5	167,6	193,5	191,2	203,0	203,0	219,5	239,5
Pork	4,55	108,3	106,5	107,8	106,5	108,7	106,0	107,8	114,2	116,0
Poultry meat	3,78	82,4	94,9	102,1	100,5	105,8	108,5	108,9	109,2	108,9
Eggs	2,57	26,2	26,0	27,5	28,0	27,0	25,7	26,5	29,0	32,9
Milk Products	0,95	120,8	124,6	123,4	121,7	122,0	122,1	121,0	121,8	124,5
Cheese ¹⁾	7,31	54,1	57,0	64,3	63,6	65,1	65,1	59,2	65,8	65,1
Butter	19,80	81,2	65,3	45,5	57,4	51,5	51,5	57,4	51,5	59,4
Summe		930,5	921,9	915,3	934,3	918,0	1003,0	1017,0	1010,3	1040,6

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang

der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose

der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000

Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 3 France: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		77,6	76,1	77,6	78,1	85,7	84,3	87,6	84,7	81,1
Potatoes		57,5	58,4	55,0	53,9	48,4	51,4	50,5	51,4	50,6
Sugar		33,7	33,3	34,1	34,6	34,0	34,4	33,7	33,1	35,2
Vegetable Oils		16,9	16,8	16,8	17,3	16,4	16,6	17,1	18,0	18,3
Beef/veal meat		27,4	28,1	26,4	26,8	27,3	27,1	25,9	25,2	27,8
Pork		36,2	35,9	36,0	35,4	38,0	37,0	36,3	36,6	36,5
Poultry meat		22,4	22,6	25,1	24,9	25,1	27,4	24,8	26,1	24,9
Eggs		15,8	16,0	16,0	15,6	15,6	15,6	15,6	15,5	15,1
Milk Products		95,3	101,6	99,7	101,1	101,1	97,6	99,2	97,1	97,2
Cheese ¹⁾		23,0	23,3	23,4	23,3	23,9	23,7	25,0	24,9	25,1
Butter		8,6	8,3	8,1	9,2	8,8	8,4	8,7	8,5	8,3
in kg GE ²⁾										
Cereals	1,07	83,0	81,4	83,0	83,6	91,7	90,2	93,7	90,6	86,8
Potatoes	0,22	12,7	12,8	12,1	11,9	10,6	11,3	11,1	11,3	11,1
Sugar	1,89	63,7	62,9	64,4	65,4	64,3	65,0	63,7	62,6	66,5
Vegetable Oils	6,00	101,4	100,8	100,8	103,8	98,4	99,6	102,6	108,0	109,8
Beef/veal meat	11,80	323,3	331,6	311,5	316,2	322,1	319,8	305,6	297,4	328,0
Pork	4,55	164,7	163,3	163,8	161,1	172,9	168,4	165,2	166,5	166,1
Poultry meat	3,78	84,7	85,4	94,9	94,1	94,9	103,6	93,7	98,7	94,1
Eggs	2,57	40,6	41,1	41,1	40,1	40,1	40,1	40,1	39,8	38,8
Milk Products	0,95	90,5	96,5	94,7	96,0	96,0	92,7	94,2	92,2	92,3
Cheese ¹⁾	7,31	168,1	170,3	171,1	170,3	174,7	173,2	182,8	182,0	183,5
Butter	19,80	170,3	164,3	160,4	182,2	174,2	166,3	172,3	168,3	164,3
Summe		1303,0	1310,7	1297,8	1324,7	1340,0	1330,2	1325,0	1317,4	1341,4

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose

der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000

Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 4 Italy: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		121,1	118,2	122,2	122,2	128,7	123,5	122,6	124,1	115,1
Potatoes		39,4	38,3	40,9	41,8	43,1	42,8	43,2	43,0	43,7
Sugar		27,0	25,6	25,2	25,2	25,4	22,9	24,2	25,2	25,7
Vegetable Oils		24,8	24,9	24,8	25,4	26,0	26,7	26,8	27,5	27,4
Beef/veal meat		25,9	25,9	23,6	24,2	24,4	25,5	24,6	22,8	24,7
Pork		33,2	33,1	35,0	34,4	36,9	36,1	36,5	37,9	38,6
Poultry meat		18,8	18,4	18,6	18,6	18,4	18,3	19,0	18,3	18,3
Eggs		10,5	10,5	10,3	9,9	10,5	11,8	14,7	13,0	12,6
Milk Products		62,1	68,6	66,7	71,8	69,3	74,5	69,3	71,4	70,6
Cheese ¹⁾		18,0	19,0	18,9	18,7	20,2	20,0	20,5	21,6	21,1
Butter		2,2	2,6	2,7	2,5	3,2	3,2	2,9	2,8	3,0
in kg GE ²⁾										
Cereals	1,07	129,6	126,5	130,8	130,8	137,7	132,1	131,2	132,8	123,2
Potatoes	0,22	8,7	8,4	9,0	9,2	9,5	9,4	9,5	9,5	9,6
Sugar	1,89	51,0	48,4	47,6	47,6	48,0	43,3	45,7	47,6	48,6
Vegetable Oils	6,00	148,8	149,4	148,8	152,4	156,0	160,2	160,8	165,0	164,4
Beef/veal meat	11,80	305,6	305,6	278,5	285,6	287,9	300,9	290,3	269,0	291,5
Pork	4,55	151,1	150,6	159,3	156,5	167,9	164,3	166,1	172,4	175,6
Poultry meat	3,78	71,1	69,6	70,3	70,3	69,6	69,2	71,8	69,2	69,2
Eggs	2,57	27,0	27,0	26,5	25,4	27,0	30,3	37,8	33,4	32,4
Milk Products	0,95	59,0	65,2	63,4	68,2	65,8	70,8	65,8	67,8	67,1
Cheese ¹⁾	7,31	131,6	138,9	138,2	136,7	147,7	146,2	149,9	157,9	154,2
Butter	19,80	43,6	51,5	53,5	49,5	63,4	63,4	57,4	55,4	59,4
Summe		1126,9	1141,0	1125,7	1132,2	1180,4	1190,0	1186,3	1180,1	1195,1

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose

der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000

Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 5 Spain: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		72,2	72,1	73,1	71,6	70,0	70,6	75,6	77,5	82,9
Potatoes		86,9	86,3	88,9	86,0	86,6	93,2	90,5	86,8	84,9
Sugar		29,7	31,7	34,0	31,9	29,4	29,6	32,2	28,0	28,0
Vegetable Oils		27,6	26,6	24,1	28,4	28,3	32,0	35,0	48,0	35,2
Beef/veal meat		12,9	13,0	13,1	14,0	16,0	15,8	15,2	13,1	16,1
Pork		56,5	57,4	58,4	59,3	66,3	65,9	65,3	65,4	67,8
Poultry meat		27,3	27,7	26,5	28,1	27,5	31,9	29,3	33,9	34,2
Eggs		14,9	15,3	13,6	15,0	14,1	15,1	17,8	18,0	17,8
Milk Products		125,7	133,7	133,4	133,7	135,3	131,5	131,5	131,1	131,9
Cheese ¹⁾		7,6	7,1	7,2	8,2	8,4	8,7	8,7	8,6	9,2
Butter		0,5	0,6	0,7	7,1	0,9	0,7	0,7	1,2	0,8
in kg GE ²⁾										
Cereals	1,07	77,3	77,1	78,2	76,6	74,9	75,5	80,9	82,9	88,7
Potatoes	0,22	19,1	19,0	19,6	18,9	19,1	20,5	19,9	19,1	18,7
Sugar	1,89	56,1	59,9	64,3	60,3	55,6	55,9	60,9	52,9	52,9
Vegetable Oils	6,00	165,6	159,6	144,6	170,4	169,8	192,0	210,0	288,0	211,2
Beef/veal meat	11,80	152,2	153,4	154,6	165,2	188,8	186,4	179,4	154,6	190,0
Pork	4,55	257,1	261,2	265,7	269,8	301,7	299,8	297,1	297,6	308,5
Poultry meat	3,78	103,2	104,7	100,2	106,2	104,0	120,6	110,8	128,1	129,3
Eggs	2,57	38,3	39,3	35,0	38,6	36,2	38,8	45,7	46,3	45,7
Milk Products	0,95	119,4	127,0	126,7	127,0	128,5	124,9	124,9	124,5	125,3
Cheese ¹⁾	7,31	55,6	51,9	52,6	59,9	61,4	63,6	63,6	62,9	67,3
Butter	19,80	9,9	11,9	13,9	140,6	17,8	13,9	13,9	23,8	15,8
Summe		1053,8	1065,0	1055,3	1233,5	1157,7	1192,0	1207,0	1280,7	1253,4

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see
 Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang
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 der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
 Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 6 The Netherlands: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		57,3	58,5	58,6	60,3	58,1	53,9	59,4	57,5	57,4
Potatoes		89,3	87,7	84,9	78,8	77,4	85,9	99,5	87,1	85,2
Sugar		36,0	32,7	33,3	32,6	33,5	33,2	33,7	33,3	33,3
Vegetable Oils		17,2	17,1	16,7	18,5	16,9	16,9	17,3	15,4	17,1
Beef/veal meat		20,3	19,8	21,2	17,9	18,9	18,8	16,4	19,0	19,3
Pork		44,4	46,3	48,7	40,7	42,7	41,5	43,6	42,6	42,4
Poultry meat		21,6	20,1	21,7	21,1	20,5	20,2	21,6	22,2	22,6
Eggs		13,2	15,3	12,2	13,4	14,4	14,5	14,7	13,9	14,0
Milk Products		129,0	129,6	130,7	127,5	125,5	126,9	122,8	121,8	119,7
Cheese ¹⁾		14,9	14,1	13,7	15,1	15,5	18,5	16,7	19,0	17,9
Butter		6,0	4,0	4,3	5,1	3,2	3,4	3,3	3,3	3,3
in kg GE ²⁾										
Cereals	1,07	61,3	62,6	62,7	64,5	62,2	57,7	63,6	61,5	61,4
Potatoes	0,22	19,6	19,3	18,7	17,3	17,0	18,9	21,9	19,2	18,7
Sugar	1,89	68,0	61,8	62,9	61,6	63,3	62,7	63,7	62,9	62,9
Vegetable Oils	6,00	103,2	102,6	100,2	111,0	101,4	101,4	103,8	92,4	102,6
Beef/veal meat	11,80	239,5	233,6	250,2	211,2	223,0	221,8	193,5	224,2	227,7
Pork	4,55	202,0	210,7	221,6	185,2	194,3	188,8	198,4	193,8	192,9
Poultry meat	3,78	81,6	76,0	82,0	79,8	77,5	76,4	81,6	83,9	85,4
Eggs	2,57	33,9	39,3	31,4	34,4	37,0	37,3	37,8	35,7	36,0
Milk Products	0,95	122,6	123,1	124,2	121,1	119,2	120,6	116,7	115,7	113,7
Cheese ¹⁾	7,31	108,9	103,1	100,1	110,4	113,3	135,2	122,1	138,9	130,8
Butter	19,80	118,8	79,2	85,1	101,0	63,4	67,3	65,3	65,3	65,3
Summe		1159,6	1111,3	1139,1	1097,6	1071,6	1088,1	1068,3	1093,6	1097,7

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 7 Belgium/Luxembourg: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		73,2	72,9	68,7	69,1	73,7	76,5	76,8	80,4	79,5
Potatoes		95,2	94,2	92,8	90,2	93,7	92,8	94,5	85,0	91,2
Sugar		42,2	42,4	45,0	45,3	47,9	48,0	50,5	48,8	49,2
Vegetable Oils		21,6	22,4	23,3	22,7	22,9	23,2	23,3	23,3	23,6
Beef/veal meat		21,1	21,2	21,5	20,5	20,3	19,3	20,0	20,0	21,3
Pork		48,9	46,6	47,0	42,9	46,1	44,6	45,6	45,9	49,8
Poultry meat		21,4	23,1	22,1	21,9	20,6	21,0	18,5	17,7	20,3
Eggs		14,4	14,5	14,5	14,5	16,2	14,5	13,6	13,0	13,2
Milk Products		83,4	83,1	82,0	84,1	92,0	92,3	94,0	90,1	89,9
Cheese ¹⁾		14,0	14,2	15,3	15,3	16,0	16,2	15,8	15,7	16,7
Butter		6,4	5,9	5,8	6,0	5,8	5,4	5,0	4,8	5,3
in kg GE ²⁾										
Cereals	1,07	78,3	78,0	73,5	73,9	78,9	81,9	82,2	86,0	85,1
Potatoes	0,22	20,9	20,7	20,4	19,8	20,6	20,4	20,8	18,7	20,1
Sugar	1,89	79,8	80,1	85,1	85,6	90,5	90,7	95,4	92,2	93,0
Vegetable Oils	6,00	129,6	134,4	139,8	136,2	137,4	139,2	139,8	139,8	141,6
Beef/veal meat	11,80	249,0	250,2	253,7	241,9	239,5	227,7	236,0	236,0	251,3
Pork	4,55	222,5	212,0	213,9	195,2	209,8	202,9	207,5	208,8	226,6
Poultry meat	3,78	80,9	87,3	83,5	82,8	77,9	79,4	69,9	66,9	76,7
Eggs	2,57	37,0	37,3	37,3	37,3	41,6	37,3	35,0	33,4	33,9
Milk Products	0,95	79,2	78,9	77,9	79,9	87,4	87,7	89,3	85,6	85,4
Cheese ¹⁾	7,31	102,3	103,8	111,8	111,8	117,0	118,4	115,5	114,8	122,1
Butter	19,80	126,7	116,8	114,8	118,8	114,8	106,9	99,0	95,0	104,9
Summe		1206,3	1199,6	1211,7	1183,3	1215,4	1192,5	1190,4	1177,3	1240,7

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 8 Greece: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		115,5	138,5	142,1	141,1	154,6	181,8	161,6	152,9	165,9
Potatoes		102,9	87,1	96,8	97,1	93,0	90,1	87,8	86,1	84,0
Sugar		29,8	25,6	29,4	25,7	30,2	31,2	35,5	34,8	34,0
Vegetable Oils		27,1	27,4	27,9	27,3	28,1	27,3	26,5	27,1	28,3
Beef/veal meat		21,8	19,6	22,9	19,0	21,1	19,2	18,6	18,7	17,6
Pork		22,7	24,8	24,7	24,8	26,4	32,2	32,6	32,3	27,9
Poultry meat		18,5	17,7	19,8	19,7	18,2	18,5	19,7	19,6	19,6
Eggs		10,9	10,6	10,7	10,7	10,8	10,6	11,0	11,7	10,9
Milk Products		64,4	64,0	67,2	67,5	65,2	66,7	69,6	70,1	70,3
Cheese ¹⁾		19,3	23,4	23,0	24,0	25,0	24,3	25,1	26,1	27,0
Butter		1,1	1,2	0,7	0,8	0,8	0,7	0,7	1,6	0,7
in kg GE ²⁾										
Cereals	1,07	123,6	148,2	152,0	151,0	165,4	194,5	172,9	163,6	177,5
Potatoes	0,22	22,6	19,2	21,3	21,4	20,5	19,8	19,3	18,9	18,5
Sugar	1,89	56,3	48,4	55,6	48,6	57,1	59,0	67,1	65,8	64,3
Vegetable Oils	6,00	162,6	164,4	167,4	163,8	168,6	163,8	159,0	162,6	169,8
Beef/veal meat	11,80	257,2	231,3	270,2	224,2	249,0	226,6	219,5	220,7	207,7
Pork	4,55	103,3	112,8	112,4	112,8	120,1	146,5	148,3	147,0	126,9
Poultry meat	3,78	69,9	66,9	74,8	74,5	68,8	69,9	74,5	74,1	74,1
Eggs	2,57	28,0	27,2	27,5	27,5	27,8	27,2	28,3	30,1	28,0
Milk Products	0,95	61,2	60,8	63,8	64,1	61,9	63,4	66,1	66,6	66,8
Cheese ¹⁾	7,31	141,1	171,1	168,1	175,4	182,8	177,6	183,5	190,8	197,4
Butter	19,80	21,8	23,8	13,9	15,8	15,8	13,9	13,9	31,7	13,9
Summe		1047,7	1074,0	1127,1	1079,1	1137,7	1162,2	1152,3	1171,8	1144,8

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 9 Portugal: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals		83,6	87,9	88,2	92,2	92,9	91,4	92,3	91,2	92,4
Potatoes		138,4	139,6	138,5	128,4	108,5	103,4	98,4	93,4	91,3
Sugar		28,2	29,3	31,6	29,6	29,2	28,9	30,4	30,7	31,3
Vegetable Oils		17,9	17,5	17,8	17,2	17,1	17,1	17,3	17,3	17,1
Beef/veal meat		17,4	17,6	14,0	15,7	15,9	16,7	17,0	15,4	16,8
Pork		34,9	34,7	38,1	38,1	42,1	44,1	44,3	43,6	44,1
Poultry meat		23,2	23,0	25,2	27,0	29,9	30,3	30,3	31,2	31,4
Eggs		8,7	8,4	8,3	8,3	8,8	8,7	8,9	9,1	9,1
Milk Products		101,3	100,5	104,4	106,3	109,1	113,3	109,7	114,2	113,7
Cheese ¹⁾		7,0	7,2	7,4	7,9	8,1	9,3	10,0	10,0	10,2
Butter		1,5	1,5	1,5	1,5	1,8	2,0	1,9	1,7	2,0
		in kg GE ²⁾								
Cereals	1,07	89,5	94,1	94,4	98,7	99,4	97,8	98,8	97,6	98,9
Potatoes	0,22	30,4	30,7	30,5	28,2	23,9	22,7	21,6	20,5	20,1
Sugar	1,89	53,3	55,4	59,7	55,9	55,2	54,6	57,5	58,0	59,2
Vegetable Oils	6,00	107,4	105,0	106,8	103,2	102,6	102,6	103,8	103,8	102,6
Beef/veal meat	11,80	205,3	207,7	165,2	185,3	187,6	197,1	200,6	181,7	198,2
Pork	4,55	158,8	157,9	173,4	173,4	191,6	200,7	201,6	198,4	200,7
Poultry meat	3,78	87,7	86,9	95,3	102,1	113,0	114,5	114,5	117,9	118,7
Eggs	2,57	22,4	21,6	21,3	21,3	22,6	22,4	22,9	23,4	23,4
Milk Products	0,95	96,2	95,5	99,2	101,0	103,6	107,6	104,2	108,5	108,0
Cheese ¹⁾	7,31	51,2	52,6	54,1	57,7	59,2	68,0	73,1	73,1	74,6
Butter	19,80	29,7	29,7	29,7	29,7	35,6	39,6	37,6	33,7	39,6
Summe		931,9	937,0	929,5	956,5	994,4	1027,6	1036,2	1016,6	1043,9

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 10 Sweden: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		62,9	63,7	68,3	67,8	69,3	66,8	72,5	71,6	70,7
Potatoes		83,4	83,5	83,6	83,6	83,6	83,5	83,5	83,6	83,6
Sugar		41,5	41,8	41,2	41,7	41,2	41,6	41,9	44,1	43,7
Vegetable Oils		14,9	17,8	16,1	18,1	14,8	17,7	15,6	15,4	15,9
Beef/veal meat		18,0	18,2	18,8	19,6	19,7	20,8	21,5	20,5	23,2
Pork		34,4	36,1	35,6	36,1	37,7	36,8	35,5	34,7	36,2
Poultry meat		8,6	7,9	9,2	9,3	9,8	11,3	12,5	13,6	14,4
Eggs		10,1	12,0	12,5	12,2	12,4	11,9	12,0	11,9	11,3
Milk Products		153,4	150,8	150,0	149,7	146,4	145,4	142,5	144,5	149,4
Cheese ¹⁾		16,7	15,6	15,8	15,8	16,1	16,6	16,3	16,7	17,0
Butter		5,8	5,5	5,8	6,0	5,8	4,8	5,0	4,7	4,6
in kg GE ²⁾										
Cereals	1,07	67,3	68,2	73,1	72,5	74,2	71,5	77,6	76,6	75,6
Potatoes	0,22	18,3	18,4	18,4	18,4	18,4	18,4	18,4	18,4	18,4
Sugar	1,89	78,4	79,0	77,9	78,8	77,9	78,6	79,2	83,3	82,6
Vegetable Oils	6,00	89,4	106,8	96,6	108,6	88,8	106,2	93,6	92,4	95,4
Beef/veal meat	11,80	212,4	214,8	221,8	231,3	232,5	245,4	253,7	241,9	273,8
Pork	4,55	156,5	164,3	162,0	164,3	171,5	167,4	161,5	157,9	164,7
Poultry meat	3,78	32,5	29,9	34,8	35,2	37,0	42,7	47,3	51,4	54,4
Eggs	2,57	26,0	30,8	32,1	31,4	31,9	30,6	30,8	30,6	29,0
Milk Products	0,95	145,7	143,3	142,5	142,2	139,1	138,1	135,4	137,3	141,9
Cheese ¹⁾	7,31	122,1	114,0	115,5	115,5	117,7	121,3	119,2	122,1	124,3
Butter	19,80	114,8	108,9	114,8	118,8	114,8	95,0	99,0	93,1	91,1
Summe		1063,5	1078,2	1089,5	1116,9	1103,7	1115,4	1115,6	1104,9	1151,3

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 11 Austria: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		66,2	67,8	72,3	79,0	75,2	76,3	80,2	80,3	83,1
Potatoes		56,5	57,5	56,7	56,6	55,0	56,3	53,8	55,5	57,9
Sugar		40,9	39,7	40,3	42,0	40,1	39,5	40,0	38,8	38,9
Vegetable Oils		17,0	17,1	17,7	17,5	17,5	18,0	18,3	19,0	18,2
Beef/veal meat		20,4	19,6	20,0	19,6	18,5	19,3	19,6	18,3	18,6
Pork		56,0	56,9	57,2	56,0	57,4	57,8	60,7	56,4	55,9
Poultry meat		14,9	15,3	15,7	16,5	17,3	17,2	17,2	18,3	17,7
Eggs		13,7	13,8	13,9	14,5	14,1	13,4	13,3	13,2	13,8
Milk Products		111,1	98,9	96,4	95,1	99,7	98,7	93,1	94,6	98,8
Cheese ¹⁾		13,2	14,2	14,4	15,5	16,1	16,4	16,1	17,4	16,9
Butter		5,2	5,0	5,1	5,2	5,2	5,0	4,8	4,8	4,7
in kg GE ²⁾										
Cereals	1,07	70,8	72,5	77,4	84,5	80,5	81,6	85,8	85,9	88,9
Potatoes	0,22	12,4	12,7	12,5	12,5	12,1	12,4	11,8	12,2	12,7
Sugar	1,89	77,3	75,0	76,2	79,4	75,8	74,7	75,6	73,3	73,5
Vegetable Oils	6,00	102,0	102,6	106,2	105,0	105,0	108,0	109,8	114,0	109,2
Beef/veal meat	11,80	240,7	231,3	236,0	231,3	218,3	227,7	231,3	215,9	219,5
Pork	4,55	254,8	258,9	260,3	254,8	261,2	263,0	276,2	256,6	254,3
Poultry meat	3,78	56,3	57,8	59,3	62,4	65,4	65,0	65,0	69,2	66,9
Eggs	2,57	35,2	35,5	35,7	37,3	36,2	34,4	34,2	33,9	35,5
Milk Products	0,95	105,5	94,0	91,6	90,3	94,7	93,8	88,4	89,9	93,9
Cheese ¹⁾	7,31	96,5	103,8	105,3	113,3	117,7	119,9	117,7	127,2	123,5
Butter	19,80	103,0	99,0	101,0	103,0	103,0	99,0	95,0	95,0	93,1
Summe		1154,6	1143,1	1161,4	1173,7	1169,8	1179,5	1190,9	1173,2	1171,0

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 12 Denmark: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		81,0	74,5	78,7	85,4	91,1	82,9	87,5	100,3	105,7
Potatoes		57,5	57,0	56,9	56,9	56,9	56,8	56,9	56,9	56,9
Sugar		43,9	40,5	48,2	39,1	36,0	34,1	34,6	40,1	43,5
Vegetable Oils		8,0	8,5	7,2	6,9	6,8	7,2	7,0	6,9	6,7
Beef/veal meat		18,9	17,6	18,3	19,5	19,5	26,0	22,3	22,5	26,3
Pork		63,3	64,2	64,8	57,1	63,1	65,7	64,3	63,1	58,2
Poultry meat		14,8	15,3	15,1	18,0	17,6	18,1	19,1	20,8	22,6
Eggs		16,1	15,9	14,1	15,2	16,2	14,5	13,9	14,6	15,3
Milk Products		143,4	141,7	143,2	141,4	144,5	142,8	143,5	132,9	134,4
Cheese ¹⁾		17,5	15,9	17,0	15,0	14,4	14,3	17,3	20,8	22,2
Butter		2,3	2,1	2,1	1,9	1,9	1,7	1,3	1,7	1,7
in kg GE ²⁾										
Cereals	1,07	86,7	79,7	84,2	91,4	97,5	88,7	93,6	107,3	113,1
Potatoes	0,22	12,7	12,5	12,5	12,5	12,5	12,5	12,5	12,5	12,5
Sugar	1,89	83,0	76,5	91,1	73,9	68,0	64,4	65,4	75,8	82,2
Vegetable Oils	6,00	48,0	51,0	43,2	41,4	40,8	43,2	42,0	41,4	40,2
Beef/veal meat	11,80	223,0	207,7	215,9	230,1	230,1	306,8	263,1	265,5	310,3
Pork	4,55	288,0	292,1	294,8	259,8	287,1	298,9	292,6	287,1	264,8
Poultry meat	3,78	55,9	57,8	57,1	68,0	66,5	68,4	72,2	78,6	85,4
Eggs	2,57	41,4	40,9	36,2	39,1	41,6	37,3	35,7	37,5	39,3
Milk Products	0,95	136,2	134,6	136,0	134,3	137,3	135,7	136,3	126,3	127,7
Cheese ¹⁾	7,31	127,9	116,2	124,3	109,7	105,3	104,5	126,5	152,0	162,3
Butter	19,80	45,5	41,6	41,6	37,6	37,6	33,7	25,7	33,7	33,7
Summe		1148,3	1110,7	1137,0	1097,8	1124,4	1194,1	1165,7	1217,7	1271,6

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000

Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 13 Finland: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		68,7	68,4	66,0	79,3	69,8	73,1	75,1	70,1	82,9
Potatoes		63,2	63,2	77,0	81,6	79,5	84,1	74,1	78,6	85,6
Sugar		32,4	32,4	32,9	34,0	34,9	33,8	33,8	38,1	38,0
Vegetable Oils		8,9	9,7	8,7	10,7	10,3	10,8	9,5	9,6	9,7
Beef/veal meat		19,7	19,1	19,2	19,4	19,4	18,9	19,0	17,9	18,0
Pork		29,9	32,2	33,2	32,3	34,0	34,4	32,9	32,0	31,9
Poultry meat		7,9	8,8	10,1	10,7	11,9	12,5	13,3	14,5	15,4
Eggs		10,4	11,8	11,0	10,4	10,2	10,0	10,0	9,5	9,9
Milk Products		201,5	199,7	198,2	193,8	188,7	190,3	190,3	190,3	189,2
Cheese ¹⁾		13,4	14,5	14,8	14,8	15,7	16,5	18,6	16,5	16,4
Butter		5,3	5,4	6,7	4,4	4,6	4,3	4,3	4,0	3,9
in kg GE ²⁾										
Cereals	1,07	73,5	73,2	70,6	84,9	74,7	78,2	80,4	75,0	88,7
Potatoes	0,22	13,9	13,9	16,9	18,0	17,5	18,5	16,3	17,3	18,8
Sugar	1,89	61,2	61,2	62,2	64,3	66,0	63,9	63,9	72,0	71,8
Vegetable Oils	6,00	53,4	58,2	52,2	64,2	61,8	64,8	57,0	57,6	58,2
Beef/veal meat	11,80	232,5	225,4	226,6	228,9	228,9	223,0	224,2	211,2	212,4
Pork	4,55	136,0	146,5	151,1	147,0	154,7	156,5	149,7	145,6	145,1
Poultry meat	3,78	29,9	33,3	38,2	40,4	45,0	47,3	50,3	54,8	58,2
Eggs	2,57	26,7	30,3	28,3	26,7	26,2	25,7	25,7	24,4	25,4
Milk Products	0,95	191,4	189,7	188,3	184,1	179,3	180,8	180,8	180,8	179,7
Cheese ¹⁾	7,31	98,0	106,0	108,2	108,2	114,8	120,6	136,0	120,6	119,9
Butter	19,80	104,9	106,9	132,7	87,1	91,1	85,1	85,1	79,2	77,2
Summe		1021,5	1044,6	1075,1	1053,7	1059,9	1064,4	1069,3	1038,6	1055,6

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 14 Ireland: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		87,5	80,5	90,6	94,6	95,7	94,0	97,3	103,3	101,8
Potatoes		170,3	150,0	153,4	155,6	161,4	140,0	138,7	126,9	130,5
Sugar		39,4	39,3	36,8	36,7	32,2	33,1	33,0	26,2	25,7
Vegetable Oils		16,9	14,7	15,6	17,0	16,7	14,8	15,2	15,3	14,9
Beef/veal meat		15,7	14,5	13,0	17,6	18,5	17,2	16,4	17,3	17,9
Pork		36,9	37,9	37,9	38,4	41,3	41,5	39,7	40,1	38,9
Poultry meat		27,7	30,9	31,3	31,8	30,1	33,2	33,6	30,7	31,4
Eggs		8,9	9,2	7,5	7,4	6,0	7,0	9,5	9,4	10,1
Milk Products		176,9	176,3	176,3	176,5	177,3	176,6	177,1	178,7	177,5
Cheese ¹⁾		5,0	5,8	6,6	6,3	6,5	6,2	5,8	5,5	5,9
Butter		3,9	3,6	3,6	3,6	3,5	3,2	3,2	2,9	3,1
in kg GE ²⁾										
Cereals	1,07	93,6	86,1	96,9	101,2	102,4	100,6	104,1	110,5	108,9
Potatoes	0,22	37,5	33,0	33,7	34,2	35,5	30,8	30,5	27,9	28,7
Sugar	1,89	74,5	74,3	69,6	69,4	60,9	62,6	62,4	49,5	48,6
Vegetable Oils	6,00	101,4	88,2	93,6	102,0	100,2	88,8	91,2	91,8	89,4
Beef/veal meat	11,80	185,3	171,1	153,4	207,7	218,3	203,0	193,5	204,1	211,2
Pork	4,55	167,9	172,4	172,4	174,7	187,9	188,8	180,6	182,5	177,0
Poultry meat	3,78	104,7	116,8	118,3	120,2	113,8	125,5	127,0	116,0	118,7
Eggs	2,57	22,9	23,6	19,3	19,0	15,4	18,0	24,4	24,2	26,0
Milk Products	0,95	168,1	167,5	167,5	167,7	168,4	167,8	168,2	169,8	168,6
Cheese ¹⁾	7,31	36,6	42,4	48,2	46,1	47,5	45,3	42,4	40,2	43,1
Butter	19,80	77,2	71,3	71,3	71,3	69,3	63,4	63,4	57,4	61,4
Summe		1069,5	1046,8	1044,3	1113,4	1119,6	1094,5	1087,8	1074,0	1081,6

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 15 EU-15 : Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals		83,0	84,0	85,3	85,9	88,7	88,7	89,4	90,7	91,6
Potatoes		76,0	75,0	76,3	74,6	72,1	75,0	75,5	72,4	75,5
Sugar		33,8	32,6	33,9	33,0	32,7	33,0	33,8	33,4	34,3
Vegetable Oils		19,0	19,2	19,9	20,3	19,9	19,9	20,3	20,1	20,4
Beef/veal meat		20,5	20,2	18,8	19,0	19,6	19,9	19,1	17,9	19,8
Pork		41,1	41,1	41,7	40,8	43,4	43,4	42,9	43,1	43,4
Poultry meat		19,4	20,0	20,9	21,2	21,5	22,5	22,2	23,4	23,2
Eggs		12,7	13,0	12,7	12,8	12,8	13,0	13,8	13,6	13,7
Milk Products		102,3	105,5	104,7	104,6	105,0	105,1	104,5	105,0	106,0
Cheese ¹⁾		15,2	15,7	15,9	16,1	16,7	16,8	17,0	17,7	17,7
Butter		4,8	4,7	4,5	4,8	4,7	4,7	4,7	4,6	4,4
in kg GE ²⁾										
Cereals	1,07	88,8	89,9	91,3	91,9	94,9	94,9	95,7	97,0	98,0
Potatoes	0,22	16,7	16,5	16,8	16,4	15,9	16,5	16,6	15,9	16,6
Sugar	1,89	63,9	61,6	64,1	62,4	61,8	62,4	63,9	63,1	64,8
Vegetable Oils	6,00	114,0	115,2	119,4	121,8	119,4	119,4	121,8	120,6	122,4
Beef/veal meat	11,80	241,9	238,4	221,8	224,2	231,3	234,8	225,4	211,2	233,6
Pork	4,55	187,0	187,0	189,7	185,6	197,5	197,5	195,2	196,1	197,5
Poultry meat	3,78	73,3	75,6	79,0	80,1	81,3	85,1	83,9	88,5	87,7
Eggs	2,57	32,6	33,4	32,6	32,9	32,9	33,4	35,5	35,0	35,2
Milk Products	0,95	97,2	100,2	99,5	99,4	99,8	99,8	99,3	99,8	100,7
Cheese ¹⁾	7,31	111,1	114,8	116,2	117,7	122,1	122,8	124,3	129,4	129,4
Butter	19,80	95,0	93,1	89,1	95,0	93,1	93,1	93,1	91,1	87,1
Summe		1121,6	1125,6	1119,5	1127,5	1149,8	1159,6	1154,5	1147,6	1173,1

1) without soft cheese

2) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
Sugar beet 7:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Milk 1,1:1, Cheese 8,5:1, Butter 23:1, see

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Data source: StJELF, vegetable oils FAOStat Food Balance Sheets

D 16 Cyprus: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		113,7	113,0	111,4	100,6	109,7	113,1	105,6	104,2	102,3
Potatoes		38,6	29,4	37,1	38,0	39,0	34,6	40,1	44,2	38,8
Sugar		42,3	45,5	38,6	38,4	38,2	38,1	38,4	39,2	40,4
Vegetable Oils		18,3	14,3	17,6	17,7	15,9	14,5	15,5	16,1	15,0
Beef/veal meat		9,4	8,9	7,1	7,2	6,2	6,6	7,7	6,5	6,7
Goat/mutton meat		11,1	11,5	10,1	10,9	12,8	13,9	13,9	14,1	15,8
Pork		43,3	43,2	44,5	44,5	44,9	46,2	46,6	45,9	46,2
Poultry meat		30,3	31,9	32,9	34,6	34,0	36,1	35,1	35,9	33,2
Eggs		10,2	10,5	11,1	9,8	11,5	11,2	11,2	11,6	11,9
Milk exc. butter		166,4	173,3	166,9	160,4	160,1	163,0	173,1	179,3	183,2
Butter		1,3	1,0	1,2	1,1	1,2	1,0	1,3	1,2	1,4
		in kg GE ¹⁾								
Cereals exc. beer	1,07	121,7	120,9	119,2	107,6	117,4	121,0	113,0	111,5	109,5
Potatoes	0,22	8,5	6,5	8,2	8,4	8,6	7,6	8,8	9,7	8,5
Sugar	1,89	79,9	86,0	73,0	72,6	72,2	72,0	72,6	74,1	76,4
Vegetable Oils	6,00	109,8	85,8	105,6	106,2	95,4	87,0	93,0	96,6	90,0
Beef/veal meat	11,80	110,9	105,0	83,8	85,0	73,2	77,9	90,9	76,7	79,1
Goat/mutton meat	13,44	149,2	154,6	135,7	146,5	172,0	186,8	186,8	189,5	212,4
Pork	4,55	197,0	196,6	202,5	202,5	204,3	210,2	212,0	208,8	210,2
Poultry meat	3,78	114,5	120,6	124,4	130,8	128,5	136,5	132,7	135,7	125,5
Eggs	2,57	26,2	27,0	28,5	25,2	29,6	28,8	28,8	29,8	30,6
Milk exc. butter	0,86	143,1	149,0	143,5	137,9	137,7	140,2	148,9	154,2	157,6
Butter	19,80	25,7	19,8	23,8	21,8	23,8	19,8	25,7	23,8	27,7
Summe		1086,6	1071,7	1048,1	1044,4	1062,6	1087,8	1113,2	1110,4	1127,3

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Mutton and goat meat 1,6:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see
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 Data source: FAOStat Food Balance Sheets

D 17 Czech Republik: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		121,8	132,6	133,3	135,1	122,8	108,7	105,7	112,7	113,3
Potatoes		79,4	80,0	80,8	80,2	80,1	78,9	79,6	81,3	78,2
Sugar		36,2	42,4	43,0	42,9	40,8	40,7	40,1	38,5	38,3
Vegetable Oils		14,5	14,7	15,7	16,5	16,7	16,5	16,4	16,6	16,0
Beef/veal meat		16,9	15,9	15,4	13,3	11,0	9,7	8,0	6,4	8,5
Pork		46,4	49,5	49,7	44,5	46,8	45,5	42,1	41,5	42,1
Poultry meat		11,4	14,6	14,6	18,1	20,0	20,5	21,8	23,6	31,4
Eggs		13,6	13,1	12,5	14,3	18,9	17,1	16,3	16,6	14,1
Milk exc. butter		195,3	200,5	196,1	185,4	192,9	204,3	204,1	203,3	202,1
Butter		4,8	4,5	4,2	3,8	4,0	4,2	4,1	4,4	4,7
		in kg GE ¹⁾								
Cereals exc. beer	1,07	130,3	141,9	142,6	144,6	131,4	116,3	113,1	120,6	121,2
Potatoes	0,22	17,5	17,6	17,8	17,6	17,6	17,4	17,5	17,9	17,2
Sugar	1,89	68,4	80,1	81,3	81,1	77,1	76,9	75,8	72,8	72,4
Vegetable Oils	6,00	87,0	88,2	94,2	99,0	100,2	99,0	98,4	99,6	96,0
Beef/veal meat	11,80	199,4	187,6	181,7	156,9	129,8	114,5	94,4	75,5	100,3
Pork	4,55	211,1	225,2	226,1	202,5	212,9	207,0	191,6	188,8	191,6
Poultry meat	3,78	43,1	55,2	55,2	68,4	75,6	77,5	82,4	89,2	118,7
Eggs	2,57	35,0	33,7	32,1	36,8	48,6	43,9	41,9	42,7	36,2
Milk exc. butter	0,86	168,0	172,4	168,6	159,4	165,9	175,7	175,5	174,8	173,8
Butter	19,80	95,0	89,1	83,2	75,2	79,2	83,2	81,2	87,1	93,1
Summe		1054,8	1091,0	1082,9	1041,6	1038,3	1011,4	971,8	969,0	1020,5

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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Data source: FAOStat Food Balance Sheets

D 18 Estonia: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		118,7	132,7	131,3	128,8	130,3	132,3	139,0	133,7	136,5
Potatoes		119,2	138,8	150,6	124,6	92,4	137,2	141,9	132,2	120,7
Sugar		27,7	23,8	26,2	28,1	27,8	28,8	30,5	28,0	30,1
Vegetable Oils		6,1	7,3	8,9	9,7	10,7	7,3	7,3	8,3	8,1
Beef/veal meat		20,6	16,7	18,1	14,4	16,3	14,9	13,5	12,4	13,3
Pork		23,7	24,1	26,0	21,8	23,5	30,0	27,8	28,7	29,4
Poultry meat		5,5	7,3	11,9	16,6	20,8	13,5	17,7	19,8	21,7
Eggs		14,3	13,3	11,9	11,3	12,5	11,4	11,9	12,8	11,5
Milk exc. butter		295,3	275,0	215,8	201,3	209,9	247,2	195,5	220,9	219,1
Butter		5,3	5,4	5,0	4,2	5,8	6,0	3,6	2,6	2,8
		in kg GE ¹⁾								
Cereals exc. beer	1,07	127,0	142,0	140,5	137,8	139,4	141,6	148,7	143,1	146,1
Potatoes	0,22	26,2	30,5	33,1	27,4	20,3	30,2	31,2	29,1	26,6
Sugar	1,89	52,4	45,0	49,5	53,1	52,5	54,4	57,6	52,9	56,9
Vegetable Oils	6,00	36,6	43,8	53,4	58,2	64,2	43,8	43,8	49,8	48,6
Beef/veal meat	11,80	243,1	197,1	213,6	169,9	192,3	175,8	159,3	146,3	156,9
Pork	4,55	107,8	109,7	118,3	99,2	106,9	136,5	126,5	130,6	133,8
Poultry meat	3,78	20,8	27,6	45,0	62,7	78,6	51,0	66,9	74,8	82,0
Eggs	2,57	36,8	34,2	30,6	29,0	32,1	29,3	30,6	32,9	29,6
Milk exc. butter	0,86	254,0	236,5	185,6	173,1	180,5	212,6	168,1	190,0	188,4
Butter	19,80	104,9	106,9	99,0	83,2	114,8	118,8	71,3	51,5	55,4
Summe		1009,5	973,2	968,6	893,7	981,9	994,0	904,1	901,0	924,3

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang

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der Nachfrage nach Milch und Milchzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000

Data source: FAOStat Food Balance Sheets

D 19 Hungary: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		119,6	115,9	111,6	115,6	106,2	115,9	120,7	122,9	124,7
Potatoes		59,7	62,1	67,7	67,2	68,5	69,6	66,4	70,4	67,4
Sugar		37,6	41,1	43,9	43,5	44,9	41,0	36,4	33,4	35,2
Vegetable Oils		13,6	14,2	13,8	14,3	15,3	12,7	16,7	16,2	15,7
Beef/veal meat		7,1	6,4	6,0	6,1	4,4	3,9	5,3	4,7	5,6
Pork		51,9	47,3	43,9	40,6	41,5	43,8	44,5	43,3	45,1
Poultry meat		22,9	23,8	23,4	24,3	27,0	27,8	34,5	35,3	36,1
Eggs		19,2	16,9	15,9	15,2	16,1	15,5	16,0	16,8	17,0
Milk exc. butter		158,9	157,0	154,1	169,9	173,7	172,2	170,4	168,4	180,6
Butter		1,4	1,5	1,6	1,2	1,1	0,9	0,9	1,2	1,0
		in kg GE ¹⁾								
Cereals exc. beer	1,07	128,0	124,0	119,4	123,7	113,6	124,0	129,1	131,5	133,4
Potatoes	0,22	13,1	13,7	14,9	14,8	15,1	15,3	14,6	15,5	14,8
Sugar	1,89	71,1	77,7	83,0	82,2	84,9	77,5	68,8	63,1	66,5
Vegetable Oils	6,00	81,6	85,2	82,8	85,8	91,8	76,2	100,2	97,2	94,2
Beef/veal meat	11,80	83,8	75,5	70,8	72,0	51,9	46,0	62,5	55,5	66,1
Pork	4,55	236,1	215,2	199,7	184,7	188,8	199,3	202,5	197,0	205,2
Poultry meat	3,78	86,6	90,0	88,5	91,9	102,1	105,1	130,4	133,4	136,5
Eggs	2,57	49,3	43,4	40,9	39,1	41,4	39,8	41,1	43,2	43,7
Milk exc. butter	0,86	136,7	135,0	132,5	146,1	149,4	148,1	146,5	144,8	155,3
Butter	19,80	27,7	29,7	31,7	23,8	21,8	17,8	17,8	23,8	19,8
Summe		914,0	889,4	864,1	864,0	860,7	849,2	913,7	905,0	935,5

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang

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Data source: FAOStat Food Balance Sheets

D 20 Latvia: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		148,3	146,7	138,8	131,6	130,3	128,4	121,8	123,2	111,3
Potatoes		120,8	106,3	153,4	145,3	136,9	133,7	139,9	128,7	143,4
Sugar		38,9	27,5	33,9	32,5	33,6	33,0	33,4	32,4	31,4
Vegetable Oils		2,3	4,6	8,8	10,8	9,4	9,8	11,5	13,5	13,5
Beef/veal meat		30,4	24,9	11,5	11,3	11,5	9,1	10,7	9,5	8,0
Pork		24,1	26,8	20,3	18,1	15,4	16,7	15,7	17,9	21,9
Poultry meat		5,1	4,7	5,3	7,0	8,8	7,4	10,3	11,9	15,6
Eggs		7,6	9,3	10,5	10,6	9,8	9,6	9,7	11,4	12,2
Milk exc. butter		226,3	231,1	199,2	213,2	198,8	212,7	214,9	214,9	210,0
Butter		4,1	4,1	3,8	2,2	1,9	2,1	2,4	2,6	2,6
		in kg GE ¹⁾								
Cereals exc. beer	1,07	158,7	157,0	148,5	140,8	139,4	137,4	130,3	131,8	119,1
Potatoes	0,22	26,6	23,4	33,7	32,0	30,1	29,4	30,8	28,3	31,5
Sugar	1,89	73,5	52,0	64,1	61,4	63,5	62,4	63,1	61,2	59,3
Vegetable Oils	6,00	13,8	27,6	52,8	64,8	56,4	58,8	69,0	81,0	81,0
Beef/veal meat	11,80	358,7	293,8	135,7	133,3	135,7	107,4	126,3	112,1	94,4
Pork	4,55	109,7	121,9	92,4	82,4	70,1	76,0	71,4	81,4	99,6
Poultry meat	3,78	19,3	17,8	20,0	26,5	33,3	28,0	38,9	45,0	59,0
Eggs	2,57	19,5	23,9	27,0	27,2	25,2	24,7	24,9	29,3	31,4
Milk exc. butter	0,86	194,6	198,7	171,3	183,4	171,0	182,9	184,8	184,8	180,6
Butter	19,80	81,2	81,2	75,2	43,6	37,6	41,6	47,5	51,5	51,5
Summe		1055,6	997,3	820,8	795,3	762,3	748,5	787,1	806,5	807,4

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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 Data source: FAOStat Food Balance Sheets

D 21 Lithuania: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals exc. beer		171,9	170,2	174,6	188,7	189,7	178,2	169,7	162,6	161,5
Potatoes		100,0	127,1	133,2	129,4	136,7	132,7	135,7	130,6	120,9
Sugar		25,7	23,5	26,1	29,9	32,5	28,5	28,9	33,9	26,7
Vegetable Oils		1,9	1,9	8,3	10,2	9,9	9,4	11,4	12,3	10,6
Beef/veal meat		25,8	20,5	20,1	19,3	22,3	18,7	15,0	11,2	11,7
Pork		21,6	25,1	22,6	20,5	19,6	26,2	24,4	21,4	26,1
Poultry meat		6,3	7,1	8,4	10,3	9,5	8,6	9,7	11,1	12,6
Eggs		9,5	10,2	9,8	10,9	10,9	10,4	10,0	11,6	12,0
Milk exc. butter		186,3	140,8	146,5	116,6	108,5	130,1	190,0	200,2	214,0
Butter		3,8	3,5	2,1	2,9	2,5	2,7	3,0	2,8	2,7
in kg GE ¹⁾										
Cereals exc. beer	1,07	183,9	182,1	186,8	201,9	203,0	190,7	181,6	174,0	172,8
Potatoes	0,22	22,0	28,0	29,3	28,5	30,1	29,2	29,9	28,7	26,6
Sugar	1,89	48,6	44,4	49,3	56,5	61,4	53,9	54,6	64,1	50,5
Vegetable Oils	6,00	11,4	11,4	49,8	61,2	59,4	56,4	68,4	73,8	63,6
Beef/veal meat	11,80	304,4	241,9	237,2	227,7	263,1	220,7	177,0	132,2	138,1
Pork	4,55	98,3	114,2	102,8	93,3	89,2	119,2	111,0	97,4	118,8
Poultry meat	3,78	23,8	26,8	31,8	38,9	35,9	32,5	36,7	42,0	47,6
Eggs	2,57	24,4	26,2	25,2	28,0	28,0	26,7	25,7	29,8	30,8
Milk exc. butter	0,86	160,2	121,1	126,0	100,3	93,3	111,9	163,4	172,2	184,0
Butter	19,80	75,2	69,3	41,6	57,4	49,5	53,5	59,4	55,4	53,5
Summe		952,3	865,4	879,8	893,7	912,9	894,6	907,6	869,5	886,2

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see
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 Data source: FAOStat Food Balance Sheets

D 22 Malta: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		161,0	149,0	150,5	160,1	155,4	160,1	174,8	186,3	190,3
Potatoes		77,8	63,0	71,7	68,3	87,0	87,5	99,8	88,1	76,6
Sugar		51,6	50,7	49,2	53,4	51,6	49,5	48,6	52,8	44,8
Vegetable Oils		9,9	10,6	9,4	8,3	8,6	7,5	7,9	6,3	7,5
Beef/veal meat		22,7	33,2	30,3	29,4	25,9	30,4	24,4	14,0	25,6
Pork		27,4	29,6	29,4	30,9	31,2	30,7	28,0	31,3	30,2
Poultry meat		10,8	11,8	12,5	13,4	13,0	14,1	14,1	16,6	16,9
Eggs		17,3	20,5	14,9	14,8	20,0	17,4	13,3	13,6	12,1
Milk exc. butter		150,0	172,5	195,5	206,8	207,5	203,3	213,9	198,2	201,1
Butter		1,4	1,8	1,2	0,7	0,0	0,4	0,4	0,7	0,9
		in kg GE ¹⁾								
Cereals exc. beer	1,07	172,3	159,4	161,0	171,3	166,3	171,3	187,0	199,3	203,6
Potatoes	0,22	17,1	13,9	15,8	15,0	19,1	19,3	22,0	19,4	16,9
Sugar	1,89	97,5	95,8	93,0	100,9	97,5	93,6	91,9	99,8	84,7
Vegetable Oils	6,00	59,4	63,6	56,4	49,8	51,6	45,0	47,4	37,8	45,0
Beef/veal meat	11,80	267,9	391,8	357,5	346,9	305,6	358,7	287,9	165,2	302,1
Pork	4,55	124,7	134,7	133,8	140,6	142,0	139,7	127,4	142,4	137,4
Poultry meat	3,78	40,8	44,6	47,3	50,7	49,1	53,3	53,3	62,7	63,9
Eggs	2,57	44,5	52,7	38,3	38,0	51,4	44,7	34,2	35,0	31,1
Milk exc. butter	0,86	129,0	148,4	168,1	177,8	178,5	174,8	184,0	170,5	172,9
Butter	19,80	27,7	35,6	23,8	13,9	0,0	7,9	7,9	13,9	17,8
Summe		980,8	1140,4	1094,9	1105,0	1061,1	1108,3	1042,9	945,9	1075,4

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
Data source: FAOStat Food Balance Sheets

D 23 Poland: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		151,2	149,9	151,4	152,1	150,2	151,0	154,6	155,2	152,6
Potatoes		136,4	135,5	135,2	134,0	135,0	131,4	132,2	129,9	132,1
Sugar		42,6	40,8	42,2	42,5	42,7	42,2	44,3	44,8	44,5
Vegetable Oils		11,2	12,0	12,1	12,1	12,2	12,3	12,2	12,3	12,4
Beef/veal meat		10,3	10,2	10,5	9,8	9,3	9,0	8,0	6,3	5,9
Pork		47,0	48,2	49,1	43,0	46,4	48,5	47,4	46,7	47,8
Poultry meat		10,6	10,2	10,2	12,4	13,2	13,9	14,5	16,9	19,2
Eggs		8,2	8,6	9,8	10,5	10,0	10,3	10,4	11,0	11,8
Milk exc. butter		200,6	194,9	188,9	186,3	199,4	191,8	184,4	175,1	174,6
Butter		3,9	4,0	3,9	4,3	4,3	4,4	4,3	4,4	4,5
		in kg GE ¹⁾								
Cereals exc. Beer	1,07	161,8	160,4	162,0	162,7	160,7	161,6	165,4	166,1	163,3
Potatoes	0,22	30,0	29,8	29,7	29,5	29,7	28,9	29,1	28,6	29,1
Sugar	1,89	80,5	77,1	79,8	80,3	80,7	79,8	83,7	84,7	84,1
Vegetable Oils	6,00	67,2	72,0	72,6	72,6	73,2	73,8	73,2	73,8	74,4
Beef/veal meat	11,80	121,5	120,4	123,9	115,6	109,7	106,2	94,4	74,3	69,6
Pork	4,55	213,9	219,3	223,4	195,7	211,1	220,7	215,7	212,5	217,5
Poultry meat	3,78	40,1	38,6	38,6	46,9	49,9	52,5	54,8	63,9	72,6
Eggs	2,57	21,1	22,1	25,2	27,0	25,7	26,5	26,7	28,3	30,3
Milk exc. butter	0,86	172,5	167,6	162,5	160,2	171,5	164,9	158,6	150,6	150,2
Butter	19,80	77,2	79,2	77,2	85,1	85,1	87,1	85,1	87,1	89,1
Summe		985,8	986,5	994,8	975,7	997,4	1002,0	986,8	969,8	980,1

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
Data source: FAOStat Food Balance Sheets

D 24 Slovakia: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		145,0	120,2	125,7	122,4	125,2	126,5	131,7	131,2	128,2
Potatoes		67,4	75,9	80,3	81,7	78,2	78,0	71,8	68,0	78,5
Sugar		33,7	38,9	37,3	38,4	38,7	33,9	35,1	29,7	31,0
Vegetable Oils		11,3	12,0	10,0	10,8	14,9	12,9	15,1	15,0	13,6
Beef/veal meat		12,5	11,5	11,6	11,9	10,7	10,0	9,4	7,6	7,0
Pork		46,7	46,3	47,2	48,1	46,1	44,4	32,7	31,5	32,3
Poultry meat		12,0	16,7	21,4	16,7	23,2	24,2	23,2	24,0	25,9
Eggs		17,5	18,0	17,2	17,7	17,5	13,6	13,0	13,6	13,9
Milk exc. butter		139,2	136,0	122,4	126,1	142,5	128,8	110,6	121,3	123,0
Butter		3,4	3,2	2,8	2,4	2,6	2,6	2,2	2,8	3,4
		in kg GE ¹⁾								
Cereals exc. Beer	1,07	155,2	128,6	134,5	131,0	134,0	135,4	140,9	140,4	137,2
Potatoes	0,22	14,8	16,7	17,7	18,0	17,2	17,2	15,8	15,0	17,3
Sugar	1,89	63,7	73,5	70,5	72,6	73,1	64,1	66,3	56,1	58,6
Vegetable Oils	6,00	67,8	72,0	60,0	64,8	89,4	77,4	90,6	90,0	81,6
Beef/veal meat	11,80	147,5	135,7	136,9	140,4	126,3	118,0	110,9	89,7	82,6
Pork	4,55	212,5	210,7	214,8	218,9	209,8	202,0	148,8	143,3	147,0
Poultry meat	3,78	45,4	63,1	80,9	63,1	87,7	91,5	87,7	90,7	97,9
Eggs	2,57	45,0	46,3	44,2	45,5	45,0	35,0	33,4	35,0	35,7
Milk exc. butter	0,86	119,7	117,0	105,3	108,4	122,6	110,8	95,1	104,3	105,8
Butter	19,80	67,3	63,4	55,4	47,5	51,5	51,5	43,6	55,4	67,3
Summe		938,8	926,9	920,1	910,2	956,4	902,7	833,1	819,9	830,9

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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Data source: FAOStat Food Balance Sheets

D 25 Slovenien: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		142,8	134,1	149,4	136,7	132,4	149,7	132,7	136,0	137,1
Potatoes		41,0	59,0	53,9	54,4	57,5	57,0	83,6	59,0	64,0
Sugar		14,6	13,9	14,7	16,3	16,0	14,4	14,0	11,7	12,6
Vegetable Oils		10,3	10,2	9,5	10,9	11,8	8,9	9,3	9,8	8,2
Beef/veal meat		28,8	26,5	27,7	25,3	21,5	23,0	22,6	22,2	19,1
Pork		42,5	37,8	35,1	36,6	38,7	43,4	38,3	41,0	39,1
Poultry meat		19,2	25,6	28,7	30,6	32,3	33,0	32,9	33,1	29,1
Eggs		7,4	6,9	8,6	9,6	10,1	10,5	11,2	9,9	9,9
Milk exc. butter		197,6	205,2	215,5	222,9	233,7	253,0	220,5	241,0	268,1
Butter		0,6	0,8	0,8	0,9	1,0	2,1	0,9	1,3	1,4
		in kg GE ¹⁾								
Cereals exc. beer	1,07	152,8	143,5	159,9	146,3	141,7	160,2	142,0	145,5	146,7
Potatoes	0,22	9,0	13,0	11,9	12,0	12,7	12,5	18,4	13,0	14,1
Sugar	1,89	27,6	26,3	27,8	30,8	30,2	27,2	26,5	22,1	23,8
Vegetable Oils	6,00	61,8	61,2	57,0	65,4	70,8	53,4	55,8	58,8	49,2
Beef/veal meat	11,80	339,8	312,7	326,9	298,5	253,7	271,4	266,7	262,0	225,4
Pork	4,55	193,4	172,0	159,7	166,5	176,1	197,5	174,3	186,6	177,9
Poultry meat	3,78	72,6	96,8	108,5	115,7	122,1	124,7	124,4	125,1	110,0
Eggs	2,57	19,0	17,7	22,1	24,7	26,0	27,0	28,8	25,4	25,4
Milk exc. butter	0,86	169,9	176,5	185,3	191,7	201,0	217,6	189,6	207,3	230,6
Butter	19,80	11,9	15,8	15,8	17,8	19,8	41,6	17,8	25,7	27,7
Summe		1057,8	1035,4	1074,8	1069,4	1054,0	1133,1	1044,2	1071,5	1030,8

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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Data source: FAOStat Food Balance Sheets

D 26 EU-25: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals exc. beer		114,6	115,6	117,5	115,2	118,1	118,1	118,4	121,3	121,0
Potatoes		83,5	83,0	84,1	83,1	81,9	82,9	84,4	81,8	81,3
Sugar		35,6	35,9	35,8	36,3	35,6	36,0	36,2	37,1	36,8
Vegetable Oils		17,6	17,9	18,5	19,0	18,7	18,6	19,2	19,1	19,2
Beef/veal meat		18,3	18,6	18,0	17,9	17,8	17,4	17,4	16,6	17,4
Pork		41,4	41,3	42,2	41,0	43,8	44,8	44,0	43,8	44,3
Poultry meat		18,1	18,2	19,1	19,3	20,5	19,9	20,4	21,5	21,6
Eggs		12,3	12,4	12,4	12,6	12,7	12,4	12,6	12,7	12,8
Milk exc. butter		230,0	230,7	231,4	230,7	234,7	237,4	235,6	236,4	241,7
Butter		4,3	4,3	4,3	3,8	4,3	4,3	4,4	4,4	4,3
in kg GE ¹⁾										
Cereals exc. beer	1,07	122,6	123,7	125,7	123,3	126,4	126,4	126,7	129,8	129,5
Potatoes	0,22	18,4	18,3	18,5	18,3	18,0	18,2	18,6	18,0	17,9
Sugar	1,89	67,3	67,9	67,7	68,6	67,3	68,0	68,4	70,1	69,6
Vegetable Oils	6,00	105,6	107,4	111,0	114,0	112,2	111,6	115,2	114,6	115,2
Beef/veal meat	11,80	215,9	219,5	212,4	211,2	210,0	205,3	205,3	195,9	205,3
Pork	4,55	188,4	187,9	192,0	186,6	199,3	203,8	200,2	199,3	201,6
Poultry meat	3,78	68,4	68,8	72,2	73,0	77,5	75,2	77,1	81,3	81,6
Eggs	2,57	31,6	31,9	31,9	32,4	32,6	31,9	32,4	32,6	32,9
Milk exc. butter	0,86	197,8	198,4	199,0	198,4	201,8	204,2	202,6	203,3	207,9
Butter	19,80	85,1	85,1	85,1	75,2	85,1	85,1	87,1	87,1	85,1
Summe		1101,2	1108,8	1115,5	1100,9	1130,3	1129,8	1133,6	1132,0	1146,5

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see
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 Data source: FAOStat Food Balance Sheets

D 27 Bulgaria Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		162,3	161,5	152,1	147,4	150,5	153,7	151,3	139,8	149,1
Potatoes		29,2	29,7	30,2	27,9	31,9	32,5	31,6	34,1	33,9
Sugar		29,2	29,3	27,2	23,9	26,6	27,2	27,3	27,4	27,5
Vegetable Oils		11,8	12,0	12,1	12,1	13,8	13,6	13,5	13,5	14,2
Beef/veal meat		12,7	10,6	9,6	9,2	10,2	10,6	7,3	10,2	10,3
Pork		28,6	30,8	28,7	26,9	32,7	34,2	32,5	32,0	33,9
Poultry meat		9,0	9,9	11,0	12,3	14,4	13,8	14,9	16,5	18,1
Eggs		10,6	11,4	11,2	9,9	11,1	10,5	9,6	9,8	10,9
Milk exc. butter		154,6	156,3	150,8	153,6	170,6	164,1	169,2	145,0	152,8
Butter		0,6	0,5	0,4	0,2	0,3	0,3	0,3	0,4	0,4
		in kg GE ¹⁾								
Cereals exc. Beer	1,07	173,7	172,8	162,7	157,7	161,0	164,5	161,9	149,6	159,5
Potatoes	0,22	6,4	6,5	6,6	6,1	7,0	7,2	7,0	7,5	7,5
Sugar	1,89	55,2	55,4	51,4	45,2	50,3	51,4	51,6	51,8	52,0
Vegetable Oils	6,00	70,8	72,0	72,6	72,6	82,8	81,6	81,0	81,0	85,2
Beef/veal meat	11,80	149,9	125,1	113,3	108,6	120,4	125,1	86,1	120,4	121,5
Pork	4,55	130,1	140,1	130,6	122,4	148,8	155,6	147,9	145,6	154,2
Poultry meat	3,78	34,0	37,4	41,6	46,5	54,4	52,2	56,3	62,4	68,4
Eggs	2,57	27,2	29,3	28,8	25,4	28,5	27,0	24,7	25,2	28,0
Milk exc. butter	0,86	133,0	134,4	129,7	132,1	146,7	141,1	145,5	124,7	131,4
Butter	19,80	11,9	9,9	7,9	4,0	5,9	5,9	5,9	7,9	7,9
Summe		792,2	783,0	745,2	720,6	805,9	811,5	767,9	776,0	815,7

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation

Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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Data source: FAOStat Food Balance Sheets

D 28 Romania: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
		in kg								
Cereals exc. beer		200,6	206,0	199,8	211,0	206,8	200,2	199,7	206,5	209,9
Potatoes		66,8	71,1	73,4	81,8	84,2	86,2	87,1	88,7	92,2
Sugar		26,2	25,0	26,6	21,1	21,7	21,8	24,4	25,3	24,5
Vegetable Oils		7,8	9,6	10,0	9,1	9,6	10,8	12,7	13,4	13,5
Beef/veal meat		10,7	9,0	7,7	8,0	7,2	6,7	6,9	6,9	7,0
Pork		28,4	27,5	26,0	27,2	29,8	27,0	24,6	23,1	24,9
Poultry meat		11,8	13,5	13,1	11,9	14,0	13,3	12,7	15,7	19,0
Eggs		8,9	9,9	10,0	9,2	10,1	10,3	10,4	11,3	11,7
Milk exc. butter		179,8	190,8	195,2	187,9	192,5	189,0	190,9	193,6	194,2
Butter		0,8	0,7	0,7	0,4	0,3	0,4	0,3	0,3	0,3
		in kg GE ¹⁾								
Cereals exc. Beer	1,07	214,6	220,4	213,8	225,8	221,3	214,2	213,7	221,0	224,6
Potatoes	0,22	14,7	15,6	16,1	18,0	18,5	19,0	19,2	19,5	20,3
Sugar	1,89	49,5	47,3	50,3	39,9	41,0	41,2	46,1	47,8	46,3
Vegetable Oils	6,00	46,8	57,6	60,0	54,6	57,6	64,8	76,2	80,4	81,0
Beef/veal meat	11,80	126,3	106,2	90,9	94,4	85,0	79,1	81,4	81,4	82,6
Pork	4,55	129,2	125,1	118,3	123,8	135,6	122,9	111,9	105,1	113,3
Poultry meat	3,78	44,6	51,0	49,5	45,0	52,9	50,3	48,0	59,3	71,8
Eggs	2,57	22,9	25,4	25,7	23,6	26,0	26,5	26,7	29,0	30,1
Milk exc. butter	0,86	154,6	164,1	167,9	161,6	165,6	162,5	164,2	166,5	167,0
Butter	19,80	15,8	13,9	13,9	7,9	5,9	7,9	5,9	5,9	5,9
Summe		819,1	826,7	806,3	794,5	809,3	788,3	793,4	816,0	842,9

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation
 Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Pork 1,3:1, Poultry meat 1,4:1, Butter 23:1, see

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Data source: FAOStat Food Balance Sheets

D 29 Turkey: Food consumption per capita

	factor	1994	1995	1996	1997	1998	1999	2000	2001	2002
in kg										
Cereals exc. beer		233,8	225,5	221,2	209,3	215,5	217,6	215,7	224,3	219,1
Potatoes		53,3	59,8	59,0	60,7	64,4	73,2	63,0	57,7	60,7
Sugar		27,9	27,3	28,4	30,5	30,2	26,4	27,5	27,8	24,7
Vegetable Oils		16,9	17,3	17,2	18,3	16,5	17,4	18,0	18,2	17,4
Beef/veal meat		5,4	5,4	5,0	5,9	5,5	5,3	5,3	4,8	4,7
Goat/mutton meat		5,9	5,9	5,7	5,8	5,6	5,5	5,5	5,1	4,7
Poultry meat		7,7	7,9	6,7	7,3	7,5	9,0	9,6	8,8	9,8
Eggs		6,9	7,2	6,6	8,0	9,5	9,2	8,9	6,6	6,9
Milk exc. butter		138,2	136,7	136,9	126,2	123,0	122,7	117,1	111,6	98,0
Butter		2,1	2,1	2,0	1,9	1,9	1,9	1,8	1,6	1,6
in kg GE ¹⁾										
Cereals exc. beer	1,07	250,2	241,3	236,7	224,0	230,6	232,8	230,8	240,0	234,4
Potatoes	0,22	11,7	13,2	13,0	13,4	14,2	16,1	13,9	12,7	13,4
Sugar	1,89	52,7	51,6	53,7	57,6	57,1	49,9	52,0	52,5	46,7
Vegetable Oils	6,00	101,4	103,8	103,2	109,8	99,0	104,4	108,0	109,2	104,4
Beef/veal meat	11,80	63,7	63,7	59,0	69,6	64,9	62,5	62,5	56,6	55,5
Goat/mutton meat	13,44	79,3	79,3	76,6	78,0	75,3	73,9	73,9	68,5	63,2
Poultry meat	3,78	29,1	29,9	25,3	27,6	28,4	34,0	36,3	33,3	37,0
Eggs	2,57	17,7	18,5	17,0	20,6	24,4	23,6	22,9	17,0	17,7
Milk exc. butter	0,86	118,9	117,6	117,7	108,5	105,8	105,5	100,7	96,0	84,3
Butter	19,80	41,6	41,6	39,6	37,6	37,6	37,6	35,6	31,7	31,7
Summe		766,3	760,4	741,8	746,6	737,2	740,5	736,6	717,5	688,2

1) GE = Grain equivalent, accordingly GE for agricultural products (see StJELF) and consideration of the agricultural product-food-relation Sugar beet 7:1, Vegetable oils 2,3:1, Beef and veal meat 2:1, Mutton and goat meat 1,6:1, Poultry meat 1,4:1, Butter 23:1, see Plate R. Entwicklung der Verbraucherpreise und Erzeugerpreise wichtiger Lebensmittel in der Bundesrepublik Deutschland seit Anfang der 50er Jahre in Deutschland, Landwirtschaft-Angewandte Wissenschaft Heft 190 Münster Hiltrup 1976, Lahmann M. Prognose der Nachfrage nach Milch und Milcherzeugnissen in Deutschland und Frankreich bis zum Jahr 2005, Diss. Universität Hohenheim 2000
Data source: FAOStat Food Balance Sheets

Appendix E

Change of population, food consumption per capita and food consumption

E 1 Change of population, food consumption per capita and food consumption in total 106

E 2 Change of population, food consumption per capita and food consumption in total 107

E 3 Change of population, food consumption per capita and food consumption in total 108

E 4 Change of population, food consumption per capita and food consumption in total 109

E 1 Change of population, food consumption per capita and food consumption in total

	Change in population		Change in food consumption per capita		Change in food consumption in total	
	2000 - 2010	2010 - 2020	2000 - 2010	2010 - 2020	2000 - 2010	2010 - 2020
Germany						
total	1,07	-0,29	2,10	0,00	3,17	-0,29
Beef			0,00	0,00	1,07	-0,29
Milk			1,00	0,00	2,07	-0,29
Beef and milk			0,70	0,00	1,77	-0,29
other food			3,40	0,00	4,47	-0,29
Great Britain						
total	3,56	3,49	7,00	0,00	10,56	3,49
Beef			10,00	0,00	13,56	3,49
Milk			-0,70	0,00	2,86	3,49
Beef and milk			4,30	0,00	7,86	3,49
other food			10,00	0,00	13,56	3,49
France						
total	3,17	1,10	3,20	0,00	6,37	1,10
Beef			-1,00	0,00	2,17	1,10
Milk			4,10	0,00	7,27	1,10
Beef and milk			2,00	0,00	5,17	1,10
other food			5,00	0,00	8,17	1,10
Italy						
total	1,53	-0,75	4,40	0,00	5,93	-0,75
Beef			-1,50	0,00	0,03	-0,75
Milk			10,00	0,00	11,53	-0,75
Beef and milk			4,20	0,00	5,73	-0,75
other food			5,00	0,00	6,53	-0,75
Spain						
total	0,17	-1,18	5,50	0,00	5,67	-1,18
Beef			10,00	0,00	10,17	-1,18
Milk			3,80	0,00	3,97	-1,18
Beef and milk			6,50	0,00	6,67	-1,18
other food			5,00	0,00	5,17	-1,18
Netherlands						
total	6,30	3,72	-1,50	0,00	4,80	3,72
Beef			-2,70	0,00	3,60	3,72
Milk			-1,50	0,00	4,80	3,72
Beef and milk			-2,00	0,00	4,30	3,72
other food			-0,80	0,00	5,50	3,72
Belgium/Lux.						
total	2,75	2,22	1,40	0,00	4,15	2,22
Beef			-1,20	0,00	1,55	2,22
Milk			0,30	0,00	3,05	2,22
Beef and milk			-0,40	0,00	2,35	2,22
other food			2,90	0,00	5,65	2,22

E 2 Change of population, food consumption per capita and food consumption in total

	Change in population		Change in food consumption per capita		Change in food consumption in total	
	2000/2010	2010/2020	2000/2010	2010/2020	2000/2010	2010/2020
Greece						
total	1,50	-0,65	7,10	0,00	8,60	-0,65
Beef			-4,90	0,00	-3,40	-0,65
Milk			10,00	0,00	11,50	-0,65
Beef and milk			3,20	0,00	4,70	-0,65
other food			10,00	0,00	11,50	-0,65
Portugal						
total	1,09	2,10	8,00	0,00	9,09	2,10
Beef			-0,40	0,00	0,69	2,10
Milk			10,00	0,00	11,09	2,10
Beef and milk			5,10	0,00	6,19	2,10
other food			10,00	0,00	11,09	2,10
Sweden						
total	3,63	3,51	5,70	0,00	9,33	3,51
Beef			10,00	0,00	13,63	3,51
Milk			-2,20	0,00	1,43	3,51
Beef and milk			2,80	0,00	6,43	3,51
other food			9,10	0,00	12,73	3,51
Austria						
total	1,47	1,17	4,80	0,00	6,27	1,17
Beef			-2,20	0,00	-0,73	1,17
Milk			4,30	0,00	5,77	1,17
Beef and milk			1,60	0,00	3,07	1,17
other food			7,40	0,00	8,87	1,17
Denmark						
total	3,28	2,49	6,00	0,00	9,28	2,49
Beef			10,00	0,00	13,28	2,49
Milk			4,40	0,00	7,68	2,49
Beef and milk			7,00	0,00	10,28	2,49
other food			5,10	0,00	8,38	2,49
Finland						
total	1,80	1,10	3,30	0,00	5,10	1,10
Beef			-2,00	0,00	-0,20	1,10
Milk			-1,60	0,00	0,20	1,10
Beef and milk			-1,70	0,00	0,10	1,10
other food			10,00	0,00	11,80	1,10
Ireland						
total	8,63	4,36	2,00	0,00	10,63	4,36
Beef			10,00	0,00	18,63	4,36
Milk			-1,30	0,00	7,33	4,36
Beef and milk			3,50	0,00	12,13	4,36
other food			0,80	0,00	9,43	4,36
EU-15 total	1,83	0,65	5,00	0,00	6,83	0,65
Beef			3,00	0,00	4,83	0,65
Milk			3,90	0,00	5,73	0,65
Beef and milk			3,40	0,00	5,23	0,65
other food			6,80	0,00	8,63	0,65

E 3 Change of population, food consumption per capita and food consumption in total

	Change in population		Change in food consumption per capita		Change in food consumption in total	
	2000/2010	2010/2020	2000/2010	2010/2020	2000/2010	2010/2020
Poland						
total	-0,75	-1,69	6,60	5,40	5,85	3,71
Beef			0,00	10,00	-0,75	8,31
Milk			0,00	5,00	-0,75	3,31
Beef and milk			0,00	6,30	-0,75	4,61
other food			10,00	5,00	9,25	3,31
Czech Republic						
total	-1,06	-2,22	3,20	5,50	2,14	3,28
Beef			0,00	10,00	-1,06	7,78
Milk			3,30	5,00	2,24	2,78
Beef and milk			2,30	6,40	1,24	4,18
other food			3,70	5,00	2,64	2,78
Hungary						
total	-2,97	-3,34	7,30	5,30	4,33	1,96
Beef			0,00	10,00	-2,97	6,66
Milk			5,00	5,00	2,03	1,66
Beef and milk			3,70	6,20	0,73	2,86
other food			8,50	5,00	5,53	1,66
Slovakia						
total	0,00	-0,93	0,00	5,60	0,00	4,67
Beef			0,00	10,00	0,00	9,07
Milk			0,00	5,00	0,00	4,07
Beef and milk			0,00	6,90	0,00	5,97
other food			0,00	5,00	0,00	4,07
Lithuania						
total	-4,06	-4,29	8,10	5,00	4,04	0,71
Beef			0,00	5,00	-4,06	0,71
Milk			10,00	5,00	5,94	0,71
Beef and milk			5,60	5,00	1,54	0,71
other food			10,00	5,00	5,94	0,71
Latavia						
total	-5,27	-5,29	5,70	5,70	0,43	0,41
Beef			0,00	10,00	-5,27	4,71
Milk			0,00	5,00	-5,27	-0,29
Beef and milk			0,00	6,60	-5,27	1,31
other food			10,00	5,00	4,73	-0,29
Slovenia						
total	-0,41	-2,14	6,50	3,90	6,09	1,76
Beef			0,00	0,00	-0,41	-2,14
Milk			10,00	5,00	9,59	2,86
Beef and milk			4,80	2,50	4,39	0,36
other food			7,90	5,00	7,49	2,86

E 4 Change of population, food consumption per capita and food consumption in total

	Change in population		Change in food consumption per capita		Change in food consumption in total	
	2000/2010	2010/2020	2000/2010	2010/2020	2000/2010	2010/2020
Estonia						
total	-4,24	-2,83	5,40	5,00	1,16	2,17
Beef			0,00	5,00	-4,24	2,17
Milk			0,00	5,00	-4,24	2,17
Beef and milk			0,00	5,00	-4,24	2,17
other food			10,00	5,00	5,76	2,17
Cyprus						
total	12,09	10,33	9,20	5,00	21,29	15,33
Beef			0,00	5,00	12,09	15,33
Milk			10,00	5,00	22,09	15,33
Beef and milk			6,80	5,00	18,89	15,33
other food			10,00	5,00	22,09	15,33
Malta						
total	4,85	3,65	5,60	3,70	10,45	7,35
Beef			0,00	0,00	4,85	3,65
Milk			10,00	5,00	14,85	8,65
Beef and milk			3,90	2,10	8,75	6,75
other food			6,80	5,00	11,65	8,65
EU-25						
total	1,32	0,22	5,20	0,90	6,52	1,12
Beef			2,50	1,50	3,82	1,72
Milk			3,60	0,70	4,92	0,92
Beef and milk			3,00	1,00	4,32	1,22
other food			7,00	0,80	8,32	1,02
Turkey						
total	14,43	11,13	0,00	7,00	14,43	18,13
Beef			0,00	7,00	14,43	18,13
Milk			0,00	7,00	14,43	18,13
Beef and milk			0,00	7,00	14,43	18,13
other food			0,00	7,00	14,43	18,13
Romania						
total	-3,75	-4,19	6,90	7,00	3,15	2,81
Beef			0,00	7,00	-3,75	2,81
Milk			0,00	7,00	-3,75	2,81
Beef and milk			0,00	7,00	-3,75	2,81
other food			10,00	7,00	6,25	2,81
Bulgaria						
total	-6,89	-7,88	6,90	7,00	0,01	-0,88
Beef			0,00	7,00	-6,89	-0,88
Milk			0,00	7,00	-6,89	-0,88
Beef and milk			0,00	7,00	-6,89	-0,88
other food			10,00	7,00	3,11	-0,88

Appendix F

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F 1 Germany**F 1,1: Germany: Total land area and agricultural area**

in 1000 ha

Germany	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Total Area	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703	35.703
thereof													
Land Area	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895	34.895
thereof													
Agricultural Area	17.136	16.951	17.162	17.308	17.343	17.337	17.327	17.373	17.152	17.068	17.033	16.967	17.023
thereof													
Permanent Pasture	5.329	5.243	5.251	5.271	5.282	5.273	5.267	5.266	5.114	5.048	5.013	4.970	5.010
Permanent Crops	248	241	235	232	226	229	228	228	216	216	207	206	210
Arable Land	11.559	11.467	11.676	11.805	11.835	11.835	11.832	11.879	11.822	11.804	11.813	11.791	11.803
Arable & Permanent Crops	11.807	11.708	11.911	12.037	12.061	12.064	12.060	12.107	12.038	12.020	12.020	11.997	12.012
NonArable&NonPermanent	23.088	23.187	22.984	22.858	22.834	22.831	22.835	22.788	22.857	22.875	22.875	22.898	22.883
All other Land	7.059	7.244	7.033	6.887	0	0	0	0	0	0	0	0	0

Quelle: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,2: **Germany**: Cultivation area of agricultural crops

	Anbaufläche in ha										
Germany	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
landw. gen. Fläche	17.308.000	17.343.000	17.337.000	17.327.000	17.373.000	17.152.000	17.068.000	17.033.000	16.967.000		17.022.667
Getreide ges.	6.235.246	6.526.735	6.707.515	7.024.879	7.031.633	6.638.210	7.015.663	7.045.731	6.940.982	6.866.977	6.967.338
Weizen	2.445.800	2.578.800	2.594.418	2.727.898	2.802.455	2.601.122	2.968.940	2.897.202	3.014.620	2.967.379	2.962.035
Roggen	722.500	861.370	809.100	844.642	926.395	748.170	842.658	836.981	728.388	531.107	734.784
Gerste	2.069.500	2.108.700	2.208.408	2.273.950	2.180.849	2.212.880	2.067.590	2.111.822	1.970.335	2.087.100	2.059.212
Hafer	391.900	309.200	301.900	312.388	264.143	267.754	237.020	233.324	233.148	260.851	241.086
Triticale	208.000	288.600	364.224	437.814	468.546	386.458	499.475	533.492	560.466	504.840	524.568
Mais	345.546	325.065	372.200	369.600	341.029	370.735	360.841	396.544	398.745	472.700	407.208
Raps	1.057.600	973.886	853.600	913.971	1.007.225	1.198.038	1.078.010	1.137.962	1.296.648	1.268.000	1.195.155
Sonnenblumen	188.900	52.160	43.758	34.445	33.704	33.354	25.729	24.905	26.100	38.000	28.684
Zuckerrüben	502.722	523.599	515.500	504.147	503.376	489.164	452.000	447.697	459.400	444.900	450.999
Futter ges ¹⁾	7.087.059	7.402.466	7.450.210	7.420.870	7.346.551	6.822.638	6.670.740	6.593.508	6.509.829	6.557.604	6.582.920
Feldfutter ¹⁾	1.816.309	2.120.457	2.176.772	2.152.454	2.081.137	1.708.851	1.623.097	1.580.904	1.540.208	1.589.324	1.583.383
Grünmais ¹⁾	1.205.038	1.251.788	1.326.462	1.294.484	1.235.130	1.202.844	1.154.474	1.132.476	1.119.164	1.172.930	1.144.761
Dauergrünland ¹⁾	5.270.750	5.282.009	5.273.438	5.268.416	5.265.414	5.113.787	5.047.643	5.012.604	4.969.621	4.968.280	4.999.537
Brachfläche ¹⁾	1.438.650	1.281.846	1.085.115	749.191	695.957	845.754	823.188	850.199	834.569	938.670	861.657

¹⁾ Quelle: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Quelle: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,3: **Germany:** Yields of agricultural crops

	Ertrag in dt/ha										
Germany	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Ackerland ges.											
Getreide ges.	58,28	61,08	62,82	64,75	63,39	66,98	64,53	70,52	62,52	57,32	65,85
Weizen	67,62	68,88	72,93	72,68	72,04	75,41	72,83	78,83	69,06	64,91	73,57
Roggen	47,77	52,49	52,08	54,23	51,54	57,86	49,30	61,33	50,33	42,88	53,65
Gerste	52,68	56,39	54,67	58,92	57,37	60,11	58,55	63,90	55,46	50,77	59,31
Hafer	42,43	45,93	53,20	51,19	48,44	50,02	45,87	49,33	43,57	46,07	46,26
Triticale	54,08	56,94	58,41	59,86	60,06	61,43	56,06	63,64	54,75	49,13	58,15
Mais	70,79	73,66	78,25	86,27	81,56	87,85	92,12	88,38	93,76	70,95	91,42
Raps	27,38	31,87	23,08	31,36	33,64	35,76	33,26	36,56	29,68	28,69	33,17
Sonnenblumen	16,46	21,30	23,59	24,67	25,34	25,15	24,75	21,68	19,92	19,74	22,12
Zuckerrüben	481,60	497,50	505,61	511,14	532,15	563,78	616,60	552,38	583,25	533,96	584,07
Futter ges ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Feldfutter ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Grünmais ¹⁾	395,78	395,35	434,67	439,12	439,85	435,92	450,48	443,25	454,48	379,92	449,40
Dauergrünland ¹⁾	61,60	62,31	61,43	62,44	65,74	65,97	69,48	68,89	70,13	0,00	69,50

¹⁾ Quelle: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Quelle: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,4: **Germany**: Production of agricultural crops

Production in t											
Germany	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	36.336.493	39.863.175	42.135.584	45.485.770	44.574.852	44.460.593	45.271.234	49.686.362	43.391.328	39.358.332	46.116.308
Wheat	16.538.600	17.763.000	18.921.680	19.826.800	20.187.492	19.615.366	21.621.548	22.837.836	20.817.740	19.259.812	21.759.041
Rye	3.451.000	4.521.270	4.213.855	4.580.140	4.774.799	4.328.712	4.154.095	5.132.949	3.665.996	2.277.416	4.317.680
Barley	10.903.000	11.891.140	12.074.050	13.398.820	12.512.262	13.300.984	12.105.820	13.494.887	10.927.970	10.595.573	12.176.226
Oats	1.663.000	1.420.000	1.605.983	1.599.010	1.279.370	1.339.205	1.087.222	1.151.033	1.015.851	1.201.647	1.084.702
Triticale	1.124.900	1.643.200	2.127.513	2.620.531	2.814.118	2.373.914	2.799.805	3.395.000	3.068.295	2.480.365	3.087.700
Maize	2.445.993	2.394.565	2.912.600	3.188.400	2.781.464	3.256.916	3.324.018	3.504.543	3.738.448	3.353.933	3.522.336
Rapeseed	2.896.000	3.103.300	1.969.800	2.866.510	3.387.928	4.284.600	3.585.661	4.160.099	3.848.696	3.638.000	3.864.819
Sunflower	311.000	111.114	103.228	84.960	85.399	83.873	63.672	54.000	52.000	75.000	56.557
Sugar beet	24.211.260	26.048.800	26.064.140	25.768.900	26.787.164	27.577.964	27.870.100	24.729.920	26.794.334	23.756.060	26.464.785
Green maize ¹⁾	47.693.367	49.489.572	57.657.230	56.843.632	54.327.674	52.433.717	52.006.421	50.196.867	50.864.068	44.562.062	51.022.452
Permanent grassland ¹⁾	32.468.580	32.911.857	32.396.507	32.896.215	34.613.617	33.737.644	35.070.172	34.531.897	34.852.956	0	34.818.342

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,5: Germany: Livestock in 1,000 heads

Germany	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Cattle	15.962,23	15.889,93	15.759,50	15.227,16	14.942,02	14.657,90	14.567,74	14.226,64	13.731,96	13.385,77	13.978,03
under 1 year	5.338,00	5.241,43	5.145,00	4.896,76	4.752,52	4.663,32	4.618,33	4.413,75	4.256,48	4.098,64	4.346,80
beef calf	165,90	180,35	239,20	177,45	133,62	142,36	126,96	104,32	127,48	122,00	120,19
other calves	5.172,10	5.061,08	4.905,80	4.719,31	4.618,90	4.520,96	4.491,37	4.309,43	4.129,00	3.976,64	4.226,61
male	2.447,70	2.357,11	2.249,70	2.157,58	2.122,16	1.925,81	2.004,28	1.916,04	1.841,38	1.769,35	1.882,76
female	2.724,40	2.703,97	2.656,10	2.561,73	2.496,74	2.595,16	2.487,08	2.393,40	2.287,62	2.207,29	2.343,85
between 1 and 2 years	3.669,63	3.652,09	3.631,90	3.491,68	3.462,79	3.420,17	3.399,14	3.364,91	3.229,92	3.146,36	3.285,08
male	1.473,78	1.418,60	1.347,00	1.245,21	1.234,97	1.231,10	1.252,95	1.243,74	1.186,09	1.180,09	1.215,72
female	2.195,86	2.233,49	2.284,90	2.246,47	2.227,82	2.189,07	2.146,19	2.121,17	2.043,83	1.966,27	2.069,37
animals for slaughter	257,44	262,36	260,60	252,88	254,63	244,22	265,73	262,21	233,42	203,87	241,31
others	1.938,41	1.971,13	2.024,30	1.993,59	1.973,19	1.944,85	1.880,46	1.858,96	1.810,41	1.762,40	1.828,06
at least 2 years	6.954,60	6.996,41	6.982,60	6.838,72	6.726,71	6.574,41	6.550,27	6.447,98	6.245,56	6.140,78	6.346,15
male	149,66	148,48	140,40	136,14	133,64	140,78	158,60	138,29	115,60	106,74	129,80
female	6.804,94	6.847,93	6.842,20	6.702,58	6.593,07	6.433,63	6.391,68	6.309,70	6.129,97	6.034,04	6.216,34
Heifers	908,47	931,61	959,80	973,24	1.006,09	937,76	1.004,29	1.030,37	993,58	948,22	994,12
heifers for slaughter	53,14	62,78	59,30	63,06	74,42	65,74	84,76	81,15	70,43	64,29	75,16
other heifers	855,33	868,82	900,50	910,18	931,67	872,02	919,54	949,22	923,15	883,93	918,96
Cows	5.896,47	5.916,32	5.882,40	5.729,34	5.586,99	5.495,87	5.387,38	5.279,32	5.136,38	5.085,82	5.222,23
milk cows	5.273,30	5.229,40	5.194,70	5.026,21	4.832,98	4.709,60	4.563,60	4.474,90	4.373,39	4.337,55	4.437,36
other cows	623,17	686,92	687,70	703,13	754,01	786,27	823,79	804,43	762,99	748,27	784,87
Pigs	24.698,12	23.736,57	24.282,98	24.795,25	26.293,99	26.001,46	25.766,83	25.957,76	26.251,49	26.495,30	26.117,84
piglets, live weight < 20 kg	6.151,93	5.804,23	6.019,74	6.148,45	6.573,73	6.518,30	6.460,58	6.577,18	6.724,53	6.710,42	6.618,18
Pigs, live weight from 20 to < 50 kg	6.353,13	6.182,26	6.349,20	6.599,03	6.907,87	6.682,06	6.577,16	6.424,54	6.568,02	6.746,46	6.579,04
Fattening pigs from 50 kg and more ¹⁾	9.497,97	9.144,19	9.292,96	9.362,64	10.082,56	10.155,24	10.145,58	10.377,47	10.374,64	10.426,82	10.331,13
Fattening pigs from 50 to < 80 kg	5.270,46	5.006,47	5.110,45	5.129,68	5.438,31	5.399,33	5.305,54	5.391,65	5.360,53	5.346,40	5.351,03
Fattening pigs from 80 to < 110 kg	3.867,20	3.771,88	3.817,64	3.834,73	4.124,84	4.294,98	4.314,91	4.414,81	4.406,61	4.399,39	4.383,93
Fattening pigs from at least 110 kg	360,31	365,84	364,87	398,23	519,41	460,93	525,14	571,02	607,50	681,03	596,17
breeding pigs, Lebend-live weight of 50 kg and more	2.695,08	2.605,89	2.621,08	2.685,13	2.729,84	2.645,87	2.583,50	2.578,57	2.584,30	2.611,61	2.589,50
boars	81,72	76,49	74,09	71,62	74,02	63,87	57,75	55,48	48,89	47,71	52,46
sows in total	2.613,36	2.529,40	2.547,00	2.613,51	2.655,82	2.582,00	2.525,75	2.523,09	2.535,41	2.563,91	2.537,04
Goats	95,00	100,00		115,00	125,00	135,00	140,00	160,00	160,00	160,00	155,00
Sheep	2.340,00	2.394,74	2.324,02	2.301,92	2.280,00	2.170,00	2.165,00	2.185,00	2.145,00	2.125,00	2.155,00
Laying hens	51.700,00	50.700,00	50.636,00	50.468,00	50.188,00	50.054,00	50.348,00	49.873,00	48.569,00	45.175,00	48.491,25

¹⁾ including retired boars and sows, ; no dataSource: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

F 1,6: **Germany**: Imports and Exports in t

Germany	2000	2001	2002	2003	2000 - 2003
Milk Fresh					
Import	931.785	680.966	933.855	1.404.341	987.736,75
Export	2.270.169	1.905.654	1.892.897	2.117.560	2.046.570,00
Difference	-1.338.384	-1.224.688	-959.042	-713.219	-1.058.833,25
Butter of Cow Milk					
Import	131.121	113.194	137.730	153.851	133.974,00
Export	52.492	48.167	46.617	84.079	57.838,75
Difference	78.629	65.027	91.113	69.772	76.135,25
Cheese (Skim Cow Milk)					
Import	554	541	693	566	588,50
Export	30	423	11	16	120,00
Difference	524	118	682	550	468,50
Cheese (Whole Cow Milk)					
Import	405.966	423.310	427.443	477.935	433.663,50
Export	519.611	540.675	502.012	647.258	552.389,00
Difference	-113.645	-117.365	-74.569	-169.323	-118.725,50
Meat Bovine Fresh					
Import	147.285	82.067	122.765	137.354	122.367,75
Export	350.624	485.915	430.629	374.759	410.481,75
Difference	-203.339	-403.848	-307.864	-237.405	-288.114,00
Meat of Swine					
Import	712.806	612.955	729.255	808.470	715.871,50
Export	325.996	393.842	464.666	553.711	434.553,75
Difference	386.810	219.113	264.589	254.759	281.317,75
Meat Poultry Fresh					
Import	339.235	397.983	374.725	368.579	370.130,50
Export	134.453	144.123	201.883	234.658	178.779,25
Difference	204.782	253.860	172.842	133.921	191.351,25
Cereals					
Import	3.446.125	2.883.894	3.631.290	4.021.188	3.495.624,25
Export	14.391.914	11.384.414	10.959.319	10.536.774	11.818.105,25
Difference	-10.945.789	-8.500.520	-7.328.029	-6.515.586	-8.322.481,00
Wheat					
Import	1.291.134	967.752	1.393.430	1.540.799	1.298.278,75
Export	4.569.373	5.710.406	5.872.406	4.473.168	5.156.338,25
Difference	-3.278.239	-4.742.654	-4.478.976	-2.932.369	-3.858.059,50
Rye					
Import	16.970	14.406	17.077	79.123	31.894,00
Export	1.993.222	1.001.084	1.003.053	953.848	1.237.801,75
Difference	-1.976.252	-986.678	-985.976	-874.725	-1.205.907,75
Barley					
Import	654.588	704.757	798.814	783.867	735.506,50
Export	6.146.482	2.888.541	2.251.565	3.179.001	3.616.397,25
Difference	-5.491.894	-2.183.784	-1.452.751	-2.395.134	-2.880.890,75
Oats					
Import	111.250	86.616	96.532	101.055	98.863,25
Export	26.103	28.207	38.058	30.397	30.691,25
Difference	85.147	58.409	58.474	70.658	68.172,00
Triticale					
Import	1.712	2.099	2.273	1.488	1.893,00
Export	68.532	164.398	220.350	169.936	155.804,00
Difference	-66.820	-162.299	-218.077	-168.448	-153.911,00
Maize					
Import	975.668	705.459	888.235	1.059.672	907.258,50
Export	553.373	595.657	664.692	856.604	667.581,50
Difference	422.295	109.802	223.543	203.068	239.677,00
Rapeseed					
Import	1.362.502	1.257.504	1.221.154	1.210.585	1.262.936,25
Export	621.546	682.506	775.211	389.142	617.101,25
Difference	740.956	574.998	445.943	821.443	645.835,00
Sunflower					
Import	354.325	330.913	239.996	283.625	302.214,75
Export	45.394	99.900	17.732	18.325	45.337,75
Difference	308.931	231.013	222.264	265.300	256.877,00
Sugar Total (Raw Equiv.)					
Import	284.148	288.065	324.404	415.571	328.047,00
Export	1.538.129	1.724.362	1.155.114	1.223.869	1.410.368,50
Difference	-1.253.981	-1.436.297	-830.710	-808.298	-1.082.321,50
Soybeans					
Import	3.840.424	4.574.084	4.345.729	4.515.526	4.318.940,75
Export	8.391	11.458	25.798	25.731	17.844,50
Difference	3.832.033	4.562.626	4.319.931	4.489.795	4.301.096,25

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,7: **Germany**: Milk and meat production in t

Germany	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	27.891.180	28.628.844	28.800.862	28.723.906	28.400.000	28.356.212	28.353.216	28.213.000	27.899.440	28.155.219
Beef	1.420.300	1.407.800	1.481.800	1.447.600	1.367.000	1.374.000	1.303.500	1.361.500	1.316.375	1.327.125
Mutton and goat meat	40.000	41.700	43.000	44.170	44.456	44.070	48.106	46.422	44.108	46.212
Pork	3.604.000	3.602.400	3.635.000	3.563.800	3.834.100	4.102.600	3.981.900	4.074.324	4.110.155	4.055.460
Poultry meat	634.000	641.700	692.800	724.790	735.130	748.050	801.000	860.000	891.000	850.667

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 1,8: **Germany**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	861.657	6,585	5.674.410
Export(+)/Import(-) surplus in crop production			
- Cereals	1.263.765	6,585	8.322.481
- Rapeseed	-194.722	3,317	-645.835
- Sunflowers	-116.143	2,212	-256.877
- Sugar beets	129.714	58,407	7.576.251 ¹⁾
Crop production balance	1.082.614		14.996.020

Potential from:	Product quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	1.058.833
- Butter	-1.522.705 ²⁾
- Cheese	1.187.255 ³⁾
Whole milk equivalent balance	723.383
Total milk production	28.155.219
the above as %	2,64

	Product quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	288.114
Total production	1.327.125
the above as %	27,73
- Pork	-281.318
Total production	4.055.460
the above as %	-6,49
- Poultry meat	-191.351
Total production	850.667
the above as %	-18,36

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) Whole milk equivalent 1 kg cheese = 10 kg whole milk

F 1,9: **Germany: Livestock, Livestock unit factors and demand of roughage area**

Animal numbers	Units	Livestock uni factors code	Livestock unit division			Total livestock units
			Milk	Beef	Others	
Beef calves	120.188	0,25		30.047		30.047
Calves						
male	1.882.762	0,3		564.829		564.829
female	2.343.847	0,19	445.331			445.331
Cattle 1 - 2 Years						
male	1.215.716	0,7		851.001		851.001
female	2.069.365	0,65	1.345.087			1.345.087
Cattle > 2 Years						
male	129.805	1,2		155.766		155.766
Beef heifers	75.157	1,2		90.189		90.189
other heifers	918.961	1,2	1.102.753			1.102.753
Dairy cows	4.437.358	1,2	5.324.830			5.324.830
other cows	784.868	1,2		941.842		941.842
Goats	155.000	0,1			15.500	15.500
Sheep	2.155.000	0,1			215.500	215.500
Total			8.218.000	2.633.673	231.000	11.082.674
Share %			74,15	23,76	2,08	100,00
Roughage area ha						6.582.920
thereof...			4.881.353	1.564.357	137.210	

F 1,10: **Germany: Overview of bioenergy sources in the basis**

Resource	ha	% of agricultural land
Fallow land	861.657	5,06
Reduction of overproduction		
- Crop production	1.082.614	6,36
- Animal production		
- Milk	125.415	0,74
- Beef	339.616	2,00
- Pork	¹⁾ -160.192	-0,94
- Poultry meat	²⁾ -52.302	-0,31
Balance of potential area	³⁾ 2.409.302	
Agricultural land	17.022.667	
the above as %	14,15	14,15

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 1,11: **Germany**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	82.188.000	83.066.000	82.822.000
- Change in % up to.....		1,0683	-0,2937
Per capita consumption (grain equivalent)	1.104,5	1.127,8	1.127,8
- Change in % up to.....		2,11	0,00
Consumption change in % up to		2,7596	-0,255
Abs. agricultural land in ha	17.022.667		
- Land redesignation in % up to 1)		0,509	0,509
Yield increase in % up to 2)		-15,157	-15,157
Balance of all changes in % up to.....		-11,8880	-14,9027
Balance of agricultural land			
- Basis available ha	17.022.667		
- Increase(+) reduction(-) due to redesignation in ha		86.678	86.678
- Increased(+) decreased(-) demand for food		469.753	-43.421
- Release due to yield increase in ha (-)		-2.580.090	-2.580.090
- Release due to improved feed conversion in ha (-)		-110.364	-220.728
- Potential for biomass in ha per year.....	-2.409.302	-2.134.023	-2.757.561
Accumulation of the above in ha		-4.543.325	-7.300.886
- the above as % of the basis available agricultural land	14,15	26,69	42,89
- quantity equivalents of the above			
- Cereals 3)	15.866.375	34.454.811	55.367.086
- Straw	12.693.100	27.563.848	44.293.669

1) according to estimated trend

according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max.3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 1,12 : **Germany:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production based on consumption	Basis 2000	2010	2020
- Pork t	4.055.460		
- Feedgrain consumption t ¹⁾	15.207.974	-760.399 ³⁾	-1.520.797 ³⁾
Land equivalent ha cereals	2.309.324	-115.466	-230.932
- Poultry meat t	850.667		
- Feed grain consumption t ²⁾	1.531.200	-76.560 ³⁾	-153.120 ³⁾
Land equivalent ha cereals	232.512	-11.626	-23.251
Total land equivalent ha	2.541.836	-127.092	-254.184

¹⁾ 3,75 t cereal für 1 t pork

²⁾ 1,8 t cereal für 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 1,13 : **Germany:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	4.999.537
Grassland for milk production	ha	3.707.246
Overproduction milk	%	2,64
Released grassland due to abandonment of overproduction	ha	95.249
Grassland for beef production	ha	1.188.084
Overproduction beef	%	27,73
Released grassland due to abandonment of overproduction	ha	257.929
Total grassland released	ha	353.178
the above as % of total grassland		7,06
the above as % of potential area for bioenergy sources		14,66

F 1,14 : **Germany**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	86.678	86.678
Share of grassland of agricultural land	%	29,37	29,37
Redesignation of grassland	ha	25.457	25.457
Change to grassland due to change in consumption			
- Rate of change in population	%	1,0683	-0,2937
- Rate of change in milk and beef consumption	%	0,7000	0,0000
Total change	%	1,7683	-0,2937
Grassland for milk and beef production	ha	4.895.330	4.895.330
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	86.563	-14.380
Release due to yield increase(-)	ha	-757.769	-757.769
Total change in grassland	ha	-645.749	-746.692
Accumulated grassland potential for bioenergy sources	ha	998.927	1.745.618
the above as % of total grassland		19,98	34,92
the above as % of potential area		21,99	23,91

F 1,15: **Germany**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Germany	obligatory set-aside 10 %					
wheat	2.856,87	21.016,00	3.121,14	27.175,83	3.253,93	33.534,13
rye	816,52	4.411,31	1.109,00	7.232,25	1.148,18	9.038,52
barley	2.108,70	12.468,39	1.338,70	9.006,89	1.304,37	9.985,91
oats	247,08	1.174,54	205,32	1.178,18	228,74	1.584,35
grain maize	373,58	3.321,08	645,20	6.991,89	680,49	8.989,22
pulses	178,84	595,74	58,10	220,23	57,17	246,55
rapeseed	1.143,58	3.853,06	1.390,11	5.382,31	1.282,77	5.707,52
sunflower	28,76	70,36	76,81	195,57	64,76	171,59
set-aside ¹	749,29	0,00	745,82	0,00	752,02	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	470,33	26.751,83	326,47	20.512,29	283,99	19.710,17
potato	295,36	12.169,15	252,22	12.299,36	212,48	12.264,07
Total	9.268,90	85.831,44	9.268,90	90.194,80	9.268,90	101.232,01
Total in GE		58.778,63		68.875,62		80.753,52
Germany	without set-aside					
wheat	2.856,87	21.016,00	3.321,69	28.922,02	3.478,15	35.844,84
rye	816,52	4.411,31	1.287,34	8.395,30	1.363,26	10.731,57
barley	2.108,70	12.468,39	1.258,99	8.470,60	1.190,34	9.112,93
oats	247,08	1.174,54	230,62	1.323,36	257,84	1.785,96
grain maize	373,58	3.321,08	810,64	8.784,70	859,30	11.351,25
pulses	178,84	595,74	49,79	188,71	48,99	211,31
rapeseed	1.143,58	3.853,06	1.594,31	6.172,94	1.446,95	6.438,03
sunflower	28,76	70,36	107,82	274,52	90,19	238,98
set-aside ¹	749,29	0,00	29,01	0,00	37,39	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	470,33	26.751,83	326,47	20.512,29	284,01	19.711,32
potato	295,36	12.169,15	252,22	12.299,36	212,48	12.264,07
Total	9.268,90	85.831,44	9.268,90	95.343,78	9.268,90	107.690,27
Total in GE		58.778,63		74.633,30		87.769,42
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 1,16: **Germany**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Germany	without set-aside, ethanol beets at 25 €/t possible					
wheat	2.856,87	21.016,00	2.831,73	24.655,89	2.910,66	29.996,47
rye	816,52	4.411,31	1.063,55	6.935,87	1.151,28	9.062,88
barley	2.108,70	12.468,39	1.208,39	8.130,11	1.133,24	8.675,75
oats	247,08	1.174,54	218,68	1.254,85	245,47	1.700,24
grain maize	373,58	3.321,08	615,90	6.674,29	657,56	8.686,30
pulses	178,84	595,74	62,33	236,25	61,75	266,32
rapeseed	1.143,58	3.853,06	1.321,04	5.114,87	1.260,63	5.609,01
sunflower	28,76	70,36	61,76	157,24	53,43	141,58
set-aside ¹	749,29	0,00	19,82	0,00	25,37	0,00
ethanol beet	0,00	0,00	1.289,42	81.014,04	1.276,29	88.579,00
sugar beet	470,33	26.751,83	324,08	20.361,90	280,74	19.484,56
potato	295,36	12.169,15	252,22	12.299,36	212,48	12.264,07
Total	9.268,90	85.831,44	9.268,90	166.834,67	9.268,90	184.466,19
Total in GE		58.778,63		84.653,73		97.632,69
Germany	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	2.856,87	21.016,00	3.457,56	30.104,99	3.604,86	37.150,66
rye	816,52	4.411,31	1.181,46	7.704,83	1.290,92	10.162,13
barley	2.108,70	12.468,39	1.432,02	9.634,75	1.322,34	10.123,48
oats	247,08	1.174,54	248,11	1.423,70	281,64	1.950,81
grain maize	373,58	3.321,08	714,29	7.740,55	794,86	10.500,03
pulses	178,84	595,74	25,62	97,11	24,85	107,16
rapeseed	1.143,58	3.853,06	556,49	2.154,65	517,16	2.301,03
sunflower	28,76	70,36	33,20	84,53	23,08	61,14
set-aside ¹	749,29	0,00	6,51	0,00	7,69	0,00
ethanol beet	0,00	0,00	1.089,29	68.440,38	975,08	67.673,97
sugar beet	470,33	26.751,83	272,12	17.097,61	213,95	14.848,72
potato	295,36	12.169,15	252,22	12.299,36	212,48	12.264,07
Total	9.268,90	85.831,44	9.268,90	156.782,44	9.268,90	167.143,17
Total in GE		58.778,63		84.356,90		97.093,43
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 2 United Kingdom**F 2,1: United Kingdom: Total land area and agricultural area**

	in 1000 ha												
Great Britain	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291	24.291
thereof													
Land Area	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088	24.088
thereof													
Agricultural Area	18.143	18.070	17.534	17.409	17.379	17.494	17.585	17.518	17.219	16.964	16.954	16.943	16.954
thereof													
Permanent Pasture	11.510	11.452	11.382	11.437	11.386	11.340	11.160	11.212	11.251	11.036	11.251	11.140	11.142
Permanent Crops	66	64	61	61	57	56	57	53	51	52	51	50	51
Arable Land	6.567	6.554	6.091	5.911	5.936	6.098	6.368	6.253	5.917	5.876	5.652	5.753	5.760
Arable & Permanent Crops	6.633	6.618	6.152	5.972	5.993	6.154	6.425	6.306	5.968	5.928	5.703	5.803	5.811
NonArable&NonPermanent	17.455	17.470	17.936	18.116	18.095	17.934	17.663	17.782	18.120	18.160	18.385	18.285	18.277
All other Land	3.555	3.628	4.164	4.289	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 2,2: **United Kingdom**: Cultivation area of agricultural crops

Cultivated land in ha

Great Britain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	17.409.000	17.379.000	17.494.000	17.585.000	17.518.000	17.219.000	16.964.000	16.954.000	16.943.000		16.953.667
Cereals	3.044.000	3.182.000	3.357.200	3.513.500	3.417.800	3.141.100	3.348.200	3.013.315	3.245.800	3.060.000	3.166.829
Wheat	1.811.000	1.859.000	1.976.000	2.036.000	2.045.000	1.847.000	2.086.000	1.635.000	1.996.000	1.837.000	1.888.500
Rye	7.000	8.000	8.200	9.300	9.700	7.600	7.200	4.800	5.000	4.000	5.250
Barley	1.108.000	1.193.000	1.269.000	1.359.000	1.253.000	1.179.000	1.128.000	1.245.000	1.101.000	1.078.000	1.138.000
Oats	109.000	112.000	96.000	100.000	98.000	92.000	109.000	112.000	126.000	122.000	117.250
Triticale	6.000	7.000	7.000	8.200	10.400	13.200	15.600	13.915	14.000	15.000	14.629
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	491.000	439.000	415.000	473.000	534.000	537.000	402.000	451.000	432.000	542.000	456.750
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	195.000	196.000	199.000	196.000	189.000	183.000	173.000	177.000	169.000	167.000	171.500
Forage land ¹⁾	11.763.200	11.672.600	11.618.600	11.453.400	11.379.000	11.356.000	11.030.000	6.918.300	6.773.356	12.566.258	9.321.979
Field forage ¹⁾	1.550.200	1.512.600	1.505.600	1.514.400	1.406.000	1.333.000	1.337.000	1.334.300	1.351.394	1.317.110	1.334.951
Green maize ¹⁾	94.200	105.600	110.600	109.400	103.000	107.000	104.000	129.200	121.337	116.560	117.774
Permanent grassland ¹⁾	10.213.000	10.160.000	10.113.000	9.939.000	9.973.000	10.023.000	9.693.000	5.584.000	5.421.962	11.249.148	7.987.028
Fallow land ¹⁾	43.800	40.300	37.000	29.000	34.000	33.000	37.000	43.000	34.000	32.868	36.717

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 2,3: **United Kingdom:** Yields of agricultural crops

	Yield in dt/ha										
Great Britain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	65,56	68,73	73,20	66,95	66,62	70,44	71,65	62,92	70,76	70,30	68,44
Wheat	73,53	76,99	81,48	73,76	75,55	80,49	80,08	70,83	80,03	77,78	76,98
Rye	61,43	53,75	62,20	56,99	48,45	56,58	61,11	47,92	58,00	62,50	55,68
Barley	53,72	57,35	61,39	57,60	52,86	55,82	57,55	53,49	55,66	59,09	55,57
Oats	54,86	55,09	61,46	57,70	59,80	58,80	58,72	55,45	59,76	61,39	57,97
Triticale	55,00	60,00	58,57	52,44	54,81	62,12	61,54	46,71	46,43	40,67	51,56
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	25,32	28,11	34,10	32,28	29,35	32,27	28,78	25,65	33,98	32,68	29,47
Sunflower	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sugar beet	447,18	430,15	523,62	565,51	529,21	578,36	524,80	470,90	565,50	556,65	520,40
Green maize ¹⁾	345,01	305,40	376,34	385,10	:	:	:	35,00	:	30,59	35,00
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	0,00

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 2,4: **United Kingdom**: Production of agricultural crops

Production in t											
Great Britain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	19.955.000	21.870.000	24.576.000	23.523.000	22.767.900	22.124.500	23.989.000	18.959.000	22.966.000	21.511.000	21.971.333
Wheat	13.316.000	14.312.000	16.100.000	15.018.000	15.449.000	14.867.000	16.704.000	11.580.000	15.973.000	14.288.000	14.752.333
Rye	43.000	43.000	51.000	53.000	47.000	43.000	44.000	23.000	29.000	25.000	32.000
Barley	5.952.000	6.842.000	7.790.000	7.828.000	6.623.000	6.581.000	6.492.000	6.660.000	6.128.000	6.370.000	6.426.667
Oats	598.000	617.000	590.000	577.000	586.000	541.000	640.000	621.000	753.000	749.000	671.333
Triticale	33.000	42.000	41.000	43.000	57.000	82.000	96.000	65.000	65.000	61.000	75.333
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	1.243.000	1.234.000	1.415.000	1.527.000	1.567.000	1.733.000	1.157.000	1.157.000	1.468.000	1.771.000	1.260.667
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	8.720.000	8.431.000	10.420.000	11.084.000	10.002.000	10.584.000	9.079.000	8.335.000	9.557.000	9.296.000	8.990.333
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Forage field ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Green maize ¹⁾	3.250.000	3.225.000	4.162.300	4.213.000	:	:	:	452.200	:	356.575	452.200
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	0

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 2,5: **United Kingdom:** Livestock in 1,000 heads

Livestock in 1000 heads

Great Britain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	11.980,67	11.735,35	11.430,09	11.346,81	11.237,06	11.281,32	10.877,51	10.160,87	10.381,21	10.518,93	10.484,63
under 1 year	3.375,03	3.305,53	3.246,16	3.216,28	3.069,19	3.029,92	2.937,80	2.671,61	2.820,00	2.885,27	2.828,67
beef calf	14,50	12,56	17,22	18,10	44,83	39,10	41,21	38,15	48,45	53,85	45,41
other calves	3.360,54	3.292,97	3.228,94	3.198,18	3.024,36	2.990,82	2.896,60	2.633,47	2.771,55	2.831,42	2.783,26
male	1.574,44	1.541,43	1.487,96	1.424,92	1.299,06	1.357,47	1.364,11	1.259,29	1.329,65	1.375,92	1.332,24
female	1.786,10	1.751,54	1.740,99	1.773,27	1.725,29	1.633,35	1.532,48	1.374,18	1.441,90	1.455,50	1.451,02
between 1 and 2 years	2.910,69	2.856,89	2.809,83	2.816,93	2.770,54	2.836,32	2.809,43	2.552,06	2.641,91	2.741,99	2.686,35
male	1.088,01	1.046,27	1.054,64	1.030,58	1.072,66	1.077,89	1.119,83	1.036,83	1.100,69	1.156,88	1.103,56
female	1.822,68	1.810,62	1.755,19	1.786,34	1.697,88	1.758,43	1.689,60	1.515,23	1.541,22	1.585,11	1.582,79
animals for slaughter	775,67	714,80	671,29	706,10	687,66	736,83	726,03	642,67	668,43	676,13	678,32
others	1.047,01	1.095,82	1.083,90	1.080,24	1.010,21	1.021,60	963,57	872,56	872,78	908,98	904,47
at least 2 years	5.694,94	5.572,94	5.374,10	5.313,60	5.397,33	5.415,08	5.130,27	4.937,19	4.919,31	4.891,67	4.969,61
male	381,73	354,80	311,42	281,10	330,86	353,87	316,96	350,70	289,84	291,24	312,19
female	5.313,22	5.218,14	5.062,68	5.032,50	5.066,47	5.061,21	4.813,31	4.586,49	4.629,47	4.600,43	4.657,42
Heifers	709,65	736,56	723,27	660,97	666,03	716,72	691,19	710,09	706,13	691,21	699,66
heifers for slaughter	192,46	189,42	143,28	115,98	112,26	142,87	129,93	132,89	126,79	130,15	129,94
other heifers	517,19	547,14	579,99	544,99	553,77	573,85	561,26	577,21	579,34	561,06	569,72
Cows	4.603,57	4.481,58	4.339,41	4.371,52	4.400,44	4.344,50	4.122,12	3.876,40	3.923,34	3.909,21	3.957,77
milk cows	2.767,83	2.631,93	2.510,78	2.498,35	2.474,65	2.438,31	2.339,04	2.203,27	2.229,45	2.206,74	2.244,63
other cows	1.835,73	1.849,65	1.828,64	1.873,17	1.925,79	1.906,18	1.783,07	1.673,13	1.693,89	1.702,47	1.713,14
Pigs	7.974,84	7.441,56	7.694,76	8.035,50	7.553,98	7.036,95	5.948,20	5.686,96	5.330,12	4.842,46	5.451,94
piglets, live weight < 20 kg	2.013,71	1.870,87	1.988,41	2.135,78	1.976,15	1.949,84	1.569,24	1.483,71	1.382,85	1.282,42	1.429,55
Pigs, live weight from 20 to < 50 kg	2.339,36	2.062,44	2.043,55	2.134,64	2.024,84	1.930,12	1.605,08	1.452,87	1.437,09	1.263,14	1.439,54
Fattening pigs from 50 kg and more ¹⁾	2.696,30	2.615,40	2.731,66	2.809,23	2.720,27	2.372,03	2.092,94	2.115,30	1.901,84	1.703,87	1.953,49
Fattening pigs from 50 to < 80 kg	1.851,43	1.718,87	1.722,54	1.868,35	1.814,87	1.564,70	1.302,94	1.271,90	1.142,44	1.045,03	1.190,58
Fattening pigs from 80 to < 110 kg	793,12	824,27	944,39	882,23	841,93	759,40	743,22	791,63	712,80	597,22	711,22
Fattening pigs from at least 110 kg	51,75	72,26	64,73	58,65	63,48	47,93	46,77	51,78	46,60	61,61	51,69
breeding pigs, Lebend-live weight of 50 kg and more	925,47	892,85	931,15	955,86	832,72	784,96	680,95	635,08	608,34	593,04	629,35
boars	44,96	42,59	43,25	43,38	35,76	34,61	28,00	25,72	22,80	20,49	24,25
sows in total	880,50	850,26	887,91	912,49	796,96	750,35	652,95	609,36	585,54	572,55	605,10
Goats	89,60	89,60	80,55	76,50	80,33	77,16	76,22	74,78	93,38	88,45	83,21
Sheep	29.829,62	28.967,00	28.165,00	30.027,09	31.079,99	29.741,50	27.590,91	24.433,62	24.887,63	24.572,45	25.371,15
Laying hens	42.223,50	41.357,00	40.372,00	41.340,00	41.161,00	38.869,00	39.148,39	42.700,61	46.256,16	45.000,00	43.276,29

¹⁾ including retired boars and sows, : no data

F 2,6: **United Kingdom: Imports and Exports in t**

		Import/Export in t				
Great Britain		2000	2001	2002	2003	2000-2003
Milk Fresh						
	Import	127.144	109.823	61.905	172.822	117.923,50
	Export	245.209	148.943	159.364	312.021	216.384,25
	Differenz	-118.065	-39.120	-97.459	-139.199	-98.460,75
Butter of Cow Milk						
	Import	122.922	112.918	75.282	118.431	107.388,25
	Export	45.321	40.830	38.766	44.364	42.320,25
	Differenz	77.601	72.088	36.516	74.067	65.068,00
Cheese (Skim Cow Milk)						
	Import	349	283	337	364	333,25
	Export	12	2	17	1	8,00
	Differenz	337	281	320	363	325,25
Cheese (Whole Cow Milk)						
	Import	262.129	271.252	277.277	311.643	280.575,25
	Export	57.025	67.681	82.154	86.634	73.373,50
	Differenz	205.104	203.571	195.123	225.009	207.201,75
Meat Bovine Fresh						
	Import	148.435	190.190	221.947	262.843	205.853,75
	Export	4.825	5.101	5.194	5.475	5.148,75
	Differenz	143.610	185.089	216.753	257.368	200.705,00
Meat of Swine						
	Import	245.221	239.094	275.539	380.484	285.084,50
	Export	185.563	35.929	88.694	69.207	94.848,25
	Differenz	59.658	203.165	186.845	311.277	190.236,25
Meat Poultry Fresh						
	Import	282.362	279.189	295.276	327.097	295.981,00
	Export	157.006	171.784	192.691	225.339	186.705,00
	Differenz	125.356	107.405	102.585	101.758	109.276,00
Cereals						
	Import	3.128.470	3.559.081	3.475.991	3.157.636	3.330.294,50
	Export	5.429.248	2.595.174	2.959.164	5.158.389	4.035.493,75
	Differenz	-2.300.778	963.907	516.827	-2.000.753	-705.199,25
Wheat						
	Import	1.160.786	1.300.043	1.279.177	973.113	1.178.279,75
	Export	3.526.823	1.626.114	1.624.012	3.657.581	2.608.632,50
	Differenz	-2.366.037	-326.071	-344.835	-2.684.468	-1.430.352,75
Rye						
	Import	1.004	1.086	1.286	2.184	1.390,00
	Export	227	99	47	50	105,75
	Differenz	777	987	1.239	2.134	1.284,25
Barley						
	Import	71.085	105.840	78.557	57.480	78.240,50
	Export	1.587.921	670.693	950.889	1.121.302	1.082.701,25
	Differenz	-1.516.836	-564.853	-872.332	-1.063.822	-1.004.460,75
Oats						
	Import	6.726	10.220	17.486	11.067	11.374,75
	Export	96.140	108.045	143.929	156.807	126.230,25
	Differenz	-89.414	-97.825	-126.443	-145.740	-114.855,50
Triticale						
	Import	56	7	9	231	75,75
	Export	8	18	0	36	15,50
	Differenz	48	-11	9	195	60,25
Maize						
	Import	1.346.304	1.545.191	1.467.942	1.429.807	1.447.311,00
	Export	19.859	8.163	12.055	14.991	13.767,00
	Differenz	1.326.445	1.537.028	1.455.887	1.414.816	1.433.544,00
Rapeseed						
	Import	288.841	605.023	325.983	135.855	338.925,50
	Export	50.029	16.438	207.321	272.254	136.510,50
	Differenz	238.812	588.585	118.662	-136.399	202.415,00
Sunflower						
	Import	20.536	27.267	39.379	42.664	32.461,50
	Export	224	150	221	306	225,25
	Differenz	20.312	27.117	39.158	42.358	32.236,25
Sugar Total (Raw Equiv.)						
	Import	1.365.660	1.346.241	1.325.605	1.227.682	1.316.297,00
	Export	757.899	683.671	494.919	757.095	673.396,00
	Differenz	607.761	662.570	830.686	470.587	642.901,00
Soybeans						
	Import	776.112	878.587	982.245	967.361	901.076,25
	Export	10.549	2.012	8.077	10.471	7.777,25
	Differenz	765.563	876.575	974.168	956.890	893.299,00

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 2,7: **United Kingdom:** Milk and meat production in t

Great Britain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	14.990.700	14.844.300	14.808.300	14.841.000	14.632.000	15.014.000	14.488.000	14.707.000	14.869.000	14.688.000
Beef	947.000	1.002.000	710.000	688.000	699.000	679.000	705.000	645.000	694.000	681.333
Mutton and goat meat	395.000	394.000	373.000	342.000	375.000	392.000	383.000	267.000	307.000	319.000
Pork	1.061.000	1.017.000	1.004.000	1.091.000	1.135.000	1.042.000	899.000	777.000	774.000	816.667
Poultry meat	1.364.000	1.405.000	1.462.000	1.520.000	1.545.900	1.524.800	1.513.200	1.566.828	1.530.703	1.536.910

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 2,8: **United Kingdom**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	36.717	6,844	251.291
Export(+)/Import(-) surplus in crop production			
- Cereals	103.039	6,844	705.199
- Rapeseed	-68.680	2,947	-202.415
- Sunflowers	0	0	-32.236
- Sugar beets	-86.478	52,040	-4.500.307 ¹⁾
Crop production balance	-52.119		-4.029.759

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	98.461
- Butter ²⁾	-1.301.360
- Cheese ³⁾	-2.072.018
Whole milk equivalent balance	-3.274.917
Total milk production	14.688.000
the above as %	-18,23

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-200.705
Total production	681.333
the above as %	-22,75
- Pork	-190.236
Total production	816.667
the above as %	-18,89
- Poultry meat	-109.276
Total production	1.536.910
the above as %	-6,64

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 2,9: **United Kingdom**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	45.413	0,25		11.353		11.353
Calves						
male	1.332.243	0,3		399.673		399.673
female	1.451.016	0,19	275.693			275.693
Cattle 1 - 2 Years						
male	1.103.559	0,7		772.491		772.491
female	1.582.790	0,65	1.028.813			1.028.813
Cattle > 2 Years						
male	312.186	1,2		374.623		374.623
Beef heifers	129.940	1,2		155.928		155.928
other heifers	569.717	1,2	683.660			683.660
Dairy cows	2.244.626	1,2	2.693.552			2.693.552
other cows	1.713.139	1,2		2.055.767		2.055.767
Goats	83.209	0,1			8.321	8.321
Sheep	25.371.154	0,1			2.537.115	2.537.115
Total			4.681.718	3.769.836	2.545.436	10.996.990
Share %			42,57	34,28	23,15	100,00
Roughage area ha						9.321.979
thereof...			3.968.620	3.195.632	2.157.727	

F 2,10: **United Kingdom**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	36.717	0,22
Reduction of overproduction		
- Crop production	-52.119	-0,31
- Animal production		
- Milk	-884.865	-5,22
- Beef	-941.359	-5,55
- Pork	¹⁾ -104.235	-0,61
- Poultry meat	²⁾ -28.740	-0,17
Balance of potential area	³⁾ -1.841.626	
Agricultural land	16.953.667	
the above as %	-10,86	-10,86

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 2,11: **United Kingdom**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	59.623.000	61.747.000	63.900.000
- Change in % up to.....		3,5624	3,4868
Per capita consumption (grain equivalent)	998,2	1.068,1	1.068,1
- Change in % up to.....		7,00	0,00
Consumption change in % up to		9,6045	3,032
Abs. agricultural land in ha	16.953.667		
- Land redesignation in % up to ¹⁾		5,708	5,708
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		5,3124	-6,2601
Balance of agricultural land			
- Basis available ha	16.953.667		
- Increase(+) reduction(-) due to redesignation in ha		967.692	967.692
- Increased(+) decreased(-) demand for food		1.628.321	514.037
- Release due to yield increase in ha (-)		-1.695.367	-2.543.050
- Release due to improved feed conversion in ha (-)		-38.713	-74.060
- Potential for biomass in ha per year.....	1.841.626	861.933	-1.135.381
Accumulation of the above in ha		2.703.560	1.568.179
- the above as % of the basis available agricultural land	-10,86	-15,95	-9,25
- quantity equivalents of the above			
- Cereals ³⁾	-12.604.089	-20.353.478	-12.342.508
- Straw	-10.083.271	-16.282.782	-9.874.006

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 2,12: **United Kingdom:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	816.667		
- Feedgrain consumption t ¹⁾	3.062.500	-153.125 ³⁾	-306.250 ³⁾
Land equivalent ha cereals	447.472	-22.374	-44.747
- Poultry meat t	1.536.910		
- Feed grain consumption t ²⁾	2.766.439	-138.322 ³⁾	-276.644 ³⁾
Land equivalent ha cereals	404.214	-20.211	-40.421
Total land equivalent ha	851.686	-42.584	-85.169

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 2,13: **United Kingdom:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	7.987.028
Grassland for milk production	ha	3.400.295
Overproduction milk	%	-18,23
Released grassland due to abandonment of overproduction	ha	-758.148
Grassland for beef production	ha	2.738.002
Overproduction beef	%	-22,75
Released grassland due to abandonment of overproduction	ha	-806.552
Total grassland released	ha	-1.564.700
the above as % of total grassland		-19,59
the above as % of potential area for bioenergy sources		84,96

F 2,14,: **United Kingdom**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	967.692	967.692
Share of grassland of agricultural land	%	47,11	47,11
Redesignation of grassland	ha	455.889	455.889
Change to grassland due to change in consumption			
- Rate of change in population	%	3,5624	3,4868
- Rate of change in milk and beef consumption	%	4,3000	0,0000
Total change	%	7,8624	3,4868
Grassland for milk and beef production	ha	6.138.297	6.138.297
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	482.616	214.031
Release due to yield increase(-)	ha	-798.703	-1.198.054
Total change in grassland	ha	139.802	-528.135
Accumulated grassland potential for bioenergy sources	ha	-1.704.503	-1.176.368
the above as % of total grassland		-21,34	-14,73
the above as % of potential area		63,05	75,01

F 2,15.: **United Kingdom:** Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Great Britain	obligatory set-aside 10 %					
wheat	1.922,00	14.929,20	2.016,44	17.647,10	2.012,71	19.846,08
rye	6,86	37,20	11,21	73,36	11,60	91,63
barley	1.181,20	6.518,40	1.009,89	6.156,10	995,82	6.705,39
oats	107,40	628,20	107,38	758,13	123,39	1.051,58
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	229,54	825,40	119,13	450,27	115,01	456,95
rapeseed	471,20	1.416,40	717,70	2.528,48	749,04	3.092,84
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	513,80	0,00	522,17	0,00	525,25	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	178,20	9.487,00	121,27	7.346,02	106,24	7.323,03
potato	166,54	6.612,38	151,57	6.847,78	137,69	7.078,55
Total	4.776,74	40.454,18	4.776,74	41.807,25	4.776,74	45.646,05
Total in GE		29.040,51		32.589,45		36.655,92
Great Britain	without set-aside					
wheat	1.922,00	14.929,20	2.251,26	19.702,13	2.228,91	21.977,82
rye	6,86	37,20	17,87	117,00	18,76	148,23
barley	1.181,20	6.518,40	1.069,06	6.516,78	1.041,17	7.010,81
oats	107,40	628,20	117,63	830,52	141,74	1.207,98
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	229,54	825,40	104,27	394,13	100,11	397,74
rapeseed	471,20	1.416,40	927,06	3.266,08	977,40	4.035,78
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	513,80	0,00	16,75	0,00	24,72	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	178,20	9.487,00	121,27	7.346,02	106,24	7.323,03
potato	166,54	6.612,38	151,57	6.847,78	137,69	7.078,55
Total	4.776,74	40.454,18	4.776,74	45.020,44	4.776,74	49.179,93
Total in GE		29.040,51		36.318,95		40.849,86
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 2,16: **United Kingdom**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Great Britain	without set-aside, ethanol beets at 25 €/t possible					
wheat	1.922,00	14.929,20	2.038,15	17.837,07	1.997,42	19.695,25
rye	6,86	37,20	13,73	89,87	14,30	113,00
barley	1.181,20	6.518,40	968,25	5.902,29	933,40	6.285,08
oats	107,40	628,20	114,18	806,19	136,95	1.167,18
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	229,54	825,40	107,77	407,33	102,88	408,75
rapeseed	471,20	1.416,40	812,41	2.862,15	867,66	3.582,66
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	513,80	0,00	11,18	0,00	16,59	0,00
ethanol beet	0,00	0,00	440,41	26.679,03	466,26	32.139,32
sugar beet	178,20	9.487,00	119,10	7.214,64	103,60	7.140,91
potato	166,54	6.612,38	151,57	6.847,78	137,69	7.078,55
Total	4.776,74	40.454,18	4.776,74	68.646,34	4.776,74	77.610,70
Total in GE		29.040,51		39.751,37		44.995,55
Great Britain	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	1.922,00	14.929,20	2.562,39	22.425,05	2.490,01	24.552,42
rye	6,86	37,20	16,83	110,14	18,55	146,60
barley	1.181,20	6.518,40	1.037,62	6.325,15	1.011,15	6.808,64
oats	107,40	628,20	132,39	934,75	159,25	1.357,24
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	229,54	825,40	35,48	134,12	33,32	132,38
rapeseed	471,20	1.416,40	361,85	1.274,80	437,25	1.805,46
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	513,80	0,00	3,70	0,00	4,87	0,00
ethanol beet	0,00	0,00	372,92	22.591,08	395,31	27.248,54
sugar beet	178,20	9.487,00	101,99	6.178,30	89,33	6.157,56
potato	166,54	6.612,38	151,57	6.847,78	137,69	7.078,55
Total	4.776,74	40.454,18	4.776,74	66.821,18	4.776,74	75.287,39
Total in GE		29.040,51		40.658,27		45.833,80
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 3 France

F 3.1: France: Total land area and agricultural area

in 1000 ha														
France	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002	
Total Area	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150	55.150
thereof														
Land Area	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010	55.010
thereof														
Agricultural Area	30.426	30.331	30.203	30.119	30.059	29.998	29.960	29.927	29.900	29.706	29.631	29.555	29.555	29.631
thereof														
Permanent Pasture	11.210	11.096	10.764	10.631	10.566	10.537	10.477	10.427	10.385	10.124	10.046	9.972	9.972	10.047
Permanent Crops	1.188	1.189	1.184	1.172	1.183	1.173	1.163	1.155	1.153	1.142	1.138	1.134	1.134	1.138
Arable Land	18.028	18.046	18.255	18.316	18.310	18.288	18.320	18.345	18.362	18.440	18.447	18.449	18.449	18.445
Arable & Permanent Crops	19.216	19.235	19.439	19.488	19.493	19.461	19.483	19.500	19.515	19.582	19.585	19.583	19.583	19.583
NonArable&NonPermanent	35.794	35.775	35.571	35.522	35.517	35.549	35.527	35.510	35.495	35.428	35.425	35.427	35.427	35.427
All other Land	9.734	9.807	9.876	9.879	0	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 3.2: **France:** Cultivation area of agricultural crops

France	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	30.119.000	30.059.000	29.998.000	29.960.000	29.927.000	29.900.000	29.706.000	29.631.000	29.555.000		29.630.667
Cereals	8.163.350	8.291.655	8.840.425	9.206.544	9.290.795	8.853.264	9.074.804	8.935.842	9.322.517	8.949.510	9.070.668
Wheat	4.574.000	4.745.000	5.040.300	5.110.000	5.234.000	5.115.195	5.248.436	4.766.560	5.229.956	4.876.045	5.030.249
Rye	44.000	46.400	48.600	45.200	45.700	36.194	31.587	28.395	28.648	27.825	29.114
Barley	1.405.000	1.386.000	1.535.000	1.690.000	1.631.000	1.500.430	1.533.848	1.705.000	1.641.274	1.757.947	1.659.517
Oats	166.000	148.800	139.600	133.400	202.000	114.108	103.129	117.611	149.605	136.358	126.676
Triticale	173.000	183.500	203.500	215.000	233.000	240.380	244.110	240.776	270.741	290.055	261.421
Maize	1.663.000	1.650.800	1.733.500	1.858.000	1.799.000	1.716.168	1.764.767	1.916.000	1.831.000	1.684.945	1.799.178
Rapeseed	671.000	864.000	875.000	988.000	1.145.000	1.344.460	1.186.255	1.083.000	1.036.000	1.081.858	1.096.778
Sunflower	986.000	963.000	891.000	875.000	782.000	825.944	728.515	707.609	614.592	693.985	686.175
Sugar beet	437.000	458.000	460.000	462.000	456.000	443.824	410.000	429.000	438.000	400.425	419.356
Forage land ¹⁾	15.169.426	15.232.345	15.086.429	14.936.088	14.836.075	14.760.151	14.747.605	14.759.227	14.610.877	14.909.185	14.756.724
Field forage ¹⁾	4.451.797	4.588.428	4.529.428	4.453.911	4.453.218	4.424.744	4.481.554	4.531.483	4.449.828	4.652.475	4.528.835
Green maize ¹⁾	1.468.802	1.548.938	1.563.901	1.467.680	1.449.263	1.386.650	1.395.928	1.471.655	1.410.448	1.585.511	1.465.886
Permanent grassland ¹⁾	10.414.474	10.346.283	10.284.577	10.201.829	10.115.550	10.073.298	10.007.535	9.964.255	9.903.230	9.978.130	9.963.288
Fallow ¹⁾											
Fallow land ¹⁾	1.942.745	1.732.768	1.310.892	898.139	874.832	1.171.230	1.225.708	1.352.453	1.280.232	1.319.293	1.294.422

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 3.3: **France:** Yields of agricultural crops

France	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	65,42	64,58	70,81	68,90	73,91	72,68	72,40	67,40	74,70	61,36	71,50
Wheat	66,68	65,08	71,32	66,24	76,06	72,43	71,17	66,17	74,45	62,50	70,60
Rye	39,55	41,10	45,43	43,56	47,27	45,55	46,14	40,84	48,59	40,28	45,19
Barley	54,44	55,43	62,01	59,91	64,94	62,50	63,30	57,47	66,88	56,00	62,55
Oats	41,27	40,40	44,55	42,59	43,96	45,02	44,54	41,22	50,54	40,69	45,44
Triticale	46,42	45,95	51,30	47,89	52,75	50,45	51,68	46,60	55,07	44,19	51,12
Maize	77,92	77,17	83,82	90,59	84,53	89,48	90,77	85,64	89,79	71,17	88,73
Rapeseed	26,41	32,28	33,17	35,37	32,61	32,66	29,31	26,57	32,05	31,07	29,31
Sunflower	20,82	20,63	22,40	22,80	21,91	23,37	25,16	22,39	24,30	21,69	23,95
Sugar beet	664,44	667,49	678,50	743,98	683,25	741,71	759,05	625,66	764,01	733,18	716,24
Forage land ¹⁾	90,65	83,12	78,44	88,69	88,82	94,50	95,83	93,31	92,86	72,22	94,00
Field forage ¹⁾	199,83	183,49	174,90	204,70	197,07	206,71	204,82	205,83	205,76	168,75	205,47
Green maize ¹⁾	381,18	354,27	335,84	427,88	392,22	421,39	418,69	419,12	427,42	352,93	421,74
Permanent grassland ¹⁾	46,62	41,00	38,03	40,49	43,52	47,67	49,49	44,60	44,55	29,22	46,21

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 3.4: **France**: Production of agricultural crops

France	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	53.406.876	53.545.493	62.599.234	63.431.583	68.663.514	64.341.768	65.698.424	60.227.638	69.640.580	54.913.864	65.188.881
Wheat	30.500.000	30.880.000	35.948.900	33.847.000	39.809.000	37.050.000	37.353.400	31.540.330	38.939.196	30.474.736	35.944.309
Rye	174.000	190.700	220.800	196.900	216.000	164.863	145.744	115.961	139.195	112.064	133.633
Barley	7.649.000	7.683.000	9.519.000	10.124.000	10.591.000	9.377.604	9.709.332	9.799.113	10.975.970	9.844.289	10.161.472
Oats	685.000	601.200	621.900	568.200	888.000	513.700	459.368	484.831	756.105	554.862	566.768
Triticale	803.000	843.100	1.043.900	1.029.600	1.229.000	1.212.800	1.261.640	1.122.066	1.491.000	1.281.792	1.291.569
Maize	12.958.000	12.739.600	14.529.700	16.832.000	15.206.000	15.356.715	16.018.353	16.408.234	16.440.000	11.990.852	16.288.862
Rapeseed	1.772.000	2.789.000	2.902.000	3.495.000	3.734.000	4.391.600	3.476.819	2.877.672	3.320.213	3.361.199	3.224.901
Sunflower	2.053.000	1.987.000	1.996.000	1.995.000	1.713.000	1.929.887	1.833.000	1.584.046	1.493.251	1.505.108	1.636.766
Sugar beet	29.036.000	30.571.000	31.211.000	34.372.000	31.156.000	32.919.000	31.121.000	26.841.000	33.463.756	29.358.296	30.475.252
Forage total ¹⁾	137.505.510	126.618.090	118.334.780	132.471.250	131.778.700	139.488.280	141.322.010	137.710.740	135.676.710	107.668.870	138.236.487
Forage field ¹⁾	88.958.296	84.194.168	79.218.921	91.169.193	87.759.334	91.465.842	91.791.924	93.271.354	91.559.000	78.511.167	92.207.426
Green maize ¹⁾	55.987.745	54.874.242	52.522.088	62.799.152	56.843.425	58.431.490	58.445.696	61.680.327	60.285.460	55.957.523	60.137.161
Permanent grassland ¹⁾	48.547.215	42.423.922	39.115.856	41.302.057	44.019.371	48.022.437	49.530.082	44.439.382	44.117.707	29.157.704	46.029.057

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 3.5: France : Livestock in 1,000 heads

Livestock in 1000 heads											
France	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	20.507,10	20.836,50	20.540,70	20.334,20	20.055,27	20.216,03	20.088,93	20.320,06	19.777,00	19.168,00	19.838,50
under 1 year	5.082,30	5.193,90	5.129,00	5.016,20	5.137,04	5.271,80	5.279,32	5.276,83	5.104,00	4.961,00	5.155,29
beef calf	735,54	726,80	698,80	681,60	689,56	692,78	678,92	762,00	704,00	633,00	694,48
other calves	4.346,76	4.467,10	4.430,20	4.334,60	4.447,48	4.579,02	4.600,39	4.514,83	4.400,00	4.328,00	4.460,81
male	1.813,69	1.843,10	1.800,70	1.741,40	1.824,84	1.884,18	1.824,89	1.825,39	1.799,33	1.798,67	1.812,07
female	2.533,07	2.624,00	2.629,50	2.593,20	2.622,64	2.694,85	2.775,51	2.689,44	2.600,67	2.529,33	2.648,74
between 1 and 2 years	4.135,51	4.146,80	4.090,10	3.956,60	3.844,46	3.893,88	3.807,37	3.930,39	3.689,00	3.519,00	3.736,44
male	1.404,83	1.317,80	1.259,00	1.179,70	1.127,30	1.117,57	1.081,79	1.111,33	1.002,00	950,00	1.036,28
female	2.730,68	2.829,00	2.831,10	2.776,90	2.717,16	2.776,31	2.725,58	2.819,05	2.687,00	2.569,00	2.700,16
animals for slaughter	314,90	297,50	281,50	273,50	255,56	265,22	392,88	405,05	324,00	266,00	346,98
others	2.415,78	2.531,50	2.549,60	2.503,40	2.461,60	2.511,09	2.332,70	2.414,00	2.363,00	2.303,00	2.353,18
at least 2 years	11.289,28	11.495,80	11.321,60	11.361,40	11.073,78	11.050,35	11.002,25	11.112,84	10.984,00	10.688,00	10.946,77
male	535,57	618,10	511,60	578,90	482,89	474,70	505,41	515,85	506,00	473,00	500,07
female	10.753,71	10.877,70	10.810,00	10.782,50	10.590,89	10.575,65	10.496,83	10.596,99	10.478,00	10.215,00	10.446,71
Heifers	2.010,68	2.115,80	2.101,50	2.221,60	2.120,88	2.080,37	2.129,44	2.181,37	2.249,00	2.171,00	2.182,70
heifers for slaughter	294,19	367,60	276,50	377,40	259,34	236,57	294,00	330,80	338,00	283,00	311,45
other heifers	1.716,48	1.748,20	1.825,00	1.844,20	1.861,54	1.843,80	1.835,44	1.850,57	1.911,00	1.888,00	1.871,25
Cows	8.743,04	8.761,90	8.708,50	8.560,90	8.470,00	8.495,28	8.367,39	8.415,62	8.229,00	8.044,00	8.264,00
milk cows	4.759,89	4.700,40	4.566,30	4.501,80	4.431,96	4.424,06	4.153,27	4.197,23	4.134,00	4.026,00	4.127,62
other cows	3.983,15	4.061,50	4.142,20	4.059,10	4.038,05	4.071,22	4.214,13	4.218,39	4.095,00	4.018,00	4.136,38
Pigs	14.593,40	14.530,60	14.968,10	15.472,50	15.869,20	15.991,00	15.168,00	15.275,43	15.378,00	15.265,00	15.271,61
piglets, live weight < 20 kg	3.480,30	3.401,70	3.488,10	3.693,30	3.820,00	3.798,10	3.652,80	4.312,81	4.309,00	4.233,67	4.127,07
Pigs, live weight from 20 to < 50 kg	4.241,00	4.188,50	4.289,00	4.428,60	4.597,70	4.713,90	4.404,10	3.834,72	3.872,00	3.857,33	3.992,04
Fattening pigs from 50 kg and more ¹⁾	5.380,00	5.458,30	5.689,40	5.784,40	5.887,00	5.972,60	5.699,20	5.724,34	5.806,00	5.821,00	5.762,64
Fattening pigs from 50 to < 80 kg	2.813,30	2.871,00	2.997,70	2.972,10	3.037,10	3.107,90	2.935,90	2.971,64	2.967,00	2.928,00	2.950,64
Fattening pigs from 80 to < 110 kg	2.360,20	2.349,50	2.413,80	2.496,60	2.518,20	2.526,30	2.450,90	2.471,31	2.507,00	2.513,00	2.485,55
Fattening pigs from at least 110 kg	206,50	237,80	277,90	315,70	331,70	338,40	312,40	281,39	332,00	380,00	326,45
breeding pigs, Lebend-live weight of 50 kg and more	1.492,10	1.482,10	1.501,60	1.566,20	1.564,50	1.506,40	1.411,90	1.403,56	1.391,00	1.353,00	1.389,86
boars	56,80	51,40	48,70	46,00	44,80	39,00	35,00	30,92	29,00	27,00	30,48
sows in total	1.435,30	1.430,70	1.452,90	1.520,20	1.519,70	1.467,40	1.376,90	1.372,64	1.362,00	1.326,00	1.359,38
Goats	1.068,00	1.083,00	1.114,00	1.110,00	1.087,00	1.075,00	1.156,00	1.235,00	1.229,00	1.240,00	1.215,00
Sheep	10.320,00	10.075,00	10.125,00	9.823,00	9.553,00	9.509,00	9.324,00	9.232,00	9.127,00	8.947,00	9.157,50
Laying hens	66.500,00	66.400,00	59.657,00	59.863,00	60.073,00	60.325,00	63.600,00	63.700,00	62.400,00	:	63.233,33

¹⁾ including retired boars and sows, : no data

F 3.6: France: Imports and Exports in t

		Import/Export in t				
France		2000	2001	2002	2003	2000-2003
Milk Fresh						
	Import	964.431	953.397	795.904	740.960	863.673,00
	Export	908.603	993.921	829.293	856.077	896.973,50
	Differenz	55.828	-40.524	-33.389	-115.117	-33.300,50
Butter of Cow Milk						
	Import	148.302	138.611	123.957	126.624	134.373,50
	Export	71.381	69.282	73.128	74.694	72.121,25
	Differenz	76.921	69.329	50.829	51.930	62.252,25
Cheese (Skim Cow Milk)						
	Import	85	308	82	38	128,25
	Export	11	253	406	115	196,25
	Differenz	74	55	-324	-77	-68,00
Cheese (Whole Cow Milk)						
	Import	209.644	203.309	195.020	202.070	202.510,75
	Export	526.005	510.307	497.040	523.610	514.240,50
	Differenz	-316.361	-306.998	-302.020	-321.540	-311.729,75
Meat Bovine Fresh						
	Import	279.019	206.782	233.337	223.153	235.572,75
	Export	254.625	143.864	198.201	257.975	213.666,25
	Differenz	24.394	62.918	35.136	-34.822	21.906,50
Meat of Swine						
	Import	319.909	300.565	280.487	298.992	299.988,25
	Export	403.408	363.760	400.417	406.605	393.547,50
	Differenz	-83.499	-63.195	-119.930	-107.613	-93.559,25
Meat Poultry Fresh						
	Import	134.009	149.183	150.056	163.434	149.170,50
	Export	718.826	658.286	654.227	607.341	659.670,00
	Differenz	-584.817	-509.103	-504.171	-443.907	-510.499,50
Cereals						
	Import	1.664.242	1.767.984	1.563.953	1.253.129	1.562.327,00
	Export	32.746.384	28.363.250	27.936.918	30.583.815	29.907.591,75
	Differenz	-31.082.142	-26.595.266	-26.372.965	-29.330.686	-28.345.264,75
Wheat						
	Import	454.147	533.187	478.214	223.471	422.254,75
	Export	18.034.060	15.621.317	13.678.411	16.366.886	15.925.168,50
	Differenz	-17.579.913	-15.088.130	-13.200.197	-16.143.415	-15.502.913,75
Rye						
	Import	2.501	2.474	6.362	15.681	6.754,50
	Export	25.004	16.577	10.113	18.776	17.617,50
	Differenz	-22.503	-14.103	-3.751	-3.095	-10.863,00
Barley						
	Import	98.933	46.718	24.598	27.016	49.316,25
	Export	4.766.376	4.105.761	4.273.806	5.470.450	4.654.098,25
	Differenz	-4.667.443	-4.006.828	-4.227.088	-5.445.852	-4.586.802,75
Oats						
	Import	9.118	13.218	1.461	1.570	6.341,75
	Export	73.393	25.256	47.240	66.799	53.172,00
	Differenz	-64.275	-12.038	-45.779	-65.229	-46.830,25
Triticale						
	Import	2.281	8.937	1.973	1.427	3.654,50
	Export	4.348	8.611	6.986	14.457	8.600,50
	Differenz	-2.067	326	-5.013	-13.030	-4.946,00
Maize						
	Import	281.458	293.257	234.729	216.805	256.562,25
	Export	7.947.828	7.046.438	8.378.135	7.079.809	7.613.052,50
	Differenz	-7.666.370	-6.753.181	-8.143.406	-6.863.004	-7.356.490,25
Rapeseed						
	Import	28.076	28.207	11.218	11.364	19.716,25
	Export	2.244.967	1.418.319	1.638.157	1.717.428	1.754.717,75
	Differenz	-2.216.891	-1.390.112	-1.626.939	-1.706.064	-1.735.001,50
Sunflower						
	Import	93.088	116.701	77.680	296.463	145.983,00
	Export	526.592	555.643	372.620	283.754	434.652,25
	Differenz	-433.504	-438.942	-294.940	12.709	-288.669,25
Sugar Total (Raw Equiv.)						
	Import	343.593	305.307	417.284	280.586	336.692,50
	Export	3.208.705	3.011.609	2.951.083	2.762.302	2.983.424,75
	Differenz	-2.865.112	-2.706.302	-2.533.799	-2.481.716	-2.646.732,25
Soybeans						
	Import	440.851	968.466	1.016.832	799.633	806.445,50
	Export	20.308	5.412	21.473	28.378	18.892,75
	Differenz	420.543	963.054	995.359	771.255	787.552,75

F 3.7: **France:** Milk and meat production in t

France	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	25.951.939	26.093.402	25.817.326	25.648.650	25.568.600	25.631.650	25.737.027	25.670.620	25.990.180	25.799.276
Beef	1.626.800	1.683.300	1.737.000	1.720.000	1.632.000	1.609.000	1.527.600	1.566.000	1.640.000	1.577.867
Mutton and goat meat	147.135	147.700	154.500	149.900	144.400	138.300	140.000	140.300	135.100	138.467
Pork	2.116.400	2.144.000	2.161.000	2.219.000	2.328.000	2.353.000	2.312.000	2.315.200	2.346.000	2.324.400
Poultry meat	1.972.384	2.071.459	2.203.487	2.251.394	2.292.631	2.188.102	2.220.800	2.215.400	2.104.600	2.180.267

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 3.8: **France**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	1.294.422	7,150	9.255.027
Export(+)/Import(-) surplus in crop production			
- Cereals	3.964.410	7,150	28.345.265
- Rapeseed	591.962	2,931	1.735.002
- Sunflowers	120.540	2,395	288.669
- Sugar beets	258.671	71,624	18.527.126 ¹⁾
Crop production balance	4.935.583		48.896.061

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	33.301
- Butter	-1.245.045 ²⁾
- Cheese	3.117.298 ³⁾
Whole milk equivalent balance	1.905.553
Total milk production	25.799.276
the above as %	7,98

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-21.907
Total production	1.577.867
the above as %	-1,37
- Pork	93.559
Total production	2.324.400
the above as %	4,19
- Poultry meat	510.500
Total production	2.180.267
the above as %	30,57

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 3.9: **France:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	694.481	0,25		173.620		173.620
Calves						
male	1.812.069	0,3		543.621		543.621
female	2.648.738	0,19	503.260			503.260
Cattle 1 - 2 Years						
male	1.036.279	0,7		725.395		725.395
female	2.700.158	0,65	1.755.103			1.755.103
Cattle > 2 Years						
male	500.066	1,2		600.079		600.079
Beef heifers	311.451	1,2		373.741		373.741
other heifers	1.871.252	1,2	2.245.502			2.245.502
Dairy cows	4.127.624	1,2	4.953.149			4.953.149
other cows	4.136.378	1,2		4.963.654		4.963.654
Goats	1.215.000	0,1			121.500	121.500
Sheep	9.157.500	0,1			915.750	915.750
Total			9.457.014	7.380.110	1.037.250	17.874.374
Share %			52,91	41,29	5,80	100,00
Roughage area ha						14.756.724
thereof...			7.807.520	6.092.870	856.333	

F 3.10: **France**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	1.294.422	4,37
Reduction of overproduction		
- Crop production	4.935.583	16,66
- Animal production		
- Milk	576.669	1,95
- Beef	-84.591	-0,29
- Pork	1) ¹⁾ 49.070	0,17
- Poultry meat	2) ²⁾ 128.519	0,43
Balance of potential area	3) ³⁾ 6.722.083	
Agricultural land	29.630.667	
the above as %	22,69	22,69

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 3.11: **France**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	58.749.000	60.614.000	61.280.000
- Change in % up to.....		3,1745	1,0988
Per capita consumption (grain equivalent)	1.328,9	1.372,6	1.372,6
- Change in % up to.....		3,29	0,00
Consumption change in % up to		5,8184	0,955
Abs. agricultural land in ha	29.630.667		
- Land redesignation in % up to ¹⁾		2,465	2,465
Yield increase in % up to ²⁾		-11,08	-15,00
Balance of all changes in % up to.....		-2,7944	-11,5796
Balance of agricultural land			
- Basis available ha	29.630.667		
- Increase(+) reduction(-) due to redesignation in ha		730.385	730.385
- Increased(+) decreased(-) demand for food		1.724.033	283.103
- Release due to yield increase in ha (-)		-3.282.406	-4.444.600
- Release due to improved feed conversion in ha (-)		-79.583	-153.738
- Potential for biomass in ha per year.....	-6.722.083	-907.572	-3.584.850
Accumulation of the above in ha		-7.629.654	-11.214.504
- the above as % of the basis available agricultural land	22,69	25,75	37,85
- quantity equivalents of the above			
- Cereals ³⁾	48.062.442	60.594.591	92.210.402
- Straw	38.449.954	48.475.673	73.768.321

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 3.12 : **France**: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	2.324.400		
- Feedgrain consumption t ¹⁾	8.716.500	-435.825 ³⁾	-871.650 ³⁾
Land equivalent ha cereals	1.219.102	-60.955	-121.910
- Poultry meat t	2.180.267		
- Feed grain consumption t ²⁾	3.924.480	-196.224 ³⁾	-392.448 ³⁾
Land equivalent ha cereals	548.883	-27.444	-54.888
Total land equivalent ha	1.767.986	-88.399	-176.799

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 3.13: **France**: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	9.963.288
Grassland for milk production	ha	5.271.398
Overproduction milk	%	7,98
Released grassland due to abandonment of overproduction	ha	389.349
Grassland for beef production	ha	4.113.719
Overproduction beef	%	-1,37
Released grassland due to abandonment of overproduction	ha	-57.113
Total grassland released	ha	332.236
the above as % of total grassland		3,33
the above as % of potential area for bioenergy sources		4,94

F 3.14: **France**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	730.385	730.385
Share of grassland of agricultural land	%	33,62	33,62
Redesignation of grassland	ha	245.591	245.591
Change to grassland due to change in consumption			
- Rate of change in population	%	3,1745	1,0988
- Rate of change in milk and beef consumption	%	2,0000	0,0000
Total change	%	5,1745	1,0988
Grassland for milk and beef production	ha	9.385.118	9.385.118
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	485.635	103.120
Release due to yield increase(-)	ha	-1.103.706	-1.494.493
Total change in grassland	ha	-372.480	-1.145.782
Accumulated grassland potential for bioenergy sources	ha	704.716	1.850.498
the above as % of total grassland		7,07	18,57
the above as % of potential area		9,24	16,50

F 3.15: **France**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
France	obligatory set-aside 10 %					
wheat	5.118,91	36.937,35	4.488,61	36.854,87	4.539,63	42.412,93
rye	34,10	156,35	37,70	200,57	39,02	240,95
barley	1.602,66	10.092,95	2.196,80	15.282,10	2.120,88	16.297,55
oats	137,94	623,77	104,33	547,55	109,16	664,83
grain maize	1.805,39	15.885,86	2.666,19	27.226,53	2.713,96	32.163,57
pulses	506,23	2.400,74	321,50	1.618,65	304,73	1.628,82
rapeseed	1.158,94	3.559,42	820,74	2.954,33	884,42	3.731,23
sunflower	732,01	1.711,39	585,02	1.510,83	554,48	1.581,77
set-aside ¹	997,26	0,00	1.013,67	0,00	1.018,06	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	435,36	31.097,40	305,09	24.796,54	268,36	24.818,73
potato	164,34	6.417,47	153,49	6.620,90	140,43	6.691,50
Total	12.693,15	108.882,72	12.693,15	117.612,88	12.693,15	130.231,89
Total in GE		84.115,24		96.844,36		109.983,73
France	without set-aside					
wheat	5.118,91	36.937,35	4.449,82	36.536,41	4.492,59	41.973,45
rye	34,10	156,35	41,32	219,82	42,65	263,32
barley	1.602,66	10.092,95	2.554,03	17.767,12	2.456,09	18.873,41
oats	137,94	623,77	116,12	609,42	121,51	740,08
grain maize	1.805,39	15.885,86	3.235,38	33.038,89	3.308,08	39.204,59
pulses	506,23	2.400,74	297,78	1.499,23	280,79	1.500,87
rapeseed	1.158,94	3.559,42	857,60	3.087,03	933,22	3.937,08
sunflower	732,01	1.711,39	676,71	1.747,62	639,66	1.824,76
set-aside ¹	997,26	0,00	5,81	0,00	9,76	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	435,36	31.097,40	305,09	24.796,54	268,36	24.818,73
potato	164,34	6.417,47	153,49	6.620,90	140,43	6.691,50
Total	12.693,15	108.882,72	12.693,15	125.922,98	12.693,15	139.827,78
Total in GE		84.115,24		105.413,10		119.893,82
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 3.16: : **France** Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
France	without set-aside, ethanol beets at 25 €/t possible					
wheat	5.118,91	36.937,35	4.234,51	34.768,48	4.222,07	39.446,00
rye	34,10	156,35	40,93	217,76	42,29	261,13
barley	1.602,66	10.092,95	2.096,00	14.580,83	2.030,61	15.603,82
oats	137,94	623,77	111,02	582,64	116,30	708,32
grain maize	1.805,39	15.885,86	3.093,76	31.592,72	3.159,44	37.443,11
pulses	506,23	2.400,74	340,20	1.712,84	316,16	1.689,93
rapeseed	1.158,94	3.559,42	845,51	3.043,49	914,82	3.859,48
sunflower	732,01	1.711,39	645,99	1.668,29	611,03	1.743,09
set-aside ¹	997,26	0,00	5,49	0,00	8,67	0,00
ethanol beet	0,00	0,00	881,10	71.612,56	915,86	84.701,07
sugar beet	435,36	31.097,40	245,16	19.925,39	215,46	19.925,86
potato	164,34	6.417,47	153,49	6.620,90	140,43	6.691,50
Total	12.693,15	108.882,72	12.693,15	186.325,92	12.693,15	212.073,30
Total in GE		84.115,24		115.673,97		132.171,70
France	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	5.118,91	36.937,35	5.211,66	42.791,64	5.205,43	48.633,32
rye	34,10	156,35	42,90	228,26	44,92	277,34
barley	1.602,66	10.092,95	2.135,37	14.854,71	2.051,54	15.764,69
oats	137,94	623,77	130,23	683,46	140,14	853,53
grain maize	1.805,39	15.885,86	3.240,69	33.093,21	3.308,05	39.204,26
pulses	506,23	2.400,74	164,10	826,22	149,54	799,31
rapeseed	1.158,94	3.559,42	299,86	1.079,36	337,52	1.423,96
sunflower	732,01	1.711,39	198,57	512,80	194,79	555,67
set-aside ¹	997,26	0,00	2,58	0,00	3,78	0,00
ethanol beet	0,00	0,00	871,28	70.814,86	904,37	83.638,30
sugar beet	435,36	31.097,40	242,42	19.703,04	212,65	19.666,22
potato	164,34	6.417,47	153,49	6.620,90	140,43	6.691,50
Total	12.693,15	108.882,72	12.693,15	191.208,47	12.693,15	217.508,09
Total in GE		84.115,24		119.137,83		136.062,23
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 4 Italy**F 4.1: Italy: Total land area and agricultural area**

Italy	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134	30.134
thereof													
Land Area	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411	29.411
thereof													
Agricultural Area	16.054	15.978	15.910	15.702	15.333	15.349	15.345	15.484	15.799	15.637	15.502	15.443	15.527
thereof													
Permanent Pasture	4.204	4.349	4.530	4.559	4.405	4.343	4.371	4.347	4.377	4.353	4.365	4.379	4.366
Permanent Crops	2.950	2.879	2.830	2.814	2.645	2.674	2.721	2.808	2.877	2.805	2.798	2.777	2.793
Arable Land	8.900	8.750	8.550	8.329	8.283	8.332	8.253	8.329	8.545	8.479	8.339	8.287	8.368
Arable & Permanent Crops	11.850	11.629	11.380	11.143	10.928	11.006	10.974	11.137	11.422	11.284	11.137	11.064	11.162
NonArable&NonPermanent	17.561	17.782	18.031	18.268	18.483	18.405	18.437	18.274	17.989	18.127	18.274	18.347	18.249
All other Land	6.593	6.661	6.701	6.900	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 4.2: **Italy**: Cultivation area of agricultural crops

Italy	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	15.702.000	15.333.000	15.349.000	15.345.000	15.484.000	15.799.000	15.637.000	15.502.000	15.443.000		15.527.333
Cereals	4.103.632	4.217.742	4.223.335	4.195.050	4.082.355	4.173.966	4.137.209	4.133.347	4.316.891	4.138.664	4.181.528
Wheat	2.371.390	2.482.120	2.407.992	2.366.121	2.327.950	2.387.266	2.322.840	2.289.372	2.415.535	2.266.760	2.323.627
Rye	7.079	7.108	8.000	8.000	11.000	4.386	3.479	3.010	3.360	2.934	3.196
Barley	392.498	374.000	359.362	356.661	362.631	353.850	345.331	332.050	342.825	309.306	332.378
Oats	144.157	134.647	141.655	151.011	152.209	142.000	140.748	139.834	150.933	148.451	144.992
Triticale	308	0	0	0	0	0	0	0	0	0	0
Maize	909.865	942.475	1.022.670	1.039.229	968.799	1.028.000	1.064.000	1.109.341	1.144.184	1.159.370	1.119.224
Rapeseed	14.028	46.041	65.274	69.157	61.032	51.327	36.294	30.485	9.662	4.185	20.157
Sunflower	235.498	230.402	247.714	229.948	232.690	207.000	217.000	207.824	167.967	150.791	185.896
Sugar beet	282.109	283.993	258.000	295.209	288.000	283.785	249.154	222.595	245.664	252.000	242.353
Forage land ¹⁾	7.082.724	6.748.196	6.657.239	6.703.839	6.641.974	6.674.835	6.696.251	6.590.016	6.517.599	6.467.963	6.567.957
Field forage ¹⁾	2.524.142	2.344.468	2.313.963	2.333.097	2.301.162	2.297.118	2.270.791	2.225.299	2.138.732	2.091.219	2.181.510
Green maize ¹⁾	276.553	271.527	291.054	289.702	281.586	283.102	285.153	294.757	273.621	281.455	283.747
Permanent grassland ¹⁾	4.558.582	4.403.728	4.343.276	4.370.742	4.340.812	4.377.717	4.352.845	4.364.717	4.378.867	4.376.744	4.368.293
Fallow ¹⁾											
Fallow land ¹⁾	930.441	885.292	675.963	466.634	503.693	572.354	696.260	681.311	678.821	630.677	671.767

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 4.3: **Italy:** Yields of agricultural crops

Yield in dt/ha											
Italy	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	46,76	46,69	49,49	47,48	50,78	50,47	49,94	48,47	49,80	43,77	49,40
Wheat	34,80	32,01	33,17	28,56	35,82	32,43	32,13	28,44	31,17	27,54	30,58
Rye	28,67	27,83	25,50	23,75	18,27	28,17	29,58	28,91	28,66	25,94	29,05
Barley	37,39	38,01	37,58	33,07	38,03	37,12	36,53	34,16	34,72	33,16	35,14
Oats	24,60	22,38	24,69	20,58	24,81	23,32	22,61	22,51	21,78	20,75	22,30
Triticale	39,81	0	0	0	0	0	0	0	0	0	0
Maize	82,25	89,70	93,36	96,27	93,22	97,44	95,28	95,14	94,60	77,44	95,00
Rapeseed	20,84	20,82	13,88	8,65	8,85	11,40	11,30	11,22	13,91	16,53	12,15
Sunflower	23,34	23,16	21,32	21,21	20,01	21,44	21,23	20,46	21,31	15,84	21,00
Sugar beet	447,67	464,39	469,54	467,56	464,65	511,14	464,34	498,98	518,03	385,95	493,78
Forage land ¹⁾	70,85	68,71	71,99	69,84	70,54	70,55	65,45	67,33	65,91	57,84	66,23
Field forage ¹⁾	172,08	170,46	178,05	174,45	176,33	177,27	164,63	171,33	172,43	154,82	169,46
Green maize ¹⁾	506,81	516,75	537,05	541,70	529,47	537,67	474,03	537,69	543,73	461,44	518,49
Permanent grassland ¹⁾	14,80	14,53	15,48	14,01	14,45	14,55	14,80	14,31	13,88	11,50	14,33

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 4.4: **Italy**: Production of agricultural crops

Production in t											
Italy	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	19.186.512	19.692.924	20.899.986	19.916.518	20.731.020	21.067.676	20.660.952	20.034.359	21.499.444	18.113.499	20.731.585
Wheat	8.251.400	7.946.080	7.987.241	6.758.351	8.338.301	7.742.800	7.463.968	6.509.973	7.529.160	6.243.390	7.167.700
Rye	20.295	19.779	20.400	19.000	20.100	12.357	10.291	8.701	9.631	7.612	9.541
Barley	1.467.378	1.421.600	1.350.494	1.179.575	1.378.940	1.313.300	1.261.600	1.134.418	1.190.326	1.025.790	1.195.448
Oats	354.660	301.322	349.765	310.706	377.613	331.100	318.241	314.808	328.759	308.095	320.603
Triticale	1.226	0	0	0	0	0	0	0	0	0	0
Maize	7.483.440	8.454.200	9.547.540	10.004.697	9.030.860	10.017.200	10.137.500	10.553.706	10.824.025	8.978.180	10.505.077
Rapeseed	29.228	95.833	90.595	59.815	54.017	58.500	41.016	34.212	13.441	6.919	29.556
Sunflower	549.680	533.581	528.106	487.654	465.538	443.700	460.714	425.263	357.908	238.812	414.628
Sugar beet	12.629.340	13.188.320	12.114.200	13.802.671	13.381.800	14.505.400	11.569.180	11.107.077	12.726.038	9.726.000	11.800.765
Forage total ¹⁾	50.181.800	46.363.250	47.924.550	46.821.775	46.850.675	47.090.100	43.827.950	44.370.625	42.955.200	37.408.600	43.717.925
Forage field ¹⁾	43.434.575	39.963.825	41.199.750	40.699.975	40.577.425	40.721.500	37.384.050	38.125.175	36.878.975	32.376.000	37.462.733
Green maize ¹⁾	14.015.900	14.031.200	15.630.900	15.693.200	14.909.000	15.221.500	13.517.200	15.848.800	14.877.700	12.987.400	14.747.900
Permanent grassland ¹⁾	6.747.225	6.399.425	6.724.800	6.121.800	6.273.250	6.368.600	6.443.900	6.245.450	6.076.225	5.032.600	6.255.192

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 4.5: Italy: Livestock in 1,000 heads

Italy	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Cattle	7.272,00	7.418,00	7.390,00	7.328,00	7.316,00	7.361,00	6.231,95	6.932,66	6.695,00	6.727,16	6646,69
under 1 year	2.175,00	2.255,00	2.160,00	2.263,00	2.258,00	2.192,00	1.784,95	1.994,33	2.028,33	2.008,00	1953,90
beef calf	327,00	459,00	450,00	354,00	393,00	385,00	361,00	496,26	410,00	413,00	420,07
other calves	1.848,00	1.796,00	1.710,00	1.909,00	1.865,00	1.807,00	1.423,95	1.498,07	1.618,33	1.595,00	1533,84
male	930,00	863,00	805,00	890,00	876,00	863,00	628,52	624,03	739,35	720,00	677,97
female	918,00	933,00	905,00	1.019,00	989,00	944,00	795,43	874,04	878,98	875,00	855,86
between 1 and 2 years	1.599,00	1.651,00	1.655,00	1.520,00	1.482,00	1.571,00	1.503,97	1.512,05	1.460,72	1.501,88	1494,65
male	725,00	811,00	815,00	663,00	638,00	684,00	689,96	620,56	636,72	670,88	654,53
female	874,00	840,00	840,00	857,00	844,00	887,00	814,01	891,49	824,00	831,00	840,13
animals for slaughter	140,00	155,00	155,00	160,00	166,00	179,00	192,79	181,55	176,00	158,00	177,09
others	734,00	685,00	685,00	697,00	678,00	708,00	621,22	709,94	648,00	673,00	663,04
at least 2 years	3.390,00	3.363,00	3.425,00	3.383,00	3.390,00	3.398,00	2.761,04	3.232,51	3.020,95	2.993,89	3002,10
male	95,00	155,00	155,00	162,00	115,00	102,00	83,59	75,37	65,95	78,89	75,95
female	3.295,00	3.208,00	3.270,00	3.221,00	3.275,00	3.296,00	2.677,45	3.157,14	2.955,00	2.915,00	2926,15
Heifers	453,00	470,00	470,00	475,00	474,00	456,00	459,45	637,00	600,00	569,00	566,36
heifers for slaughter	27,00	40,00	40,00	64,00	61,00	46,00	49,45	46,00	59,00	49,00	50,86
other heifers	426,00	430,00	430,00	411,00	413,00	410,00	410,00	591,00	541,00	520,00	515,50
Cows	2.842,00	2.738,00	2.800,00	2.746,00	2.801,00	2.840,00	2.218,00	2.520,14	2.355,00	2.346,00	2359,79
milk cows	2.167,00	2.080,00	2.125,00	2.078,00	2.116,00	2.126,00	1.772,00	2.077,62	1.911,00	1.913,00	1918,40
other cows	675,00	658,00	675,00	668,00	685,00	714,00	446,00	442,53	444,00	433,00	441,38
Pigs	8.023,00	8.061,00	8.090,00	8.281,00	8.323,00	8.415,00	8.645,54	8.766,26	9.166,00	9.157,00	8933,70
piglets, live weight < 20 kg	1.404,00	1.435,00	1.450,00	1.496,00	1.520,00	1.533,00	1.584,78	1.595,49	1.767,00	1.679,00	1656,57
Pigs, live weight from 20 to < 50 kg	1.588,00	1.550,00	1.560,00	1.630,00	1.665,00	1.653,00	1.718,69	1.649,49	1.868,00	1.846,00	1770,55
Fattening pigs from 50 kg and more ¹⁾	4.316,00	4.340,00	4.350,00	4.428,00	4.393,00	4.503,00	4.598,87	4.793,41	4.757,00	4.875,00	4756,07
Fattening pigs from 50 to < 80 kg	1.209,00	1.285,00	1.290,00	1.354,00	1.316,00	1.338,00	1.368,25	1.388,14	1.458,00	1.464,00	1419,60
Fattening pigs from 80 to < 110 kg	1.147,00	1.259,00	1.260,00	1.392,00	1.336,00	1.323,00	1.337,57	1.413,96	1.377,00	1.429,00	1389,38
Fattening pigs from at least 110 kg	1.960,00	1.796,00	1.800,00	1.682,00	1.741,00	1.842,00	1.893,05	1.991,31	1.922,00	1.982,00	1947,09
breeding pigs, Lebend-live weight of 50 kg and more	715,00	736,00	730,00	727,00	745,00	726,00	743,20	727,88	774,00	757,00	750,52
boars	38,00	46,00	45,00	35,00	37,00	34,00	28,17	30,39	23,00	21,00	25,64
sows in total	677,00	690,00	685,00	692,00	708,00	692,00	715,03	697,49	751,00	736,00	724,88
Goats	1.448,00	1.448,00	1.390,00	1.347,00	1.331,00	1.397,00	923,00	1.024,77	988,00	961,03	974,20
Sheep	10.681,00	10.668,00	10.920,00	10.890,00	10.894,00	11.017,00	6.809,00	8.311,38	8.138,00	7.951,64	7802,51
Laying hens	48.126,00	49.506,00	47.774,00	47.523,00	51.120,00	55.696,00	63.289,00	62.195,42	59.278,99	58.710,00	60868,35

¹⁾ including retired boars and sows, : no data

F 4.6: **Italy:** Imports and Exports in t

		Import/Export in t				
Italy		2000	2001	2002	2003	2000-2003
Milk Fresh						
	Import	2.193.210	2.021.853	1.902.973	1.997.649	2.028.921,25
	Export	13.126	4.636	5.580	10.510	8.463,00
	Differenz	2.180.084	2.017.217	1.897.393	1.987.139	2.020.458,25
Butter of Cow Milk						
	Import	41.167	46.346	50.566	52.661	47.685,00
	Export	12.337	11.390	9.604	9.992	10.830,75
	Differenz	28.830	34.956	40.962	42.669	36.854,25
Cheese (Skim Cow Milk)						
	Import	179	105	156	160	150,00
	Export	38	8	36	11	23,25
	Differenz	141	97	120	149	126,75
Cheese (Whole Cow Milk)						
	Import	303.175	301.981	298.871	321.602	306.407,25
	Export	137.752	146.904	165.303	170.650	155.152,25
	Differenz	165.423	155.077	133.568	150.952	151.255,00
Meat Bovine Fresh						
	Import	386.904	267.691	340.305	402.647	349.386,75
	Export	98.394	71.755	89.109	107.985	91.810,75
	Differenz	288.510	195.936	251.196	294.662	257.576,00
Meat of Swine						
	Import	737.373	817.874	805.456	803.300	791.000,75
	Export	50.179	38.099	41.548	47.510	44.334,00
	Differenz	687.194	779.775	763.908	755.790	746.666,75
Meat Poultry Fresh						
	Import	71.468	41.746	23.273	32.322	42.202,25
	Export	65.550	111.354	137.219	102.495	104.154,50
	Differenz	5.918	-69.608	-113.946	-70.173	-61.952,25
Cereals						
	Import	8.464.663	9.054.453	9.803.141	9.544.378	9.216.658,75
	Export	2.179.490	1.825.196	1.755.732	1.485.891	1.811.577,25
	Differenz	6.285.173	7.229.257	8.047.409	8.058.487	7.405.081,50
Wheat						
	Import	6.860.443	7.526.750	7.715.548	6.986.068	7.272.202,25
	Export	185.944	163.986	214.046	208.412	193.097,00
	Differenz	6.674.499	7.362.764	7.501.502	6.777.656	7.079.105,25
Rye						
	Import	12.178	15.371	17.283	34.453	19.821,25
	Export	377	618	806	689	622,50
	Differenz	11.801	14.753	16.477	33.764	19.198,75
Barley						
	Import	679.813	748.231	949.000	921.584	824.657,00
	Export	2.977	2.992	4.476	2.622	3.266,75
	Differenz	676.836	745.239	944.524	918.962	821.390,25
Oats						
	Import	72.769	51.079	51.620	64.446	59.978,50
	Export	173	430	737	189	382,25
	Differenz	72.596	50.649	50.883	64.257	59.596,25
Triticale						
	Import	2.655	6.517	3.895	8.888	5.488,75
	Export	104	9	24	0	34,25
	Differenz	2.551	6.508	3.871	8.888	5.454,50
Maize						
	Import	527.951	505.589	864.727	1.109.328	751.898,75
	Export	187.133	242.741	158.411	33.427	155.428,00
	Differenz	340.818	262.848	706.316	1.075.901	596.470,75
Rapeseed						
	Import	4.638	17.256	15.445	15.154	13.123,25
	Export	40	55	16	1.816	481,75
	Differenz	4.598	17.201	15.429	13.338	12.641,50
Sunflower						
	Import	158.797	174.900	169.430	173.234	169.090,25
	Export	4.841	6.516	6.620	4.863	5.710,00
	Differenz	153.956	168.384	162.810	168.371	163.380,25
Sugar Total (Raw Equiv.)						
	Import	381.558	483.727	600.338	695.385	540.252,00
	Export	397.245	328.868	385.852	248.527	340.123,00
	Differenz	-15.687	154.859	214.486	446.858	200.129,00
Soybeans						
	Import	731.545	927.670	1.293.850	1.442.882	1.098.986,75
	Export	13.612	16.045	7.973	16.014	13.411,00
	Differenz	717.933	911.625	1.285.877	1.426.868	1.085.575,75

F 4.7: **Italy:**Milk and meat production in t

Italy	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	11.689.400	12.260.000	12.671.600	12.821.700	12.996.400	12.987.000	13.299.200	12.329.361	12.404.600	12.677.720
Beef	1.171.219	1.180.935	1.181.985	1.161.061	1.112.740	1.165.509	1.153.402	1.134.083	1.135.791	1.141.092
Mutton and goat meat	78.897	76.498	77.551	75.793	73.265	73.439	69.051	66.179	62.858	66.029
Pork	1.369.250	1.345.560	1.410.300	1.395.816	1.412.189	1.471.702	1.478.500	1.509.640	1.535.900	1.508.013
Poultry meat	1.094.080	1.093.900	1.119.200	1.139.200	1.150.400	1.132.800	1.088.800	1.135.200	1.168.966	1.130.989

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 4.8: **Italy**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	671.767	4,940	3.318.799
Export(+)/Import(-) surplus in crop production			
- Cereals	-1.498.883	4,940	-7.405.082
- Rapeseed	-10.409	1,215	-12.642
- Sunflowers	-77.798	2,100	-163.380
- Sugar beets	-28.371	49,378	-1.400.903 ¹⁾
Crop production balance	-1.615.460		-8.982.006

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-2.020.458
- Butter ²⁾	-737.085
- Cheese ³⁾	-1.512.550
Whole milk equivalent balance	-4.270.093
Total milk production	12.677.720
the above as %	-25,20

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-257.576
Total production	1.141.092
the above as %	-18,42
- Pork	-746.667
Total production	1.508.013
the above as %	-33,12
- Poultry meat	61.952
Total production	1.130.989
the above as %	5,80

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 4.9: **Italy:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	420.066	0,25		105.017		105.017
Calves						
male	677.975	0,3		203.392		203.392
female	855.861	0,19	162.614			162.614
Cattle 1 - 2 Years						
male	654.528	0,7		458.169		458.169
female	840.126	0,65	546.082			546.082
Cattle > 2 Years						
male	75.949	1,2		91.139		91.139
Beef heifers	50.862	1,2		61.034		61.034
other heifers	515.500	1,2	618.600			618.600
Dairy cows	1.918.405	1,2	2.302.085			2.302.085
other cows	441.381	1,2		529.658		529.658
Goats	974.199	0,1			97.420	97.420
Sheep	7.802.506	0,1			780.251	780.251
Total			3.629.381	1.448.409	877.671	5.955.460
Share %			60,94	24,32	14,74	100,00
Roughage area ha						6.567.957
thereof...			4.002.649	1.597.372	967.936	

F 4.10: **Italy:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	671.767	4,33
Reduction of overproduction		
- Crop production	-1.615.460	-10,40
- Animal production		
- Milk	-1.348.167	-8,68
- Beef	-360.571	-2,32
- Pork	¹⁾ -566.756	-3,65
- Poultry meat	²⁾ 22.572	0,15
Balance of potential area	³⁾ -2.652.431	
Agricultural land	15.527.333	
the above as %	-17,08	-17,08

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 4.11: **Italy**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	58.749.000	60.614.000	61.280.000
- Change in % up to.....		3,1745	1,0988
Per capita consumption (grain equivalent)	1.328,9	1.372,6	1.372,6
- Change in % up to.....		3,29	0,00
Consumption change in % up to		5,8184	0,955
Abs. agricultural land in ha	29.630.667		
- Land redesignation in % up to ¹⁾		2,465	2,465
Yield increase in % up to ²⁾		-11,08	-15,00
Balance of all changes in % up to.....		-2,7944	-11,5796
Balance of agricultural land			
- Basis available ha	29.630.667		
- Increase(+) reduction(-) due to redesignation in ha		730.385	730.385
- Increased(+) decreased(-) demand for food		1.724.033	283.103
- Release due to yield increase in ha (-)		-3.282.406	-4.444.600
- Release due to improved feed conversion in ha (-)		-79.583	-153.738
- Potential for biomass in ha per year.....	-6.722.083	-907.572	-3.584.850
Accumulation of the above in ha		-7.629.654	-11.214.504
- the above as % of the basis available agricultural land	22,69	25,75	37,85
- quantity equivalents of the above			
- Cereals ³⁾	48.062.442	60.594.591	92.210.402
- Straw	38.449.954	48.475.673	73.768.321

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 4.12 : **Italy**: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	1.508.013		
- Feedgrain consumption t ¹⁾	5.655.050	-282.753 ³⁾	-565.505 ³⁾
Land equivalent ha cereals	1.144.654	-57.233	-114.465
- Poultry meat t	1.130.989		
- Feed grain consumption t ²⁾	2.035.780	-101.789 ³⁾	-203.578 ³⁾
Land equivalent ha cereals	412.068	-20.603	-41.207
Total land equivalent ha	1.556.722	-77.836	-155.672

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 4.13: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	4.368.293
Grassland for milk production	ha	2.662.128
Overproduction milk	%	-25,20
Released grassland due to abandonment of overproduction	ha	-896.655
Grassland for beef production	ha	1.062.399
Overproduction beef	%	-18,42
Released grassland due to abandonment of overproduction	ha	-239.813
Total grassland released	ha	-1.136.467
the above as % of total grassland		-26,02
the above as % of potential area for bioenergy sources		42,85

F 4.14: **Italy:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	418.951	418.951
Share of grassland of agricultural land	%	28,13	28,13
Redesignation of grassland	ha	117.863	117.863
Change to grassland due to change in consumption			
- Rate of change in population	%	1,5343	-0,7547
- Rate of change in milk and beef consumption	%	4,2000	0,0000
Total change	%	5,7343	-0,7547
Grassland for milk and beef production	ha	3.724.527	3.724.527
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	213.577	-28.110
Release due to yield increase(-)	ha	-436.829	-655.244
Total change in grassland	ha	-105.390	-565.490
Accumulated grassland potential for bioenergy sources	ha	-1.031.078	-465.587
the above as % of total grassland		-23,60	-10,66
the above as % of potential area		45,22	350,98

F 4.15: **Italy**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Italy	obligatory set-aside 10 %					
wheat	2.348,59	7.516,84	2.244,65	7.857,55	2.266,09	8.676,17
rye	5,05	12,22	3,56	9,71	3,53	10,86
barley	347,34	1.255,72	423,50	1.691,26	427,75	1.886,95
oats	145,14	334,10	141,21	366,22	142,96	417,74
grain maize	1.062,86	10.112,66	1.376,32	15.048,32	1.384,97	17.401,52
pulses	77,45	121,62	82,80	149,40	82,82	171,73
rapeseed	37,76	40,24	8,59	10,01	8,52	10,86
sunflower	206,50	430,62	126,94	267,38	116,47	247,79
set-aside ¹	150,46	0,00	168,78	0,00	169,48	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	257,84	12.657,90	74,50	3.921,77	59,82	3.376,28
potato	83,45	2.080,09	71,59	2.111,91	60,03	2.096,31
Total	4.722,44	34.562,00	4.722,44	31.433,54	4.722,44	34.296,21
Total in GE		23.734,11		26.996,86		30.268,01
Italy	without set-aside					
wheat	2.348,59	7.516,84	2.261,31	7.915,89	2.277,95	8.721,57
rye	5,05	12,22	2,96	8,06	2,88	8,84
barley	347,34	1.255,72	435,72	1.740,04	441,37	1.947,01
oats	145,14	334,10	146,28	379,36	148,17	432,95
grain maize	1.062,86	10.112,66	1.509,12	16.500,25	1.522,68	19.131,80
pulses	77,45	121,62	81,69	147,41	81,84	169,71
rapeseed	37,76	40,24	7,70	8,98	7,22	9,20
sunflower	206,50	430,62	128,76	271,22	116,72	248,32
set-aside ¹	150,46	0,00	2,71	0,00	3,62	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	257,84	12.657,90	74,61	3.927,38	59,97	3.384,58
potato	83,45	2.080,09	71,59	2.111,91	60,03	2.096,31
Total	4.722,44	34.562,00	4.722,44	33.010,51	4.722,44	36.150,30
Total in GE		23.734,11		28.571,58		32.115,08
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 4.16: **Italy**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Italy	without set-aside, ethanol beets at 25 €/t possible					
wheat	2.348,59	7.516,84	1.958,97	6.857,52	1.955,69	7.487,72
rye	5,05	12,22	3,20	8,73	3,12	9,59
barley	347,34	1.255,72	469,54	1.875,09	477,57	2.106,72
oats	145,14	334,10	158,21	410,33	160,87	470,07
grain maize	1.062,86	10.112,66	1.717,27	18.776,08	1.756,11	22.064,76
pulses	77,45	121,62	88,68	160,02	89,19	184,96
rapeseed	37,76	40,24	7,69	8,96	7,59	9,67
sunflower	206,50	430,62	140,18	295,26	127,23	270,69
set-aside ¹	150,46	0,00	2,55	0,00	3,37	0,00
ethanol beet	0,00	0,00	43,89	2.310,45	36,08	2.036,69
sugar beet	257,84	12.657,90	60,68	3.194,35	45,58	2.572,36
potato	83,45	2.080,09	71,59	2.111,91	60,03	2.096,31
Total	4.722,44	34.562,00	4.722,44	36.008,70	4.722,44	39.309,54
Total in GE		23.734,11		30.403,53		34.371,96
Italy	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	2.348,59	7.516,84	2.162,34	7.569,41	2.149,17	8.228,52
rye	5,05	12,22	3,53	9,63	3,54	10,87
barley	347,34	1.255,72	448,35	1.790,49	456,71	2.014,69
oats	145,14	334,10	160,24	415,58	162,40	474,56
grain maize	1.062,86	10.112,66	1.692,38	18.503,98	1.715,89	21.559,42
pulses	77,45	121,62	85,37	154,06	85,95	178,24
rapeseed	37,76	40,24	1,92	2,23	1,71	2,18
sunflower	206,50	430,62	55,79	117,51	52,88	112,50
set-aside ¹	150,46	0,00	0,93	0,00	1,11	0,00
ethanol beet	0,00	0,00	18,01	947,94	15,40	869,31
sugar beet	257,84	12.657,90	22,00	1.158,22	17,63	995,34
potato	83,45	2.080,09	71,59	2.111,91	60,03	2.096,31
Total	4.722,44	34.562,00	4.722,44	32.780,96	4.722,44	36.541,94
Total in GE		23.734,11		29.595,64		33.546,68
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 5 Spain

F 5.1: Spain: Total land area and agricultural area

in 1000 ha													
Spain	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599	50.599
thereof													
Land Area	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944	49.944
thereof													
Agricultural Area	30.371	30.279	30.033	30.183	29.719	30.139	30.059	29.958	29.778	29.766	29.780	30.195	29.914
thereof													
Permanent Pasture	10.282	10.332	10.376	10.687	10.966	10.995	11.000	11.442	11.450	11.462	11.476	11.480	11.473
Permanent Crops	4.831	4.746	4.675	4.690	4.708	4.694	4.774	4.832	4.865	4.904	4.904	4.977	4.928
Arable Land	15.258	15.201	14.982	14.806	14.045	14.450	14.285	13.684	13.463	13.400	13.400	13.738	13.513
Arable & Permanent Crops	20.089	19.947	19.657	19.496	18.753	19.144	19.059	18.516	18.328	18.304	18.304	18.715	18.441
NonArable&NonPermanent	29.855	29.997	30.287	30.448	31.191	30.800	30.885	31.428	31.616	31.640	31.640	31.229	31.503
All other Land	3.715	3.750	3.774	3.624	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 5.2: **Spain**: Cultivation area of agricultural crops

Spain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	30.183.000	29.719.000	30.139.000	30.059.000	29.958.000	29.778.000	29.766.000	29.780.000	30.195.000		29.913.667
Cereals	6.479.932	6.688.055	6.762.316	6.981.972	6.632.544	6.640.640	6.802.494	6.424.328	6.741.415	6.592.191	6.640.107
Wheat	1.969.650	2.126.400	2.012.400	2.078.550	1.912.560	2.422.400	2.353.027	2.177.005	2.401.800	2.218.000	2.287.458
Rye	153.885	165.200	167.100	142.807	124.300	122.200	109.609	102.058	101.800	110.300	105.942
Barley	3.539.500	3.555.900	3.572.200	3.682.160	3.535.200	3.106.600	3.278.025	2.992.088	3.100.200	3.089.000	3.114.828
Oats	347.500	366.800	391.300	399.811	413.200	409.500	432.137	445.926	473.100	476.200	456.841
Triticale	32.600	29.900	33.300	33.182	24.700	28.000	37.210	37.548	29.900	32.800	34.365
Maize	341.800	357.500	439.700	486.447	459.100	397.500	433.146	512.497	462.600	476.200	471.111
Rapeseed	69.001	87.600	97.600	66.761	46.500	48.300	31.400	18.971	6.400	6.000	15.693
Sunflower	1.355.170	1.111.500	1.098.200	1.004.154	1.047.700	849.900	838.904	861.153	753.900	790.300	811.064
Sugar beet	183.390	172.465	157.100	157.600	149.489	134.900	125.255	106.940	114.700	100.200	111.774
Forage land ¹⁾	12.238.994	12.114.806	11.958.163	11.264.306	11.789.213	8.697.655	8.150.596	8.245.692	8.259.915	8.083.195	8.184.850
Field forage ¹⁾	1.162.884	875.284	862.329	802.534	838.606	922.818	1.027.528	1.035.192	1.022.061	1.026.771	1.027.888
Green maize ¹⁾	115.600	104.581	104.391	105.132	89.281	84.000	81.645	83.094	84.420	85.323	83.621
Permanent grassland ¹⁾	11.321.233	11.217.152	11.096.914	10.466.719	10.605.000	7.458.475	7.033.068	7.210.500	7.237.854	7.056.424	7.134.462
Fallow ¹⁾											
Fallow land ¹⁾	3.501.400	3.771.030	3.368.596	3.732.287	3.480.000	3.278.102	3.230.120	3.510.400	3.195.060	3.327.408	3.315.747

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 5.3: **Spain:** Yields of agricultural crops

Yield in dt/ha											
Spain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000-2002
Agricultural land											
Cereals	23,51	17,31	33,08	27,68	34,01	27,09	36,10	28,10	32,14	32,54	32,11
Wheat	21,84	14,76	30,02	22,50	28,42	20,99	31,00	23,00	28,24	28,36	27,41
Rye	13,43	10,19	17,70	14,83	16,69	17,98	20,08	9,94	17,08	16,72	15,70
Barley	20,95	14,19	29,95	23,22	30,82	23,93	33,75	20,89	26,88	28,16	27,17
Oats	11,91	6,31	16,98	13,02	17,56	12,96	22,07	14,92	19,36	18,34	18,78
Triticale	15,58	7,63	25,23	18,55	20,08	11,07	25,54	23,64	29,87	26,71	26,35
Maize	68,57	72,46	85,31	91,51	94,73	94,81	92,16	97,21	96,49	91,11	95,28
Rapeseed	8,08	5,83	11,07	14,77	15,46	11,84	15,80	23,25	15,94	18,83	18,33
Sunflower	7,22	5,29	10,72	12,79	11,36	7,57	10,96	10,11	10,04	9,73	10,37
Sugar beet	455,84	431,29	524,25	541,26	593,10	611,42	633,09	631,67	700,99	647,10	655,25
Forage land ¹⁾	:	:	:	:	:	:	:	17,47	16,24	16,46	16,85
Field forage ¹⁾	178,10	214,16	258,63	245,14	312,81	249,76	144,74	139,15	131,21	129,57	138,37
Green maize ¹⁾	423,42	429,00	479,77	460,51	458,91	447,38	467,68	475,35	465,85	456,03	469,63
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 5.4: **Spain**: Production of agricultural crops

Production in t											
Spain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	15.230.994	11.574.293	22.366.038	19.323.595	22.557.318	17.987.942	24.555.671	18.049.898	21.668.791	21.448.807	21.424.787
Wheat	4.302.340	3.138.700	6.040.500	4.676.290	5.436.300	5.083.800	7.293.623	5.007.698	6.782.900	6.290.100	6.361.407
Rye	206.700	168.300	295.700	211.753	207.400	219.700	220.044	101.452	173.900	184.400	165.132
Barley	7.415.500	5.046.600	10.697.000	8.549.540	10.895.300	7.434.300	11.063.008	6.249.139	8.332.900	8.698.400	8.548.349
Oats	413.900	231.400	664.300	520.643	725.600	530.800	953.692	665.200	916.000	873.400	844.964
Triticale	50.800	22.800	84.000	61.554	49.600	31.000	95.035	88.748	89.300	87.600	91.028
Maize	2.343.600	2.590.400	3.751.000	4.451.502	4.349.100	3.768.600	3.991.752	4.981.901	4.463.400	4.338.700	4.479.018
Rapeseed	55.717	51.100	108.000	98.596	71.900	57.200	49.600	44.100	10.200	11.300	34.633
Sunflower	978.574	587.500	1.177.700	1.284.291	1.190.200	643.600	918.999	871.002	757.200	769.300	849.067
Sugar beet	8.359.612	7.438.212	8.236.000	8.530.211	8.866.220	8.248.000	7.929.700	6.755.103	8.040.300	6.483.900	7.575.034
Forage total ¹⁾	:	:	:	:	:	:	:	14.404.161	13.410.865	13.303.525	13.907.513
Forage field ¹⁾	20.711.078	18.744.842	22.302.448	19.673.506	26.232.473	23.048.500	14.872.628	14.404.161	13.410.865	13.303.525	14.229.218
Green maize ¹⁾	4.894.700	4.486.503	5.008.320	4.841.400	4.097.218	3.758.000	3.818.405	3.949.906	3.932.670	3.890.951	3.900.327
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	0

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 5.5: Spain: Livestock in 1,000 heads

Spain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	5.234,00	5.495,00	5.905,00	5.869,00	5.966,00	6.291,00	6.163,89	6.410,78	6.477,90	6.548,38	6.400,24
under 1 year	1.615,00	1.757,00	1.921,00	2.030,00	2.010,00	2.217,00	2.093,88	2.170,53	2.181,50	2.236,09	2.170,50
beef calf	1.112,00	1.232,00	1.250,00	1.392,00	1.400,00	1.492,00	1.483,12	1.470,24	1.475,94	1.510,42	1.484,93
other calves	503,00	525,00	671,00	638,00	610,00	725,00	610,76	700,30	705,56	725,68	685,57
male	137,00	134,00	163,00	189,00	166,00	224,00	192,98	224,29	232,15	245,01	223,61
female	366,00	391,00	508,00	449,00	444,00	501,00	417,78	476,01	473,41	480,67	461,96
between 1 and 2 years	532,00	635,00	672,00	632,00	698,00	703,00	723,21	790,86	747,82	726,81	747,17
male	70,00	121,00	135,00	118,00	118,00	135,00	132,76	154,28	156,87	155,33	149,81
female	462,00	514,00	537,00	514,00	580,00	568,00	590,44	636,58	590,95	571,48	597,36
animals for slaughter	33,00	34,00	37,00	41,00	53,00	34,00	52,43	55,61	66,83	71,63	61,62
others	429,00	480,00	500,00	473,00	527,00	534,00	538,02	580,97	524,12	499,85	535,74
at least 2 years	3.087,00	3.103,00	3.312,00	3.207,00	3.258,00	3.371,00	3.346,80	3.449,39	3.548,57	3.585,48	3.482,56
male	86,00	95,00	105,00	100,00	95,00	102,00	109,20	103,73	120,15	133,23	116,58
female	3.001,00	3.008,00	3.207,00	3.107,00	3.163,00	3.269,00	3.237,61	3.345,67	3.428,43	3.452,25	3.365,99
Heifers	191,00	193,00	236,00	225,00	215,00	231,00	217,00	268,97	302,82	317,26	276,51
heifers for slaughter	9,00	6,00	7,00	14,00	9,00	17,00	9,39	18,24	21,55	27,79	19,24
other heifers	182,00	187,00	229,00	211,00	206,00	214,00	207,62	250,73	281,27	289,47	257,27
Cows	2.810,00	2.815,00	2.971,00	2.882,00	2.948,00	3.038,00	3.020,60	3.076,70	3.125,61	3.134,99	3.089,48
milk cows	1.331,00	1.281,00	1.279,00	1.254,00	1.278,00	1.207,00	1.140,57	1.181,99	1.154,21	1.117,67	1.148,61
other cows	1.479,00	1.534,00	1.692,00	1.628,00	1.670,00	1.831,00	1.880,03	1.894,71	1.971,40	2.017,32	1.940,87
Pigs	18.295,52	18.125,00	18.572,00	19.480,00	21.562,00	22.418,00	22.149,31	23.857,78	23.517,74	24.097,54	23.405,59
piglets, live weight < 20 kg	4.826,06	4.672,00	4.871,00	5.314,00	5.922,00	5.702,00	5.890,71	6.285,59	6.156,56	6.251,05	6.145,98
Pigs, live weight from 20 to < 50 kg	4.295,91	3.879,00	4.003,00	4.346,00	4.609,00	4.977,00	4.658,47	5.224,80	5.187,70	5.413,94	5.121,23
Fattening pigs from 50 kg and more ¹⁾	7.034,03	7.467,00	7.562,00	7.437,00	8.433,00	9.225,00	9.075,63	9.666,65	9.454,50	9.771,91	9.492,17
Fattening pigs from 50 to < 80 kg	3.625,56	3.898,00	3.862,00	3.944,00	4.296,00	4.638,00	4.615,99	4.748,35	4.567,99	4.874,62	4.701,74
Fattening pigs from 80 to < 110 kg	2.838,79	3.022,00	3.061,00	2.820,00	3.133,00	3.640,00	3.097,71	3.767,84	3.593,13	3.739,09	3.549,44
Fattening pigs from at least 110 kg	569,69	547,00	639,00	673,00	1.004,00	947,00	1.361,93	1.150,47	1.293,38	1.158,20	1.240,99
breeding pigs, Lebend-live weight of 50 kg and more	2.139,52	2.107,00	2.136,00	2.383,00	2.598,00	2.514,00	2.524,50	2.680,74	2.718,98	2.660,64	2.646,21
boars	99,52	80,00	72,00	102,00	92,00	84,00	83,88	86,55	103,14	81,13	88,67
sows in total	2.040,01	2.027,00	2.064,00	2.281,00	2.506,00	2.430,00	2.440,62	2.594,20	2.615,85	2.579,51	2.557,54
Goats	2.964,00	2.964,00	2.734,00	2.795,00	2.780,00	2.627,00	2.828,96	3.114,04	3.046,72	3.162,06	3.037,94
Sheep	23.018,00	21.301,00	23.937,00	24.827,00	24.190,00	23.965,00	24.399,65	24.300,66	23.813,17	23.485,95	23.999,86
Laying hens	46.698,00	48.634,00	44.351,00	48.300,00	46.717,00	46.726,00	51.419,37	52.112,73	52.513,12	:	52.015,07

¹⁾ including retired boars and sows, : no dataSource: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

: no data

F 5.6: **Spain**: Imports and Exports in t

Spain		Import/Export in t				2000-2003
		2000	2001	2002	2003	
Milk Fresh						
	Import	417.117	282.372	400.743	375.096	368.832,00
	Export	194.354	199.345	199.468	208.489	200.414,00
	Differenz	222.763	83.027	201.275	166.607	168.418,00
Butter of Cow Milk						
	Import	11.391	13.808	12.544	15.763	13.376,50
	Export	18.593	24.628	18.550	14.361	19.033,00
	Differenz	-7.202	-10.820	-6.006	1.402	-5.656,50
Cheese (Skim Cow Milk)						
	Import	54	40	9	66	42,25
	Export	1	7	343	6	89,25
	Differenz	53	33	-334	60	-47,00
Cheese (Whole Cow Milk)						
	Import	95.432	102.087	111.272	122.878	107.917,25
	Export	27.186	34.843	42.108	48.046	38.045,75
	Differenz	68.246	67.244	69.164	74.832	69.871,50
Meat Bovine Fresh						
	Import	66.457	51.712	78.858	80.125	69.288,00
	Export	123.941	101.216	119.392	147.845	123.098,50
	Differenz	-57.484	-49.504	-40.534	-67.720	-53.810,50
Meat of Swine						
	Import	73.778	55.760	58.405	69.223	64.291,50
	Export	300.810	320.042	370.955	441.262	358.267,25
	Differenz	-227.032	-264.282	-312.550	-372.039	-293.975,75
Meat Poultry Fresh						
	Import	92.755	99.110	93.549	101.235	96.662,25
	Export	60.545	64.807	61.080	66.498	63.232,50
	Differenz	32.210	34.303	32.469	34.737	33.429,75
Cereals						
	Import	6.573.215	7.799.908	12.299.681	9.493.424	9.041.557,00
	Export	1.329.837	1.882.672	1.984.111	2.044.071	1.810.172,75
	Differenz	5.243.378	5.917.236	10.315.570	7.449.353	7.231.384,25
Wheat						
	Import	2.502.039	3.863.443	6.346.691	3.860.967	4.143.285,00
	Export	401.890	811.348	1.117.296	999.532	832.516,50
	Differenz	2.100.149	3.052.095	5.229.395	2.861.435	3.310.768,50
Rye						
	Import	819	32.738	462.864	185.803	170.556,00
	Export	9.796	7.059	7.478	10.800	8.783,25
	Differenz	-8.977	25.679	455.386	175.003	161.772,75
Barley						
	Import	84.274	690.062	1.529.748	597.789	725.468,25
	Export	204.084	200.298	34.346	103.503	135.557,75
	Differenz	-119.810	489.764	1.495.402	494.286	589.910,50
Oats						
	Import	36.427	28.558	76.246	108.820	62.512,75
	Export	39.371	42.438	30.163	34.457	36.607,25
	Differenz	-2.944	-13.880	46.083	74.363	25.905,50
Triticale						
	Import	1.174	1.155	919	3.168	1.604,00
	Export	82	486	328	540	359,00
	Differenz	1.092	669	591	2.628	1.245,00
Maize						
	Import	3.483.609	2.735.458	3.504.310	3.886.300	3.402.419,25
	Export	76.546	151.971	125.143	118.248	117.977,00
	Differenz	3.407.063	2.583.487	3.379.167	3.768.052	3.284.442,25
Rapeseed						
	Import	1.542	9.743	14.053	27.306	13.161,00
	Export	1.079	845	362	601	721,75
	Differenz	463	8.898	13.691	26.705	12.439,25
Sunflower						
	Import	552.687	462.196	417.770	292.760	431.353,25
	Export	31.859	17.224	10.371	11.093	17.636,75
	Differenz	520.828	444.972	407.399	281.667	413.716,50
Sugar Total (Raw Equiv.)						
	Import	352.364	392.935	416.293	467.027	407.154,75
	Export	221.478	178.211	69.333	162.297	157.829,75
	Differenz	130.886	214.724	346.960	304.730	249.325,00
Soybeans						
	Import	2.650.777	3.228.065	3.352.300	3.101.320	3.083.115,50
	Export	4.449	10.518	7.885	3.907	6.689,75
	Differenz	2.646.328	3.217.547	3.344.415	3.097.413	3.076.425,75

F 5.7: **Spain:** Milk and meat production in t

Spain	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	6.722.410	6.762.300	6.802.310	6.545.340	6.833.900	7.053.400	6.937.212	7.213.310	7.367.120	7.172.547
Beef	483.734	508.492	564.602	592.252	650.727	661.068	651.093	650.841	678.838	660.257
Mutton and goat meat	241.312	242.057	237.765	245.064	249.724	238.218	248.819	251.176	252.143	250.713
Pork	2.124.085	2.174.820	2.356.150	2.401.140	2.744.362	2.893.000	2.904.615	2.989.146	3.070.116	2.987.959
Poultry meat	873.804	924.315	887.370	906.300	1.051.000	1.002.000	987.000	1.030.531	1.039.274	1.018.935

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 5.8: **Spain**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	3.315.747	3,211	10.647.637
Export(+)/Import(-) surplus in crop production			
- Cereals	-2.251.902	3,211	-7.231.384
- Rapeseed	-6.788	1,833	-12.439
- Sunflowers	-398.917	1,037	-413.717
- Sugar beets	-26.635	65,525	-1.745.275 ¹⁾
Crop production balance	-2.684.242		-9.402.815

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-168.418
- Butter ²⁾	113.130
- Cheese ³⁾	-698.715
Whole milk equivalent balance	-754.003
Total milk production	7.172.547
the above as %	-9,51

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	53.811
Total production	660.257
the above as %	8,87
- Pork	293.976
Total production	2.987.959
the above as %	10,91
- Poultry meat	-33.430
Total production	1.018.935
the above as %	-3,18

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 5.9: **Spain**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	1.484.929	0,25		371.232		371.232
Calves						
male	223.608	0,3		67.082		67.082
female	461.965	0,19	87.773			87.773
Cattle 1 - 2 Years						
male	149.811	0,7		104.867		104.867
female	597.362	0,65	388.285			388.285
Cattle > 2 Years						
male	116.576	1,2		139.891		139.891
Beef heifers	19.240	1,2		23.088		23.088
other heifers	257.272	1,2	308.726			308.726
Dairy cows	1.148.610	1,2	1.378.331			1.378.331
other cows	1.940.866	1,2		2.329.040		2.329.040
Goats	3.037.941	0,1			303.794	303.794
Sheep	23.999.858	0,1			2.399.986	2.399.986
Total			2.163.115	3.035.200	2.703.780	7.902.095
Share %			27,37	38,41	34,22	100,00
Roughage area ha						8.184.850
thereof...			2.240.516	3.143.806	2.800.527	

F 5.10: **Spain**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	3.315.747	11,08
Reduction of overproduction		
- Crop production	-2.684.242	-8,97
- Animal production		
- Milk	-235.531	-0,79
- Beef	256.218	0,86
- Pork	¹⁾ 343.298	1,15
- Poultry meat	²⁾ -18.738	-0,06
Balance of potential area	³⁾ 652.192	
Agricultural land	29.913.667	
the above as %	2,18	2,18

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 5.11: **Spain**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	39.733.000	39.799.000	39.331.000
- Change in % up to.....		0,1661	-1,1759
Per capita consumption (grain equivalent)	1.223,4	1.290,4	1.290,4
- Change in % up to.....		5,48	0,00
Consumption change in % up to		4,3405	-0,905
Abs. agricultural land in ha	29.913.667		
- Land redesignation in % up to ¹⁾		1,132	1,132
Yield increase in % up to ²⁾		-30,00	-30,00
Balance of all changes in % up to.....		-24,5276	-29,7726
Balance of agricultural land			
- Basis available ha	29.913.667		
- Increase(+) reduction(-) due to redesignation in ha		338.601	338.601
- Increased(+) decreased(-) demand for food		1.298.403	-270.583
- Release due to yield increase in ha (-)		-8.974.100	-8.974.100
- Release due to improved feed conversion in ha (-)		-156.170	-312.339
- Potential for biomass in ha per year.....	-652.192	-7.493.266	-9.218.421
Accumulation of the above in ha		-8.145.458	-17.363.878
- the above as % of the basis available agricultural land	2,18	27,23	58,05
- quantity equivalents of the above			
- Cereals ³⁾	2.094.341	34.004.055	72.487.305
- Straw	1.675.473	27.203.244	57.989.844

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 5.12: **Spain:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	2.987.959		
- Feedgrain consumption t ¹⁾	11.204.846	-560.242 ³⁾	-1.120.485 ³⁾
Land equivalent ha cereals	3.489.266	-174.463	-348.927
- Poultry meat t	1.018.935		
- Feed grain consumption t ²⁾	1.834.083	-91.704 ³⁾	-183.408 ³⁾
Land equivalent ha cereals	571.146	-28.557	-57.115
Total land equivalent ha	4.060.412	-203.021	-406.041

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 5.13: **Spain:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	7.134.462
Grassland for milk production	ha	1.952.984
Overproduction milk	%	-9,51
Released grassland due to abandonment of overproduction	ha	-205.304
Grassland for beef production	ha	2.740.351
Overproduction beef	%	8,87
Released grassland due to abandonment of overproduction	ha	223.337
Total grassland released	ha	18.032
the above as % of total grassland		0,25
the above as % of potential area for bioenergy sources		2,76

F 5.14: **Spain**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	338.601	338.601
Share of grassland of agricultural land	%	23,85	23,85
Redesignation of grassland	ha	80.757	80.757
Change to grassland due to change in consumption			
- Rate of change in population	%	0,1661	-1,1759
- Rate of change in milk and beef consumption	%	6,5000	0,0000
Total change	%	6,6661	-1,1759
Grassland for milk and beef production	ha	4.693.335	4.693.335
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	312.863	-55.189
Release due to yield increase(-)	ha	-2.140.338	-2.140.338
Total change in grassland	ha	-1.746.719	-2.114.771
Accumulated grassland potential for bioenergy sources	ha	1.764.751	3.879.522
the above as % of total grassland		24,74	54,38
the above as % of potential area		21,67	22,34

F 5.15: **Spain**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Spain	obligatory set-aside 10 %					
wheat	2.261,83	5.906,90	2.302,24	7.046,72	2.342,07	8.401,84
rye	112,04	185,65	122,48	235,53	123,32	275,21
barley	3.208,48	8.794,10	3.290,30	10.569,77	3.328,00	12.529,99
oats	432,80	757,00	390,05	791,75	393,81	927,71
grain maize	449,56	4.305,89	651,95	7.537,56	653,14	9.115,19
pulses	495,53	360,81	328,65	239,30	313,53	228,29
rapeseed	31,44	44,96	10,38	16,07	9,68	16,24
sunflower	870,14	862,02	791,19	783,80	746,80	739,83
set-aside ¹	1.047,43	0,00	1.075,13	0,00	1.079,79	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	127,94	7.971,82	93,94	6.594,87	83,53	6.607,46
potato	124,38	3.126,01	105,26	3.131,33	87,89	3.094,44
Total	9.161,56	32.315,17	9.161,56	36.946,70	9.161,56	41.936,20
Total in GE		24.470,38		30.055,40		35.034,30
Spain	without set-aside					
wheat	2.261,83	5.906,90	2.531,70	7.749,07	2.573,33	9.231,45
rye	112,04	185,65	169,90	326,72	171,67	383,11
barley	3.208,48	8.794,10	3.475,83	11.165,76	3.542,38	13.337,09
oats	432,80	757,00	404,55	821,18	405,81	955,99
grain maize	449,56	4.305,89	911,94	10.543,48	916,25	12.787,11
pulses	495,53	360,81	284,22	206,95	266,84	194,30
rapeseed	31,44	44,96	9,29	14,39	7,00	11,73
sunflower	870,14	862,02	958,74	949,79	854,98	847,01
set-aside ¹	1.047,43	0,00	216,19	0,00	251,88	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	127,94	7.971,82	93,94	6.594,87	83,54	6.607,52
potato	124,38	3.126,01	105,26	3.131,33	87,89	3.094,44
Total	9.161,56	32.315,17	9.161,56	41.503,53	9.161,56	47.449,75
Total in GE		24.470,38		34.727,25		40.619,68
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 5.16: **Spain**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Spain	without set-aside, ethanol beets at 25 €/t possible					
wheat	2.261,83	5.906,90	2.417,57	7.399,74	2.459,54	8.823,24
rye	112,04	185,65	164,07	315,51	166,91	372,49
barley	3.208,48	8.794,10	3.367,31	10.817,16	3.437,51	12.942,27
oats	432,80	757,00	403,65	819,36	406,30	957,15
grain maize	449,56	4.305,89	869,10	10.048,17	893,93	12.475,60
pulses	495,53	360,81	323,59	235,61	273,74	199,32
rapeseed	31,44	44,96	9,36	14,50	7,08	11,87
sunflower	870,14	862,02	869,08	860,97	776,61	769,37
set-aside ¹	1.047,43	0,00	185,48	0,00	218,88	0,00
ethanol beet	0,00	0,00	357,66	25.109,42	355,91	28.152,20
sugar beet	127,94	7.971,82	89,42	6.277,76	77,26	6.111,50
potato	124,38	3.126,01	105,26	3.131,33	87,89	3.094,44
Total	9.161,56	32.315,17	9.161,56	65.029,52	9.161,56	73.909,44
Total in GE		24.470,38		39.596,90		46.282,98
Spain	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	2.261,83	5.906,90	2.762,47	8.455,39	2.816,67	10.104,37
rye	112,04	185,65	161,39	310,36	166,32	371,18
barley	3.208,48	8.794,10	3.580,13	11.500,81	3.666,47	13.804,29
oats	432,80	757,00	448,34	910,08	449,10	1.057,96
grain maize	449,56	4.305,89	913,90	10.566,08	940,89	13.130,99
pulses	495,53	360,81	237,11	172,65	185,10	134,78
rapeseed	31,44	44,96	5,64	8,73	3,66	6,13
sunflower	870,14	862,02	481,55	477,06	383,38	379,81
set-aside ¹	1.047,43	0,00	67,41	0,00	81,91	0,00
ethanol beet	0,00	0,00	316,69	22.232,70	309,93	24.515,05
sugar beet	127,94	7.971,82	81,68	5.734,09	70,26	5.557,40
potato	124,38	3.126,01	105,26	3.131,33	87,89	3.094,44
Total	9.161,56	32.315,17	9.161,56	63.499,28	9.161,56	72.156,41
Total in GE		24.470,38		40.359,18		47.396,67
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 6 The Netherlands

F 6.1: The Netherlands: Total land area and agricultural area

in 1000 ha													
Netherlands	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153	4.153
thereof													
Land Area	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388	3.388
thereof													
Agricultural Area	1.991	1.986	1.988	1.971	1.964	1.981	1.966	1.973	1.967	1.956	1.931	1.949	1.945
thereof													
Permanent Pasture	1.080	1.064	1.064	1.051	1.048	1.052	1.031	1.032	1.018	1.012	993	1.000	1.002
Permanent Crops	30	35	37	35	34	34	34	35	35	34	33	33	33
Arable Land	881	887	887	885	882	895	901	906	914	910	905	916	910
Arable & Permanent Crops	911	922	924	920	916	929	935	941	949	944	938	949	944
NonArable&NonPermanent	2.477	2.466	2.464	2.468	2.472	2.459	2.453	2.447	2.439	2.444	2.450	2.439	2.444
All other Land	1.063	1.068	1.066	1.083	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.2: **The Netherlands:** Cultivation area of agricultural crops

Netherlands	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	1.971.000	1.964.000	1.981.000	1.966.000	1.973.000	1.967.000	1.956.000	1.931.000	1.949.000		1.945.333
Cereals	189.100	193.000	200.100	202.100	204.926	183.084	219.100	229.600	227.700	219.700	224.025
Wheat	121.600	134.700	141.600	137.500	139.300	102.195	136.700	124.700	135.900	130.000	131.825
Rye	5.600	8.200	6.900	5.000	6.300	2.624	6.000	3.600	3.600	3.500	4.175
Barley	43.700	35.600	35.500	42.000	39.126	57.965	47.100	66.700	57.000	55.000	56.450
Oats	5.500	2.900	1.900	2.000	2.100	2.500	2.400	2.600	2.500	2.500	2.500
Triticale	1.600	2.600	3.300	2.900	4.400	1.800	6.600	4.800	5.000	4.200	5.150
Maize	11.100	9.000	10.900	12.700	13.700	16.000	20.300	27.200	23.700	24.500	23.925
Rapeseed	1.000	1.494	861	579	873	1.300	800	3.400	605	605	1.353
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	115.000	116.000	117.000	114.100	109.689	119.700	111.000	109.100	108.900	102.800	107.950
Forage land ¹⁾	1.291.883	1.279.670	1.286.312	1.273.946	1.263.729	1.261.137	1.223.823	1.205.546	1.221.391	1.209.494	1.215.064
Field forage ¹⁾	279.823	268.999	296.847	315.800	311.840	334.924	321.938	324.662	329.506	418.930	348.759
Green maize ¹⁾	228.508	219.217	222.872	231.985	219.940	230.746	205.321	203.874	214.403	216.897	210.124
Permanent grassland ¹⁾	1.012.060	1.010.671	989.465	958.146	951.889	926.213	901.885	880.884	891.885	790.564	866.305
Fallow ¹⁾											
Fallow land ¹⁾	30.818	23.588	16.746	13.709	14.718	25.975	24.614	30.196	29.962	27.765	28.134

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.3: **The Netherlands:** Yields of agricultural crops

Yield in dt/ha											
Netherlands	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	71,65	77,97	82,93	71,69	73,07	75,77	76,26	72,69	71,22	84,73	73,39
Wheat	80,67	86,64	89,61	77,31	76,96	83,31	83,59	79,45	77,75	94,49	80,26
Rye	47,32	51,83	55,36	55,40	48,10	53,35	48,33	47,22	46,67	58,86	47,41
Barley	52,08	56,88	66,14	63,88	54,82	62,97	61,10	57,99	55,32	67,58	58,14
Oats	50,73	53,45	56,32	50,50	50,00	56,00	55,42	53,08	50,80	52,80	53,10
Triticale	54,38	53,85	59,39	54,14	44,09	60,56	54,55	44,38	47,60	75,24	48,84
Maize	74,87	70,44	80,00	50,39	110,00	82,50	79,80	88,02	82,87	80,00	83,56
Rapeseed	40,00	33,47	34,84	34,01	30,93	34,35	36,25	7,06	34,71	34,71	26,01
Sunflower	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sugar beet	534,70	555,95	548,38	578,97	501,83	611,31	606,08	545,13	573,94	604,07	575,05
Forage land ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Field forage ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Green maize ¹⁾	397,96	383,92	403,01	500,00	440,00	493,33	466,67	446,81	443,67	450,00	452,39
Permanent grassland ¹⁾	0	0	0	0	0	0	0	0	0	0	0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.4: **The Netherlands:** Production of agricultural crops

Production in t											
Netherlands	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	1.354.800	1.504.900	1.659.400	1.448.790	1.497.400	1.387.300	1.670.800	1.669.000	1.621.600	1.861.400	1.653.800
Wheat	981.000	1.167.000	1.268.900	1.063.000	1.072.000	851.400	1.142.700	990.700	1.056.600	1.228.300	1.063.333
Rye	26.500	42.500	38.200	27.700	30.300	14.000	29.000	17.000	16.800	20.600	20.933
Barley	227.600	202.500	234.800	268.290	214.500	365.000	287.800	386.800	315.300	371.700	329.967
Oats	27.900	15.500	10.700	10.100	10.500	14.000	13.300	13.800	12.700	13.200	13.267
Triticale	8.700	14.000	19.600	15.700	19.400	10.900	36.000	21.300	23.800	31.600	27.033
Maize	83.100	63.400	87.200	64.000	150.700	132.000	162.000	239.400	196.400	196.000	199.267
Rapeseed	4.000	5.000	3.000	1.969	2.700	4.465	2.900	2.401	2.100	2.100	2.467
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	6.149.000	6.449.000	6.416.000	6.606.000	5.504.500	7.317.400	6.727.500	5.947.400	6.250.200	6.209.800	6.308.367
Green maize ¹⁾	9.093.600	8.416.235	8.981.847	11.599.270	9.677.360	11.383.453	9.581.647	9.109.375	9.512.500	9.760.366	9.401.174

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.5: The Netherlands: Livestock in 1,000 heads

Netherlands	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	4.588,00	4.545,00	4.366,00	4.287,00	4.184,00	4.097,00	3.890,00	3.842,00	3.780,00	3.734,66	3.811,67
under 1 year	1.568,00	1.530,00	1.462,00	1.453,00	1.426,00	1.469,00	1.391,00	1.357,00	1.324,00	1.321,90	1.348,47
beef calf	618,00	668,00	669,00	721,00	684,00	800,00	756,00	676,00	692,00	748,38	718,10
other calves	950,00	862,00	793,00	732,00	742,00	669,00	635,00	681,00	632,00	573,52	630,38
male	278,00	193,00	168,00	140,00	145,00	106,00	108,00	119,00	102,00	76,81	101,45
female	672,00	669,00	625,00	592,00	597,00	563,00	527,00	562,00	530,00	496,70	528,93
between 1 and 2 years	985,00	970,00	974,00	890,00	873,00	794,00	715,00	698,00	677,00	622,50	678,12
male	207,00	205,00	185,00	172,00	169,00	121,00	102,00	105,00	88,00	77,34	93,09
female	778,00	765,00	789,00	718,00	704,00	673,00	613,00	593,00	589,00	545,16	585,04
animals for slaughter	33,00	35,00	32,00	30,00	23,00	25,00	25,00	14,00	20,00	17,84	19,21
others	745,00	730,00	757,00	688,00	681,00	648,00	588,00	579,00	569,00	527,32	565,83
at least 2 years	2.035,00	2.045,00	1.930,00	1.944,00	1.885,00	1.834,00	1.784,00	1.787,00	1.779,00	1.790,27	1.785,07
male	26,00	21,00	15,00	19,00	17,00	20,00	20,00	20,00	25,00	23,43	22,11
female	2.009,00	2.024,00	1.915,00	1.925,00	1.868,00	1.814,00	1.764,00	1.767,00	1.754,00	1.766,84	1.762,96
Heifers	180,00	171,00	184,00	171,00	173,00	157,00	152,00	131,00	126,00	130,45	134,86
heifers for slaughter	17,00	17,00	18,00	16,00	16,00	12,00	17,00	11,00	14,00	18,54	15,14
other heifers	163,00	154,00	166,00	155,00	157,00	145,00	135,00	120,00	112,00	111,90	119,73
Cows	1.829,00	1.853,00	1.731,00	1.754,00	1.695,00	1.657,00	1.612,00	1.636,00	1.628,00	1.636,40	1.628,10
milk cows	1.757,00	1.777,00	1.646,00	1.674,00	1.600,00	1.570,00	1.532,00	1.551,00	1.546,00	1.551,43	1.545,11
other cows	72,00	76,00	85,00	80,00	95,00	87,00	80,00	85,00	82,00	84,96	82,99
Pigs	13.931,00	13.935,00	14.253,00	11.437,00	13.418,00	13.139,00	12.822,00	11.514,00	11.154,00	10.765,54	11.563,89
piglets, live weight < 20 kg	4.951,00	5.063,00	5.223,00	4.017,00	5.158,00	4.791,00	4.935,00	4.422,00	4.225,00	3.896,03	4.369,51
Pigs, live weight from 20 to < 50 kg	2.757,00	2.412,00	2.560,00	2.060,00	2.282,00	2.342,00	2.042,00	1.962,00	1.859,00	1.872,44	1.933,86
Fattening pigs from 50 kg and more ¹⁾	4.716,00	4.992,00	4.965,00	3.910,00	4.588,00	4.668,00	4.560,00	3.949,00	3.913,00	3.934,16	4.089,04
Fattening pigs from 50 to < 80 kg	2.610,00	2.782,00	2.733,00	2.086,00	2.513,00	2.410,00	2.410,00	2.119,00	2.074,00	2.036,12	2.159,78
Fattening pigs from 80 to < 110 kg	1.917,00	2.033,00	2.007,00	1.450,00	1.842,00	1.994,00	1.877,00	1.632,00	1.623,00	1.643,93	1.693,98
Fattening pigs from at least 110 kg	189,00	177,00	225,00	374,00	233,00	264,00	273,00	198,00	216,00	254,11	235,28
breeding pigs, Lebend-live weight of 50 kg and more	1.507,00	1.468,00	1.505,00	1.450,00	1.390,00	1.338,00	1.285,00	1.181,00	1.157,00	1.062,92	1.171,48
boars	50,00	21,00	22,00	28,00	22,00	18,00	13,00	20,00	17,00	10,92	15,23
sows in total	1.457,00	1.447,00	1.483,00	1.422,00	1.368,00	1.320,00	1.272,00	1.161,00	1.140,00	1.052,00	1.156,25
Goats	73,00	73,00	110,00	130,00	145,00	165,00	190,00	232,00	268,00	290,00	245,00
Sheep	1.300,00	1.450,00	1.400,00	1.236,00	1.300,00	1.152,00	1.250,00	1.250,00	1.300,00	1.476,00	1.319,00
Laying hens	40.868,00	38.162,00	39.579,00	40.077,00	41.435,00	42.461,00	42.461,00	42.726,00	:	:	42.593,50

¹⁾ including retired boars and sows, : no data

Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

: no data

F 6.6: The Netherlands: Imports and Exports in t

Netherlands	2000	2001	2002	2003	D 2000/03
Milk Fresh					
Import	498.005	476.800	458.622	494.712	482.034,75
Export	294.042	253.901	285.385	608.793	360.530,25
Differenz	203.963	222.899	173.237	-114.081	121.504,50
Butter of Cow Milk					
Import	86.887	95.275	101.349	126.876	102.596,75
Export	119.076	163.314	159.427	233.013	168.707,50
Differenz	-32.189	-68.039	-58.078	-106.137	-66.110,75
Cheese (Skim Cow Milk)					
Import	81	88	101	202	118,00
Export	23	0	88	0	27,75
Differenz	58	88	13	202	90,25
Cheese (Whole Cow Milk)					
Import	118.666	146.879	136.812	157.326	139.920,75
Export	434.729	425.274	449.496	510.390	454.972,25
Differenz	-316.063	-278.395	-312.684	-353.064	-315.051,50
Meat Bovine Fresh					
Import	121.280	158.107	195.042	231.186	176.403,75
Export	293.743	235.138	286.902	321.210	284.248,25
Differenz	-172.463	-77.031	-91.860	-90.024	-107.844,50
Meat of Swine					
Import	60.124	67.217	81.235	154.340	90.729,00
Export	635.442	558.872	523.088	589.741	576.785,75
Differenz	-575.318	-491.655	-441.853	-435.401	-486.056,75
Meat Poultry Fresh					
Import	139.358	153.592	178.650	243.316	178.729,00
Export	683.451	686.394	701.926	636.295	677.016,50
Differenz	-544.093	-532.802	-523.276	-392.979	-498.287,50
Cereals					
Import	4.905.796	6.677.522	7.759.754	7.690.505	6.758.394,25
Export	1.214.018	1.246.693	1.099.786	1.104.939	1.166.359,00
Differenz	3.691.778	5.430.829	6.659.968	6.585.566	5.592.035,25
Wheat					
Import	2.361.599	3.168.459	3.812.363	3.030.544	3.093.241,25
Export	184.841	174.621	242.176	230.308	207.986,50
Differenz	2.176.758	2.993.838	3.570.187	2.800.236	2.885.254,75
Rye					
Import	25.868	106.687	172.614	146.934	113.025,75
Export	3.593	6.015	9.801	12.833	8.060,50
Differenz	22.275	100.672	162.813	134.101	104.965,25
Barley					
Import	550.214	712.442	846.620	1.155.294	816.142,50
Export	135.528	262.822	148.587	166.087	178.256,00
Differenz	414.686	449.620	698.033	989.207	637.886,50
Oats					
Import	19.066	38.342	18.629	18.417	23.613,50
Export	4.736	5.949	2.915	10.896	6.124,00
Differenz	14.330	32.393	15.714	7.521	17.489,50
Triticale					
Import	31.814	112.068	180.787	291.523	154.048,00
Export	1.467	318	905	204	723,50
Differenz	30.347	111.750	179.882	291.319	153.324,50
Maize					
Import	1.306.064	1.915.731	2.054.254	1.996.582	1.818.157,75
Export	47.880	36.740	43.500	63.815	47.983,75
Differenz	1.258.184	1.878.991	2.010.754	1.932.767	1.770.174,00
Rapeseed					
Import	91.398	166.909	172.358	151.551	145.554,00
Export	8.532	145.623	6.278	43.548	50.995,25
Differenz	82.866	21.286	166.080	108.003	94.558,75
Sunflower					
Import	683.582	621.793	409.309	522.520	559.301,00
Export	57.618	21.251	42.057	38.853	39.944,75
Differenz	625.964	600.542	367.252	483.667	519.356,25
Sugar Total (Raw Equiv.)					
Import	89.213	64.591	65.946	94.458	78.552,00
Export	342.328	342.756	233.423	236.345	288.713,00
Differenz	-253.115	-278.165	-167.477	-141.887	-210.161,00
Soybeans					
Import	5.381.490	6.235.791	5.601.601	5.444.748	5.665.907,50
Export	969.244	1.431.073	1.775.366	1.557.160	1.433.210,75
Differenz	4.412.246	4.804.718	3.826.235	3.887.588	4.232.696,75

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.7: **The Netherlands:** Milk and meat production in t

Netherlands	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	10.872.660	11.293.929	11.012.592	10.922.310	10.995.000	11.174.000	11.155.000	10.970.000	10.677.000	10.934.000
Beef	603.000	580.000	580.100	564.700	534.700	507.600	471.000	372.000	384.000	409.000
Mutton and goat meat	17.200	16.026	18.143	15.495	17.200	18.600	18.630	18.300	17.250	18.060
Pork	1.673.300	1.622.100	1.624.000	1.375.600	1.725.000	1.710.700	1.622.800	1.432.000	1.377.000	1.477.267
Poultry meat	613.000	641.000	716.000	731.000	761.000	758.000	765.700	771.500	757.600	764.933

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 6.8: The Netherlands: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	28.134	7,339	206.474
Export(+)/Import(-) surplus in crop production			
- Cereals	-761.975	7,339	-5.592.035
- Rapeseed	-36.358	2,601	-94.559
- Sunflowers	0	0,000	-519.356
- Sugar beets	25.583	57,505	1.471.127 ¹⁾
Crop production balance	-772.751		-4.734.823

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-121.505
- Butter	1.322.215 ²⁾
- Cheese	3.150.515 ³⁾
Whole milk equivalent balance	4.351.226
Total milk production	10.934.000
the above as %	66,10

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	107.845
Total production	409.000
the above as %	35,81
- Pork	486.057
Total production	1.477.267
the above as %	49,04
- Poultry meat	498.288
Total production	764.933
the above as %	186,87

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 6.9: **The Netherlands:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	718.096	0,25		179.524		179.524
Calves						
male	101.453	0,3		30.436		30.436
female	528.926	0,19	100.496			100.496
Cattle 1 - 2 Years						
male	93.085	0,7		65.160		65.160
female	585.039	0,65	380.275			380.275
Cattle > 2 Years						
male	22.106	1,2		26.528		26.528
Beef heifers	15.136	1,2		18.163		18.163
other heifers	119.726	1,2	143.671			143.671
Dairy cows	1.545.109	1,2	1.854.130			1.854.130
other cows	82.990	1,2		99.588		99.588
Goats	245.000	0,1			24.500	24.500
Sheep	1.319.000	0,1			131.900	131.900
Total			2.478.572	419.399	156.400	3.054.371
Share %			81,15	13,73	5,12	100,00
Roughage area ha						1.215.064
thereof...			986.004	166.842	62.218	

F 6.10: **The Netherlands:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	28.134	1,45
Reduction of overproduction		
- Crop production	-772.751	-39,72
- Animal production		
- Milk	392.384	20,17
- Beef	43.993	2,26
- Pork	¹⁾ 248.364	12,77
- Poultry meat	²⁾ 122.215	6,28
Balance of potential area	³⁾ -308.240	
Agricultural land	1.945.333	
the above as %	-15,85	-15,85

1) 3,75 t cereals per t Pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 6.11: The Netherlands: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	15.864.000	16.864.000	17.492.000
- Change in % up to.....		6,3036	3,7239
Per capita consumption (grain equivalent)	1.087,8	1.072,2	1.072,2
- Change in % up to.....		-1,43	0,00
Consumption change in % up to		4,4268	3,238
Abs. agricultural land in ha	1.945.333		
- Land redesignation in % up to ¹⁾		2,137	2,137
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-3,4361	-9,6247
Balance of agricultural land			
- Basis available ha	1.945.333		
- Increase(+) reduction(-) due to redesignation in ha		41.573	41.573
- Increased(+) decreased(-) demand for food		86.116	62.993
- Release due to yield increase in ha (-)		-194.533	-291.800
- Release due to improved feed conversion in ha (-)		-42.839	-81.954
- Potential for biomass in ha per year.....	308.240	-109.683	-269.187
Accumulation of the above in ha		198.557	-70.630
- the above as % of the basis available agricultural land	-15,85	-10,21	3,63
- quantity equivalents of the above			
- Cereals ³⁾	-2.262.132	-1.602.902	596.093
- Straw	-1.809.706	-1.282.321	476.875

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 6.12: The Netherlands: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	1.477.267		
- Feedgrain consumption t ¹⁾	5.539.750	-276.988 ³⁾	-553.975 ³⁾
Land equivalent ha cereals	754.851	-37.743	-75.485
- Poultry meat t	764.933		
- Feed grain consumption t ²⁾	1.376.880	-68.844 ³⁾	-137.688 ³⁾
Land equivalent ha cereals	187.615	-9.381	-18.761
Total land equivalent ha	942.466	-47.123	-94.247

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 6.13: The Netherlands: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	866.305
Grassland for milk production	ha	702.992
Overproduction milk	%	66,10
Released grassland due to abandonment of overproduction	ha	279.758
Grassland for beef production	ha	118.953
Overproduction beef	%	35,81
Released grassland due to abandonment of overproduction	ha	31.365
Total grassland released	ha	311.124
the above as % of total grassland		35,91
the above as % of potential area for bioenergy sources		-100,94

F 6.14: **The Netherlands:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	41.573	41.573
Share of grassland of agricultural land	%	44,53	44,53
Redesignation of grassland	ha	18.514	18.514
Change to grassland due to change in consumption			
- Rate of change in population	%	6,3036	3,7239
- Rate of change in milk and beef consumption	%	-2,0000	0,0000
Total change	%	4,3036	3,7239
Grassland for milk and beef production	ha	821.945	821.945
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	35.373	30.608
Release due to yield increase(-)	ha	-86.630	-129.946
Total change in grassland	ha	-32.744	-80.824
Accumulated grassland potential for bioenergy sources	ha	343.867	424.691
the above as % of total grassland		39,69	49,02
the above as % of potential area		-173,18	601,29

F 6.15: The Netherlands: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Netherlands	obligatory set-aside 10 %					
wheat	127,70	1.022,88	135,84	1.201,90	143,22	1.399,84
rye	4,42	21,46	12,41	69,18	11,44	73,28
barley	53,72	313,90	61,26	395,45	67,24	479,40
oats	2,42	12,90	2,97	18,18	3,40	23,92
grain maize	20,18	176,10	27,51	284,12	27,91	341,21
pulses	3,68	15,33	4,28	17,83	4,15	17,31
rapeseed	1,40	2,91	0,44	1,01	0,66	1,67
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	22,11	0,00	22,99	0,00	23,61	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	111,56	6.349,35	85,57	4.870,42	81,44	4.635,03
potato	161,48	7.195,11	155,40	7.648,40	145,60	7.916,06
Total	508,66	15.109,95	508,66	14.506,49	508,66	14.887,72
Total in GE		4.593,88		4.735,66		5.079,77
Netherlands	without set-aside					
wheat	127,70	1.022,88	145,73	1.289,39	148,43	1.450,74
rye	4,42	21,46	14,30	79,72	14,49	92,82
barley	53,72	313,90	64,63	417,15	69,49	495,51
oats	2,42	12,90	3,42	20,98	3,97	27,98
grain maize	20,18	176,10	28,77	297,11	32,43	396,41
pulses	3,68	15,33	4,50	18,76	4,57	19,06
rapeseed	1,40	2,91	0,43	1,00	0,51	1,31
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	22,11	0,00	5,91	0,00	7,71	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	111,56	6.349,35	85,57	4.870,42	81,45	4.635,49
potato	161,48	7.195,11	155,40	7.648,40	145,60	7.916,06
Total	508,66	15.109,95	508,66	14.642,93	508,66	15.035,37
Total in GE		4.593,88		4.872,09		5.226,82
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 6.16: The Netherlands: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Netherlands	without set-aside, ethanol beets at 25 €/t possible					
wheat	127,70	1.022,88	110,97	981,85	107,72	1.052,87
rye	4,42	21,46	18,40	102,56	22,38	143,31
barley	53,72	313,90	55,26	356,69	60,64	432,36
oats	2,42	12,90	3,58	21,90	4,66	32,81
grain maize	20,18	176,10	34,28	354,03	43,51	531,97
pulses	3,68	15,33	9,48	39,55	9,43	39,33
rapeseed	1,40	2,91	0,09	0,21	0,21	0,53
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	22,11	0,00	2,62	0,00	3,58	0,00
ethanol beet	0,00	0,00	33,74	1.920,50	30,25	1.721,56
sugar beet	111,56	6.349,35	84,85	4.829,13	80,69	4.592,25
potato	161,48	7.195,11	155,40	7.648,40	145,60	7.916,06
Total	508,66	15.109,95	508,66	16.254,82	508,66	16.463,05
Total in GE		4.593,88		5.074,02		5.395,21
Netherlands	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	127,70	1.022,88	139,60	1.235,19	154,94	1.514,32
rye	4,42	21,46	13,80	76,90	17,90	114,64
barley	53,72	313,90	59,61	384,79	69,61	496,31
oats	2,42	12,90	3,16	19,36	4,60	32,36
grain maize	20,18	176,10	32,50	335,71	37,04	452,79
pulses	3,68	15,33	6,12	25,52	5,36	22,34
rapeseed	1,40	2,91	0,07	0,17	0,16	0,41
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	22,11	0,00	1,17	0,00	1,40	0,00
ethanol beet	0,00	0,00	26,86	1.528,73	18,88	1.074,61
sugar beet	111,56	6.349,35	70,37	4.004,92	53,19	3.027,27
potato	161,48	7.195,11	155,40	7.648,40	145,60	7.916,06
Total	508,66	15.109,95	508,66	15.259,71	508,66	14.651,09
Total in GE		4.593,88		4.990,86		5.242,12
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 7 Belgium/Luxembourg**F 7.1: Belgium/Luxembourg: Total land area and agricultural area**

in 1000 ha

Belgium/Luxembourg	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312	3.312
thereof													
Land Area	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282	3.282
thereof													
Agricultural Area	1.475	1.471	1.483	1.492	1.495	1.501	1.510	1.518	1.521	1.518	1.517	1.519	1.518
thereof													
Permanent Pasture	699	686	687	688	688	686	687	686	687	685	683	678	682
Permanent Crops	16	17	18	18	18	18	19	20	20	22	24	24	23
Arable Land	760	768	778	786	789	797	804	812	814	811	810	817	813
Arable & Permanent Crops	776	785	796	804	807	815	823	832	834	833	834	841	836
NonArable&NonPermanent	2.506	2.497	2.486	2.478	2.475	2.467	2.459	2.450	2.448	2.449	2.448	2.441	2.446
All other Land	1.098	1.102	1.090	1.081	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 7.2: **Belgium/Luxembourg:** Cultivation area of agricultural crops

Belgium/Luxembourg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	1.492.000	1.495.000	1.501.000	1.510.000	1.518.000	1.521.000	1.518.000	1.517.000	1.519.000		1.518.000
Cereals	322.923	318.535	310.909	316.305	346.100	301.276	341.469	314.636	339.842	329.074	331.255
Wheat	212.000	218.400	214.000	216.500	222.000	188.800	224.071	190.925	214.409	202.403	207.952
Rye	2.837	3.100	2.300	2.200	3.300	1.600	1.772	1.547	1.747	1.360	1.607
Barley	72.000	66.000	63.000	63.500	66.700	52.588	59.038	63.122	54.985	51.162	57.077
Oats	13.170	9.000	10.000	11.100	9.400	12.100	7.209	8.525	8.463	9.186	8.346
Triticale	11.300	12.300	12.000	11.600	13.400	7.700	12.235	8.666	11.610	10.991	10.876
Maize	7.316	6.235	6.109	6.405	26.300	33.488	36.055	41.076	47.726	53.061	44.480
Rapeseed	7.839	9.000	7.300	7.000	9.000	11.000	7.800	8.100	8.592	8.318	8.203
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	95.178	98.810	97.990	95.781	94.246	101.191	90.900	95.600	96.500	91.177	93.544
Forage land ¹⁾	:	:	:	903.740	889.663	898.201	891.366	898.693	879.423	877.726	886.802
Field forage ¹⁾	:	:	:	327.937	313.807	319.093	320.566	312.518	278.370	277.310	297.191
Green maize ¹⁾	162.904	166.262	186.926	195.275	181.441	189.207	177.135	194.010	180.857	182.731	183.683
Permanent grassland ¹⁾	474.914	562.387	579.810	575.803	575.856	579.108	570.800	586.175	601.053	600.416	589.611
Fallow land ¹⁾	27.247	23.925	18.288	15.404	16.309	25.286	26.036	27.762	29.298	31.687	28.696

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 7.3: **Belgium/Luxembourg:** Yields of agricultural crops

Yield in dt/ha											
Belgium/Luxembourg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	67,33	67,30	82,70	75,66	75,15	81,28	78,07	79,55	82,63	82,80	80,08
Wheat	73,29	70,12	89,18	79,34	82,52	80,96	78,05	79,16	81,46	84,44	79,56
Rye	46,72	34,86	48,12	47,20	21,61	24,82	47,42	49,79	58,79	55,86	52,00
Barley	56,41	63,62	72,20	69,48	56,15	73,70	65,54	66,90	71,75	63,76	68,06
Oats	48,78	54,38	48,57	51,06	33,66	40,33	52,87	49,03	54,61	58,25	52,17
Triticale	55,34	56,92	68,75	66,03	59,42	64,42	61,83	57,06	63,26	60,81	60,71
Maize	80,00	75,56	77,90	102,51	95,48	121,08	110,79	113,26	111,68	104,91	111,91
Rapeseed	29,19	28,89	36,99	37,14	32,22	35,46	28,94	33,56	35,87	35,23	32,79
Sunflower	:	:	:	:	:	:	:	:	:	:	0
Sugar beet	599,09	612,39	625,06	683,30	569,38	702,83	676,79	587,23	677,42	707,38	647,15
Forage land ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Green maize ¹⁾	452,17	411,40	403,67	456,01	451,05	467,06	443,93	437,71	448,03	448,98	443,22
Permanent grassland ¹⁾	74,87	:	:	:	:	:	:	:	:	:	0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 7.4: **Belgium/Luxembourg:** Production of agricultural crops

Production in t											
Belgium/Luxembourg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	2.174.310	2.143.882	2.571.285	2.393.193	2.600.994	2.448.882	2.665.930	2.502.899	2.808.088	2.724.857	2.658.972
Wheat	1.553.828	1.531.395	1.908.529	1.717.654	1.832.000	1.528.471	1.748.884	1.511.422	1.746.656	1.709.012	1.668.987
Rye	13.255	10.806	11.067	10.383	7.130	3.971	8.403	7.703	10.270	7.597	8.792
Barley	406.126	419.910	454.830	441.226	374.500	387.564	386.933	422.266	394.523	326.187	401.241
Oats	64.242	48.945	48.568	56.674	31.637	48.794	38.117	41.799	46.219	53.511	42.045
Triticale	62.531	70.014	82.502	76.600	79.627	49.600	75.643	49.445	73.444	66.832	66.177
Maize	58.528	47.112	47.589	65.656	251.100	405.482	399.440	465.231	533.017	556.645	465.896
Rapeseed	22.884	26.000	27.000	26.000	29.000	39.000	22.570	27.180	30.822	29.303	26.857
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	5.702.000	6.051.000	6.125.000	6.544.700	5.366.200	7.112.021	6.152.000	5.613.900	6.537.100	6.449.682	6.101.000
Green maize ¹⁾	7.366.069	6.839.981	7.545.692	8.904.673	8.183.825	8.837.100	7.863.470	8.492.058	8.102.982	8.204.272	8.152.837
Permanent grassland ¹⁾	3.555.673	:	:	:	:	:	:	1.750.261	1.876.386	1.498.390	1.813.324

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 7.5: **Belgium/Luxembourg: Livestock in 1,000 heads**

Belgium/Luxembourg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	3.364,84	3.362,54	3.280,01	3.183,63	3.186,20	3.173,18	3.200,70	3.106,07	2.948,31	2.868,92	3.031,00
under 1 year	987,93	985,71	951,11	917,50	919,09	904,35	890,48	853,00	793,77	765,31	825,64
beef calf	171,03	164,39	167,72	167,31	165,02	165,05	181,95	183,52	171,73	165,19	175,60
other calves	816,90	821,32	783,39	750,19	754,07	739,30	708,52	669,48	622,04	600,12	650,04
male	306,05	304,64	283,22	268,75	271,50	264,88	253,90	243,97	220,60	215,84	233,58
female	510,85	516,69	500,18	481,44	482,58	474,42	454,62	425,51	401,44	384,28	416,46
between 1 and 2 years	728,88	735,63	723,63	681,32	677,27	677,00	654,06	635,56	600,41	588,33	619,59
male	198,64	196,69	186,52	169,19	174,41	173,15	175,66	172,40	166,72	161,40	169,05
female	530,24	538,94	537,11	512,14	502,85	503,85	478,40	463,16	433,69	426,93	450,55
animals for slaughter	64,43	66,20	89,40	78,47	78,29	76,57	47,66	24,09	21,98	17,50	27,81
others	465,81	472,74	447,72	433,67	424,56	427,28	430,74	439,07	411,72	409,43	422,74
at least 2 years	1.648,03	1.641,20	1.605,27	1.584,81	1.589,84	1.591,83	1.656,16	1.617,52	1.554,13	1.515,28	1.585,77
male	46,23	44,96	43,71	40,56	42,75	42,20	50,17	49,21	47,60	47,03	48,50
female	1.601,80	1.596,24	1.561,57	1.544,25	1.547,09	1.549,64	1.606,00	1.568,31	1.506,54	1.468,25	1.537,27
Heifers	322,03	328,41	324,36	320,46	314,02	313,31	358,63	347,19	340,19	328,26	343,57
heifers for slaughter	92,39	93,92	88,58	83,61	83,57	81,06	71,72	46,69	50,88	45,66	53,74
other heifers	229,64	234,49	235,77	236,85	230,45	232,25	286,92	300,50	289,31	282,60	289,83
Cows	1.279,77	1.267,83	1.237,21	1.223,79	1.233,07	1.236,32	1.247,36	1.221,12	1.166,34	1.139,99	1.193,71
milk cows	768,72	731,55	697,64	687,80	679,66	664,53	673,00	655,31	633,08	613,37	643,69
other cows	511,05	536,28	539,57	535,99	553,41	571,80	574,37	565,82	533,26	526,62	550,02
Pigs	7.051,93	7.226,06	7.193,72	7.425,54	7.632,05	7.403,86	7.348,77	6.851,44	6.676,64	6.442,14	6.829,75
piglets, live weight < 20 kg	1.857,90	1.920,40	1.946,05	2.032,02	2.099,57	2.009,26	2.039,89	1.774,67	1.810,06	1.632,80	1.814,35
Pigs, live weight from 20 to < 50 kg	1.720,62	1.778,44	1.775,26	1.796,25	1.868,07	1.792,73	1.712,91	1.438,40	1.383,66	1.338,76	1.468,43
Fattening pigs from 50 kg and more ¹⁾	2.715,01	2.765,32	2.713,46	2.817,00	2.885,14	2.859,51	2.859,99	2.945,86	2.795,45	2.834,74	2.859,01
Fattening pigs from 50 to < 80 kg	1.576,52	1.583,51	1.561,09	1.589,65	1.600,37	1.626,38	1.543,94	1.599,27	1.539,79	1.516,16	1.549,79
Fattening pigs from 80 to < 110 kg	1.082,24	1.130,28	1.082,10	1.169,31	1.197,93	1.151,09	1.258,38	1.256,70	1.172,79	1.202,80	1.222,67
Fattening pigs from at least 110 kg	56,25	51,53	70,28	58,05	86,84	82,04	57,66	89,89	82,87	115,78	86,55
breeding pigs, Lebend-live weight of 50 kg and more	758,41	761,90	758,94	780,27	779,26	742,36	735,99	692,51	687,46	635,84	687,95
boars	17,52	17,17	16,91	16,70	15,18	13,80	12,99	11,60	11,93	10,42	11,74
sows in total	740,89	744,73	742,04	763,57	764,08	728,56	722,99	680,91	675,53	625,42	676,21
Goats	8,91	8,91	11,33	11,19	12,72	13,47	16,93	22,99	26,84	2,40	17,29
Sheep	125,00	125,00	119,58	121,02	123,30	126,55	167,48	160,45	154,90	7,44	122,57
Laying hens	12.337,45	12.491,62	12.361,42	13.694,13	14.313,01	14.273,94	12.501,17	13.006,14	12.214,00	11.822,94	12.386,06

¹⁾ including retired boars and sows, : no data

Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

: no data

F 7.6: **Belgium/Luxembourg: Imports and Exports in t**

Belgium/Luxembourg	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	876.066	931.057	1.028.052	1.026.773	965.487,00
Export	921.380	964.253	960.521	891.361	934.378,75
Differenz	-45.314	-33.196	67.531	135.412	31.108,25
Butter of Cow Milk					
Import	113.029	102.107	90.086	99.962	101.296,00
Export	119.688	108.960	118.008	130.347	119.250,75
Differenz	-6.659	-6.853	-27.922	-30.385	-17.954,75
Cheese (Skim Cow Milk)					
Import	28	92	58	49	56,75
Export	2	0	0	8	2,50
Differenz	26	92	58	41	54,25
Cheese (Whole Cow Milk)					
Import	214.824	231.646	246.928	261.186	238.646,00
Export	129.271	143.121	139.121	147.205	139.679,50
Differenz	85.553	88.525	107.807	113.981	98.966,50
Meat Bovine Fresh					
Import	33.929	31.077	36.293	45.851	36.787,50
Export	102.087	96.996	124.672	112.872	109.156,75
Differenz	-68.158	-65.919	-88.379	-67.021	-72.369,25
Meat of Swine					
Import	49.868	59.295	66.761	52.381	57.076,25
Export	518.382	547.258	558.976	540.803	541.354,75
Differenz	-468.514	-487.963	-492.215	-488.422	-484.278,50
Meat Poultry Fresh					
Import	107.945	126.964	127.583	131.234	123.431,50
Export	299.927	298.062	315.527	304.852	304.592,00
Differenz	-191.982	-171.098	-187.944	-173.618	-181.160,50
Cereals					
Import	6.021.668	5.788.552	6.217.818	6.272.743	6.075.195,25
Export	2.827.038	1.925.501	2.364.485	2.518.119	2.408.785,75
Differenz	3.194.630	3.863.051	3.853.333	3.754.624	3.666.409,50
Wheat					
Import	3.625.695	3.237.740	3.590.136	3.545.086	3.499.664,25
Export	1.097.155	515.693	514.210	703.645	707.675,75
Differenz	2.528.540	2.722.047	3.075.926	2.841.441	2.791.988,50
Rye					
Import	9.582	15.591	31.580	53.638	27.597,75
Export	432	495	238	1.450	653,75
Differenz	9.150	15.096	31.342	52.188	26.944,00
Barley					
Import	1.220.812	1.322.127	1.222.615	1.221.408	1.246.740,50
Export	363.138	97.104	203.993	220.541	221.194,00
Differenz	857.674	1.225.023	1.018.622	1.000.867	1.025.546,50
Oats					
Import	43.704	40.021	37.743	49.154	42.655,50
Export	2.397	4.599	2.316	4.223	3.383,75
Differenz	41.307	35.422	35.427	44.931	39.271,75
Triticale					
Import	1.617	15.800	6.780	3.870	7.016,75
Export	1.130	2.134	1.452	2.435	1.787,75
Differenz	487	13.666	5.328	1.435	5.229,00
Maize					
Import	513.340	546.696	684.104	773.012	629.288,00
Export	45.818	72.620	118.298	204.929	110.416,25
Differenz	467.522	474.076	565.806	568.083	518.871,75
Rapeseed					
Import	792.261	711.786	516.228	479.929	625.051,00
Export	10.029	45.419	37.296	62.243	38.746,75
Differenz	782.232	666.367	478.932	417.686	586.304,25
Sunflower					
Import	188.477	133.650	18.121	55.449	98.924,25
Export	2.979	57.542	20.681	20.512	25.428,50
Differenz	185.498	76.108	-2.560	34.937	73.495,75
Sugar Total (Raw Equiv.)					
Import	570.406	1.228.665	991.050	826.442	904.140,75
Export	1.622.196	1.389.242	1.211.642	1.284.612	1.376.923,00
Differenz	-1.051.790	-160.577	-220.592	-458.170	-472.782,25
Soybeans					
Import	1.134.143	1.398.165	1.754.348	1.528.217	1.453.718,25
Export	97.190	82.387	66.011	63.594	77.295,50
Differenz	1.036.953	1.315.778	1.688.337	1.464.623	1.376.422,75

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 7.7: **Belgium/Luxembourg:** Milk and meat production in t

Belgium/ Luxembourg	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	3.605.440	3.643.920	3.681.200	3.476.882	3.682.279	3.649.000	0	0	0	0
Beef	355.264	356.628	361.512	339.600	303.400	281.200	0	0	0	0
Mutton and goat meat	5.390	4.878	4.733	4.300	4.158	4.500	0	0	0	0
Pork	1.019.320	1.043.010	1.069.800	1.033.050	1.085.200	1.004.700	0	0	0	0
Poultry meat	271.949	315.412	337.765	336.828	375.217	368.887	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 7.8: Belgium/Luxembourg: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	28.696	8,008	229.806
Export(+)/Import(-) surplus in crop production			
- Cereals	-457.823	8,008	-3.666.410
- Rapeseed	-178.816	3,279	-586.304
- Sunflowers	0	0,000	-73.496
- Sugar beets	0	64,715	3.309.476 ¹⁾
Crop production balance	-636.639		-1.016.734

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-31.108
- Butter	359.095 ²⁾
- Cheese	-989.665 ³⁾
Whole milk equivalent balance	-661.678
Total milk production	3.602.720
the above as %	-15,52

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	72.369
Total production	308.067
the above as %	30,70
- Pork	484.279
Total production	1.040.983
the above as %	86,99
- Poultry meat	181.161
Total production	360.311
the above as %	101,12

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 7.9: Belgium/Luxembourg: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	175.597	0,25		43.899		43.899
Calves						
male	233.578	0,3		70.073		70.073
female	416.462	0,19	79.128			79.128
Cattle 1 - 2 Years						
male	169.046	0,7		118.332		118.332
female	450.546	0,65	292.855			292.855
Cattle > 2 Years						
male	48.501	1,2		58.201		58.201
Beef heifers	53.736	1,2		64.483		64.483
other heifers	289.832	1,2	347.798			347.798
Dairy cows	643.689	1,2	772.427			772.427
other cows	550.016	1,2		660.019		660.019
Goats	17.289	0,1			1.729	1.729
Sheep	122.570	0,1			12.257	12.257
Total			1.492.208	1.015.007	13.986	2.521.201
Share %			59,19	40,26	0,55	100,00
Roughage area ha thereof...			524.866	357.016	4.919	886.802

F 7.10: Belgium/Luxembourg: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	28.696	1,89
Reduction of overproduction		
- Crop production	-636.639	-41,94
- Animal production		
- Milk	-96.397	-6,35
- Beef	83.868	5,52
- Pork	¹⁾ 226.769	14,94
- Poultry meat	²⁾ 40.719	2,68
Balance of potential area	³⁾ -620.472	
Agricultural land	1.518.000	
the above as %	-40,87	-40,87

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 7.11: Belgium/Luxembourg: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	10.675.000	10.969.000	11.212.000
- Change in % up to.....		2,7541	2,2153
Per capita consumption (grain equivalent)	1.203,1	1.220,3	1.220,3
- Change in % up to.....		1,43	0,00
Consumption change in % up to		3,5032	1,855
Abs. agricultural land in ha	1.518.000		
- Land redesignation in % up to ¹⁾		-3,146	-3,146
Yield increase in % up to ²⁾		-19,43	-19,43
Balance of all changes in % up to.....		-19,0695	-20,7178
Balance of agricultural land			
- Basis available ha	1.518.000		
- Increase(+) reduction(-) due to redesignation in ha		-47.762	-47.762
- Increased(+) decreased(-) demand for food		53.179	28.159
- Release due to yield increase in ha (-)		-294.892	-294.892
- Release due to improved feed conversion in ha (-)		-23.799	-47.597
- Potential for biomass in ha per year.....	620.472	-313.274	-362.093
Accumulation of the above in ha		307.198	-54.895
- the above as % of the basis available agricultural land	-40,87	-20,24	3,62
- quantity equivalents of the above			
- Cereals ³⁾	-4.968.963	-2.938.069	525.018
- Straw	-3.975.171	-2.350.456	420.014

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 7.12 : Belgium/Luxembourg: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	1.040.983		
- Feedgrain consumption t ¹⁾	3.903.688	-195.184 ³⁾	-390.369 ³⁾
Land equivalent ha cereals	487.452	-24.373	-48.745
- Poultry meat t	360.311		
- Feed grain consumption t ²⁾	648.559	-32.428 ³⁾	-64.856 ³⁾
Land equivalent ha cereals	80.985	-4.049	-8.099
Total land equivalent ha	568.437	-28.422	-56.844

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 7.13: Belgium/Luxembourg: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	589.611
Grassland for milk production	ha	348.970
Overproduction milk	%	-15,52
Released grassland due to abandonment of overproduction	ha	-64.092
Grassland for beef production	ha	237.371
Overproduction beef	%	30,70
Released grassland due to abandonment of overproduction	ha	55.762
Total grassland released	ha	-8.330
the above as % of total grassland		-1,41
the above as % of potential area for bioenergy sources		1,34

F 7.14: **Belgium/Luxembourg:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	-47.762	-47.762
Share of grassland of agricultural land	%	38,84	38,84
Redesignation of grassland	ha	-18.551	-18.551
Change to grassland due to change in consumption			
- Rate of change in population	%	2,7541	2,2153
- Rate of change in milk and beef consumption	%	-0,4000	0,0000
Total change	%	2,3541	2,2153
Grassland for milk and beef production	ha	586.340	586.340
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	13.803	12.989
Release due to yield increase(-)	ha	-114.540	-114.540
Total change in grassland	ha	-119.288	-120.102
Accumulated grassland potential for bioenergy sources	ha	110.958	231.060
the above as % of total grassland		18,82	39,19
the above as % of potential area		-36,12	420,92

F 7.15.1 Belgium/Luxembourg: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Belgium	obligatory set-aside 10 %					
wheat	198,87	1.606,70	170,20	1.611,68	192,22	2.133,27
rye	0,86	3,50	1,68	8,17	1,51	8,81
barley	48,47	348,27	97,78	831,64	91,35	919,55
oats	6,20	32,97	5,20	33,04	5,42	41,15
grain maize	41,27	463,00	55,16	784,48	57,64	1.039,30
pulses	1,60	6,23	0,80	3,46	0,77	3,66
rapeseed	5,00	16,97	1,82	6,76	1,29	5,23
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	16,14	0,00	16,93	0,00	17,76	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	94,33	6.101,00	72,03	4.897,03	61,55	4.398,62
potato	63,23	2.798,40	54,36	2.875,36	46,46	2.937,48
Total	475,97	11.377,03	475,97	11.051,63	475,97	11.487,07
Total in GE		4.574,44		5.083,30		5.841,79
Belgium	without set-aside					
wheat	198,87	1.606,70	171,96	1.628,30	194,89	2.162,92
rye	0,86	3,50	1,84	8,96	1,68	9,78
barley	48,47	348,27	108,90	926,24	102,14	1.028,21
oats	6,20	32,97	5,59	35,54	5,83	44,28
grain maize	41,27	463,00	58,34	829,78	61,07	1.101,14
pulses	1,60	6,23	0,76	3,27	0,77	3,65
rapeseed	5,00	16,97	2,07	7,70	1,38	5,59
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	16,14	0,00	0,11	0,00	0,20	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	94,33	6.101,00	72,03	4.897,03	61,55	4.398,62
potato	63,23	2.798,40	54,36	2.875,36	46,46	2.937,48
Total	475,97	11.377,03	475,97	11.212,18	475,97	11.691,67
Total in GE		4.574,44		5.244,51		6.046,63
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 7.15.2 Belgium/Luxembourg: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Luxembourg	obligatory set-aside 10 %					
wheat	10,94	62,29	15,50	103,48	15,60	122,06
rye	0,83	5,29	0,92	7,02	0,93	8,43
barley	10,58	52,97	5,72	33,88	6,04	42,36
oats	1,87	9,08	2,54	14,75	2,66	18,51
grain maize	0,35	2,90	0,91	9,53	1,03	13,65
pulses	0,67	2,24	0,18	0,67	0,17	0,69
rapeseed	3,16	9,89	2,75	9,41	2,19	8,18
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	1,43	0,00	1,41	0,00	1,40	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	0,00	0,00	0,00	0,00	0,00	0,00
potato	0,75	22,10	0,64	22,71	0,55	23,20
Total	30,57	166,76	30,57	201,45	30,57	237,08
Total in GE		156,01		189,87		224,24
Luxembourg	without set-aside					
wheat	10,94	62,29	15,56	103,86	15,69	122,78
rye	0,83	5,29	0,90	6,83	0,90	8,20
barley	10,58	52,97	5,55	32,90	5,87	41,13
oats	1,87	9,08	2,59	15,06	2,71	18,85
grain maize	0,35	2,90	1,03	10,78	1,16	15,27
pulses	0,67	2,24	0,13	0,49	0,12	0,49
rapeseed	3,16	9,89	2,83	9,68	2,25	8,41
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	1,43	0,00	1,33	0,00	1,33	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	0,00	0,00	0,00	0,00	0,00	0,00
potato	0,75	22,10	0,64	22,71	0,55	23,20
Total	30,57	166,76	30,57	202,33	30,57	238,34
Total in GE		156,01		190,94		225,67
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 7.16.1 Belgium/Luxembourg: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Belgium	without set-aside, ethanol beets at 25 €/t possible					
wheat	198,87	1.606,70	146,03	1.382,81	149,97	1.664,35
rye	0,86	3,50	1,99	9,70	1,96	11,44
barley	48,47	348,27	63,91	543,57	73,99	744,83
oats	6,20	32,97	4,13	26,22	4,39	33,38
grain maize	41,27	463,00	51,49	732,31	57,49	1.036,60
pulses	1,60	6,23	1,15	4,94	1,16	5,51
rapeseed	5,00	16,97	1,92	7,13	1,65	6,69
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	16,14	0,00	0,09	0,00	0,10	0,00
ethanol beet	0,00	0,00	79,14	5.379,80	77,69	5.551,67
sugar beet	94,33	6.101,00	71,76	4.878,72	61,10	4.366,23
potato	63,23	2.798,40	54,36	2.875,36	46,46	2.937,48
Total	475,97	11.377,03	475,97	15.840,56	475,97	16.358,18
Total in GE		4.574,44		5.851,37		6.574,45
Belgium	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	198,87	1.606,70	161,70	1.531,14	174,20	1.933,33
rye	0,86	3,50	1,78	8,67	1,90	11,05
barley	48,47	348,27	74,79	636,10	91,47	920,78
oats	6,20	32,97	4,06	25,79	4,23	32,15
grain maize	41,27	463,00	56,98	810,37	67,47	1.216,49
pulses	1,60	6,23	0,54	2,32	0,46	2,19
rapeseed	5,00	16,97	1,02	3,79	0,77	3,12
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	16,14	0,00	0,04	0,00	0,05	0,00
ethanol beet	0,00	0,00	64,90	4.412,26	52,27	3.735,20
sugar beet	94,33	6.101,00	55,81	3.793,92	36,69	2.621,74
potato	63,23	2.798,40	54,36	2.875,36	46,46	2.937,48
Total	475,97	11.377,03	475,97	14.099,72	475,97	13.413,54
Total in GE		4.574,44		5.647,45		6.298,04
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 7.16.2 Belgium/Luxembourg: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Luxembourg	without set-aside, ethanol beets at 25 €/t possible					
wheat	10,94	62,29	16,28	108,70	16,42	128,46
rye	0,83	5,29	0,94	7,15	0,94	8,58
barley	10,58	52,97	5,81	34,44	6,14	43,04
oats	1,87	9,08	2,71	15,76	2,84	19,72
grain maize	0,35	2,90	1,08	11,29	1,21	15,98
pulses	0,67	2,24	0,14	0,51	0,12	0,51
rapeseed	3,16	9,89	2,96	10,13	2,35	8,80
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	1,43	0,00	0,00	0,00	0,00	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	0,00	0,00	0,00	0,00	0,00	0,00
potato	0,75	22,10	0,64	22,71	0,55	23,20
Total	30,57	166,76	30,57	210,70	30,57	248,29
Total in GE		156,01		199,62		235,89
Luxembourg	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	10,94	62,29	17,74	118,41	17,54	137,22
rye	0,83	5,29	1,04	7,95	1,07	9,71
barley	10,58	52,97	6,46	38,30	6,77	47,45
oats	1,87	9,08	2,76	16,03	2,88	20,00
grain maize	0,35	2,90	1,14	11,85	1,24	16,43
pulses	0,67	2,24	0,07	0,24	0,06	0,24
rapeseed	3,16	9,89	0,73	2,48	0,47	1,76
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	1,43	0,00	0,00	0,00	0,00	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	0,00	0,00	0,00	0,00	0,00	0,00
potato	0,75	22,10	0,64	22,71	0,55	23,20
Total	30,57	166,76	30,57	217,97	30,57	256,02
Total in GE		156,01		201,54		238,69
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 8 Greece**F 8.1: Greece: Total land area and agricultural area**

in 1000 ha

Greece	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196	13.196
thereof													
Land Area	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890	12.890
thereof													
Agricultural Area	9.164	9.167	9.160	9.170	9.164	9.172	8.985	8.782	8.670	8.529	8.502	8.446	8.492
thereof													
Permanent Pasture	5.220	5.225	5.240	5.250	5.260	5.273	5.100	4.900	4.800	4.675	4.650	4.600	4.642
Permanent Crops	1.077	1.078	1.081	1.084	1.083	1.089	1.096	1.098	1.108	1.113	1.132	1.129	1.125
Arable Land	2.867	2.864	2.839	2.836	2.821	2.810	2.789	2.784	2.762	2.741	2.720	2.717	2.726
Arable & Permanent Crops	3.944	3.942	3.920	3.920	3.904	3.899	3.885	3.882	3.870	3.854	3.852	3.846	3.851
NonArable&NonPermanent	8.946	8.948	8.970	8.970	8.986	8.991	9.005	9.008	9.020	9.036	9.038	9.044	9.039
All other Land	1.106	1.103	1.110	1.100	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 8.2: Greece: Cultivation area of agricultural crops

Cultivated land in ha											
Greece	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	9.170.000	9.164.000	9.172.000	8.985.000	8.782.000	8.670.000	8.529.000	8.502.000	8.446.000		8.492.333
Cereals	1.364.135	1.307.144	1.323.598	1.307.329	1.295.874	1.259.286	1.278.931	1.285.340	1.295.807	1.282.500	1.285.645
Wheat	902.000	878.800	864.854	859.813	855.422	837.953	859.780	869.130	876.389	851.300	864.150
Rye	18.882	17.533	18.077	16.895	16.029	14.962	14.735	15.007	15.029	15.300	15.018
Barley	163.331	156.300	154.447	146.256	139.198	128.600	122.131	120.779	115.003	100.300	114.553
Oats	43.792	44.288	42.711	42.438	43.739	44.000	45.783	47.867	45.072	42.200	45.231
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	211.512	182.487	213.000	210.645	213.938	209.800	215.000	210.296	220.301	249.800	223.849
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	21.426	22.788	23.261	26.886	31.336	34.600	24.780	17.457	17.076	8.000	16.828
Sugar beet	42.352	40.086	39.236	49.228	41.019	42.100	47.465	44.161	43.406	39.000	43.508
Forage land ¹⁾					301.100	297.000	300.000				300.000
Field forage ¹⁾							299.000	300.300	301.000	304.700	301.250
Green maize ¹⁾	0.000	3.200	4.500	6.100	6.700	7.400	5.000	7.400	7.100	5.700	6.300
Permanent grassland ¹⁾	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000	1.789.000
Fallow land ¹⁾	475.900	445.517	461.800	445.500	450.500	428.170	546.400	418.440	:	449.100	471.313

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 8.3: Greece: Yields of agricultural crops

Greece	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	38,64	37,51	35,38	35,99	33,64	36,69	37,48	38,36	37,03	33,42	37,62
Wheat	27,38	26,34	21,77	23,15	21,98	24,63	25,39	25,17	23,69	19,17	24,75
Rye	20,75	22,00	19,31	21,31	25,36	23,93	21,71	25,28	21,58	17,19	22,86
Barley	25,47	26,33	23,05	23,79	23,42	24,88	24,80	22,86	23,75	18,50	23,80
Oats	18,73	18,88	18,76	20,74	19,06	19,52	18,87	17,44	18,25	14,01	18,19
Triticale	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Maize	97,91	100,76	99,06	96,15	84,91	92,94	94,77	104,24	98,16	88,30	99,06
Rapeseed	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sunflower	13,60	14,50	13,43	13,39	12,90	16,04	14,10	13,07	13,47	17,50	13,55
Sugar beet	605,40	632,90	566,79	568,34	535,12	567,40	639,05	654,51	624,94	564,10	639,50
Forage land ¹⁾											
Field forage ¹⁾											
Green maize ¹⁾	:	218,75	397,78	383,61	373,13	350,00					

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 8.4: Greece: Production of agricultural crops

Production in t											
Greece	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	5.271.584	4.902.743	4.683.250	4.705.177	4.358.614	4.620.218	4.792.820	4.930.461	4.797.931	4.286.200	4.840.404
Wheat	2.470.000	2.314.838	1.882.488	1.990.803	1.880.000	2.063.990	2.183.360	2.187.657	2.075.859	1.631.700	2.148.959
Rye	39.184	38.571	34.900	36.000	40.644	35.802	31.993	37.942	32.425	26.300	34.120
Barley	416.000	411.500	356.000	348.000	326.000	320.000	302.924	276.070	273.125	185.500	284.040
Oats	82.000	83.602	80.130	88.000	83.354	85.871	86.375	83.470	82.272	59.100	84.039
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	2.071.000	1.838.779	2.110.000	2.025.281	1.816.441	1.949.920	2.037.500	2.192.130	2.162.568	2.205.700	2.130.733
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	29.143	33.049	31.234	36.000	40.413	55.500	34.950	22.808	23.000	14.000	26.919
Sugar beet	2.564.000	2.537.054	2.223.866	2.797.807	2.195.000	2.388.750	3.033.244	2.890.362	2.712.593	2.200.000	2.878.733
Green maize ¹⁾	0.000	70.000	179.000	234.000	250.000	259.000					

¹⁾ Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 8.5: Greece: Livestock in 1,000 heads

Greece	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	520,18	550,00	593,00	597,00	579,00	652,00	568,00	559,00	613,00	651,00	597,75
under 1 year	151,80	160,00	168,00	172,00	155,00	201,00	164,00	144,00	185,00	195,00	172,00
beef calf	48,23	51,00	60,00	58,00	38,00	159,00	116,00	106,00	134,00	149,00	126,25
other calves	103,57	109,00	108,00	114,00	117,00	42,00	48,00	38,00	51,00	46,00	45,75
male	51,87	55,00	57,00	57,00	62,00	8,00	8,00	5,00	7,00	5,00	6,25
female	51,70	54,00	51,00	57,00	55,00	34,00	40,00	33,00	44,00	41,00	39,50
between 1 and 2 years	83,91	89,00	104,00	104,00	95,00	116,00	90,00	84,00	102,00	116,00	98,00
male	42,78	45,00	59,00	57,00	54,00	67,00	50,00	38,00	48,00	61,00	49,25
female	41,13	44,00	45,00	47,00	41,00	49,00	40,00	46,00	54,00	55,00	48,75
animals for slaughter	6,48	7,00	11,00	7,00	6,00	12,00	8,00	9,00	12,00	14,00	10,75
others	34,65	37,00	34,00	40,00	35,00	37,00	32,00	37,00	42,00	41,00	38,00
at least 2 years	284,47	301,00	321,00	320,00	327,00	335,00	312,00	331,00	326,00	340,00	327,25
male	3,65	4,00	8,00	6,00	10,00	16,00	12,00	13,00	13,00	14,00	13,00
female	280,82	297,00	313,00	314,00	317,00	319,00	300,00	318,00	313,00	326,00	314,25
Heifers	15,10	16,00	15,00	12,00	14,00	54,00	24,00	30,00	27,00	42,00	30,75
heifers for slaughter	1,00	1,00	1,00	1,00	1,00	8,00	3,00	3,00	4,00	8,00	4,50
other heifers	14,10	15,00	14,00	11,00	13,00	46,00	21,00	27,00	23,00	34,00	26,25
Cows	265,72	281,00	298,00	302,00	303,00	265,00	276,00	288,00	286,00	284,00	283,50
milk cows	174,72	185,00	184,00	184,00	172,00	154,00	180,00	172,00	152,00	149,00	163,25
other cows	91,00	96,00	114,00	118,00	131,00	111,00	96,00	116,00	134,00	135,00	120,25
Pigs	951,00	917,00	904,00	939,00	905,00	969,00	936,00	861,00	1.027,00	993,00	954,25
piglets, live weight < 20 kg	281,00	272,00	269,00	273,00	238,00	264,00	251,00	220,00	294,00	266,00	257,75
Pigs, live weight from 20 to < 50 kg	221,00	225,00	201,00	197,00	210,00	225,00	207,00	183,00	239,00	242,00	217,75
Fattening pigs from 50 kg and more ⁾	282,00	282,00	289,00	327,00	325,00	341,00	283,00	311,00	330,00	334,00	314,50
Fattening pigs from 50 to < 80 kg	183,00	182,00	187,00	205,00	191,00	196,00	166,00	171,00	202,00	186,00	181,25
Fattening pigs from 80 to < 110 kg	90,00	91,00	91,00	113,00	122,00	120,00	103,00	121,00	111,00	122,00	114,25
Fattening pigs from at least 110 kg	9,00	9,00	10,00	8,00	12,00	25,00	15,00	19,00	17,00	25,00	19,00
breeding pigs, Lebend-live weight of 50 kg and more	167,00	138,00	146,00	142,00	131,00	138,00	194,00	147,00	164,00	153,00	164,50
boars	11,00	9,00	11,00	9,00	8,00	9,00	12,00	11,00	13,00	12,00	12,00
sows in total	156,00	129,00	135,00	133,00	123,00	129,00	182,00	136,00	151,00	141,00	152,50
Goats	5.555,50	5.847,00	5.668,00	5.878,00	5.376,00	5.317,00	5.180,00	5.450,00	5.468,00	5.117,00	5.303,75
Sheep	9.232,00	9.606,00	9.244,00	9.516,00	8.823,00	8.732,00	9.269,00	9.060,00	8.858,00	9.326,00	9.128,25
Laying hens	15.473,00	15.742,00	14.681,00	:	14.556,00	14.469,00	14.805,00	15.220,00	14.722,00	:	14.915,67

⁾ including retired boars and sows, : no data

Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

: no data

F 8.6: Greece: Imports and Exports in t

Greece	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	102.210	86.210	99.850	129.686	104.489,00
Export	438	200	109	290	259,25
Differenz	101.772	86.010	99.741	129.396	104.229,75
Butter of Cow Milk					
Import	5.035	5.543	22.292	8.925	10.448,75
Export	23	13	9	27	18,00
Differenz	5.012	5.530	22.283	8.898	10.430,75
Cheese (Skim Cow Milk)					
Import	7	1	2	5	3,75
Export	8	5	38	2	13,25
Differenz	-1	-4	-36	3	-9,50
Cheese (Whole Cow Milk)					
Import	73.362	61.567	68.428	93.650	74.251,75
Export	5.426	5.126	3.737	6.359	5.162,00
Differenz	67.936	56.441	64.691	87.291	69.089,75
Meat Bovine Fresh					
Import	406.016	123.658	116.672	113.014	189.840,00
Export	4.330	555	775	827	1.621,75
Differenz	401.686	123.103	115.897	112.187	188.218,25
Meat of Swine					
Import	215.566	283.121	162.159	161.474	205.580,00
Export	1.264	1.092	887	460	925,75
Differenz	214.302	282.029	161.272	161.014	204.654,25
Meat Poultry Fresh					
Import	43.750	71.439	47.242	75.835	59.566,50
Export	5.602	4.831	2.748	3.801	4.245,50
Differenz	38.148	66.608	44.494	72.034	55.321,00
Cereals					
Import	1.163.784	1.519.279	2.246.199	1.827.176	1.689.109,50
Export	281.700	503.884	711.628	293.382	447.648,50
Differenz	882.084	1.015.395	1.534.571	1.533.794	1.241.461,00
Wheat					
Import	536.923	745.019	1.321.124	1.083.802	921.717,00
Export	119.249	351.392	468.544	190.721	282.476,50
Differenz	417.674	393.627	852.580	893.081	639.240,50
Rye					
Import	1.169	624	33.454	4.282	9.882,25
Export	0	0	33.441	0	8.360,25
Differenz	1.169	624	13	4.282	1.522,00
Barley					
Import	144.100	197.600	280.938	290.920	228.389,50
Export	62	19	36.739	0	9.205,00
Differenz	144.038	197.581	244.199	290.920	219.184,50
Oats					
Import	11.240	24.542	16.319	16.206	17.076,75
Export	5	0	0	0	1,25
Differenz	11.235	24.542	16.319	16.206	17.075,50
Triticale					
Import	3	9	2	1	3,75
Export	0	0	0	0	0,00
Differenz	3	9	2	1	3,75
Maize					
Import	448.329	528.090	567.480	406.422	487.580,25
Export	9.828	19.299	59.927	35.758	31.203,00
Differenz	438.501	508.791	507.553	370.664	456.377,25
Rapeseed					
Import	143	21	39	175	94,50
Export	0	0	0	0	0,00
Differenz	143	21	39	175	94,50
Sunflower					
Import	73.910	58.407	28.251	42.887	50.863,75
Export	103	763	789	2.273	982,00
Differenz	73.807	57.644	27.462	40.614	49.881,75
Sugar Total (Raw Equiv.)					
Import	74.912	3.027	2.606	14.813	23.839,50
Export	4.245	25.569	19.089	35.653	21.139,00
Differenz	70.667	-22.542	-16.483	-20.840	2.700,50
Soybeans					
Import	243.943	375.635	334.912	391.330	336.455,00
Export	2	1.500	1.148	19	667,25
Differenz	243.941	374.135	333.764	391.311	335.787,75

F 8.7: **Greece:** Milk and meat production in t

Greece	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.933.541	1.971.299	1.976.581	1.981.751	1.994.033	1.993.110	2.012.089	2.032.304	1.990.583	2.011.659
Beef	70.865	72.262	70.989	72.427	73.134	66.605	63.300	59.900	62.000	61.733
Mutton and goat meat	141.707	143.454	145.191	143.323	144.588	145.186	125.000	122.200	126.100	124.433
Pork	136.818	136.886	135.510	133.496	134.356	138.300	141.400	136.600	139.400	139.133
Poultry meat	148.751	163.415	153.638	157.604	148.083	153.373	154.173	154.373	155.373	154.640

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 8.8: Greece: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	471.313	3,762	1.773.096
Export(+)/Import(-) surplus in crop production			
- Cereals	-329.997	3,762	-1.241.461
- Rapeseed	0	0,000	-95
- Sunflowers	-36.824	1,355	-49.882
- Sugar beets	-296	63,950	-18.904 ¹⁾
Crop production balance	-367.117		-1.310.341

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-104.230
- Butter ²⁾	-208.615
- Cheese ³⁾	-690.898
Whole milk equivalent balance	-1.003.742
Total milk production	2.011.659
the above as %	-33,29

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-188.218
Total production	61.733
the above as %	-75,30
- Pork	-204.654
Total production	139.133
the above as %	-59,53
- Poultry meat	-55.321
Total production	154.640
the above as %	-26,35

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 8.9: Greece: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	126.250	0,25		31.563		31.563
Calves						
male	6.250	0,3		1.875		1.875
female	39.500	0,19	7.505			7.505
Cattle 1 - 2 Years						
male	49.250	0,7		34.475		34.475
female	48.750	0,65	31.688			31.688
Cattle > 2 Years						
male	13.000	1,2		15.600		15.600
Beef heifers	4.500	1,2		5.400		5.400
other heifers	26.250	1,2	31.500			31.500
Dairy cows	163.250	1,2	195.900			195.900
other cows	120.250	1,2		144.300		144.300
Goats	5.303.750	0,1			530.375	530.375
Sheep	9.128.250	0,1			912.825	912.825
Total			266.593	233.213	1.443.200	1.943.005
Share %			13,72	12,00	74,28	100,00
Roughage area ha						300.000
thereof...			41.162	36.008	222.830	

F 8.10: Greece: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	471.313	5,55
Reduction of overproduction		
- Crop production	-367.117	-4,32
- Animal production		
- Milk	-20.538	-0,24
- Beef	-109.785	-1,29
- Pork	¹⁾ -204.000	-2,40
- Poultry meat	²⁾ -26.469	-0,31
Balance of potential area	³⁾ -26.126	
Agricultural land	8.492.333	
the above as %	-0,31	-0,31

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 8.11: **Greece:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	10.554.000	10.712.000	10.642.000
- Change in % up to.....		1,4971	-0,6535
Per capita consumption (grain equivalent)	1.149,0	1.230,5	1.230,5
- Change in % up to.....		7,09	0,00
Consumption change in % up to		7,8093	-0,568
Abs. agricultural land in ha	8.492.333		
- Land redesignation in % up to ¹⁾		9,113	9,113
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		6,9220	-6,4555
Balance of agricultural land			
- Basis available ha	8.492.333		
- Increase(+) reduction(-) due to redesignation in ha		773.881	773.881
- Increased(+) decreased(-) demand for food		663.188	-48.257
- Release due to yield increase in ha (-)		-849.233	-1.273.850
- Release due to improved feed conversion in ha (-)		-9.667	-18.494
- Potential for biomass in ha per year.....	26.126	578.169	-566.719
Accumulation of the above in ha		604.295	37.576
- the above as % of the basis available agricultural land	-0,31	-7,12	-0,44
- quantity equivalents of the above			
- Cereals ³⁾	-98.288	-2.500.718	-162.567
- Straw	-78.631	-2.000.574	-130.054

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 8.12: **Greece:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	139.133		
- Feedgrain consumption t ¹⁾	521.750	-26.088 ³⁾	-52.175 ³⁾
Land equivalent ha cereals	138.688	-6.934	-13.869
- Poultry meat t	154.640		
- Feed grain consumption t ²⁾	278.351	-13.918 ³⁾	-27.835 ³⁾
Land equivalent ha cereals	73.990	-3.699	-7.399
Total land equivalent ha	212.678	-10.634	-21.268

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 8.13: **Greece:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	1.789.000
Grassland for milk production	ha	245.462
Overproduction milk	%	-33,29
Released grassland due to abandonment of overproduction	ha	-122.476
Grassland for beef production	ha	214.728
Overproduction beef	%	-75,30
Released grassland due to abandonment of overproduction	ha	-654.682
Total grassland released	ha	-777.158
the above as % of total grassland		-43,44
the above as % of potential area for bioenergy sources		2.974,61

F 8.14 : **Greece** : Estimation of potential area for bioenergy sources from grassland 2010 and 2020

Estimation of area potential for bioenergy sources from grassland 2010 and 2020			
		2010	2020
Redesignation of agricultural land	ha	773.881	773.881
Share of grassland of agricultural land	%	21,07	21,07
Redesignation of grassland	ha	163.026	163.026
Change to grassland due to change in consumption			
- Rate of change in population	%	1,4971	-0,6535
- Rate of change in milk and beef consumption	%	3,2000	0,0000
Total change	%	4,6971	-0,6535
Grassland for milk and beef production	ha	460.190	460.190
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	21.615	-3.007
Release due to yield increase(-)	ha	-178.900	-268.350
Total change in grassland	ha	5.742	-108.331
Accumulated grassland potential for bioenergy sources	ha	-782.900	-674.569
the above as % of total grassland		-43,76	-37,71
the above as % of potential area		129,56	1795,20

F 8.15: **Greece**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Greece	obligatory set-aside 10 %					
wheat	859,73	2.057,52	812,34	2.168,85	814,20	2.425,14
rye	15,15	34,80	15,79	43,76	16,01	53,56
barley	125,14	299,24	134,49	355,25	132,58	386,82
oats	45,29	83,92	45,32	101,37	46,84	126,46
grain maize	213,87	2.000,24	291,50	3.290,89	293,43	3.998,71
pulses	25,04	41,22	26,64	50,41	26,81	58,30
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	25,05	35,33	22,71	35,03	24,06	40,59
set-aside ¹	19,43	0,00	21,57	0,00	21,66	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	43,63	2.630,51	5,81	367,95	4,93	328,21
potato	47,11	888,93	43,29	902,27	38,94	896,49
Total	1.419,45	8.071,72	1.419,45	7.315,77	1.419,45	8.314,29
Total in GE		5.412,42		6.342,52		7.379,35
Greece	without set-aside					
wheat	859,73	2.057,52	803,91	2.146,34	803,77	2.394,07
rye	15,15	34,80	15,59	43,21	15,91	53,23
barley	125,14	299,24	142,82	377,23	141,07	411,59
oats	45,29	83,92	46,29	103,53	47,99	129,56
grain maize	213,87	2.000,24	306,24	3.457,37	309,40	4.216,34
pulses	25,04	41,22	24,01	45,43	24,02	52,22
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	25,05	35,33	25,67	39,60	26,93	45,44
set-aside ¹	19,43	0,00	5,58	0,00	6,21	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	43,63	2.630,51	6,06	384,27	5,22	348,00
potato	47,11	888,93	43,29	902,27	38,94	896,49
Total	1.419,45	8.071,72	1.419,45	7.499,23	1.419,45	8.546,94
Total in GE		5.412,42		6.516,93		7.600,56
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 8.16: **Greece**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Greece	without set-aside, ethanol beets at 25 €/t possible					
wheat	859,73	2.057,52	799,80	2.135,37	798,91	2.379,59
rye	15,15	34,80	15,85	43,95	16,18	54,16
barley	125,14	299,24	140,48	371,07	138,93	405,37
oats	45,29	83,92	46,24	103,43	47,95	129,44
grain maize	213,87	2.000,24	313,67	3.541,28	317,13	4.321,75
pulses	25,04	41,22	28,08	53,13	28,27	61,46
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	25,05	35,33	21,01	32,41	22,51	37,98
set-aside ¹	19,43	0,00	5,45	0,00	6,12	0,00
ethanol beet	0,00	0,00	2,67	168,94	2,17	144,34
sugar beet	43,63	2.630,51	2,90	183,59	2,34	156,15
potato	47,11	888,93	43,29	902,27	38,94	896,49
Total	1.419,45	8.071,72	1.419,45	7.535,42	1.419,45	8.586,74
Total in GE		5.412,42		6.571,90		7.670,77
Greece	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	859,73	2.057,52	818,65	2.185,70	814,38	2.425,67
rye	15,15	34,80	16,80	46,58	17,34	58,04
barley	125,14	299,24	140,66	371,53	139,91	408,21
oats	45,29	83,92	46,94	104,98	48,66	131,37
grain maize	213,87	2.000,24	309,38	3.492,76	313,33	4.270,00
pulses	25,04	41,22	26,87	50,84	27,19	59,13
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	25,05	35,33	10,21	15,74	12,61	21,27
set-aside ¹	19,43	0,00	2,42	0,00	3,09	0,00
ethanol beet	0,00	0,00	2,19	138,89	1,96	130,63
sugar beet	43,63	2.630,51	2,05	129,63	2,03	135,42
potato	47,11	888,93	43,29	902,27	38,94	896,49
Total	1.419,45	8.071,72	1.419,45	7.438,92	1.419,45	8.536,22
Total in GE		5.412,42		6.526,73		7.634,38
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 9 Portugal

F 9.1: Portugal: Total land area and agricultural area

in 1000 ha													
Portugal	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198	9.198
thereof													
Land Area	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150	9.150
thereof													
Agricultural Area	3.920	3.878	3.959	3.952	3.924	3.730	3.582	3.770	4.142	4.142	4.142	4.142	4.142
thereof													
Permanent Pasture	838	838	962	1.000	1.024	1.000	992	1.150	1.437	1.437	1.437	1.437	1.437
Permanent Crops	773	765	757	752	747	730	708	720	715	715	715	715	715
Arable Land	2.309	2.275	2.240	2.200	2.153	2.000	1.882	1.900	1.990	1.990	1.990	1.990	1.990
Arable & Permanent Crops	3.082	3.040	2.997	2.952	2.900	2.730	2.590	2.620	2.705	2.705	2.705	2.705	2.705
NonArable&NonPermanent	6.068	6.110	6.153	6.198	6.250	6.420	6.560	6.530	6.445	6.445	6.445	6.445	6.445
All other Land	2.128	2.170	2.089	2.096	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 9.2: **Portugal:** Cultivation area of agricultural crops

Cultivated land in ha											
Portugal	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	3.952.000	3.924.000	3.730.000	3.582.000	3.770.000	4.142.000	4.142.000	4.142.000	4.142.000		4.142.000
Cereals	685.761	725.422	669.595	702.211	517.202	592.930	578.411	493.054	515.102	449.718	509.071
Wheat	235.261	295.601	236.988	276.764	148.858	220.464	226.252	183.492	230.693	173.992	203.607
Rye	66.112	62.252	60.556	59.000	50.576	48.603	44.674	37.570	33.503	30.798	36.636
Barley	58.388	50.887	45.508	32.779	26.221	24.634	21.755	11.759	11.197	11.346	14.014
Oats	74.790	73.448	70.593	75.697	48.211	83.363	85.034	61.344	57.127	55.311	64.704
Triticale	50.048	44.126	42.320	43.517	22.989	26.521	23.832	18.820	17.058	13.686	18.349
Maize	177.111	177.382	185.352	185.914	193.327	164.038	153.005	155.133	140.308	138.926	146.843
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	132.980	94.365	106.180	66.581	59.706	50.134	51.840	41.523	37.583	38.057	42.251
Sugar beet	1.049	1.386	670	3.502	3.487	8.349	7.891	5.373	9.040	7.493	7.449
Forage land ¹⁾	1.556.435	1.581.981	1.581.981	1.586.421	1.586.421	1.959.298	1.959.298	1.959.298	1.959.298	1.959.298	1.959.298
Field forage ¹⁾	668.287	678.492	678.492	682.932	682.932	569.453	569.453	569.453	569.453	569.453	569.453
Green maize ¹⁾	121.790	121.790	121.790	130.538	130.538	108.003	108.003	108.003	108.003	108.002	108.003
Permanent grassland ¹⁾	888.148	903.489	903.489	903.489	903.489	1.389.845	1.389.845	1.389.845	1.389.845	1.389.845	1.389.845
Fallow land ¹⁾	924.170	924.706	924.706	920.515	920.515	562.717	562.717	562.717	562.717	562.717	562.717

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 9.3: **Portugal:** Yields of agricultural crops

Yield in dt/ha											
Portugal	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	23,99	19,94	24,98	22,21	31,35	28,29	27,81	26,32	29,06	26,29	27,73
Wheat	19,66	12,18	17,14	11,91	10,15	16,93	15,69	8,37	17,90	9,23	13,99
Rye	9,65	5,83	8,91	6,90	6,42	11,44	10,40	6,44	10,24	8,90	9,02
Barley	16,48	10,43	15,37	8,78	9,99	11,89	16,71	10,71	17,87	11,69	15,10
Oats	10,59	7,85	8,57	5,85	5,96	11,96	13,22	6,31	10,76	6,67	10,10
Triticale	17,06	10,94	13,18	8,96	7,52	12,47	16,91	8,60	14,89	9,83	13,47
Maize	40,99	43,21	46,09	49,11	62,28	57,01	57,21	58,44	56,78	56,44	57,48
Rapeseed	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sunflower	3,01	2,77	3,61	4,05	6,31	3,50	5,51	5,69	5,63	5,59	5,61
Sugar beet	477,46	411,19	483,58	426,94	538,14	606,79	585,14	522,78	712,23	646,14	606,72
Forage land ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Field forage ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Green maize ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Permanent grassland ¹⁾	0	0	0	0	0	0	0	0	0	0	0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 9.4: **Portugal**: Production of agricultural crops

Production in t

Portugal	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	1.644.951	1.446.366	1.672.775	1.559.468	1.621.565	1.677.594	1.608.378	1.297.850	1.496.724	1.182.097	1.467.651
Wheat	462.624	360.094	406.071	329.482	151.148	373.131	354.937	153.609	413.038	160.529	307.195
Rye	63.792	36.263	53.924	40.689	32.488	55.614	46.452	24.193	34.296	27.397	34.980
Barley	96.213	53.058	69.950	28.792	26.203	29.293	36.343	12.588	20.014	13.263	22.982
Oats	79.217	57.636	60.480	44.295	28.714	99.724	112.395	38.696	61.467	36.866	70.853
Triticale	85.388	48.268	55.768	39.004	17.289	33.067	40.293	16.188	25.403	13.454	27.295
Maize	725.976	766.493	854.352	913.017	1.203.949	935.115	875.347	906.644	796.601	784.148	859.531
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	40.000	26.120	38.297	26.980	37.679	17.538	28.566	23.623	21.139	21.273	24.443
Sugar beet	50.085	56.991	32.400	149.514	187.649	506.611	461.735	280.888	643.858	484.149	462.160

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 9.5: Portugal: Livestock in 1,000 heads

Portugal	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	1.363,41	1.386,41	1.389,41	1.386,41	1.409,41	1.421,24	1.413,79	1.404,20	1.395,13	1.388,82	1.400,49
under 1 year	383,00	372,00	357,00	373,00	378,00	392,07	390,53	400,31	393,17	388,55	393,14
beef calf	67,00	60,00	64,00	68,00	64,00	67,25	69,90	78,56	67,63	65,07	70,29
other calves	316,00	312,00	293,00	305,00	314,00	324,83	320,63	321,76	325,54	323,48	322,85
male	160,00	158,00	147,00	148,00	152,00	148,38	146,26	152,13	152,95	158,47	152,45
female	156,00	154,00	146,00	157,00	162,00	176,45	174,37	169,63	172,59	165,01	170,40
between 1 and 2 years	235,00	245,00	242,00	217,00	222,00	227,66	224,88	230,16	224,03	218,46	224,38
male	104,00	106,00	105,00	92,00	88,00	79,33	78,32	82,30	74,06	79,51	78,54
female	131,00	139,00	137,00	125,00	134,00	148,33	146,55	147,87	149,97	138,96	145,84
animals for slaughter	22,00	24,00	26,00	23,00	23,00	13,70	15,01	15,92	13,52	16,01	15,11
others	109,00	115,00	111,00	102,00	111,00	134,63	131,55	131,95	136,46	122,95	130,72
at least 2 years	745,41	769,41	790,41	796,41	809,41	801,51	798,39	773,73	777,93	781,81	782,96
male	34,00	32,00	32,00	30,00	31,00	25,50	25,50	23,48	21,41	20,65	22,76
female	711,41	737,41	758,41	766,41	778,41	776,01	772,88	750,25	756,52	761,17	760,21
Heifers	63,41	58,41	58,41	59,41	65,41	77,13	76,04	61,09	56,94	61,73	63,95
heifers for slaughter	10,00	9,00	9,00	9,00	9,00	3,22	4,02	4,96	4,64	4,96	4,65
other heifers	53,41	49,41	49,41	50,41	56,41	73,91	72,02	56,12	52,30	56,77	59,30
Cows	648,00	679,00	700,00	707,00	713,00	698,88	696,85	689,16	699,58	699,44	696,26
milk cows	379,00	384,00	376,00	377,00	372,00	356,74	354,71	337,69	340,83	328,49	340,43
other cows	269,00	295,00	324,00	330,00	341,00	342,14	342,14	351,47	358,76	370,95	355,83
Pigs	2.444,00	2.430,00	2.375,00	2.394,00	2.385,00	2.349,81	2.337,81	2.389,01	2.343,71	2.249,05	2.329,90
piglets, live weight < 20 kg	704,00	712,00	694,00	697,00	695,00	682,23	679,23	691,70	686,16	656,67	678,44
Pigs, live weight from 20 to < 50 kg	639,00	630,00	630,00	634,00	634,00	600,17	597,17	590,71	578,24	554,75	580,22
Fattening pigs from 50 kg and more ¹⁾	745,00	731,00	698,00	706,00	709,00	720,98	717,98	763,51	744,27	715,75	735,38
Fattening pigs from 50 to < 80 kg	522,00	507,00	487,00	493,00	496,00	503,98	501,98	498,81	480,40	470,26	487,86
Fattening pigs from 80 to < 110 kg	182,00	182,00	173,00	175,00	175,00	178,19	176,19	214,11	223,91	209,78	206,00
Fattening pigs from at least 110 kg	41,00	42,00	38,00	38,00	38,00	38,81	39,80	50,58	39,96	35,71	41,51
breeding pigs, Lebend-live weight of 50 kg and more	356,00	357,00	353,00	357,00	347,00	346,44	343,45	343,09	335,04	321,88	335,86
boars	26,00	24,00	23,00	23,00	22,00	20,17	20,17	19,66	18,85	16,31	18,75
sows in total	330,00	333,00	330,00	334,00	325,00	326,27	323,28	323,44	316,19	305,57	317,12
Goats	721,00	704,00	677,00	673,00	676,00	629,73	622,82	561,10	538,12	501,86	555,97
Sheep	3.475,00	3.482,00	3.486,00	3.432,00	3.590,00	3.583,67	3.578,46	3.459,35	3.457,01	3.355,62	3.462,61
Laying hens	8.696,00	8.087,00	7.747,00	6.516,00	7.226,00	7.097,00	7.548,00	8.000,00	8.065,00	8.129,00	7.935,50

¹⁾ including retired boars and sows, : no data

Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

: no data

F 9.6: **Portugal: Imports and Exports in t**

Portugal	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	86.310	113.251	93.238	81.373	93.543,00
Export	192.651	149.813	172.994	154.447	167.476,25
Differenz	-106.341	-36.562	-79.756	-73.074	-73.933,25
Butter of Cow Milk					
Import	4.138	4.574	6.584	6.962	5.564,50
Export	7.644	9.771	5.292	12.370	8.769,25
Differenz	-3.506	-5.197	1.292	-5.408	-3.204,75
Cheese (Skim Cow Milk)					
Import	0	1	7	13	5,25
Export	0	0	0	0	0,00
Differenz	0	1	7	13	5,25
Cheese (Whole Cow Milk)					
Import	23.765	24.507	24.330	25.414	24.504,00
Export	2.972	2.578	2.296	2.498	2.586,00
Differenz	20.793	21.929	22.034	22.916	21.918,00
Meat Bovine Fresh					
Import	63.911	46.328	54.263	66.818	57.830,00
Export	111	39	82	92	81,00
Differenz	63.800	46.289	54.181	66.726	57.749,00
Meat of Swine					
Import	90.187	106.482	97.355	97.000	97.756,00
Export	4.617	2.997	2.677	2.700	3.247,75
Differenz	85.570	103.485	94.678	94.300	94.508,25
Meat Poultry Fresh					
Import	13.223	15.584	12.523	14.585	13.978,75
Export	1.484	1.463	2.571	2.623	2.035,25
Differenz	11.739	14.121	9.952	11.962	11.943,50
Cereals					
Import	2.734.300	3.194.599	3.325.124	3.048.029	3.075.513,00
Export	110.609	140.828	285.189	118.860	163.871,50
Differenz	2.623.691	3.053.771	3.039.935	2.929.169	2.911.641,50
Wheat					
Import	1.296.417	1.576.071	1.641.249	1.376.983	1.472.680,00
Export	62.386	101.205	185.134	82.056	107.695,25
Differenz	1.234.031	1.474.866	1.456.115	1.294.927	1.364.984,75
Rye					
Import	14.229	14.366	21.007	22.042	17.911,00
Export	37	704	0	28	192,25
Differenz	14.192	13.662	21.007	22.014	17.718,75
Barley					
Import	194.125	308.235	359.457	266.203	282.005,00
Export	980	14.842	49.978	2.439	17.059,75
Differenz	193.145	293.393	309.479	263.764	264.945,25
Oats					
Import	2.765	11.484	8.876	17.762	10.221,75
Export	1.471	194	362	229	564,00
Differenz	1.294	11.290	8.514	17.533	9.657,75
Triticale					
Import	46	71	50	216	95,75
Export	3.481	428	2.254	516	1.669,75
Differenz	-3.435	-357	-2.204	-300	-1.574,00
Maize					
Import	1.097.279	1.164.343	1.187.312	1.213.085	1.165.504,75
Export	20.823	3.384	14.887	5.222	11.079,00
Differenz	1.076.456	1.160.959	1.172.425	1.207.863	1.154.425,75
Rapeseed					
Import	525	757	752	1.067	775,25
Export	2	3	48	2	13,75
Differenz	523	754	704	1.065	761,50
Sunflower					
Import	266.591	173.956	161.066	227.721	207.333,50
Export	2.880	3.262	83	12.447	4.668,00
Differenz	263.711	170.694	160.983	215.274	202.665,50
Sugar Total (Raw Equiv.)					
Import	298.482	319.310	314.776	298.912	307.870,00
Export	93.746	90.042	95.081	101.303	95.043,00
Differenz	204.736	229.268	219.695	197.609	212.827,00
Soybeans					
Import	647.556	1.015.328	1.166.266	915.234	936.096,00
Export	1.716	12.056	9.060	11.079	8.477,75
Differenz	645.840	1.003.272	1.157.206	904.155	927.618,25

F 9.7: **Portugal**: Milk and meat production in t

Portugal	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.649.274	1.837.181	1.869.034	1.898.958	1.932.227	2.116.966	2.135.713	2.053.742	2.169.771	2.119.742
Beef	95.164	103.613	98.893	108.987	96.026	97.435	99.980	95.428	105.700	100.369
Mutton and goat meat	27.285	26.782	26.173	27.174	25.641	24.872	26.259	24.174	25.890	25.441
Pork	315.625	305.036	324.583	305.594	332.047	345.601	329.095	317.230	329.589	325.305
Poultry meat	220.717	217.381	228.716	250.738	276.596	264.159	268.066	284.935	250.917	267.973

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 9.8: **Portugal**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	562.717	2,773	1.560.358
Export(+)/Import(-) surplus in crop production			
- Cereals	-1.050.035	2,773	-2.911.642
- Rapeseed	0	0,000	-762
- Sunflowers	-361.386	0,561	-202.666
- Sugar beets	-24.555	60,672	-1.489.789 ¹⁾
Crop production balance	-1.435.976		-4.604.858

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	73.933
- Butter ²⁾	64.095
- Cheese ³⁾	-219.180
Whole milk equivalent balance	-81.152
Total milk production	2.119.742
the above as %	-3,69

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-57.749
Total production	100.369
the above as %	-36,52
- Pork	-94.508
Total production	325.305
the above as %	-22,51
- Poultry meat	-11.944
Total production	267.973
the above as %	-4,27

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 9.9: **Portugal:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	70.288	0,25		17.572		17.572
Calves						
male	152.453	0,3		45.736		45.736
female	170.399	0,19	32.376			32.376
Cattle 1 - 2 Years						
male	78.545	0,7		54.981		54.981
female	145.837	0,65	94.794			94.794
Cattle > 2 Years						
male	22.759	1,2		27.311		27.311
Beef heifers	4.646	1,2		5.575		5.575
other heifers	59.302	1,2	71.163			71.163
Dairy cows	340.428	1,2	408.514			408.514
other cows	355.829	1,2		426.995		426.995
Goats	555.974	0,1			55.597	55.597
Sheep	3.462.609	0,1			346.261	346.261
Total			606.846	578.170	401.858	1.586.874
Share %			38,24	36,43	25,32	100,00
Roughage area ha						1.959.298
thereof...			749.267	713.860	496.171	

F 9.10: **Portugal:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	562.717	13,59
Reduction of overproduction		
- Crop production	-1.435.976	-34,67
- Animal production		
- Milk	-28.685	-0,69
- Beef	-410.730	-9,92
- Pork	¹⁾ -127.811	-3,09
- Poultry meat	²⁾ -7.753	-0,19
Balance of potential area	³⁾ -1.312.674	
Agricultural land	4.142.000	
the above as %	-31,69	-31,69

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 9.11: Portugal: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	10.198.000	10.309.000	10.526.000
- Change in % up to.....		1,0884	2,1050
Per capita consumption (grain equivalent)	1.018,3	1.100,2	1.100,2
- Change in % up to.....		8,04	0,00
Consumption change in % up to		7,0241	1,619
Abs. agricultural land in ha	4.142.000		
- Land redesignation in % up to ¹⁾		-5,436	-5,436
Yield increase in % up to ²⁾		-30,00	-30,00
Balance of all changes in % up to.....		-28,4115	-33,8163
Balance of agricultural land			
- Basis available ha	4.142.000		
- Increase(+) reduction(-) due to redesignation in ha		-225.140	-225.140
- Increased(+) decreased(-) demand for food		290.936	67.067
- Release due to yield increase in ha (-)		-1.242.600	-1.242.600
- Release due to improved feed conversion in ha (-)		-23.611	-47.222
- Potential for biomass in ha per year.....	1.312.674	-1.200.415	-1.447.895
Accumulation of the above in ha		112.259	-1.335.635
- the above as % of the basis available agricultural land	-31,69	-2,71	32,25
- quantity equivalents of the above			
- Cereals ³⁾	-3.639.914	-404.670	4.814.658
- Straw	-2.911.931	-323.736	3.851.726

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 9.12 Portugal: : Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	325.305		
- Feedgrain consumption t ¹⁾	1.219.893	-60.995 ³⁾	-121.989 ³⁾
Land equivalent ha cereals	439.934	-21.997	-43.993
- Poultry meat t	267.973		
- Feed grain consumption t ²⁾	482.351	-24.118 ³⁾	-48.235 ³⁾
Land equivalent ha cereals	173.952	-8.698	-17.395
Total land equivalent ha	613.886	-30.694	-61.389

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 9.13 : Portugal: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	1.389.845
Grassland for milk production	ha	531.499
Overproduction milk	%	-3,69
Released grassland due to abandonment of overproduction	ha	-20.348
Grassland for beef production	ha	506.383
Overproduction beef	%	-36,52
Released grassland due to abandonment of overproduction	ha	-291.355
Total grassland released	ha	-311.703
the above as % of total grassland		-22,43
the above as % of potential area for bioenergy sources		23,75

F 9.14 : **Portugal**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	-225.140	-225.140
Share of grassland of agricultural land	%	33,55	33,55
Redesignation of grassland	ha	-75.546	-75.546
Change to grassland due to change in consumption			
- Rate of change in population	%	1,0884	2,1050
- Rate of change in milk and beef consumption	%	5,1000	0,0000
Total change	%	6,1884	2,1050
Grassland for milk and beef production	ha	1.037.882	1.037.882
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	64.229	21.847
Release due to yield increase(-)	ha	-416.954	-416.954
Total change in grassland	ha	-428.270	-470.652
Accumulated grassland potential for bioenergy sources	ha	116.567	587.219
the above as % of total grassland		8,39	42,25
the above as % of potential area		-103,84	43,97

F 9.15: **Portugal**: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Portugal	obligatory set-aside 10 %					
wheat	201,95	293,37	179,72	288,38	176,49	312,83
rye	42,99	38,64	37,16	40,33	39,62	51,89
barley	19,11	24,89	16,85	24,23	16,51	26,23
oats	67,02	68,20	85,07	104,50	87,78	130,16
grain maize	160,99	942,27	227,59	1.623,84	234,82	2.042,30
pulses	40,36	23,84	22,29	13,17	20,98	12,39
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	48,16	25,81	23,04	13,50	24,30	15,58
set-aside ¹	37,46	0,00	40,20	0,00	40,95	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	6,83	416,15	4,24	285,77	3,87	288,12
potato	82,25	1.258,45	70,94	1.272,17	61,79	1.298,60
Total	707,11	3.091,62	707,11	3.665,89	707,11	4.178,10
Total in GE		1.790,81		2.443,29		2.934,04
Portugal	without set-aside					
wheat	201,95	293,37	194,56	312,20	191,14	338,80
rye	42,99	38,64	38,40	41,67	40,88	53,54
barley	19,11	24,89	17,74	25,51	17,30	27,49
oats	67,02	68,20	87,00	106,88	89,85	133,23
grain maize	160,99	942,27	236,29	1.685,89	243,90	2.121,27
pulses	40,36	23,84	20,78	12,27	19,49	11,51
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	48,16	25,81	25,74	15,09	26,86	17,22
set-aside ¹	37,46	0,00	11,42	0,00	12,03	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	6,83	416,15	4,24	285,77	3,87	288,12
potato	82,25	1.258,45	70,94	1.272,17	61,79	1.298,60
Total	707,11	3.091,62	707,11	3.757,44	707,11	4.289,78
Total in GE		1.790,81		2.535,93		3.046,87
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 9.16: **Portugal**: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Portugal	without set-aside, ethanol beets at 25 €/t possible					
wheat	201,95	293,37	192,01	308,10	188,50	334,11
rye	42,99	38,64	38,50	41,77	40,98	53,68
barley	19,11	24,89	18,54	26,67	18,08	28,73
oats	67,02	68,20	87,32	107,27	90,19	133,73
grain maize	160,99	942,27	229,60	1.638,16	237,71	2.067,41
pulses	40,36	23,84	22,03	13,01	20,75	12,26
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	48,16	25,81	26,76	15,69	27,91	17,89
set-aside ¹	37,46	0,00	11,37	0,00	11,99	0,00
ethanol beet	0,00	0,00	6,65	447,55	6,41	476,79
sugar beet	6,83	416,15	3,38	227,75	2,81	209,03
potato	82,25	1.258,45	70,94	1.272,17	61,79	1.298,60
Total	707,11	3.091,62	707,11	4.098,14	707,11	4.632,23
Total in GE		1.790,81		2.584,91		3.091,51
Portugal	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	201,95	293,37	194,09	311,45	192,10	340,49
rye	42,99	38,64	38,99	42,31	41,59	54,48
barley	19,11	24,89	21,50	30,93	21,09	33,51
oats	67,02	68,20	93,78	115,20	97,51	144,59
grain maize	160,99	942,27	237,21	1.692,42	248,87	2.164,53
pulses	40,36	23,84	16,63	9,82	11,47	6,77
rapeseed	0,00	0,00	0,00	0,00	0,00	0,00
sunflower	48,16	25,81	21,85	12,81	22,07	14,15
set-aside ¹	37,46	0,00	5,76	0,00	6,58	0,00
ethanol beet	0,00	0,00	4,27	287,68	3,38	251,60
sugar beet	6,83	416,15	2,09	140,55	0,66	48,79
potato	82,25	1.258,45	70,94	1.272,17	61,79	1.298,60
Total	707,11	3.091,62	707,11	3.915,33	707,11	4.357,50
Total in GE		1.790,81		2.585,39		3.103,24
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 10 Sweden**F 10.1: :Sweden Total land area and agricultural area**

in 1000 ha

Sweden	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996	44.996
thereof													
Land Area	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162	41.162
thereof													
Agricultural Area	3.361	3.347	3.359	3.359	3.270	3.300	3.262	3.234	3.197	3.156	3.144	3.129	3.143
thereof													
Permanent Pasture	568	576	576	576	500	485	460	447	447	447	447	447	447
Permanent Crops	3	3	3	3	3	3	3	3	3	3	3	3	3
Arable Land	2.790	2.768	2.780	2.780	2.767	2.812	2.799	2.784	2.747	2.706	2.694	2.679	2.693
Arable & Permanent Crops	2.793	2.771	2.783	2.783	2.770	2.815	2.802	2.787	2.750	2.709	2.697	2.682	2.696
NonArable&NonPermanent	38.369	38.391	38.379	38.379	38.392	38.347	38.360	38.375	38.412	38.453	38.465	38.480	38.466
All other Land	9.776	9.790	9.778	9.778	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 10.2: Sweden: Cultivation area of agricultural crops

Cultivated land in ha											
Sweden	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	3.359.000	3.270.000	3.300.000	3.262.000	3.234.000	3.197.000	3.156.000	3.144.000	3.129.000		3.143.000
Cereals	1.149.108	1.099.201	1.216.724	1.268.680	1.282.813	1.153.160	1.228.527	1.174.277	1.129.244	1.153.890	1.171.485
Wheat	251.800	261.400	335.000	344.180	398.040	275.400	401.170	399.165	339.590	411.348	387.818
Rye	38.960	39.700	33.600	29.420	34.620	24.507	34.533	34.410	24.390	24.366	29.425
Barley	449.000	453.400	468.600	482.900	444.960	481.987	411.224	397.510	416.830	368.472	398.509
Oats	341.400	273.000	283.600	315.460	311.470	305.658	295.544	278.180	295.002	279.808	287.134
Triticale	42.527	44.577	61.694	66.473	66.751	32.586	40.728	39.642	30.809	44.661	38.960
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	128.500	104.643	65.400	63.000	54.571	75.890	48.168	44.770	67.469	58.574	54.745
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	53.353	57.518	59.200	60.459	58.737	59.882	55.484	54.834	54.820	50.100	53.810
Forage total ¹⁾	1.683.100	1.470.300	1.459.000	1.366.000	1.354.492	1.352.085	1.314.803	1.338.327	1.464.527	1.449.359	1.391.754
Field forage ¹⁾	1.096.100	1.057.300	1.029.000	1.006.000	985.000	980.185	942.903	966.427	982.254	965.322	964.227
Green maize ¹⁾	0.000	0.000	0.000	0.000	0.000	0.000	0.000	3.161	3.784	4.050	3.665
Permanent grassland ¹⁾	:	:	:	:	:	:	371.900	371.900	482.273	484.037	427.528
Fallow land ¹⁾	253.000	337.000	309.000	235.000	223.247	296.384	248.427	266.547	268.896	275.944	264.954

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 10.3: Sweden: Yields of agricultural crops

Yield in dt/ha											
Sweden	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	38,91	43,59	48,94	47,18	43,80	42,76	46,16	45,91	48,37	46,38	46,81
Wheat	53,40	59,44	60,60	59,74	56,49	60,24	59,82	58,74	62,21	55,49	60,26
Rye	44,51	51,99	49,32	47,15	46,36	47,91	54,24	52,31	52,56	48,47	53,04
Barley	36,99	39,54	45,10	43,20	37,91	38,44	39,75	41,31	42,65	41,97	41,24
Oats	29,02	34,68	42,31	40,39	36,48	34,52	38,95	34,64	40,02	39,40	37,87
Triticale	57,52	50,23	50,72	48,26	46,05	47,32	45,99	44,02	54,98	45,92	48,33
Maize	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Rapeseed	16,65	18,74	20,32	19,21	22,63	21,36	25,22	23,68	23,60	22,11	24,17
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	440,43	430,91	410,47	401,93	437,68	459,67	469,00	484,99	486,01	495,89	480,00
Forage total ¹⁾	:	11,45	11,54	12,32	12,43	12,45	12,80	36,07	25,81	:	24,89
Field forage ¹⁾	:	10,37	10,65	10,90	11,13	11,18	11,63	38,87	30,41	:	26,97
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	0,00
Permanent grassland ¹⁾	:	:	:	:	:	:	:	28,80	13,64	:	21,22

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 10.4: Sweden: Production of agricultural crops

Production in t											
Sweden	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	4.471.600	4.791.000	5.954.200	5.986.000	5.618.400	4.931.300	5.670.300	5.390.700	5.461.900	5.352.100	5.507.633
Wheat	1.344.700	1.553.800	2.030.000	2.056.200	2.248.700	1.658.900	2.399.900	2.344.800	2.112.600	2.282.700	2.285.767
Rye	173.400	206.400	165.700	138.700	160.500	117.400	187.300	180.000	128.200	118.100	165.167
Barley	1.660.900	1.792.700	2.113.400	2.086.300	1.686.900	1.852.500	1.634.400	1.642.100	1.777.900	1.546.300	1.684.800
Oats	990.600	946.700	1.199.800	1.274.200	1.136.200	1.055.100	1.151.100	963.700	1.180.700	1.102.300	1.098.500
Triticale	244.600	223.900	312.900	320.800	307.400	154.200	187.300	174.500	169.400	205.100	177.067
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	214.000	196.100	132.900	121.000	123.500	162.100	121.500	106.000	159.200	129.500	128.900
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	2.349.800	2.478.500	2.430.000	2.430.000	2.570.800	2.752.600	2.602.200	2.659.400	2.664.300	2.484.400	2.641.967
Forage total ¹⁾	:	1.683.100	1.683.100	1.683.100	1.683.100	1.683.100	1.683.100	4.827.800	3.494.800	:	3.335.233
Field forage ¹⁾	:	1.096.100	1.096.100	1.096.100	1.096.100	1.096.100	1.096.100	3.756.700	2.987.400	:	2.613.400
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Permanent grassland ¹⁾	:	:	:	:	:	:	:	1.071.100	507.400	:	789.250

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 10.5: Sweden: Livestock in 1,000 heads

Sweden	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	1.790,00	1.779,30	1.747,10	1.708,40	1.711,70	1.679,50	1.617,60	1.617,30	1.576,30	1.553,30	1.591,13
under 1 year	607,00	583,10	542,20	554,60	525,70	527,30	502,30	508,38	513,50	509,90	508,52
beef calf	23,00	23,10	36,50	21,60	29,30	22,90	22,30	25,17	22,80	22,60	23,22
other calves	584,00	560,00	505,70	533,00	496,40	504,40	480,00	483,21	490,70	487,30	485,30
male	289,00	281,50	249,70	263,00	230,30	249,30	235,10	239,48	240,30	238,70	238,40
female	295,00	278,50	256,00	270,00	266,10	255,10	244,90	243,73	250,40	248,60	246,91
between 1 and 2 years	407,00	442,30	455,20	407,70	429,70	422,70	408,30	407,73	384,10	374,80	393,73
male	162,00	183,20	204,30	161,30	175,10	175,40	164,80	171,71	152,30	147,80	159,15
female	245,00	259,10	250,90	246,40	254,60	247,30	243,50	236,02	231,80	226,90	234,56
animals for slaughter	20,00	19,60	19,50	20,00	21,90	25,10	28,90	25,34	27,50	26,90	27,16
others	225,00	239,50	231,40	226,40	232,70	222,20	214,60	210,68	204,30	200,00	207,40
at least 2 years	776,00	753,90	749,70	746,10	756,30	729,50	707,00	701,19	678,70	668,60	688,87
male	20,00	19,70	24,30	23,60	24,70	24,80	25,00	25,67	25,80	23,30	24,94
female	756,00	734,20	725,40	722,50	731,60	704,70	682,00	675,53	652,90	645,30	663,93
Heifers	99,00	101,10	97,80	98,80	99,40	99,00	102,80	92,63	91,30	84,60	92,83
heifers for slaughter	5,00	6,10	6,20	5,20	8,60	9,30	10,20	8,57	9,00	8,30	9,02
other heifers	94,00	95,00	91,60	93,60	90,80	89,70	92,60	84,06	82,30	76,30	83,82
Cows	657,00	633,10	627,60	623,70	632,20	605,70	579,20	582,90	561,60	560,70	571,10
milk cows	503,00	481,70	478,00	461,80	471,10	447,40	425,80	425,33	403,40	403,70	414,56
other cows	154,00	151,40	149,60	161,90	161,10	158,30	153,40	157,57	158,20	157,00	156,54
Pigs	2.324,00	2.317,30	2.319,00	2.353,00	2.321,30	2.021,10	1.896,10	1.920,17	1.982,00	2.004,00	1.950,57
piglets, live weight < 20 kg	630,00	760,00	759,00	717,00	692,90	597,60	564,30	575,86	599,00	593,00	583,04
Pigs, live weight from 20 to < 50 kg	655,00	563,00	590,00	579,00	575,60	507,80	436,40	457,29	476,00	486,00	463,92
Fattening pigs from 50 kg and more ⁾	778,00	713,00	695,00	789,00	809,40	704,90	685,80	668,81	695,00	718,00	691,90
Fattening pigs from 50 to < 80 kg	460,00	390,00	387,00	420,00	413,30	367,80	342,70	329,32	342,00	347,00	340,25
Fattening pigs from 80 to < 110 kg	295,00	302,00	286,00	342,00	349,30	299,40	296,70	280,04	291,00	296,00	290,94
Fattening pigs from at least 110 kg	23,00	21,00	22,00	27,00	46,80	37,70	46,40	59,45	62,00	77,00	61,21
breeding pigs, Lebend-live weight of 50 kg and more	261,00	281,30	275,00	268,00	243,40	210,80	209,60	218,21	212,00	209,00	212,20
boars	9,00	7,30	6,00	6,00	5,30	4,50	4,10	3,78	4,00	5,00	4,22
sows in total	252,00	274,00	269,00	262,00	238,10	206,30	205,50	214,43	208,00	204,00	207,98
Goats	5,00	5,00	5,00	5,00	5,00	5,30	5,00	5,00	5,00	5,60	5,15
Sheep	483,00	461,00	469,00	442,00	421,00	437,00	432,00	452,00	427,00	451,00	440,50
Laying hens	5.918,00	6.100,30	5.708,50	5.724,50	5.361,70	5.647,50	5.669,70	5.686,89	4.731,84	4.497,68	5.146,53

⁾ including retired boars and sows, : no data

F 10.6: Sweden: Imports and Exports in t

Sweden	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	621	1.034	1.555	7.913	2.780,75
Export	16.489	35.932	23.339	25.931	25.422,75
Differenz	-15.868	-34.898	-21.784	-18.018	-22.642,00
Butter of Cow Milk					
Import	132	164	985	667	487,00
Export	16.381	18.755	17.112	18.033	17.570,25
Differenz	-16.249	-18.591	-16.127	-17.366	-17.083,25
Cheese (Skim Cow Milk)					
Import	0	0	4	0	1,00
Export	0	0	0	0	0,00
Differenz	0	0	4	0	1,00
Cheese (Whole Cow Milk)					
Import	34.031	33.222	37.050	41.814	36.529,25
Export	15.485	16.132	12.720	12.468	14.201,25
Differenz	18.546	17.090	24.330	29.346	22.328,00
Meat Bovine Fresh					
Import	20.488	29.023	45.131	54.728	37.342,50
Export	530	1.455	1.453	1.732	1.292,50
Differenz	19.958	27.568	43.678	52.996	36.050,00
Meat of Swine					
Import	38.796	34.354	38.310	43.950	38.852,50
Export	14.646	14.497	16.515	22.365	17.005,75
Differenz	24.150	19.857	21.795	21.585	21.846,75
Meat Poultry Fresh					
Import	13.484	18.121	20.978	23.558	19.035,25
Export	5.084	7.578	8.467	10.156	7.821,25
Differenz	8.400	10.543	12.511	13.402	11.214,00
Cereals					
Import	182.362	254.177	304.753	193.738	233.757,50
Export	1.477.888	1.613.232	912.494	1.403.541	1.351.788,75
Differenz	-1.295.526	-1.359.055	-607.741	-1.209.803	-1.118.031,25
Wheat					
Import	79.087	88.156	169.532	56.304	98.269,75
Export	332.968	840.958	371.002	735.398	570.081,50
Differenz	-253.881	-752.802	-201.470	-679.094	-471.811,75
Rye					
Import	297	2.490	3.184	2.795	2.191,50
Export	10.524	83.171	44.496	15.787	38.494,50
Differenz	-10.227	-80.681	-41.312	-12.992	-36.303,00
Barley					
Import	49.751	105.217	63.972	58.032	69.243,00
Export	660.260	322.425	100.238	349.243	358.041,50
Differenz	-610.509	-217.208	-36.266	-291.211	-288.798,50
Oats					
Import	1.052	844	1.825	479	1.050,00
Export	445.641	350.959	390.129	291.788	369.629,25
Differenz	-444.589	-350.115	-388.304	-291.309	-368.579,25
Triticale					
Import	10	37	40	231	79,50
Export	3.018	875	652	25	1.142,50
Differenz	-3.008	-838	-612	206	-1.063,00
Maize					
Import	3.282	3.825	3.132	6.322	4.140,25
Export	152	199	275	2.087	678,25
Differenz	3.130	3.626	2.857	4.235	3.462,00
Rapeseed					
Import	131.729	166.648	104.478	93.801	124.164,00
Export	3.044	772	1.525	2.380	1.930,25
Differenz	128.685	165.876	102.953	91.421	122.233,75
Sunflower					
Import	13.492	15.295	16.768	18.142	15.924,25
Export	773	730	412	213	532,00
Differenz	12.719	14.565	16.356	17.929	15.392,25
Sugar Total (Raw Equiv.)					
Import	29.140	26.685	36.962	24.922	29.427,25
Export	98.293	117.578	131.952	82.504	107.581,75
Differenz	-69.153	-90.893	-94.990	-57.582	-78.154,50
Soybeans					
Import	6.634	13.507	3.150	3.953	6.811,00
Export	16	26	35	42	29,75
Differenz	6.618	13.481	3.115	3.911	6.781,25

F 10.7: **Sweden**: Milk and meat production in t

Sweden	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	3.421.000	3.304.000	3.258.000	3.276.000	3.277.000	3.299.000	3.297.000	3.290.000	3.226.000	3.271.000
Beef	142.403	143.400	137.500	148.900	142.800	144.640	149.800	143.200	146.500	146.500
Mutton and goat meat	4.201	3.490	3.660	3.510	3.490	3.660	3.910	3.850	3.900	3.887
Pork	307.593	308.800	318.900	329.300	330.400	325.400	277.000	275.900	283.800	278.900
Poultry meat	77.180	82.200	84.500	91.900	89.000	96.100	91.850	98.050	103.350	97.750

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 10.8: **Sweden**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	264.954	4,681	1.240.247
Export(+)/Import(-) surplus in crop production			
- Cereals	238.845	4,681	1.118.031
- Rapeseed	-50.582	2,417	-122.234
- Sunflowers	0	0,000	-15.392
- Sugar beets	11.398	48,000	547.082 ¹⁾
Crop production balance	199.660		1.527.487

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	22.642
- Butter ²⁾	341.665
- Cheese ³⁾	-223.280
Whole milk equivalent balance	141.027
Total milk production	3.271.000
the above as %	4,51

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-36.050
Total production	146.500
the above as %	-19,75
- Pork	-21.847
Total production	278.900
the above as %	-7,26
- Poultry meat	-11.214
Total production	97.750
the above as %	-10,29

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 10.9: **Sweden**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	23.217	0,25		5.804		5.804
Calves						
male	238.396	0,3		71.519		71.519
female	246.907	0,19	46.912			46.912
Cattle 1 - 2 Years						
male	159.152	0,7		111.406		111.406
female	234.555	0,65	152.461			152.461
Cattle > 2 Years						
male	24.942	1,2		29.930		29.930
Beef heifers	9.017	1,2		10.820		10.820
other heifers	83.816	1,2	100.579			100.579
Dairy cows	414.557	1,2	497.469			497.469
other cows	156.542	1,2		187.851		187.851
Goats	5.150	0,1			515	515
Sheep	440.500	0,1			44.050	44.050
Total			797.421	417.330	44.565	1.259.316
Share %			63,32	33,14	3,54	100,00
Roughage area ha						1.391.754
thereof...			881.283	461.219	49.252	

F 10.10: **Sweden**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	264.954	8,43
Reduction of overproduction		
- Crop production	199.660	6,35
- Animal production		
- Milk	37.996	1,21
- Beef	-113.495	-3,61
- Pork	¹⁾ -17.502	-0,56
- Poultry meat	²⁾ -4.312	-0,14
Balance of potential area	³⁾ 389.115	
Agricultural land	3.143.000	
the above as %	12,38	12,38

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 10.11: **Sweden**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	8.861.000	9.183.000	9.505.000
- Change in % up to.....		3,6339	3,5065
Per capita consumption (grain equivalent)	1.120,3	1.184,3	1.184,3
- Change in % up to.....		5,71	0,00
Consumption change in % up to		8,1991	3,049
Abs. agricultural land in ha	3.143.000		
- Land redesignation in % up to ¹⁾		7,516	7,516
Yield increase in % up to ²⁾		-14,00	-15,00
Balance of all changes in % up to.....		1,7184	-4,4350
Balance of agricultural land			
- Basis available ha	3.143.000		
- Increase(+) reduction(-) due to redesignation in ha		236.224	236.224
- Increased(+) decreased(-) demand for food		257.697	95.834
- Release due to yield increase in ha (-)		-439.912	-471.450
- Release due to improved feed conversion in ha (-)		-11.449	-22.697
- Potential for biomass in ha per year.....	-389.115	42.560	-162.090
Accumulation of the above in ha		-346.555	-508.645
- the above as % of the basis available agricultural land	12,38	11,03	16,18
- quantity equivalents of the above			
- Cereals ³⁾	1.821.449	1.849.282	2.738.113
- Straw	1.457.159	1.479.425	2.190.491

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 10.12 : **Sweden**: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	278.900		
- Feedgrain consumption t ¹⁾	1.045.875	-52.294 ³⁾	-104.588 ³⁾
Land equivalent ha cereals	223.430	-11.171	-22.343
- Poultry meat t	97.750		
- Feed grain consumption t ²⁾	175.950	-8.798 ³⁾	-17.595 ³⁾
Land equivalent ha cereals	37.588	-1.879	-3.759
Total land equivalent ha	261.018	-13.051	-26.102

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 10.13: **Sweden**: Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	427.528
Grassland for milk production	ha	270.718
Overproduction milk	%	4,51
Released grassland due to abandonment of overproduction	ha	11.672
Grassland for beef production	ha	141.680
Overproduction beef	%	-19,75
Released grassland due to abandonment of overproduction	ha	-34.864
Total grassland released	ha	-23.192
the above as % of total grassland		-5,42
the above as % of potential area for bioenergy sources		-5,96

F 10.14 : **Sweden**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	236.224	236.224
Share of grassland of agricultural land	%	13,60	13,60
Redesignation of grassland	ha	32.132	32.132
Change to grassland due to change in consumption			
- Rate of change in population	%	3,6339	3,5065
- Rate of change in milk and beef consumption	%	2,8000	0,0000
Total change	%	6,4339	3,5065
Grassland for milk and beef production	ha	412.398	412.398
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	26.533	14.461
Release due to yield increase(-)	ha	-59.839	-64.129
Total change in grassland	ha	-1.173	-17.536
Accumulated grassland potential for bioenergy sources	ha	-22.019	-4.483
the above as % of total grassland		-5,15	-1,05
the above as % of potential area		-6,35	-0,88

F 10.15: Sweden: Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Sweden	obligatory set-aside 10 %					
wheat	362,67	2.152,98	483,26	3.296,71	480,76	3.768,85
rye	30,49	154,68	57,68	349,73	57,23	414,83
barley	430,50	1.718,76	279,27	1.114,99	280,65	1.120,49
oats	297,17	1.097,36	297,81	1.314,52	313,39	1.653,41
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	34,62	80,60	14,99	34,90	14,78	34,40
rapeseed	58,17	134,46	92,20	249,78	88,44	280,78
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	183,73	0,00	189,57	0,00	190,12	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	56,75	2.649,86	41,35	2.029,52	32,74	1.689,16
potato	32,68	1.001,67	30,66	1.038,03	28,69	1.073,19
Total	1.486,80	8.990,37	1.486,80	9.428,18	1.486,80	10.035,12
Total in GE		6.295,76		7.250,46		8.106,24
Sweden	without set-aside					
wheat	362,67	2.152,98	630,32	4.299,96	625,76	4.905,57
rye	30,49	154,68	73,09	443,21	73,75	534,55
barley	430,50	1.718,76	224,10	894,69	205,00	818,46
oats	297,17	1.097,36	323,31	1.427,08	353,46	1.864,83
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	34,62	80,60	9,48	22,08	8,25	19,20
rapeseed	58,17	134,46	127,42	345,18	123,07	390,73
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	183,73	0,00	27,06	0,00	36,08	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	56,75	2.649,86	41,35	2.029,52	32,74	1.689,16
potato	32,68	1.001,67	30,66	1.038,03	28,69	1.073,19
Total	1.486,80	8.990,37	1.486,80	10.499,75	1.486,80	11.295,69
Total in GE		6.295,76		8.388,81		9.443,78
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 10.16: Sweden: Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Sweden	without set-aside, ethanol beets at 25 €/t possible					
wheat	362,67	2.152,98	584,33	3.986,24	568,69	4.458,21
rye	30,49	154,68	58,09	352,23	64,54	467,78
barley	430,50	1.718,76	219,94	878,08	197,92	790,20
oats	297,17	1.097,36	319,95	1.412,23	349,03	1.841,46
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	34,62	80,60	9,91	23,06	8,47	19,71
rapeseed	58,17	134,46	119,19	322,89	137,61	436,90
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	183,73	0,00	23,22	0,00	29,65	0,00
ethanol beet	0,00	0,00	80,73	3.962,14	69,99	3.610,99
sugar beet	56,75	2.649,86	40,78	2.001,70	32,20	1.661,21
potato	32,68	1.001,67	30,66	1.038,03	28,69	1.073,19
Total	1.486,80	8.990,37	1.486,80	13.976,61	1.486,80	14.359,64
Total in GE		6.295,76		8.899,33		9.852,77
Sweden	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	362,67	2.152,98	642,00	4.379,60	637,41	4.996,89
rye	30,49	154,68	67,56	409,65	75,89	550,06
barley	430,50	1.718,76	233,49	932,18	205,23	819,35
oats	297,17	1.097,36	342,28	1.510,79	380,04	2.005,09
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	34,62	80,60	3,22	7,49	2,48	5,77
rapeseed	58,17	134,46	65,30	176,89	81,06	257,36
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	183,73	0,00	9,82	0,00	14,68	0,00
ethanol beet	0,00	0,00	60,82	2.985,11	42,44	2.189,43
sugar beet	56,75	2.649,86	31,67	1.554,23	18,88	974,16
potato	32,68	1.001,67	30,66	1.038,03	28,69	1.073,19
Total	1.486,80	8.990,37	1.486,80	12.993,98	1.486,80	12.871,29
Total in GE		6.295,76		8.882,87		9.820,20

1) according to FADN

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>; own calculations

F 11 Austria**F 11.1: Austria: Total land area and agricultural area**

in 1000 ha

Austria	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386	8.386
thereof													
Land Area	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273	8.273
thereof													
Agricultural Area	3.519	3.492	3.452	3.450	3.432	3.426	3.423	3.419	3.390	3.390	3.390	3.397	3.392
thereof													
Permanent Pasture	1.995	1.986	1.954	1.951	1.940	1.940	1.944	1.943	1.917	1.920	1.920	1.935	1.925
Permanent Crops	79	70	79	76	78	76	73	72	71	71	71	71	71
Arable Land	1.445	1.436	1.419	1.423	1.414	1.410	1.406	1.404	1.402	1.399	1.399	1.391	1.396
Arable & Permanent Crops	1.524	1.506	1.498	1.499	1.492	1.486	1.479	1.476	1.473	1.470	1.470	1.462	1.467
NonArable&NonPermanent	6.749	6.767	6.775	6.774	6.781	6.787	6.794	6.797	6.800	6.803	6.803	6.811	6.806
All other Land	1.527	1.563	1.581	1.583	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 11.2: **Austria**: Cultivation area of agricultural crops

Cultivated land in ha											
Austria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	3.450.000	3.432.000	3.426.000	3.423.000	3.419.000	3.390.000	3.390.000	3.390.000	3.397.000		3.392.333
Cereals	821.503	807.670	832.066	846.077	837.333	807.918	828.048	822.639	787.329	782.194	805.053
Wheat	240.961	255.910	247.602	259.832	264.405	260.579	293.806	287.777	288.764	272.001	285.587
Rye	77.021	76.826	51.222	57.821	59.282	55.901	52.473	51.219	47.145	40.003	47.710
Barley	252.746	229.099	259.648	260.641	265.622	243.886	223.762	217.473	200.948	212.308	213.623
Oats	49.357	40.778	41.609	46.083	40.514	35.503	32.981	31.449	32.103	34.387	32.730
Triticale	0	19.279	17.571	21.896	25.794	23.595	27.528	31.189	37.621	40.652	34.248
Maize	179.465	173.352	201.342	188.311	171.239	177.189	187.802	194.904	172.230	173.306	182.061
Rapeseed	71.402	87.307	64.904	54.897	54.680	65.768	51.762	56.098	55.383	44.035	51.820
Sunflower	37.299	28.550	18.983	19.954	22.096	24.249	22.336	20.329	21.381	25.748	22.449
Sugar beet	52.019	51.642	53.082	51.569	49.598	47.047	43.219	45.139	44.724	43.223	44.076
Forage total ¹⁾	2.150.404	2.142.307	2.141.429	2.141.041	2.150.624	2.120.511	2.122.412	2.126.830	2.135.612	2.141.318	2.131.543
Field forage ¹⁾	199.074	202.297	201.419	208.421	207.184	203.119	205.020	209.438	218.220	223.925	214.151
Green maize ¹⁾	93.874	90.682	85.359	84.464	79.338	76.485	73.960	72.254	73.685	72.309	73.052
Permanent grassland ¹⁾	1.951.330	1.940.010	1.940.010	1.932.620	1.943.440	1.917.392	1.917.392	1.917.392	1.917.392	1.917.393	1.917.392
Fallow land ¹⁾	66.879	123.866	120.578	75.077	74.818	106.441	110.806	107.881	100.994	103.089	105.693

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 11.3: **Austria**: Yields of agricultural crops

Yield in dt/ha											
Austria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	54,00	55,15	54,00	59,20	57,04	59,49	54,23	58,68	56,60	51,01	56,50
Wheat	52,09	50,95	50,07	52,04	50,75	54,35	44,69	52,41	49,67	8,05	48,92
Rye	41,39	40,85	30,50	35,84	39,87	39,03	34,83	41,69	36,29	33,21	37,60
Barley	46,86	46,50	41,70	48,26	45,61	47,27	38,20	46,55	42,87	41,56	42,54
Oats	34,79	39,64	36,70	42,68	40,53	42,92	35,65	40,78	36,43	37,38	37,62
Triticale	0,00	45,05	43,50	48,32	49,55	50,86	48,98	50,32	45,85	41,48	48,38
Maize	79,16	85,01	86,20	97,80	96,14	95,92	98,60	90,87	96,77	83,79	95,41
Rapeseed	30,40	30,13	18,61	23,50	26,34	29,25	24,22	26,12	23,23	19,98	24,52
Sunflower	24,65	21,42	23,00	22,00	25,73	26,42	24,61	24,87	27,35	27,58	25,61
Sugar beet	492,24	558,81	589,90	584,06	668,20	683,73	592,24	614,43	680,49	598,15	629,05
Forage total ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Field forage ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Green maize ¹⁾	442,25	438,73	459,00	466,47	487,15	487,49	477,38	420,12	445,80	418,48	447,76
Permanent grassland ¹⁾	0	0	0	0	0	0	0	0	0	0	0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 11.4: **Austria**: Production of agricultural crops

Production in t											
Austria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	4.435.933	4.454.530	4.493.496	5.008.712	4.776.266	4.806.140	4.490.206	4.827.102	4.456.016	3.990.040	4.591.108
Wheat	1.255.120	1.303.923	1.239.723	1.352.281	1.341.820	1.416.200	1.312.962	1.508.283	1.434.210	1.191.380	1.418.485
Rye	318.790	313.835	156.227	207.238	236.356	218.183	182.781	213.530	171.089	132.839	189.133
Barley	1.184.350	1.065.188	1.082.800	1.257.800	1.211.557	1.152.801	854.667	1.012.407	861.391	882.322	909.488
Oats	171.716	161.645	152.705	196.684	164.204	152.381	117.571	128.253	116.943	128.533	120.922
Triticale	0	86.859	76.434	105.803	127.808	120.006	134.819	156.957	172.480	168.637	154.752
Maize	1.420.645	1.473.662	1.735.568	1.841.681	1.646.287	1.699.584	1.851.651	1.771.081	1.666.605	1.452.054	1.763.112
Rapeseed	217.069	263.051	120.757	129.000	144.000	192.371	125.353	146.525	128.647	88.000	133.508
Sunflower	91.948	61.141	43.661	43.899	56.853	64.066	54.960	50.566	58.476	71.010	54.667
Sugar beet	2.560.580	2.885.807	3.131.307	3.011.921	3.314.143	3.216.731	2.559.613	2.773.478	3.043.400	2.585.386	2.792.164
Forage total ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Field forage ¹⁾	0	0	0	0	0	0	0	0	0	0	0
Green maize ¹⁾	4.151.571	3.978.500	3.917.978	3.940.019	3.864.948	3.728.567	3.530.673	3.035.496	3.284.858	3.026.006	3.283.676

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 11.5: Austria : Livestock in 1,000 heads

Austria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	2.328,52	2.325,83	2.271,95	2.197,94	2.171,68	2.152,81	2.155,69	2.118,45	2.066,94	2.052,03	2.098,28
under 1 year	706,58	691,45	670,42	630,85	635,11	630,59	655,37	658,93	640,06	641,64	649,00
beef calf	83,66	64,56	72,80	59,07	52,36	45,54	68,05	68,08	58,56	57,67	63,09
other calves	622,92	626,90	597,62	571,78	582,75	585,05	587,32	590,85	581,50	583,97	585,91
male	313,61	306,97	286,56	271,07	280,20	280,40	281,04	289,08	287,11	286,73	285,99
female	309,31	319,93	311,06	300,72	302,55	304,65	306,28	301,77	294,39	297,24	299,92
between 1 and 2 years	573,18	564,35	537,38	514,48	496,16	488,28	466,73	455,71	449,93	446,12	454,62
male	272,37	263,71	239,76	218,60	208,42	201,77	187,76	181,25	179,85	181,99	182,71
female	300,81	300,64	297,63	295,88	287,74	286,51	278,96	274,47	270,08	264,13	271,91
animals for slaughter	37,22	34,53	37,88	36,38	33,49	31,27	32,58	32,91	33,38	34,98	33,46
others	263,59	266,11	259,75	259,49	254,25	255,24	246,38	241,56	236,71	229,15	238,45
at least 2 years	1.048,76	1.070,02	1.064,14	1.052,61	1.040,41	1.033,94	1.033,60	1.003,81	976,95	964,27	994,66
male	24,37	25,08	24,51	25,09	24,50	23,52	22,90	20,11	17,44	24,62	21,27
female	1.024,40	1.044,94	1.039,64	1.027,52	1.015,91	1.010,43	1.010,70	983,71	959,51	939,66	973,39
Heifers	124,42	127,97	129,42	136,60	132,92	135,84	136,90	127,99	125,58	138,68	132,29
heifers for slaughter	6,61	6,93	7,86	8,15	9,14	7,49	8,41	7,07	8,03	7,46	7,74
other heifers	117,81	121,03	121,55	128,45	123,78	128,35	128,50	120,92	117,55	131,21	124,54
Cows	899,98	916,97	910,22	890,92	882,99	874,58	873,79	855,72	833,93	800,98	841,10
milk cows	809,98	706,49	697,52	720,38	728,72	697,90	621,00	597,98	588,97	557,88	591,46
other cows	90,00	210,48	212,70	170,54	154,28	176,68	252,79	257,73	244,95	243,10	249,65
Pigs	3.728,99	3.706,19	3.663,75	3.679,88	3.810,31	3.433,03	3.347,93	3.440,41	3.304,65	3.254,87	3.336,96
piglets, live weight < 20 kg	965,99	947,71	953,13	951,80	967,09	862,91	853,32	869,44	816,64	785,17	831,14
Pigs, live weight from 20 to < 50 kg	1.044,92	1.044,65	1.049,60	1.061,48	1.081,90	975,53	948,35	956,51	959,06	881,56	936,37
Fattening pigs from 50 kg and more ¹⁾	1.323,15	1.312,33	1.262,39	1.268,86	1.375,04	1.250,78	1.211,99	1.264,25	1.187,91	1.253,81	1.229,49
Fattening pigs from 50 to < 80 kg	766,20	740,47	726,44	719,36	754,17	682,96	663,27	687,57	662,46	665,02	669,58
Fattening pigs from 80 to < 110 kg	497,08	502,94	474,89	481,31	543,91	493,01	478,43	504,84	455,54	512,52	487,83
Fattening pigs from at least 110 kg	59,87	68,93	61,06	68,19	76,96	74,80	70,29	71,84	69,91	76,27	72,07
breeding pigs, Lebend-live weight of 50 kg and more	394,94	401,49	398,63	397,74	386,28	343,81	334,28	350,20	341,04	334,33	339,96
boars	13,97	13,54	13,20	12,48	12,11	10,92	10,10	10,80	9,31	8,52	9,68
sows in total	380,97	387,95	385,44	385,27	374,17	332,89	324,18	339,39	331,73	325,81	330,28
Goats	49,75	54,23	54,47	58,34	54,24	58,00	56,11	57,99	57,84	54.607,00	13.694,74
Sheep	342,14	365,25	380,86	383,66	360,81	352,28	339,24	320,47	304,36	325,50	322,39
Laying hens	6.477,00	5.937,00	5.752,00	6.048,00	6.025,00	5.580,00	5.215,00	5.220,00	5.333,00	5.159,40	5.231,85

¹⁾ including retired boars and sows, : no data

F 11.6: Austria: Imports and Exports in t

Austria	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	5.727	5.822	5.569	6.524	5.910,50
Export	700.399	672.936	625.898	542.832	635.516,25
Differenz	-694.672	-667.114	-620.329	-536.308	-629.605,75
Butter of Cow Milk					
Import	5.845	8.905	9.064	10.964	8.694,50
Export	3.006	2.976	2.790	1.962	2.683,50
Differenz	2.839	5.929	6.274	9.002	6.011,00
Cheese (Skim Cow Milk)					
Import	324	303	8	98	183,25
Export	81	0	0	3	21,00
Differenz	243	303	8	95	162,25
Cheese (Whole Cow Milk)					
Import	58.412	60.410	64.080	71.952	63.713,50
Export	37.131	49.863	57.095	59.140	50.807,25
Differenz	21.281	10.547	6.985	12.812	12.906,25
Meat Bovine Fresh					
Import	12.535	8.469	9.535	16.176	11.678,75
Export	57.764	70.618	63.801	70.104	65.571,75
Differenz	-45.229	-62.149	-54.266	-53.928	-53.893,00
Meat of Swine					
Import	89.573	75.328	73.939	63.853	75.673,25
Export	90.724	96.386	115.232	104.432	101.693,50
Differenz	-1.151	-21.058	-41.293	-40.579	-26.020,25
Meat Poultry Fresh					
Import	34.793	42.734	46.497	44.796	42.205,00
Export	11.332	14.705	22.753	24.490	18.320,00
Differenz	23.461	28.029	23.744	20.306	23.885,00
Cereals					
Import	443.936	477.934	767.312	581.497	567.669,75
Export	980.870	910.601	1.160.078	1.037.469	1.022.254,50
Differenz	-536.934	-432.667	-392.766	-455.972	-454.584,75
Wheat					
Import	85.250	158.268	283.353	151.516	169.596,75
Export	509.823	539.481	763.255	592.378	601.234,25
Differenz	-424.573	-381.213	-479.902	-440.862	-431.637,50
Rye					
Import	26.087	37.554	19.484	37.895	30.255,00
Export	13.288	11.396	7.361	5.116	9.290,25
Differenz		26.158	12.123	32.779	23.686,67
Barley					
Import	144.380	82.290	99.529	93.964	105.040,75
Export	260.576	101.838	74.539	62.998	124.987,75
Differenz	-116.196	-19.548	24.990	30.966	-19.947,00
Oats					
Import	11.558	13.855	12.739	11.692	12.461,00
Export	1.354	2.600	8.253	8.991	5.299,50
Differenz	10.204	11.255	4.486	2.701	7.161,50
Triticale					
Import	7.305	3.120	4.104	3.082	4.402,75
Export	435	476	566	1.897	843,50
Differenz	6.870	2.644	3.538	1.185	3.559,25
Maize					
Import	92.843	92.034	264.878	199.090	162.211,25
Export	152.973	208.470	268.468	324.111	238.505,50
Differenz	-60.130	-116.436	-3.590	-125.021	-76.294,25
Rapeseed					
Import	108.258	59.650	72.338	63.963	76.052,25
Export	22.659	27.853	40.429	59.611	37.638,00
Differenz	85.599	31.797	31.909	4.352	38.414,25
Sunflower					
Import	86.035	79.060	100.322	114.598	95.003,75
Export	17.027	20.657	52.950	55.737	36.592,75
Differenz	69.008	58.403	47.372	58.861	58.411,00
Sugar Total (Raw Equiv.)					
Import	16.904	21.294	39.624	38.917	29.184,75
Export	153.967	133.990	139.057	140.605	141.904,75
Differenz	-137.063	-112.696	-99.433	-101.688	-112.720,00
Soybeans					
Import	13.214	30.423	22.349	18.189	21.043,75
Export	31.906	14.855	11.632	16.349	18.685,50
Differenz	-18.692	15.568	10.717	1.840	2.358,25

F 11.7: **Austria**: Milk and meat production in t

Austria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	3.298.190	3.167.762	3.054.900	3.112.123	3.279.246	3.373.288	3.364.290	3.323.656	3.316.366	3.334.771
Beef	211.870	195.880	221.068	206.021	196.882	203.333	203.489	215.240	211.855	210.195
Mutton and goat meat	6.245	6.518	6.886	7.260	7.288	6.560	8.296	7.998	7.653	7.982
Pork	597.556	565.900	593.400	610.100	661.100	684.100	620.404	613.833	653.279	629.172
Poultry meat	102.559	98.680	98.273	102.532	105.967	104.944	111.190	113.011	112.587	112.263

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 11.8: Austria: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	105.693	5,650	597.166
Export(+)/Import(-) surplus in crop production			
- Cereals	80.457	5,650	454.585
- Rapeseed	-15.665	2,452	-38.414
- Sunflowers	-22.808	2,561	-58.411
- Sugar beets	12.543	62,905	789.040 ¹⁾
Crop production balance	54.527		1.146.800

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	629.606
- Butter ²⁾	-120.220
- Cheese ³⁾	-129.063
Whole milk equivalent balance	380.323
Total milk production	3.334.771
the above as %	12,87

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	53.893
Total production	210.195
the above as %	34,48
- Pork	26.020
Total production	629.172
the above as %	4,31
- Poultry meat	-23.885
Total production	112.263
the above as %	-17,54

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 11.9: Austria: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	63.089	0,25		15.772		15.772
Calves						
male	285.990	0,3		85.797		85.797
female	299.921	0,19	56.985			56.985
Cattle 1 - 2 Years						
male	182.711	0,7		127.898		127.898
female	271.912	0,65	176.743			176.743
Cattle > 2 Years						
male	21.266	1,2		25.520		25.520
Beef heifers	7.744	1,2		9.292		9.292
other heifers	124.544	1,2	149.453			149.453
Dairy cows	591.458	1,2	709.749			709.749
other cows	249.646	1,2		299.575		299.575
Goats	13.694.735	0,1			1.369.474	1.369.474
Sheep	322.391	0,1			32.239	32.239
Total			1.092.930	563.853	1.401.713	3.058.496
Share %			35,73	18,44	45,83	100,00
Roughage area ha						2.131.543
thereof...			761.690	392.964	976.889	

F 11.10: Austria: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	105.693	3,12
Reduction of overproduction		
- Crop production	54.527	1,61
- Animal production		
- Milk	86.869	2,56
- Beef	100.754	2,97
- Pork	¹⁾ 17.270	0,51
- Poultry meat	²⁾ -7.609	-0,22
Balance of potential area	³⁾ 347.843	
Agricultural land	3.392.333	
the above as %	10,25	10,25

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 11.11: **Austria:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	8.103.000	8.222.000	8.318.000
- Change in % up to.....		1,4686	1,1676
Per capita consumption (grain equivalent)	1.175,9	1.231,9	1.231,9
- Change in % up to.....		4,76	0,00
Consumption change in % up to		5,6645	1,015
Abs. agricultural land in ha	3.392.333		
- Land redesignation in % up to ¹⁾		3,129	3,129
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-1,2063	-10,8555
Balance of agricultural land			
- Basis available ha	3.392.333		
- Increase(+) reduction(-) due to redesignation in ha		106.154	106.154
- Increased(+) decreased(-) demand for food		192.157	34.442
- Release due to yield increase in ha (-)		-339.233	-508.850
- Release due to improved feed conversion in ha (-)		-20.607	-39.422
- Potential for biomass in ha per year.....	-347.843	-61.529	-407.676
Accumulation of the above in ha		-409.372	-817.048
- the above as % of the basis available agricultural land	10,25	12,07	24,09
- quantity equivalents of the above			
- Cereals ³⁾	1.965.323	2.544.262	5.308.800
- Straw	1.572.259	2.035.410	4.247.040

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 11.12 : **Austria:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	629.172		
- Feedgrain consumption t ¹⁾	2.359.395	-117.970 ³⁾	-235.940 ³⁾
Land equivalent ha cereals	417.590	-20.879	-41.759
- Poultry meat t	112.263		
- Feed grain consumption t ²⁾	202.073	-10.104 ³⁾	-20.207 ³⁾
Land equivalent ha cereals	35.765	-1.788	-3.576
Total land equivalent ha	453.354	-22.668	-45.335

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 11.13 : **Austria:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	1.917.392
Grassland for milk production	ha	685.165
Overproduction milk	%	12,87
Released grassland due to abandonment of overproduction	ha	78.142
Grassland for beef production	ha	353.484
Overproduction beef	%	34,48
Released grassland due to abandonment of overproduction	ha	90.632
Total grassland released	ha	168.773
the above as % of total grassland		8,80
the above as % of potential area for bioenergy sources		48,52

F 11.14 : **Austria:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	106.154	106.154
Share of grassland of agricultural land	%	56,52	56,52
Redesignation of grassland	ha	60.000	60.000
Change to grassland due to change in consumption			
- Rate of change in population	%	1,4686	1,1676
- Rate of change in milk and beef consumption	%	1,6000	0,0000
Total change	%	3,0686	1,1676
Grassland for milk and beef production	ha	1.038.649	1.038.649
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	31.872	12.127
Release due to yield increase(-)	ha	-191.739	-287.609
Total change in grassland	ha	-99.868	-215.482
Accumulated grassland potential for bioenergy sources	ha	268.641	484.123
the above as % of total grassland		14,01	25,25
the above as % of potential area		65,62	59,25

F 11.15: **Austria: Potentials of area and production quantities with and without set-aside**

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Austria	obligatory set-aside 10 %					
wheat	279,07	1.402,70	242,71	1.374,53	251,63	1.605,57
rye	53,20	204,39	73,72	319,07	79,17	386,07
barley	230,34	1.018,56	217,30	960,89	203,03	897,79
oats	34,51	135,87	22,41	99,43	23,99	119,88
grain maize	185,41	1.784,84	298,00	3.462,78	304,72	4.274,20
pulses	34,44	88,77	4,82	12,43	4,75	12,23
rapeseed	56,74	147,38	20,30	59,41	20,90	68,91
sunflower	22,08	56,98	38,58	100,58	36,15	95,20
set-aside ¹	81,67	0,00	78,18	0,00	78,33	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	45,95	2.981,47	30,66	2.263,86	26,90	2.260,44
potato	23,08	686,44	19,79	696,53	16,91	704,56
Total	1.046,48	8.507,40	1.046,48	9.349,52	1.046,48	10.424,85
Total in GE		5.865,20		7.206,40		8.280,75
Austria	without set-aside					
wheat	279,07	1.402,70	217,09	1.229,44	225,54	1.439,08
rye	53,20	204,39	81,46	352,59	88,98	433,91
barley	230,34	1.018,56	233,61	1.033,02	212,70	940,59
oats	34,51	135,87	21,68	96,16	23,07	115,32
grain maize	185,41	1.784,84	366,11	4.254,18	378,55	5.309,70
pulses	34,44	88,77	2,72	7,02	2,47	6,37
rapeseed	56,74	147,38	16,74	49,00	16,72	55,15
sunflower	22,08	56,98	54,17	141,21	50,55	133,10
set-aside ¹	81,67	0,00	2,45	0,00	4,08	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	45,95	2.981,47	30,66	2.263,86	26,90	2.260,44
potato	23,08	686,44	19,79	696,53	16,91	704,56
Total	1.046,48	8.507,40	1.046,48	10.122,99	1.046,48	11.398,19
Total in GE		5.865,20		8.001,02		9.270,99
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 11.16: **Austria:** Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Austria	without set-aside, ethanol beets at 25 €/t possible					
wheat	279,07	1.402,70	194,67	1.102,44	198,21	1.264,69
rye	53,20	204,39	77,20	334,14	84,08	410,04
barley	230,34	1.018,56	192,54	851,44	176,01	778,32
oats	34,51	135,87	21,37	94,81	22,72	113,57
grain maize	185,41	1.784,84	326,70	3.796,20	334,36	4.689,85
pulses	34,44	88,77	3,38	8,71	3,06	7,89
rapeseed	56,74	147,38	17,00	49,77	17,05	56,21
sunflower	22,08	56,98	32,62	85,03	30,68	80,78
set-aside ¹	81,67	0,00	1,44	0,00	2,38	0,00
ethanol beet	0,00	0,00	129,22	9.541,18	134,21	11.276,08
sugar beet	45,95	2.981,47	30,55	2.256,00	26,81	2.252,45
potato	23,08	686,44	19,79	696,53	16,91	704,56
Total	1.046,48	8.507,40	1.046,48	18.816,25	1.046,48	21.634,44
Total in GE		5.865,20		9.505,50		11.020,29
Austria	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	279,07	1.402,70	233,98	1.325,09	242,80	1.549,22
rye	53,20	204,39	74,55	322,67	83,06	405,07
barley	230,34	1.018,56	172,83	764,27	150,37	664,93
oats	34,51	135,87	22,69	100,66	23,79	118,89
grain maize	185,41	1.784,84	343,58	3.992,35	352,98	4.951,06
pulses	34,44	88,77	1,92	4,96	1,68	4,33
rapeseed	56,74	147,38	7,30	21,38	7,80	25,71
sunflower	22,08	56,98	18,04	47,04	15,73	41,42
set-aside ¹	81,67	0,00	0,50	0,00	0,69	0,00
ethanol beet	0,00	0,00	122,22	9.024,45	125,61	10.553,61
sugar beet	45,95	2.981,47	29,07	2.146,23	25,06	2.105,20
potato	23,08	686,44	19,79	696,53	16,91	704,56
Total	1.046,48	8.507,40	1.046,48	18.445,61	1.046,48	21.124,00
Total in GE		5.865,20		9.558,27		11.113,24
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 12 Denmark**F 12.1: Denmark: Total land area and agricultural area**

in 1000 ha

Denmark	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309	4.309
thereof													
Land Area	4.239	4.243	4.243	4.243	4.243	4.243	4.243	4.243	4.243	4.243	4.243	4.243	4.243
thereof													
Agricultural Area	2.770	2.756	2.739	2.691	2.726	2.716	2.688	2.672	2.644	2.647	2.676	2.666	2.663
thereof													
Permanent Pasture	212	208	197	317	398	385	315	298	342	358	376	382	372
Permanent Crops	10	9	9	9	9	9	8	8	8	8	8	8	8
Arable Land	2.548	2.539	2.533	2.365	2.319	2.322	2.365	2.366	2.294	2.281	2.292	2.276	2.283
Arable & Permanent Crops	2.558	2.548	2.542	2.374	2.328	2.331	2.373	2.374	2.302	2.289	2.300	2.284	2.291
NonArable&NonPermanent	1.681	1.695	1.701	1.869	1.915	1.912	1.870	1.869	1.941	1.954	1.943	1.959	1.952
All other Land	1.052	1.070	1.087	1.135	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 12.2: **Denmark**: Cultivation area of agricultural crops

Cultivated land in ha											
Denmark	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	2.691.000	2.726.000	2.716.000	2.688.000	2.672.000	2.644.000	2.647.000	2.676.000	2.666.000		2.663.000
Cereals	1.410.350	1.454.400	1.523.000	1.535.200	1.530.166	1.496.784	1.514.258	1.538.062	1.527.934	1.484.586	1.516.210
Wheat	573.568	608.000	681.000	689.000	680.000	638.000	627.486	634.040	576.625	664.341	625.623
Rye	88.639	96.000	72.000	84.000	105.000	51.000	50.506	65.306	46.439	32.917	48.792
Barley	704.443	719.500	738.000	720.000	686.000	728.000	741.048	743.833	824.508	709.874	754.816
Oats	43.700	30.900	32.000	29.500	31.466	25.784	44.531	60.136	55.230	49.499	52.349
Triticale	0	0	0	12.700	27.700	54.000	50.687	34.747	25.132	27.955	34.630
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	169.580	152.073	106.000	104.000	117.278	152.000	99.318	78.875	84.100	106.600	92.223
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	66.019	67.771	70.000	69.000	66.000	63.000	59.168	56.323	58.000	49.600	55.773
Forage total ¹⁾	805.170	806.100	856.795	857.601	832.970	866.573	920.556	880.588	1.049.718	1.078.606	982.367
Field forage ¹⁾	610.985	594.000	660.195	680.601	665.970	696.073	741.156	696.290	863.326	892.938	798.428
Green maize ¹⁾	31.269	37.000	41.652	42.701	46.992	48.452	61.493	78.816	95.740	118.265	88.579
Permanent grassland ¹⁾	194.185	212.100	196.600	177.000	167.000	170.500	179.400	184.298	186.392	185.668	183.940
Fallow land ¹⁾	223.000	190.000	190.701	147.400	141.432	182.905	191.295	201.817	204.721	204.721	200.639

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 12.3: **Denmark**: Yields of agricultural crops

Yield in dt/ha											
Denmark	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	55,31	62,91	60,53	62,07	61,00	58,62	62,16	61,27	57,64	60,97	60,35
Wheat	64,95	75,63	69,86	72,06	72,48	70,07	74,80	73,56	70,40	70,77	72,92
Rye	47,73	51,52	47,64	53,87	51,21	48,59	51,97	50,89	49,42	51,20	50,76
Barley	48,92	54,18	53,56	53,99	51,97	50,48	53,71	53,32	49,98	53,19	52,34
Oats	47,07	51,26	51,34	52,51	51,14	50,35	52,31	48,50	49,89	52,45	50,23
Triticale	0	0	0	55,31	51,22	46,54	48,15	48,62	48,37	52,16	48,38
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	21,86	20,55	23,68	27,98	30,59	27,05	29,59	26,82	25,92	33,23	27,45
Sunflower	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sugar beet	475,31	461,80	437,71	487,97	528,13	562,41	565,30	559,07	583,62	576,07	569,33
Forage total ¹⁾	121,10	123,30	102,15	119,56	124,37	124,17	108,64	129,79	108,12	110,09	115,52
Field forage ¹⁾	140,81	146,59	115,45	133,63	138,96	139,41	134,93	148,72	119,86	122,17	134,51
Green maize ¹⁾	427,10	416,60	386,37	386,17	317,08	362,83	342,34	363,82	378,06	362,17	361,40
Permanent grassland ¹⁾	59,07	58,09	57,50	65,45	66,20	61,93	58,21	58,27	53,73	51,99	56,74

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 12.4: **Denmark**: Production of agricultural crops

Production in t											
Denmark	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	7.800.025	9.149.900	9.218.042	9.529.361	9.334.138	8.774.275	9.412.662	9.423.086	8.806.706	9.050.937	9.214.151
Wheat	3.725.194	4.598.500	4.757.742	4.964.703	4.928.375	4.470.745	4.693.422	4.663.938	4.059.237	4.701.382	4.472.199
Rye	423.066	494.600	343.000	452.519	537.657	247.782	262.468	332.358	229.501	168.526	274.776
Barley	3.446.065	3.898.400	3.953.000	3.887.000	3.565.308	3.674.621	3.979.794	3.966.181	4.120.861	3.775.593	4.022.279
Oats	205.700	158.400	164.300	154.900	160.915	129.828	232.946	291.657	275.556	259.633	266.720
Triticale	0	0	0	70.239	141.883	251.299	244.032	168.952	121.551	145.803	178.178
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	370.662	312.437	251.000	291.000	358.800	411.090	293.900	211.577	218.000	354.200	241.159
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	3.137.954	3.129.647	3.064.000	3.367.000	3.485.659	3.543.178	3.344.780	3.148.826	3.385.000	2.857.300	3.292.869
Forage total ¹⁾	9.750.632	9.939.346	8.752.485	10.253.209	10.359.845	10.760.031	10.000.740	11.429.217	11.349.602	11.873.892	10.926.520
Field forage ¹⁾	8.603.512	8.707.199	7.622.040	9.094.727	9.254.321	9.704.141	10.000.740	10.355.383	10.348.081	10.908.581	10.234.735
Green maize ¹⁾	1.335.484	1.541.429	1.609.324	1.649.000	1.490.000	1.758.000	2.105.137	2.867.467	3.619.523	4.283.182	2.864.042
Permanent grassland ¹⁾	1.147.120	1.232.147	1.130.445	1.158.482	1.105.524	1.055.890	1.044.267	1.073.834	1.001.521	965.311	1.039.874

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 12.5: Denmark: Livestock in 1,000 heads

Denmark	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	2.082,00	2.094,00	2.052,00	2.026,00	1.968,00	1.976,00	1.891,00	1.840,00	1.740,00	1.681,00	1.788,00
under 1 year	768,00	760,00	734,00	718,00	668,00	669,00	605,00	584,00	553,00	549,00	572,75
beef calf	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00
other calves	762,00	754,00	728,00	712,00	662,00	663,00	599,00	578,00	547,00	543,00	566,75
male	356,00	347,00	323,00	311,00	275,00	278,00	253,00	250,00	229,00	228,00	240,00
female	406,00	407,00	405,00	401,00	387,00	385,00	346,00	328,00	318,00	315,00	326,75
between 1 and 2 years	386,00	391,00	390,00	382,00	377,00	372,00	371,00	356,00	330,00	314,00	342,75
male	47,00	46,00	38,00	39,00	41,00	42,00	51,00	47,00	35,00	30,00	40,75
female	339,00	345,00	352,00	343,00	336,00	330,00	320,00	309,00	295,00	284,00	302,00
animals for slaughter	14,00	14,00	14,00	14,00	14,00	14,00	14,00	14,00	14,00	14,00	14,00
others	325,00	331,00	338,00	329,00	322,00	316,00	306,00	295,00	281,00	270,00	288,00
at least 2 years	928,00	943,00	928,00	926,00	923,00	935,00	915,00	900,00	857,00	818,00	872,50
male	10,00	12,00	10,00	9,00	10,00	12,00	22,00	21,00	16,00	14,00	18,25
female	918,00	931,00	918,00	917,00	913,00	923,00	893,00	879,00	841,00	804,00	854,25
Heifers	96,00	99,00	99,00	105,00	109,00	106,00	128,00	128,00	115,00	106,00	119,25
heifers for slaughter	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00	6,00
other heifers	90,00	93,00	93,00	99,00	103,00	100,00	122,00	122,00	109,00	100,00	113,25
Cows	822,00	832,00	819,00	812,00	804,00	817,00	765,00	751,00	726,00	698,00	735,00
milk cows	717,00	714,00	697,00	695,00	680,00	681,00	644,00	628,00	613,00	589,00	618,50
other cows	105,00	118,00	122,00	117,00	124,00	136,00	121,00	123,00	113,00	109,00	116,50
Pigs	10.864,00	10.709,00	11.079,00	11.494,00	11.991,00	11.914,00	12.642,00	12.975,00	12.879,00	12.969,00	12.866,25
piglets, live weight < 20 kg	3.257,00	3.285,00	3.528,00	3.612,00	3.667,00	3.706,00	4.001,00	4.134,00	4.112,00	4.215,00	4.115,50
Pigs, live weight from 20 to < 50 kg	3.393,00	3.305,00	3.279,00	3.263,00	3.423,00	3.415,00	3.551,00	3.756,00	3.625,00	3.764,00	3.674,00
Fattening pigs from 50 kg and more¹⁾	3.046,00	2.937,00	3.013,00	3.371,00	3.603,00	3.504,00	3.713,00	3.708,00	3.739,00	3.539,00	3.674,75
Fattening pigs from 50 to < 80 kg	2.426,00	2.340,00	2.401,00	2.687,00	2.870,00	2.795,00	2.962,00	2.958,00	2.983,00	2.822,00	2.931,25
Fattening pigs from 80 to < 110 kg	607,00	585,00	600,00	672,00	718,00	699,00	741,00	739,00	746,00	706,00	733,00
Fattening pigs from at least 110 kg	13,00	12,00	12,00	12,00	15,00	10,00	10,00	11,00	10,00	11,00	10,50
breeding pigs, Lebend-live weight of 50 kg and more	1.168,00	1.182,00	1.259,00	1.248,00	1.298,00	1.289,00	1.377,00	1.377,00	1.403,00	1.451,00	1.402,00
boars	37,00	35,00	38,00	36,00	35,00	33,00	33,00	29,00	28,00	27,00	29,25
sows in total	1.131,00	1.147,00	1.221,00	1.212,00	1.263,00	1.256,00	1.344,00	1.348,00	1.375,00	1.424,00	1.372,75
Goats	0	0	0	0	0	0	0	0	0	0	0
Sheep	79,00	93,00	92,00	103,00	108,00	106,00	116,00	111,00	92,00	105,00	106,00
Laying hens	5.296,00	4.297,00	4.725,00	3.993,00	3.621,00	3.680,00	3.681,00	3.732,00	3.653,00	3.701,00	3.691,75

¹⁾ including retired boars and sows, : no data

F 12.6: **Denmark**: Imports and Exports in t

Denmark	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	19.914	39.982	31.172	46.381	34.362,25
Export	65.291	37.412	31.383	42.718	44.201,00
Differenz	-45.377	2.570	-211	3.663	-9.838,75
Butter of Cow Milk					
Import	23.809	17.703	20.002	28.346	22.465,00
Export	40.132	40.994	48.059	54.862	46.011,75
Differenz	-16.323	-23.291	-28.057	-26.516	-23.546,75
Cheese (Skim Cow Milk)					
Import	0	0	0	1	0,25
Export	0	0	0	0	0,00
Differenz	0	0	0	1	0,25
Cheese (Whole Cow Milk)					
Import	37.862	44.703	77.507	58.289	54.590,25
Export	247.315	239.587	236.011	238.596	240.377,25
Differenz	-209.453	-194.884	-158.504	-180.307	-185.787,00
Meat Bovine Fresh					
Import	71.313	56.371	65.334	67.817	65.208,75
Export	87.368	65.939	70.857	62.944	71.777,00
Differenz	-16.055	-9.568	-5.523	4.873	-6.568,25
Meat of Swine					
Import	44.593	29.726	31.331	38.013	35.915,75
Export	950.605	990.046	1.009.361	1.085.718	1.008.932,50
Differenz	-906.012	-960.320	-978.030	-1.047.705	-973.016,75
Meat Poultry Fresh					
Import	16.062	22.611	26.700	27.531	23.226,00
Export	120.018	114.928	119.528	117.547	118.005,25
Differenz	-103.956	-92.317	-92.828	-90.016	-94.779,25
Cereals					
Import	702.263	878.821	1.140.837	1.020.539	935.615,00
Export	1.974.970	1.784.585	2.066.824	1.763.307	1.897.421,50
Differenz	-1.272.707	-905.764	-925.987	-742.768	-961.806,50
Wheat					
Import	181.809	225.324	405.836	384.171	299.285,00
Export	939.181	730.203	910.420	791.052	842.714,00
Differenz	-757.372	-504.879	-504.584	-406.881	-543.429,00
Rye					
Import	36.721	26.567	34.846	9.363	26.874,25
Export	43.915	135.634	140.163	44.056	90.942,00
Differenz	-7.194	-109.067	-105.317	-34.693	-64.067,75
Barley					
Import	196.857	328.932	389.340	305.053	305.045,50
Export	912.208	854.954	954.119	872.209	898.372,50
Differenz	-715.351	-526.022	-564.779	-567.156	-593.327,00
Oats					
Import	26.719	7.301	11.906	41.059	21.746,25
Export	8.436	37.321	37.019	39.579	30.588,75
Differenz	18.283	-30.020	-25.113	1.480	-8.842,50
Triticale					
Import	8.360	1.374	984	7.220	4.484,50
Export	1.887	411	7.134	4.008	3.360,00
Differenz	6.473	963	-6.150	3.212	1.124,50
Maize					
Import	41.871	69.246	74.864	60.550	61.632,75
Export	857	668	2.194	467	1.046,50
Differenz	41.014	68.578	72.670	60.083	60.586,25
Rapeseed					
Import	89.241	238.925	251.652	238.045	204.465,75
Export	30.357	35.080	50.303	54.671	42.602,75
Differenz	58.884	203.845	201.349	183.374	161.863,00
Sunflower					
Import	73.989	49.150	18.461	33.616	43.804,00
Export	1.766	1.949	1.386	8.459	3.390,00
Differenz	72.223	47.201	17.075	25.157	40.414,00
Sugar Total (Raw Equiv.)					
Import	16.680	132.457	143.014	125.718	104.467,25
Export	340.592	342.631	439.669	283.101	351.498,25
Differenz	-323.912	-210.174	-296.655	-157.383	-247.031,00
Soybeans					
Import	110.164	112.473	150.560	124.755	124.488,00
Export	742	1.228	944	758	918,00
Differenz	109.422	111.245	149.616	123.997	123.570,00

F 12.7: **Denmark**: Milk and meat production in t

Denmark	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	4.442.200	4.676.000	4.695.200	4.631.800	4.667.600	4.655.200	4.719.800	4.553.000	4.590.000	4.620.933
Beef	189.300	181.700	178.000	174.800	161.800	156.588	153.900	153.400	153.500	153.600
Mutton and goat meat	1.700	1.500	1.642	1.508	1.500	1.483	1.453	1.587	1.495	1.512
Pork	1.521.000	1.494.000	1.493.700	1.520.600	1.629.300	1.641.800	1.624.500	1.716.000	1.759.000	1.699.833
Poultry meat	172.434	172.960	170.220	175.673	190.270	202.459	201.699	216.104	217.540	211.781

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 12.8: **Denmark**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	200.639	6,035	1.210.947
Export(+)/Import(-) surplus in crop production			
- Cereals	159.359	6,035	961.807
- Rapeseed	-58.975	2,745	-161.863
- Sunflowers	0	0,000	-40.414
- Sugar beets	30.373	56,933	1.729.217 ¹⁾
Crop production balance	130.757		2.488.747

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	9.839
- Butter ²⁾	470.935
- Cheese ³⁾	1.857.870
Whole milk equivalent balance	2.338.644
Total milk production	4.620.933
the above as %	102,47

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	6.568
Total production	153.600
the above as %	4,47
- Pork	973.017
Total production	1.699.833
the above as %	133,87
- Poultry meat	94.779
Total production	211.781
the above as %	81,01

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 12.9: **Denmark**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	6.000	0,25		1.500		1.500
Calves						
male	240.000	0,3		72.000		72.000
female	326.750	0,19	62.083			62.083
Cattle 1 - 2 Years						
male	40.750	0,7		28.525		28.525
female	302.000	0,65	196.300			196.300
Cattle > 2 Years						
male	18.250	1,2		21.900		21.900
Beef heifers	6.000	1,2		7.200		7.200
other heifers	113.250	1,2	135.900			135.900
Dairy cows	618.500	1,2	742.200			742.200
other cows	116.500	1,2		139.800		139.800
Goats	0	0,1			0	0
Sheep	106.000	0,1			10.600	10.600
Total			1.136.483	270.925	10.600	1.418.008
Share %			80,15	19,11	0,75	100,00
Roughage area ha						982.367
thereof...			787.332	187.691	7.343	

F 12.10: **Denmark**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	200.639	7,53
Reduction of overproduction		
- Crop production	130.757	4,91
- Animal production		
- Milk	398.467	14,96
- Beef	8.026	0,30
- Pork	¹⁾ 604.562	22,70
- Poultry meat	²⁾ 28.267	1,06
Balance of potential area	³⁾ 737.888	
Agricultural land	2.663.000	
the above as %	27,71	27,71

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 12.11: **Denmark:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	5.330.000	5.505.000	5.642.000
- Change in % up to.....		3,2833	2,4886
Per capita consumption (grain equivalent)	1.195,2	1.267,5	1.267,5
- Change in % up to.....		6,05	0,00
Consumption change in % up to		8,4841	2,164
Abs. agricultural land in ha	2.663.000		
- Land redesignation in % up to ¹⁾		3,851	3,851
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		2,3351	-8,9849
Balance of agricultural land			
- Basis available ha	2.663.000		
- Increase(+) reduction(-) due to redesignation in ha		102.552	102.552
- Increased(+) decreased(-) demand for food		225.931	57.628
- Release due to yield increase in ha (-)		-266.300	-399.450
- Release due to improved feed conversion in ha (-)		-50.878	-97.332
- Potential for biomass in ha per year.....	-737.888	11.306	-336.601
Accumulation of the above in ha		-726.583	-1.063.183
- the above as % of the basis available agricultural land	27,71	27,28	39,92
- quantity equivalents of the above			
- Cereals ³⁾	4.453.501	4.823.791	7.379.329
- Straw	3.562.801	3.859.033	5.903.463

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 12.12 : **Denmark:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	1.699.833		
- Feedgrain consumption t ¹⁾	6.374.375	-318.719 ³⁾	-637.438 ³⁾
Land equivalent ha cereals	1.056.153	-52.808	-105.615
- Poultry meat t	211.781		
- Feed grain consumption t ²⁾	381.206	-19.060 ³⁾	-38.121 ³⁾
Land equivalent ha cereals	63.161	-3.158	-6.316
Total land equivalent ha	1.119.314	-55.966	-111.931

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 12.13 : **Denmark:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	183.940
Grassland for milk production	ha	148.530
Overproduction milk	%	102,47
Released grassland due to abandonment of overproduction	ha	75.171
Grassland for beef production	ha	35.408
Overproduction beef	%	4,47
Released grassland due to abandonment of overproduction	ha	1.514
Total grassland released	ha	76.685
the above as % of total grassland		41,69
the above as % of potential area for bioenergy sources		10,35

F 12.14 : **Denmark:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	102.552	102.552
Share of grassland of agricultural land	%	6,91	6,91
Redesignation of grassland	ha	7.084	7.084
Change to grassland due to change in consumption			
- Rate of change in population	%	3,2833	2,4886
- Rate of change in milk and beef consumption	%	7,0000	0,0000
Total change	%	10,2833	2,4886
Grassland for milk and beef production	ha	183.938	183.938
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	18.915	4.578
Release due to yield increase(-)	ha	-18.394	-27.591
Total change in grassland	ha	7.604	-15.930
Accumulated grassland potential for bioenergy sources	ha	69.080	85.010
the above as % of total grassland		37,56	46,22
the above as % of potential area		9,47	7,97

F 12.15: **Denmark:** Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Denmark	obligatory set-aside 10 %					
wheat	631,23	4.563,14	689,99	5.455,42	697,84	6.034,67
rye	63,65	321,95	104,84	621,53	106,25	738,24
barley	744,68	3.861,35	615,59	3.191,99	604,74	3.135,72
oats	43,43	218,18	44,34	261,06	48,56	335,10
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	56,31	196,09	26,83	93,44	27,38	95,36
rapeseed	106,31	298,67	182,28	588,47	186,08	690,35
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	175,21	0,00	177,81	0,00	178,39	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	60,50	3.381,49	43,46	2.528,37	39,59	2.396,82
potato	37,72	1.530,09	33,90	1.580,28	30,21	1.618,38
Total	1.919,04	14.370,97	1.919,04	14.320,56	1.919,04	15.044,64
Total in GE		10.819,85		11.571,99		12.435,57
Denmark	without set-aside					
wheat	631,23	4.563,14	766,89	6.063,45	773,95	6.692,85
rye	63,65	321,95	147,37	873,63	151,48	1.052,48
barley	744,68	3.861,35	571,65	2.964,16	527,11	2.733,19
oats	43,43	218,18	48,38	284,85	56,75	391,66
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	56,31	196,09	18,35	63,90	19,22	66,95
rapeseed	106,31	298,67	265,94	858,55	273,16	1.013,40
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	175,21	0,00	23,10	0,00	47,56	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	60,50	3.381,49	43,46	2.528,37	39,60	2.397,28
potato	37,72	1.530,09	33,90	1.580,28	30,21	1.618,38
Total	1.919,04	14.370,97	1.919,04	15.217,19	1.919,04	15.966,20
Total in GE		10.819,85		12.657,67		13.582,92
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 12.16: **Denmark:** Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Denmark	without set-aside, ethanol beets at 25 €/t possible					
wheat	631,23	4.563,14	683,67	5.405,49	685,24	5.925,69
rye	63,65	321,95	142,23	843,16	149,61	1.039,52
barley	744,68	3.861,35	529,44	2.745,28	488,73	2.534,21
oats	43,43	218,18	47,61	280,35	55,93	385,98
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	56,31	196,09	18,35	63,90	19,28	67,14
rapeseed	106,31	298,67	256,93	829,48	274,77	1.019,36
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	175,21	0,00	22,41	0,00	45,20	0,00
ethanol beet	0,00	0,00	142,03	8.262,12	131,49	7.960,29
sugar beet	60,50	3.381,49	42,46	2.469,97	38,58	2.335,71
potato	37,72	1.530,09	33,90	1.580,28	30,21	1.618,38
Total	1.919,04	14.370,97	1.919,04	22.480,04	1.919,04	22.886,27
Total in GE		10.819,85		13.747,38		14.583,12
Denmark	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	631,23	4.563,14	795,09	6.286,40	798,30	6.903,43
rye	63,65	321,95	145,64	863,37	159,54	1.108,48
barley	744,68	3.861,35	574,63	2.979,63	537,87	2.789,00
oats	43,43	218,18	52,86	311,24	62,95	434,43
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	56,31	196,09	6,12	21,31	5,91	20,59
rapeseed	106,31	298,67	151,69	489,71	182,29	676,27
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	175,21	0,00	6,24	0,00	13,10	0,00
ethanol beet	0,00	0,00	116,34	6.767,58	97,79	5.920,23
sugar beet	60,50	3.381,49	36,53	2.125,13	31,08	1.881,48
potato	37,72	1.530,09	33,90	1.580,28	30,21	1.618,38
Total	1.919,04	14.370,97	1.919,04	21.424,67	1.919,04	21.352,29
Total in GE		10.819,85		13.833,70		14.679,70
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 13 Finland**F 13.1: Finland:** Total land area and agricultural area

in 1000 ha

Finland	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815	33.815
thereof													
Land Area	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459	30.459
thereof													
Agricultural Area	2.425	2.406	2.384	2.412	2.259	2.237	2.242	2.284	2.294	2.212	2.219	2.228	2.220
thereof													
Permanent Pasture	123	120	106	110	113	111	113	114	114	21	20	20	20
Permanent Crops	6	6	6	6	8	8	8	8	8	9	9	9	9
Arable Land	2.296	2.280	2.272	2.296	2.138	2.118	2.121	2.162	2.172	2.182	2.190	2.199	2.190
Arable & Permanent Crops	2.302	2.286	2.278	2.302	2.146	2.126	2.129	2.170	2.180	2.191	2.199	2.208	2.199
NonArable&NonPermanent	28.157	28.173	28.181	28.157	28.313	28.333	28.330	28.289	28.279	28.268	28.260	28.251	28.260
All other Land	4.812	4.867	4.889	4.861	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 13.2: **Finland**: Cultivation area of agricultural crops

Cultivated land in ha											
Finland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	2.412.000	2.259.000	2.237.000	2.242.000	2.284.000	2.294.000	2.212.000	2.219.000	2.228.000		2.219.667
Cereals	947700	977700	1078500	1115800	1154100	1132800	1169700	1159700	1194500	1191600	1.174.633
Wheat	88900	100700	112500	124800	137200	117700	149500	144600	174500	191300	156.200
Rye	8600	20800	35300	22800	36100	12300	44600	29000	30500	30500	34.700
Barley	505700	516200	542500	582800	578100	581000	559000	547200	522600	529500	542.933
Oats	334300	329300	374400	369200	386500	403900	399900	422700	451100	424500	424.567
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	67100	85300	61700	60600	64800	62500	52500	73100	67500	74600	64.367
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	33900	34800	34700	34900	33200	34800	32200	31100	30600	28800	31.300
Forage total ¹⁾	692.500	791.200	:	:	704.000	686.207	698.100	675.800	:	649.200	686.950
Field forage ¹⁾	676.500	776.100	:	423.500	682.400	665.207	672.200	650.500	:	621.600	661.350
Green maize ¹⁾											0
Permanent grassland ¹⁾	16.000	15.100	17.700	21.300	21.600	21.000	25.900	25.300	:	27.600	25.600
Fallow land ¹⁾	505.000	223.200	179.300	161.600	166.500	211.400	181.600	201.900	210.000	220.400	203.475

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 13.3: **Finland**: Yields of agricultural crops

Yield in dt/ha											
Finland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	35,87	34,09	34,39	34,12	24,03	25,42	35,01	31,65	32,95	31,79	33,20
Wheat	37,95	37,69	40,83	37,19	28,93	21,59	36,01	33,81	32,59	35,49	34,13
Rye	25,81	27,74	24,62	20,75	13,66	19,19	24,26	22,10	23,97	23,87	23,44
Barley	36,74	34,16	34,28	34,38	22,77	26,98	35,51	32,64	33,27	32,06	33,81
Oats	34,40	33,32	33,68	33,68	25,23	24,51	35,33	30,45	33,43	30,50	33,07
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	16,08	14,99	14,49	15,33	9,86	14,13	13,51	13,79	15,23	12,55	14,17
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	323,57	318,97	258,39	389,69	268,68	336,81	324,85	355,37	348,46	309,83	342,89
Forage total ¹⁾											0

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 13.4: **Finland**: Production of agricultural crops

Production in t											
Finland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	3.399.600	3.333.000	3.708.400	3.806.800	2.772.900	2.879.200	4.095.100	3.670.300	3.936.200	3.787.500	3.900.533
Wheat	337.400	379.500	459.300	464.100	396.900	254.100	538.300	488.900	568.600	679.000	531.933
Rye	22.200	57.700	86.900	47.300	49.300	23.600	108.200	64.100	73.100	72.800	81.800
Barley	1.858.100	1.763.500	1.859.600	2.003.500	1.316.200	1.567.700	1.984.800	1.786.000	1.738.700	1.697.400	1.836.500
Oats	1.149.900	1.097.200	1.260.800	1.243.400	975.100	990.100	1.412.800	1.287.100	1.507.800	1.294.500	1.402.567
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	107.900	127.900	89.400	92.900	63.900	88.300	70.900	100.800	102.800	93.600	91.500
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	1.096.900	1.110.000	896.600	1.360.000	892.000	1.172.100	1.046.000	1.105.200	1.066.300	892.300	1.072.500

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 13.5: **Finland**: Livestock in 1,000 heads

Finland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	1.185,30	1.179,30	1.150,30	1.125,00	1.100,60	1.068,00	1.035,10	1.019,40	1.011,75	977,48	1.010,93
under 1 year	421,60	425,70	411,50	397,90	386,70	370,10	362,00	354,70	351,00	335,30	350,75
beef calf	7,00	7,00	9,50	9,00	8,50	9,20	9,00	9,40	9,30	8,00	8,93
other calves	414,60	418,70	402,00	388,90	378,20	360,90	353,00	345,30	341,70	327,30	341,83
male	203,10	205,30	203,30	197,30	191,80	185,20	180,40	176,70	175,10	167,85	175,01
female	211,50	213,40	198,70	191,60	186,40	175,70	172,60	168,60	166,60	159,47	166,82
between 1 and 2 years	272,90	279,80	272,40	273,60	267,10	263,90	251,80	250,66	256,02	250,32	252,20
male	116,80	118,70	117,20	119,60	116,80	107,80	100,40	100,40	106,72	103,92	102,86
female	156,10	161,10	155,20	154,00	150,30	156,10	151,40	150,26	149,30	146,40	149,34
animals for slaughter	15,80	18,30	14,60	13,40	11,60	10,40	9,00	8,86	10,24	9,73	9,46
others	140,30	142,80	140,60	140,60	138,70	145,70	142,40	141,40	139,06	136,70	139,89
at least 2 years	490,80	473,80	466,40	453,50	446,80	434,00	421,30	414,03	404,73	391,90	407,99
male	6,20	7,40	7,90	6,50	6,30	10,90	8,70	8,25	9,18	7,95	8,52
female	484,60	466,40	458,50	447,00	440,50	423,10	412,60	405,78	395,55	383,90	399,46
Heifers	38,40	34,20	32,70	31,90	30,10	20,10	26,60	25,81	23,81	27,63	25,96
heifers for slaughter	3,30	2,30	3,00	2,20	1,90	2,10	1,70	1,46	1,45	1,30	1,48
other heifers	35,10	31,90	29,70	29,70	28,20	18,00	24,90	24,35	22,36	26,30	24,48
Cows	446,20	432,20	425,80	415,10	410,40	403,00	386,00	379,97	371,74	356,26	373,49
milk cows	412,60	402,30	395,50	382,60	380,30	373,60	357,90	351,82	343,05	327,98	345,19
other cows	33,60	29,90	30,30	32,50	30,10	29,40	28,10	28,16	28,69	28,29	28,31
Pigs	1.295,10	1.394,00	1.413,40	1.443,90	1.540,70	1.492,80	1.455,50	1.453,80	1.422,80	1.394,20	1.431,58
piglets, live weight < 20 kg	384,00	415,90	419,40	418,60	437,30	419,50	419,60	373,60	388,20	384,70	391,53
Pigs, live weight from 20 to < 50 kg	272,20	284,20	307,30	315,20	361,90	350,60	322,00	319,60	298,00	298,30	309,48
Fattening pigs from 50 kg and more¹⁾	460,90	507,80	499,40	520,00	542,60	530,50	526,10	573,40	546,20	518,10	540,95
Fattening pigs from 50 to < 80 kg	316,00	336,70	327,90	315,20	335,10	327,40	305,70	350,50	340,50	332,20	332,23
Fattening pigs from 80 to < 110 kg	128,40	154,40	158,90	194,90	197,70	193,00	208,60	196,30	191,00	173,70	192,40
Fattening pigs from at least 110 kg	16,50	16,70	12,60	9,90	9,80	10,10	11,80	26,60	14,70	12,20	16,33
breeding pigs, Lebend-live weight of 50 kg and more	178,00	186,10	187,30	190,10	198,90	192,20	187,80	187,20	190,40	193,10	189,63
boars	6,80	6,80	6,10	6,20	6,60	6,70	6,40	5,60	5,50	6,00	5,88
sows in total	171,20	179,30	181,20	183,90	192,30	185,50	181,40	181,60	184,90	187,10	183,75
Goats	4,50	5,50	6,00	6,50	6,60	6,40	6,70	6,50	5,10	4,80	5,78
Sheep	80,00	114,50	110,80	102,90	96,00	77,00	73,90	66,50	67,40	67,40	68,80
Laying hens	5.561,20	5.542,70	5.229,60	4.983,60	4.767,50	3.390,00	3.329,00	3.290,00	3.248,00	:	3.289,00

¹⁾ including retired boars and sows, : no data

F 13.6: Finland: Imports and Exports in t

Finland	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	345	375	385	828	483,25
Export	1.579	2.343	2.185	4.602	2.677,25
Differenz	-1.234	-1.968	-1.800	-3.774	-2.194,00
Butter of Cow Milk					
Import	154	149	128	153	146,00
Export	35.510	35.727	36.929	37.265	36.357,75
Differenz	-35.356	-35.578	-36.801	-37.112	-36.211,75
Cheese (Skim Cow Milk)					
Import	0	0	3	22	6,25
Export	0	0	0	0	0,00
Differenz	0	0	3	22	6,25
Cheese (Whole Cow Milk)					
Import	17.659	16.734	16.928	18.868	17.547,25
Export	27.130	26.941	26.760	25.950	26.695,25
Differenz	-9.471	-10.207	-9.832	-7.082	-9.148,00
Meat Bovine Fresh					
Import	4.698	5.510	5.469	5.198	5.218,75
Export	3.582	2.373	3.554	7.029	4.134,50
Differenz	1.116	3.137	1.915	-1.831	1.084,25
Meat of Swine					
Import	13.008	9.180	9.237	8.009	9.858,50
Export	16.063	16.463	23.768	32.551	22.211,25
Differenz	-3.055	-7.283	-14.531	-24.542	-12.352,75
Meat Poultry Fresh					
Import	2.813	2.627	2.704	3.866	3.002,50
Export	1.659	3.957	7.494	7.060	5.042,50
Differenz	1.154	-1.330	-4.790	-3.194	-2.040,00
Cereals					
Import	329.631	198.834	334.481	167.384	257.582,50
Export	276.515	746.807	585.373	513.567	530.565,50
Differenz	53.116	-547.973	-250.892	-346.183	-272.983,00
Wheat					
Import	181.463	93.651	187.240	63.570	131.481,00
Export	362	1.149	1.046	25.776	7.083,25
Differenz	181.101	92.502	186.194	37.794	124.397,75
Rye					
Import	43.469	37.435	57.213	20.879	39.749,00
Export	1.957	2.774	0	1.450	1.545,25
Differenz	41.512	34.661	57.213	19.429	38.203,75
Barley					
Import	77.144	40.042	49.716	55.225	55.531,75
Export	32.400	186.425	85.319	92.005	99.037,25
Differenz	44.744	-146.383	-35.603	-36.780	-43.505,50
Oats					
Import	35	53	1.640	27	438,75
Export	229.366	540.506	483.166	386.988	410.006,50
Differenz	-229.331	-540.453	-481.526	-386.961	-409.567,75
Triticale					
Import	53	0	2.824	0	719,25
Export	0	0	0	0	0,00
Differenz	53	0	2.824	0	719,25
Maize					
Import	407	352	2.533	342	908,50
Export	1	3	0	1	1,25
Differenz	406	349	2.533	341	907,25
Rapeseed					
Import	95.300	86.812	66.343	79.624	82.019,75
Export	166	21	0	14	50,25
Differenz	95.134	86.791	66.343	79.610	81.969,50
Sunflower					
Import	9.926	13.394	15.951	15.435	13.676,50
Export	12	12	0	53	19,25
Differenz	9.914	13.382	15.951	15.382	13.657,25
Sugar Total (Raw Equiv.)					
Import	53.184	76.892	64.657	107.164	75.474,25
Export	24.562	16.942	44.365	53.343	34.803,00
Differenz	28.622	59.950	20.292	53.821	40.671,25
Soybeans					
Import	107.364	182.242	133.761	112.599	133.991,50
Export	0	0	3.303	0	825,75
Differenz	107.364	182.242	130.458	112.599	133.165,75

F 13.7: **Finland**: Milk and meat production in t

Finland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	2.511.682	2.467.695	2.431.233	2.462.833	2.447.342	2.403.200	2.450.100	2.529.600	2.532.050	2.503.917
Beef	107.620	96.170	96.550	99.610	93.760	90.480	91.430	89.770	90.730	90.643
Mutton and goat meat	1.480	1.570	1.350	1.270	1.180	910	750	670	640	687
Pork	170.660	167.550	171.820	179.670	184.520	181.860	172.790	173.700	184.240	176.910
Poultry meat	39.420	42.560	49.430	52.730	61.050	66.100	64.380	75.650	82.600	74.210

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 13.8: **Finland**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	203.475	3,320	675.618
Export(+)/Import(-) surplus in crop production			
- Cereals	82.214	3,320	272.983
- Rapeseed	-57.828	1,417	-81.970
- Sunflowers	0	0,000	-13.657
- Sugar beets	-8.303	34,289	-284.699 ¹⁾
Crop production balance	16.083		-107.343

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	2.194
- Butter ²⁾	724.235
- Cheese ³⁾	91.480
Whole milk equivalent balance	817.909
Total milk production	2.503.917
the above as %	48,51

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-1.084
Total production	90.643
the above as %	-1,18
- Pork	12.353
Total production	176.910
the above as %	7,51
- Poultry meat	2.040
Total production	74.210
the above as %	2,83

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 13.9: **Finland**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	8.925	0,25		2.231		2.231
Calves						
male	175.013	0,3		52.504		52.504
female	166.818	0,19	31.695			31.695
Cattle 1 - 2 Years						
male	102.860	0,7		72.002		72.002
female	149.341	0,65	97.072			97.072
Cattle > 2 Years						
male	8.520	1,2		10.223		10.223
Beef heifers	1.478	1,2		1.773		1.773
other heifers	24.478	1,2	29.373			29.373
Dairy cows	345.187	1,2	414.224			414.224
other cows	28.309	1,2		33.971		33.971
Goats	5.775	0,1			578	578
Sheep	68.800	0,1			6.880	6.880
Total			572.364	172.704	7.458	752.526
Share %			76,06	22,95	0,99	100,00
Roughage area ha						686.950
thereof...			522.488	157.655	6.808	

F 13.10: **Finland**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	203.475	9,17
Reduction of overproduction		
- Crop production	16.083	0,72
- Animal production		
- Milk	170.672	7,69
- Beef	-1.886	-0,08
- Pork	¹⁾ 13.951	0,63
- Poultry meat	²⁾ 1.106	0,05
Balance of potential area	³⁾ 388.344	
Agricultural land	2.219.667	
the above as %	17,50	17,50

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 13.11: **Finland:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	5.171.000	5.264.000	5.322.000
- Change in % up to.....		1,7985	1,1018
Per capita consumption (grain equivalent)	1.057,5	1.093,2	1.093,2
- Change in % up to.....		3,38	0,00
Consumption change in % up to		4,7040	0,958
Abs. agricultural land in ha	2.219.667		
- Land redesignation in % up to ¹⁾		9,467	9,467
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		4,1712	-4,5747
Balance of agricultural land			
- Basis available ha	2.219.667		
- Increase(+) reduction(-) due to redesignation in ha		210.140	210.140
- Increased(+) decreased(-) demand for food		104.413	21.267
- Release due to yield increase in ha (-)		-221.967	-332.950
- Release due to improved feed conversion in ha (-)		-10.910	-20.872
- Potential for biomass in ha per year.....	-388.344	81.675	-122.415
Accumulation of the above in ha		-306.668	-429.084
- the above as % of the basis available agricultural land	17,50	13,82	19,33
- quantity equivalents of the above			
- Cereals ³⁾	1.289.456	1.120.087	1.638.438
- Straw	1.031.565	896.070	1.310.751

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 13.12 : **Finland:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	176.910		
- Feedgrain consumption t ¹⁾	663.413	-33.171 ³⁾	-66.341 ³⁾
Land equivalent ha cereals	199.799	-9.990	-19.980
- Poultry meat t	74.210		
- Feed grain consumption t ²⁾	133.578	-6.679 ³⁾	-13.358 ³⁾
Land equivalent ha cereals	40.229	-2.011	-4.023
Total land equivalent ha	240.028	-12.001	-24.003

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 13.13 : **Finland:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	25.600
Grassland for milk production	ha	19.471
Overproduction milk	%	48,51
Released grassland due to abandonment of overproduction	ha	6.360
Grassland for beef production	ha	5.875
Overproduction beef	%	-1,18
Released grassland due to abandonment of overproduction	ha	-70
Total grassland released	ha	6.290
the above as % of total grassland		24,57
the above as % of potential area for bioenergy sources		1,62

F 13.14 : **Finland**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	210.140	210.140
Share of grassland of agricultural land	%	1,15	1,15
Redesignation of grassland	ha	2.424	2.424
Change to grassland due to change in consumption			
- Rate of change in population	%	1,7985	1,1018
- Rate of change in milk and beef consumption	%	-1,7000	0,0000
Total change	%	0,0985	1,1018
Grassland for milk and beef production	ha	25.346	25.346
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	25	279
Release due to yield increase(-)	ha	-2.560	-3.840
Total change in grassland	ha	-111	-1.137
Accumulated grassland potential for bioenergy sources	ha	6.401	7.539
the above as % of total grassland		25,01	29,45
the above as % of potential area		2,09	1,76

F 13.15: **Finland:** Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Finland	obligatory set-aside 10 %					
wheat	146,28	449,38	151,11	554,88	156,10	685,15
rye	30,44	63,58	49,94	118,69	48,93	132,31
barley	554,32	1.678,68	492,69	1.492,03	488,13	1.478,23
oats	408,26	1.234,58	426,80	1.468,60	434,33	1.700,56
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	5,08	9,14	3,17	6,06	3,30	6,70
rapeseed	62,12	86,54	96,11	147,90	96,13	163,41
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	145,62	0,00	146,18	0,00	146,52	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	32,34	1.057,32	22,86	801,27	19,36	727,86
potato	31,40	735,84	27,01	749,09	23,06	757,18
Total	1.415,86	5.315,06	1.415,86	5.338,53	1.415,86	5.651,40
Total in GE		3.993,98		4.241,83		4.614,15
Finland	without set-aside					
wheat	146,28	449,38	171,44	629,52	184,44	809,55
rye	30,44	63,58	80,14	190,46	78,23	211,56
barley	554,32	1.678,68	450,80	1.365,17	419,28	1.269,73
oats	408,26	1.234,58	463,31	1.594,21	470,11	1.840,64
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	5,08	9,14	2,76	5,28	2,92	5,92
rapeseed	62,12	86,54	141,67	218,02	141,50	240,53
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	145,62	0,00	55,88	0,00	76,94	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	32,34	1.057,32	22,86	801,48	19,38	728,35
potato	31,40	735,84	27,01	749,09	23,06	757,18
Total	1.415,86	5.315,06	1.415,86	5.553,22	1.415,86	5.863,47
Total in GE		3.993,98		4.505,45		4.879,83
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 13.16: **Finland:** Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Finland	without set-aside, ethanol beets at 25 €/t possible					
wheat	146,28	449,38	162,09	595,22	172,74	758,18
rye	30,44	63,58	80,55	191,45	82,24	222,41
barley	554,32	1.678,68	431,77	1.307,55	401,89	1.217,06
oats	408,26	1.234,58	450,59	1.550,45	459,15	1.797,75
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	5,08	9,14	3,39	6,48	3,51	7,11
rapeseed	62,12	86,54	145,38	223,72	149,46	254,05
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	145,62	0,00	53,02	0,00	72,18	0,00
ethanol beet	0,00	0,00	39,33	1.378,89	32,50	1.221,64
sugar beet	32,34	1.057,32	22,72	796,53	19,14	719,35
potato	31,40	735,84	27,01	749,09	23,06	757,18
Total	1.415,86	5.315,06	1.415,86	6.799,37	1.415,86	6.954,72
Total in GE		3.993,98		4.725,14		5.071,07
Finland	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	146,28	449,38	193,64	711,05	205,51	902,02
rye	30,44	63,58	82,83	196,87	84,58	228,73
barley	554,32	1.678,68	445,21	1.348,25	390,46	1.182,46
oats	408,26	1.234,58	510,64	1.757,07	544,50	2.131,90
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	5,08	9,14	2,39	4,57	2,47	5,00
rapeseed	62,12	86,54	89,73	138,08	97,63	165,95
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	145,62	0,00	22,32	0,00	34,35	0,00
ethanol beet	0,00	0,00	25,58	896,85	20,02	752,39
sugar beet	32,34	1.057,32	16,51	578,94	13,29	499,48
potato	31,40	735,84	27,01	749,09	23,06	757,18
Total	1.415,86	5.315,06	1.415,86	6.380,76	1.415,86	6.625,12
Total in GE		3.993,98		4.771,31		5.196,64
1) according to FADN						
Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 14 Ireland**F 14.1: Ireland: Total land area and agricultural area**

in 1000 ha

Ireland	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027	7.027
thereof													
Land Area	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889	6.889
thereof													
Agricultural Area	4.442	4.413	4.404	4.390	4.389	4.341	4.431	4.416	4.418	4.412	4.410	4.408	4.410
thereof													
Permanent Pasture	3.410	3.407	3.378	3.373	3.356	3.279	3.393	3.328	3.339	3.333	3.257	3.285	3.292
Permanent Crops	3	3	3	3	3	3	3	3	3	2	2	2	2
Arable Land	1.029	1.003	1.023	1.014	1.030	1.059	1.035	1.085	1.076	1.077	1.151	1.121	1.116
Arable & Permanent Crops	1.032	1.006	1.026	1.017	1.033	1.062	1.038	1.088	1.079	1.079	1.153	1.123	1.118
NonArable&NonPermanent	5.857	5.883	5.863	5.872	5.856	5.827	5.851	5.801	5.810	5.810	5.736	5.766	5.771
All other Land	1.877	1.906	1.915	1.929	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 14.2: **Ireland:** Cultivation area of agricultural crops

Cultivated land in ha											
Ireland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	4.390.000	4.389.000	4.341.000	4.431.000	4.416.000	4.418.000	4.412.000	4.410.000	4.408.000		4.410.000
Cereals	264.900	269.400	288.200	304.500	294.100	280.500	277.300	283.900	297.700	300.000	289.725
Wheat	74.100	70.700	85.700	93.900	83.800	68.100	78.000	84.900	102.700	95.700	90.325
Rye	200	200	200	200	200	200	200	200	200	200	200
Barley	169.700	178.600	181.400	189.800	190.700	192.000	182.300	182.000	176.000	183.100	180.850
Oats	20.900	19.900	20.900	20.600	19.400	20.200	16.800	16.800	18.800	21.000	18.350
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	6.400	4.100	3.500	4.400	5.600	2.600	2.700	2.400	2.200	2.300	2.400
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	35.400	35.100	32.300	32.300	32.900	33.800	32.200	31.100	31.300	31.500	31.525
Forage total ¹⁾							3.347.034	3.239.479	3.212.684	3.201.319	3.250.129
Field forage ¹⁾							14.000	19.700	19.300	15.632	17.158
Green maize ¹⁾	0.000	0.000	0.000	0.000	0.000	0.000	14.000	19.700	19.300	15.632	17.158
Permanent grassland ¹⁾	3.432.900	3.334.700	3.241.290	3.393.210	3.328.060	3.339.090	3.333.034	3.219.779	3.193.384	3.185.687	3.232.971
Fallow land ¹⁾							16.161	0.000	18.300	23.200	19.220

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 14.3: **Ireland:** Yields of agricultural crops

Yield in dt/ha											
Ireland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	60,79	66,68	74,34	63,86	63,43	71,70	78,41	76,27	65,97	71,57	73,55
Wheat	77,19	82,46	89,97	77,21	80,31	87,67	94,54	90,58	84,44	82,97	89,85
Rye	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00	20,00
Barley	53,62	60,69	67,53	57,27	56,27	66,54	71,85	70,18	54,71	65,41	65,58
Oats	61,24	64,82	69,86	64,08	61,39	67,53	75,36	70,66	71,06	73,86	72,36
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	26,56	31,71	28,57	27,27	30,36	19,23	31,85	30,42	30,46	31,30	30,91
Sunflower	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Sugar beet	392,66	440,74	432,01	423,00	425,23	415,68	568,01	481,67	415,56	477,84	488,41

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>
Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 14.4: **Ireland:** Production of agricultural crops

Production in t

Ireland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	1.610.400	1.796.400	2.142.400	1.944.400	1.865.500	2.011.300	2.174.300	2.165.300	1.964.000	2.147.200	2.101.200
Wheat	572.000	583.000	771.000	725.000	673.000	597.000	737.400	769.000	867.200	794.000	791.200
Rye	400	400	400	400	400	400	400	400	400	400	400
Barley	910.000	1.084.000	1.225.000	1.087.000	1.073.000	1.277.500	1.309.900	1.277.200	962.800	1.197.700	1.183.300
Oats	128.000	129.000	146.000	132.000	119.100	136.400	126.600	118.700	133.600	155.100	126.300
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	17.000	13.000	10.000	12.000	17.000	5.000	8.600	7.300	6.700	7.200	7.533
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	1.390.000	1.547.000	1.395.400	1.366.300	1.399.000	1.405.000	1.829.000	1.498.000	1.300.700	1.505.200	1.542.567

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 14.5: Ireland: Livestock in 1,000 heads

Ireland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	6.343,87	6.450,64	6.660,90	6.881,63	6.951,73	6.557,89	6.330,19	6.408,07	6.332,82	6.223,40	6.323,62
under 1 year	1.556,48	1.631,41	1.734,98	1.828,60	1.789,53	1.648,94	1.689,97	1.879,43	1.805,62	1.751,10	1.781,53
beef calf	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
other calves	1.556,48	1.631,41	1.734,98	1.828,60	1.789,53	1.648,94	1.689,97	1.879,43	1.805,62	1.751,10	1.781,53
male	842,17	888,15	952,88	1.012,78	983,05	892,20	927,15	1.007,41	1.001,06	948,60	971,06
female	714,31	743,26	782,10	815,83	806,47	756,74	762,82	872,02	804,56	802,50	810,47
between 1 and 2 years	1.538,20	1.533,88	1.586,35	1.650,59	1.700,40	1.591,57	1.418,15	1.482,86	1.519,79	1.479,70	1.475,13
male	861,44	864,53	907,17	957,07	990,09	919,09	813,08	857,28	902,22	873,10	861,42
female	676,76	669,35	679,18	693,52	710,31	672,48	605,07	625,58	617,57	606,60	613,71
animals for slaughter	328,98	297,99	301,50	312,52	351,11	345,87	288,57	287,04	286,82	257,90	280,08
others	347,79	371,36	377,68	381,00	371,00	326,62	316,50	338,54	330,75	348,70	333,62
at least 2 years	3.249,19	3.285,35	3.339,57	3.402,44	3.461,80	3.317,38	3.222,07	3.045,78	3.007,40	2.992,60	3.066,96
male	596,60	590,31	560,57	553,28	579,15	524,39	487,14	325,09	317,24	297,80	356,82
female	2.652,59	2.695,04	2.779,00	2.849,16	2.882,65	2.792,99	2.734,93	2.720,68	2.690,16	2.694,80	2.710,14
Heifers	450,84	469,61	480,07	484,01	487,64	452,40	426,91	413,08	410,57	414,90	416,37
heifers for slaughter	160,21	148,25	145,62	146,34	171,21	161,69	140,98	119,21	120,85	113,20	123,56
other heifers	290,62	321,36	334,44	337,67	316,43	290,70	285,93	293,87	289,72	301,70	292,81
Cows	2.201,75	2.225,43	2.298,94	2.365,15	2.395,01	2.340,60	2.308,01	2.307,60	2.279,59	2.279,90	2.293,78
milk cows	1.233,04	1.220,79	1.215,57	1.201,36	1.198,77	1.173,85	1.152,78	1.147,95	1.128,75	1.135,70	1.141,29
other cows	968,71	1.004,64	1.083,37	1.163,79	1.196,24	1.166,75	1.155,24	1.159,65	1.150,85	1.144,20	1.152,48
Pigs	1.498,33	1.542,43	1.664,56	1.716,96	1.800,88	1.762,94	1.731,48	1.762,94	1.781,50	1.731,62	1.751,89
piglets, live weight < 20 kg	414,15	410,36	450,27	452,99	469,29	485,70	481,80	504,56	525,00	503,16	503,63
Pigs, live weight from 20 to < 50 kg	448,49	464,78	501,84	521,88	535,87	520,33	510,01	497,46	499,20	478,08	496,19
Fattening pigs from 50 kg and more ¹⁾	468,74	486,43	525,08	544,52	603,29	566,53	550,98	570,02	571,00	571,98	566,00
Fattening pigs from 50 to < 80 kg	339,03	344,75	371,44	407,75	433,68	407,71	395,58	400,64	392,60	383,92	393,19
Fattening pigs from 80 to < 110 kg	124,90	135,75	150,98	132,77	164,12	154,60	151,06	164,62	173,90	181,56	167,79
Fattening pigs from at least 110 kg	4,81	5,93	2,66	4,00	5,49	4,22	4,34	4,76	4,50	6,50	5,03
breeding pigs, Lebend-live weight of 50 kg and more	166,96	180,86	187,37	197,57	192,43	190,38	188,69	190,90	186,30	178,40	186,07
boars	5,30	5,28	5,02	5,17	4,62	4,14	3,96	3,70	3,10	2,85	3,40
sows in total	161,66	175,58	182,35	192,40	187,81	186,24	184,73	187,20	183,20	175,55	182,67
Goats	0	0	0	0	15,10	13,50	9,87	9,30	8,06	9,00	9,06
Sheep	5.775,00	5.583,00	5.390,50	5.634,20	5.623,80	5.393,20	5.056,00	4.807,00	4.828,50	4.850,10	4.885,40
Laying hens	3.145,00	3.228,00	2.873,00	2.903,00	2.632,00	2.802,00	3.516,00	3.425,00	3.529,00	3.448,00	3.479,50

¹⁾ including retired boars and sows, : no data

F 14.6: Ireland: Imports and Exports in t

Ireland	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	274.882	211.805	220.665	247.652	238.751,00
Export	118.363	91.110	88.203	98.332	99.002,00
Differenz	156.519	120.695	132.462	149.320	139.749,00
Butter of Cow Milk					
Import	4.472	4.946	3.787	3.827	4.258,00
Export	118.761	113.592	99.241	124.203	113.949,25
Differenz	-114.289	-108.646	-95.454	-120.376	-109.691,25
Cheese (Skim Cow Milk)					
Import	1	156	331	35	130,75
Export	2.210	2.228	2.296	888	1.905,50
Differenz	-2.209	-2.072	-1.965	-853	-1.774,75
Cheese (Whole Cow Milk)					
Import	22.222	23.085	23.330	31.243	24.970,00
Export	87.065	113.432	108.872	97.627	101.749,00
Differenz	-64.843	-90.347	-85.542	-66.384	-76.779,00
Meat Bovine Fresh					
Import	6.218	7.564	9.787	10.389	8.489,50
Export	378.045	208.426	293.279	319.916	299.916,50
Differenz	-371.827	-200.862	-283.492	-309.527	-291.427,00
Meat of Swine					
Import	22.223	26.426	24.284	24.669	24.400,50
Export	82.131	94.400	82.332	72.309	82.793,00
Differenz	-59.908	-67.974	-58.048	-47.640	-58.392,50
Meat Poultry Fresh					
Import	56.142	32.538	31.092	38.597	39.592,25
Export	55.527	37.689	33.603	37.902	41.180,25
Differenz	615	-5.151	-2.511	695	-1.588,00
Cereals					
Import	730.695	645.973	762.477	982.468	780.403,25
Export	205.227	236.337	98.587	150.479	172.657,50
Differenz	525.468	409.636	663.890	831.989	607.745,75
Wheat					
Import	445.610	358.552	340.584	521.260	416.501,50
Export	40.848	34.571	25.413	116.699	54.382,75
Differenz	404.762	323.981	315.171	404.561	362.118,75
Rye					
Import	411	959	1.588	997	988,75
Export	5	12	5	190	53,00
Differenz	406	947	1.583	807	935,75
Barley					
Import	11.884	9.599	77.498	85.814	46.198,75
Export	125.418	167.987	47.419	14.471	88.823,75
Differenz	-113.534	-158.388	30.079	71.343	-42.625,00
Oats					
Import	382	190	329	8.675	2.394,00
Export	12.432	4.353	8.324	4.574	7.420,75
Differenz	-12.050	-4.163	-7.995	4.101	-5.026,75
Triticale					
Import	24	2	92	32	37,50
Export	0	0	0	0	0,00
Differenz	24	2	92	32	37,50
Maize					
Import	135.351	146.534	166.755	184.584	158.306,00
Export	2.477	2.126	2.633	560	1.949,00
Differenz	132.874	144.408	164.122	184.024	156.357,00
Rapeseed					
Import	1.627	1.993	2.198	1.615	1.858,25
Export	1.135	562	9	0	426,50
Differenz	492	1.431	2.189	1.615	1.431,75
Sunflower					
Import	70	1.520	243	142	493,75
Export	0	0	0	0	0,00
Differenz	70	1.520	243	142	493,75
Sugar Total (Raw Equiv.)					
Import	25.551	38.373	37.292	46.029	36.811,25
Export	54.182	81.678	73.160	65.727	68.686,75
Differenz	-28.631	-43.305	-35.868	-19.698	-31.875,50
Soybeans					
Import	32.122	23.848	41.265	34.258	32.873,25
Export	729	1.381	1.948	2.976	1.758,50
Differenz	31.393	22.467	39.317	31.282	31.114,75

F 14.7: **Ireland:** Milk and meat production in t

Ireland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	5.336.500	5.346.800	5.297.100	5.256.300	5.091.200	5.121.100	5.159.788	5.381.800	5.368.000	5.303.196
Beef	445.300	477.300	534.500	567.600	593.500	643.800	576.500	579.000	540.000	565.167
Mutton and goat meat	92.600	89.400	90.000	78.900	85.500	90.300	82.900	78.100	66.500	75.833
Pork	214.600	212.100	211.000	219.900	241.700	249.700	230.400	241.000	231.000	234.133
Poultry meat	99.640	99.840	104.140	108.840	109.640	126.640	123.280	123.280	122.680	123.080

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 14.8: **Ireland**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	19.220	7,355	141.367
Export(+)/Import(-) surplus in crop production			
- Cereals	-82.630	7,355	-607.746
- Rapeseed	-463	3,091	-1.432
- Sunflowers	0	0,000	-494
- Sugar beets	4.568	48,841	223.129 ¹⁾
Crop production balance	-78.524		-386.543

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-139.749
- Butter ²⁾	2.193.825
- Cheese ³⁾	767.790
Whole milk equivalent balance	2.821.866
Total milk production	5.303.196
the above as %	113,72

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	291.427
Total production	565.167
the above as %	106,46
- Pork	58.393
Total production	234.133
the above as %	33,23
- Poultry meat	1.588
Total production	123.080
the above as %	1,31

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 14.9: **Ireland**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	0	0,25		0		0
Calves						
male	971.056	0,3		291.317		291.317
female	810.475	0,19	153.990			153.990
Cattle 1 - 2 Years						
male	861.419	0,7		602.993		602.993
female	613.707	0,65	398.909			398.909
Cattle > 2 Years						
male	356.819	1,2		428.183		428.183
Beef heifers	123.560	1,2		148.272		148.272
other heifers	292.806	1,2	351.367			351.367
Dairy cows	1.141.293	1,2	1.369.551			1.369.551
other cows	1.152.484	1,2		1.382.981		1.382.981
Goats	9.059	0,1			906	906
Sheep	4.885.400	0,1			488.540	488.540
Total			2.273.817	2.853.745	489.446	5.617.009
Share %			40,48	50,81	8,71	100,00
Roughage area ha						3.250.129
thereof...			1.315.682	1.651.242	283.204	

F 14.10: **Ireland**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	19.220	0,44
Reduction of overproduction		
- Crop production	-78.524	-1,78
- Animal production		
- Milk	700.083	15,87
- Beef	851.459	19,31
- Pork	¹⁾ 29.772	0,68
- Poultry meat	²⁾ 389	0,01
Balance of potential area	³⁾ 1.492.239	
Agricultural land	4.410.000	
the above as %	33,84	33,84

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 14.11: **Ireland:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	3.777.000	4.103.000	4.282.000
- Change in % up to.....		8,6312	4,3627
Per capita consumption (grain equivalent)	1.087,8	1.109,6	1.109,6
- Change in % up to.....		2,00	0,00
Consumption change in % up to		9,2547	3,794
Abs. agricultural land in ha	4.410.000		
- Land redesignation in % up to ¹⁾		0,027	0,027
Yield increase in % up to ²⁾		-14,92	-15,00
Balance of all changes in % up to.....		-5,6358	-11,1794
Balance of agricultural land			
- Basis available ha	4.410.000		
- Increase(+) reduction(-) due to redesignation in ha		1.189	1.189
- Increased(+) decreased(-) demand for food		408.131	167.299
- Release due to yield increase in ha (-)		-657.858	-661.500
- Release due to improved feed conversion in ha (-)		-6.504	-13.000
- Potential for biomass in ha per year.....	-1.492.239	-255.042	-506.012
Accumulation of the above in ha		-1.747.281	-2.253.293
- the above as % of the basis available agricultural land	33,84	39,62	51,10
- quantity equivalents of the above			
- Cereals ³⁾	10.975.517	14.768.461	19.059.091
- Straw	8.780.413	11.814.769	15.247.273

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 14.12 : **Ireland:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	234.133		
- Feedgrain consumption t ¹⁾	878.000	-43.900 ³⁾	-87.800 ³⁾
Land equivalent ha cereals	119.373	-5.969	-11.937
- Poultry meat t	123.080		
- Feed grain consumption t ²⁾	221.544	-11.077 ³⁾	-22.154 ³⁾
Land equivalent ha cereals	30.121	-1.506	-3.012
Total land equivalent ha	149.495	-7.475	-14.949

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 14.13 : **Ireland:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	3.232.971
Grassland for milk production	ha	1.308.737
Overproduction milk	%	113,72
Released grassland due to abandonment of overproduction	ha	696.388
Grassland for beef production	ha	1.642.525
Overproduction beef	%	106,46
Released grassland due to abandonment of overproduction	ha	846.964
Total grassland released	ha	1.543.352
the above as % of total grassland		47,74
the above as % of potential area for bioenergy sources		103,43

F 14.14 : **Ireland:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	1.189	1.189
Share of grassland of agricultural land	%	73,31	73,31
Redesignation of grassland	ha	872	872
Change to grassland due to change in consumption			
- Rate of change in population	%	8,6312	4,3627
- Rate of change in milk and beef consumption	%	3,5000	0,0000
Total change	%	12,1312	4,3627
Grassland for milk and beef production	ha	2.951.262	2.951.262
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	358.023	128.754
Release due to yield increase(-)	ha	-482.276	-484.946
Total change in grassland	ha	-123.381	-355.321
Accumulated grassland potential for bioenergy sources	ha	1.666.733	2.022.054
the above as % of total grassland		51,55	62,54
the above as % of potential area		95,39	89,74

F 14.15: **Ireland:** Potentials of area and production quantities with and without set-aside

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Ireland	obligatory set-aside 10 %					
wheat	83,50	728,72	74,34	709,55	75,00	783,04
rye	0,20	0,40	0,20	0,46	0,20	0,52
barley	184,60	1.180,14	209,54	1.339,60	211,33	1.351,00
oats	18,40	127,00	14,25	111,91	16,03	143,29
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	3,32	15,26	2,34	10,76	2,23	10,26
rapeseed	3,10	9,04	3,99	13,63	4,58	18,35
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	31,64	0,00	32,50	0,00	32,84	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	32,26	1.488,80	20,13	976,66	15,97	814,42
potato	15,84	498,60	15,58	541,63	14,67	563,37
Total	372,86	4.047,96	372,86	3.704,20	372,86	3.684,26
Total in GE		2.538,81		2.547,94		2.635,59
Ireland	without set-aside					
wheat	83,50	728,72	75,15	717,30	75,62	789,51
rye	0,20	0,40	0,20	0,46	0,20	0,52
barley	184,60	1.180,14	241,14	1.541,57	242,26	1.548,76
oats	18,40	127,00	13,15	103,28	15,89	142,03
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	3,32	15,26	1,90	8,74	1,77	8,15
rapeseed	3,10	9,04	5,52	18,85	6,13	24,57
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	31,64	0,00	0,10	0,00	0,34	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	32,26	1.488,80	20,13	976,66	15,97	814,42
potato	15,84	498,60	15,58	541,63	14,67	563,37
Total	372,86	4.047,96	372,86	3.908,50	372,86	3.891,34
Total in GE		2.538,81		2.755,89		2.847,02
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 14.16: **Ireland:** Potentials of area and production quantities with cultivation of ethanol beets

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
Ireland	without set-aside, ethanol beets at 25 €/t possible					
wheat	83,50	728,72	69,27	661,20	68,41	714,15
rye	0,20	0,40	0,20	0,46	0,20	0,52
barley	184,60	1.180,14	224,24	1.433,58	234,46	1.498,92
oats	18,40	127,00	12,60	98,96	15,77	140,91
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	3,32	15,26	2,53	11,62	2,40	11,04
rapeseed	3,10	9,04	5,52	18,86	6,14	24,62
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	31,64	0,00	0,10	0,00	0,34	0,00
ethanol beet	0,00	0,00	27,13	1.316,07	20,12	1.026,17
sugar beet	32,26	1.488,80	15,69	761,28	10,35	527,56
potato	15,84	498,60	15,58	541,63	14,67	563,37
Total	372,86	4.047,96	372,86	4.843,66	372,86	4.507,25
Total in GE		2.538,81		2.865,55		2.908,49
Ireland	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	83,50	728,72	93,60	893,45	93,62	977,36
rye	0,20	0,40	0,20	0,46	0,20	0,53
barley	184,60	1.180,14	227,86	1.456,72	228,26	1.459,26
oats	18,40	127,00	16,19	127,16	20,86	186,37
grain maize	0,00	0,00	0,00	0,00	0,00	0,00
pulses	3,32	15,26	0,72	3,31	0,62	2,86
rapeseed	3,10	9,04	1,34	4,58	1,80	7,21
sunflower	0,00	0,00	0,00	0,00	0,00	0,00
set-aside ¹	31,64	0,00	0,00	0,00	0,00	0,00
ethanol beet	0,00	0,00	11,36	550,89	8,55	435,73
sugar beet	32,26	1.488,80	6,01	291,60	4,29	218,75
potato	15,84	498,60	15,58	541,63	14,67	563,37
Total	372,86	4.047,96	372,86	3.869,80	372,86	3.851,45
Total in GE		2.538,81		2.807,83		2.914,94

1) according to FADN

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>; own calculations

F 15 EU 15**F 15.1: EU-15: Total land area and agricultural area**

EU-15	in 1000 ha												2000 -2002
	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	
Total Area	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269	324.269
thereof													
Land Area	313.080	313.084	313.084	313.084	313.084	313.084	313.084	313.084	313.084	313.084	313.084	313.084	313.084
thereof													
Agricultural Area	145.197	144.525	143.770	143.608	142.456	142.721	142.365	142.328	142.091	141.103	140.831	140.987	140.974
thereof													
Permanent Pasture	56.680	56.582	56.467	56.901	56.932	56.699	56.310	56.592	56.678	55.911	55.934	55.725	55.857
Permanent Crops	11.280	11.105	10.978	10.955	10.802	10.796	10.895	11.043	11.133	11.096	11.095	11.138	11.110
Arable Land	77.237	76.838	76.325	75.752	74.722	75.226	75.160	74.693	74.280	74.096	73.802	74.124	74.007
Arable & Permanent Crops	88.517	87.943	87.303	86.707	85.524	86.022	86.055	85.736	85.413	85.192	84.897	85.262	85.117
NonArable&NonPermanent	224.563	225.141	225.781	226.377	227.560	227.062	227.029	227.348	227.671	227.892	228.187	227.822	227.967
All other Land	55.095	55.729	56.153	56.225	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 15.2: EU-15: Cultivation area of agricultural crops

Cultivated land in ha											
EU-15	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land											
Cereals	35.178.491	36.061.559	37.329.683	38.520.947	37.895.741	36.669.418	37.818.114	36.857.771	37.886.763	36.804.604	37.341.813
Wheat	15.872.030	16.617.531	16.950.354	17.320.858	17.250.990	17.092.474	17.976.008	16.683.868	17.997.481	17.157.569	17.453.732
Rye	1.241.315	1.412.689	1.321.155	1.327.285	1.428.502	1.130.247	1.244.026	1.213.103	1.069.749	855.110	1.095.497
Barley	10.932.706	11.018.686	11.432.573	11.882.447	11.373.007	10.858.420	10.720.152	10.736.336	10.534.705	10.542.415	10.633.402
Oats	2.078.617	1.895.061	1.944.168	2.005.188	2.022.352	1.942.470	1.952.216	1.978.296	2.098.183	2.062.251	2.022.737
Triticale	525.383	631.882	744.909	853.582	897.980	814.240	958.005	963.595	1.002.337	984.840	977.194
Maize	3.846.715	3.824.296	4.184.773	4.357.251	4.186.432	4.112.918	4.234.916	4.562.991	4.440.794	4.432.808	4.417.877
Rapeseed	2.754.450	2.854.444	2.616.139	2.805.365	3.093.259	3.550.183	2.997.007	2.988.161	3.066.559	3.197.075	3.062.201
Sunflower	2.957.273	2.502.765	2.429.096	2.256.968	2.209.232	2.025.181	1.909.104	1.880.800	1.638.599	1.744.881	1.793.346
Sugar beet	2.094.491	2.137.170	2.093.778	2.125.795	2.074.741	2.044.542	1.888.936	1.855.962	1.904.054	1.808.218	1.864.293
Forage land ¹⁾	:	:	:	:	:	:	60.072.684	:	:	:	60.072.684
Field forage ¹⁾	:	:	:	:	:	:	14.826.206	14.756.466	:	14.966.709	14.849.794
Green maize ¹⁾	3.798.538	3.920.585	4.059.507	3.957.461	3.823.209	3.723.889	3.666.112	3.798.400	3.711.862	3.965.365	3.785.435
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	53.310.572
Fallow land ^{1)**}	:	:	:	:	:	:	7.920.332	8.254.623	:	8.147.539	8.107.498

Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

**) green manure and fallow

: no data

F 15.3: EU-15: Yields of agricultural crops

Yield in dt/ha											
EU-15	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000-2002
Agricultural land											
Cereals	50,11	49,90	55,90	54,01	56,41	55,50	57,32	55,03	56,62	51,55	56,32
Wheat	53,94	52,78	58,83	54,73	60,14	57,09	58,72	55,20	58,00	53,00	57,30
Rye	40,08	43,50	43,08	45,37	44,52	48,53	43,66	51,60	44,07	37,20	46,44
Barley	39,87	39,55	46,17	44,17	45,54	44,79	47,96	44,82	45,58	44,14	46,12
Oats	31,75	30,97	35,74	33,77	32,47	30,72	34,58	31,36	34,26	32,92	33,40
Triticale	45,95	47,38	51,60	51,35	53,93	53,04	51,89	54,57	52,87	46,12	53,11
Maize	76,92	79,41	85,01	90,39	87,03	91,23	91,61	89,90	91,92	76,38	91,15
Rapeseed	25,23	28,79	27,21	31,09	30,91	32,19	29,88	29,70	30,36	29,69	29,98
Sunflower	13,71	13,34	16,13	17,54	16,25	15,99	17,78	16,12	16,86	15,44	16,92
Sugar beet	515,43	523,69	543,32	570,10	554,83	602,82	610,53	558,66	620,77	576,75	596,65
Forage land ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Field forage ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Green maize ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00
Permanent grassland ¹⁾	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00	0,00

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 15.4: EU-15: Production of agricultural crops

Production in t											
EU-15	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	176.279.085	179.961.606	208.667.990	208.062.967	213.750.081	203.526.788	216.763.977	202.842.055	214.523.908	189.736.033	205.966.493
Wheat	85.610.206	87.714.330	99.722.074	94.789.664	103.744.136	97.572.903	105.548.404	92.094.146	104.375.996	90.934.041	98.238.147
Rye	4.975.582	6.144.524	5.692.073	6.021.722	6.359.774	5.485.384	5.431.171	6.259.289	4.713.803	3.181.051	4.896.329
Barley	43.592.232	43.575.696	52.779.924	52.487.843	51.794.670	48.634.667	51.409.121	48.118.969	48.019.980	46.530.317	48.519.597
Oats	6.598.842	5.869.150	6.949.131	6.770.912	6.566.207	5.967.603	6.750.127	6.204.347	7.187.372	6.789.647	6.732.873
Triticale	2.414.145	2.994.141	3.843.617	4.382.831	4.843.125	4.318.786	4.970.567	5.258.156	5.299.673	4.542.183	5.017.645
Maize	29.590.282	30.368.211	35.575.549	39.386.234	36.435.901	37.521.532	38.797.561	41.022.870	40.821.064	33.856.212	38.624.427
Rapeseed	6.949.460	8.216.721	7.119.452	8.720.790	9.559.745	11.427.226	8.955.819	8.874.866	9.308.819	9.492.321	9.157.956
Sunflower	4.053.345	3.339.505	3.918.226	3.958.784	3.589.082	3.238.164	3.394.861	3.031.308	2.762.974	2.694.503	2.970.912
Sugar beet	107.956.531	111.922.331	113.759.913	121.191.024	115.113.335	123.248.755	115.325.052	103.685.554	118.197.179	104.288.273	110.374.015

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 15.5: EU-15: Livestock in 1,000 heads

EU-15	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	84.522,11	85.047,80	84.535,96	83.498,17	82.778,67	82.536,88	80.032,07	79.965,50	78.527,32	77.478,86	79.000,94
under 1 year	24.735,73	24.892,23	24.632,37	24.467,69	24.109,87	24.138,38	23.364,91	23.266,81	22.949,42	22.646,69	23.056,96
beef calf	3.378,86	3.654,75	3.740,73	3.733,13	3.708,19	3.978,16	3.920,41	4.023,69	3.927,88	3.954,17	3.956,54
other calves	21.356,86	21.237,48	20.891,64	20.734,57	20.401,68	20.160,22	19.444,50	19.243,12	19.021,54	18.692,53	19.100,42
male	9.702,62	9.478,19	9.177,01	9.071,79	8.878,91	8.666,82	8.407,63	8.331,82	8.356,99	8.234,95	8.332,85
female	11.654,25	11.759,29	11.714,63	11.662,78	11.522,77	11.493,41	11.036,87	10.911,31	10.664,55	10.457,60	10.767,58
between 1 and 2 years	18.056,90	18.192,75	18.143,79	17.537,90	17.395,42	17.377,48	16.843,02	16.750,94	16.312,65	16.046,27	16.488,22
male	6.773,65	6.743,50	6.652,58	6.222,24	6.207,76	6.132,09	6.000,30	5.922,06	5.835,23	5.829,24	5.896,71
female	11.283,26	11.449,25	11.491,20	11.315,66	11.187,67	11.245,39	10.842,72	10.828,88	10.477,42	10.216,93	10.591,49
animals for slaughter	2.062,91	1.980,29	1.951,26	1.968,26	1.979,25	2.013,18	2.098,58	1.978,25	1.908,11	1.784,49	1.942,36
others	9.220,34	9.468,96	9.539,94	9.347,40	9.208,42	9.232,21	8.744,14	8.850,63	8.569,30	8.432,47	8.649,13
at least 2 years	41.621,48	41.813,82	41.609,81	41.329,58	41.085,38	40.821,01	39.640,14	39.753,97	39.080,24	38.562,54	39.259,22
male	2.015,00	2.127,82	1.949,41	1.971,18	1.902,79	1.872,65	1.847,17	1.689,73	1.590,21	1.555,87	1.670,74
female	39.606,48	39.686,00	39.660,40	39.358,41	39.182,59	38.948,36	37.792,97	38.064,24	37.490,04	37.006,62	37.588,47
Heifers	5.662,00	5.852,67	5.911,32	5.974,99	5.907,49	5.836,63	5.933,26	6.184,59	6.167,93	6.030,92	6.079,18
heifers for slaughter	877,31	956,30	811,34	911,94	822,44	799,05	830,54	817,04	834,62	767,66	812,46
other heifers	4.784,68	4.896,36	5.099,98	5.063,05	5.085,04	5.037,59	5.102,72	5.367,55	5.333,31	5.263,23	5.266,70
Cows	33.944,48	33.833,34	33.749,08	33.383,42	33.275,10	33.111,72	31.859,71	31.879,65	31.322,11	30.975,69	31.509,29
milk cows	23.054,07	22.525,56	22.063,01	21.742,30	21.416,13	21.023,99	19.909,65	20.002,08	19.551,13	19.257,51	19.680,09
other cows	10.890,41	11.307,77	11.686,07	11.641,12	11.858,97	12.087,74	11.950,05	11.877,57	11.770,99	11.718,19	11.829,20
Pigs	117.673,23	116.071,70	118.473,28	118.947,53	125.406,41	124.347,95	122.195,46	122.711,95	122.214,64	121.660,72	122.195,69
piglets, live weight < 20 kg	31.321,04	30.970,17	32.059,10	31.958,93	34.236,03	33.319,44	33.383,23	33.820,61	33.796,01	33.089,07	33.522,23
Pigs, live weight from 20 to < 50 kg	29.968,62	28.569,27	29.138,75	29.566,09	30.776,76	30.685,23	29.290,33	28.747,38	28.849,97	29.042,76	28.982,61
Fattening pigs from 50 kg and more ¹⁾	43.459,10	43.751,78	44.286,35	44.074,65	46.956,30	47.374,06	46.721,05	47.431,03	46.815,80	47.018,13	46.996,50
Fattening pigs from 50 to < 80 kg	23.968,50	23.985,77	24.164,55	24.191,09	25.508,90	25.365,16	24.819,79	24.885,79	24.512,70	24.416,73	24.658,75
Fattening pigs from 80 to < 110 kg	15.929,93	16.343,03	16.520,70	16.155,84	17.263,93	17.825,97	17.234,68	17.968,16	17.584,69	17.725,99	17.628,38
Fattening pigs from at least 110 kg	3.560,68	3.422,99	3.600,10	3.726,72	4.183,48	4.182,93	4.667,58	4.577,08	4.718,41	4.876,41	4.709,87
breeding pigs, Lebend-live weight of 50 kg and more	12.924,47	12.780,49	12.990,08	13.347,87	13.436,33	12.968,22	12.799,85	12.712,93	12.752,87	12.514,76	12.695,10
boars	497,59	435,57	424,25	440,54	414,38	375,71	348,52	344,19	337,51	296,34	331,64
sows in total	12.426,88	12.344,92	12.565,83	12.907,32	13.021,95	12.592,51	12.451,33	12.368,74	12.415,35	12.218,43	12.363,46
Goats	12.082,26	12.382,24	11.955,35	12.205,53	11.693,99	11.519,56	11.211,60	11.953,47	11.894,06	:	11.686,38
Sheep	97.079,76	94.685,49	96.163,76	98.839,79	98.442,90	96.362,20	90.570,64	88.149,43	87.599,98	:	88.773,35
Laying hens	359.019,15	356.184,62	341.446,52	:	349.221,12	351.066,76	366.530,62	366.255,07	:	:	366.392,85

¹⁾ including retired boars and sows, : no data

F 15.6: EU-15: Imports and Exports in t

		Import/Export in t				
EU-15		2000	2001	2002	2003	2000-2003
Milk Fresh						
	Import	6.497.767	5.914.747	6.034.488	6.732.710	6.294.928,00
	Export	5.942.093	5.460.399	5.276.619	5.873.963	5.638.268,50
	Differenz	555.674	454.348	757.869	858.747	656.659,50
Butter of Cow Milk						
	Import	698.404	664.243	654.356	754.012	692.753,75
	Export	660.345	688.399	673.532	839.572	715.462,00
	Differenz	38.059	-24.156	-19.176	-85.560	-22.708,25
Cheese (Skim Cow Milk)						
	Import	1.662	1.918	1.791	1.619	1.747,50
	Export	2.416	2.926	3.235	1.050	2.406,75
	Differenz	-754	-1.008	-1.444	569	-659,25
Cheese (Whole Cow Milk)						
	Import	1.877.149	1.944.692	2.005.276	2.195.870	2.005.746,75
	Export	2.254.103	2.322.464	2.324.725	2.576.431	2.369.430,75
	Differenz	-376.954	-377.772	-319.449	-380.561	-363.684,00
Meat Bovine Fresh						
	Import	1.768.488	1.264.549	1.534.738	1.717.299	1.571.268,50
	Export	1.759.969	1.489.390	1.687.900	1.790.765	1.682.006,00
	Differenz	8.519	-224.841	-153.162	-73.466	-110.737,50
Meat of Swine						
	Import	2.713.025	2.717.377	2.733.753	3.004.158	2.792.078,25
	Export	3.579.830	3.473.683	3.699.116	3.969.374	3.680.500,75
	Differenz	-866.805	-756.306	-965.363	-965.216	-888.422,50
Meat Poultry Fresh						
	Import	1.347.399	1.453.421	1.430.848	1.595.985	1.456.913,25
	Export	2.320.464	2.319.961	2.461.717	2.381.057	2.370.799,75
	Differenz	-973.065	-866.540	-1.030.869	-785.072	-913.886,50
Cereals						
	Import	40.491.151	44.701.012	53.632.811	49.253.835	47.019.702,25
	Export	65.425.708	55.159.176	54.879.690	58.712.602	58.544.294,00
	Differenz	-24.934.557	-10.458.164	-1.246.879	-9.458.767	-11.524.591,75
Wheat						
	Import	21.062.402	23.842.415	28.964.477	23.797.654	24.416.737,00
	Export	30.004.903	27.222.444	25.987.371	29.173.612	28.097.082,50
	Differenz	-8.942.501	-3.380.029	2.977.106	-5.375.958	-3.680.345,50
Rye						
	Import	191.305	308.348	879.842	616.069	498.891,00
	Export	2.102.377	1.265.638	1.257.002	1.065.073	1.422.522,50
	Differenz	-1.911.072	-957.290	-377.160	-449.004	-923.631,50
Barley						
	Import	4.177.960	5.402.092	6.770.402	5.919.649	5.567.525,75
	Export	15.198.410	9.876.701	9.216.013	11.656.871	0,00
	Differenz	-11.020.450	-4.474.609	-2.445.611	-5.737.222	-5.919.473,00
Oats						
	Import	352.811	326.323	353.351	450.429	370.728,50
	Export	941.018	1.150.857	1.192.611	1.035.917	1.080.100,75
	Differenz	-588.207	-824.534	-839.260	-585.488	-709.372,25
Triticale						
	Import	57.110	151.196	204.732	321.377	183.603,75
	Export	84.492	178.164	240.651	194.054	174.340,25
	Differenz	-27.382	-26.968	-35.919	127.323	9.263,50
Maize						
	Import	10.253.756	10.251.805	11.965.255	12.541.901	11.253.179,25
	Export	9.065.548	8.388.479	9.848.618	8.740.029	9.010.668,50
	Differenz	1.188.208	1.863.326	2.116.637	3.801.872	2.242.510,75
Rapeseed						
	Import	2.996.081	3.351.234	2.774.239	2.510.034	2.907.897,00
	Export	2.993.585	2.373.496	2.756.955	2.603.710	2.681.936,50
	Differenz	2.496	977.738	17.284	-93.676	225.960,50
Sunflower						
	Import	2.575.505	2.258.202	1.712.747	2.119.256	2.166.427,50
	Export	692.068	785.599	525.922	456.888	615.119,25
	Differenz	1.883.437	1.472.603	1.186.825	1.662.368	1.551.308,25
Sugar Total (Raw Equiv.)						
	Import	3.901.797	4.727.569	4.779.852	4.663.627	4.518.211,25
	Export	8.857.566	8.467.151	7.443.737	7.437.283	8.051.434,25
	Differenz	-4.955.769	-3.739.582	-2.663.885	-2.773.656	-3.533.223,00
Soybeans						
	Import	16.116.339	19.964.284	20.199.168	19.400.005	18.919.949,00
	Export	1.158.854	1.589.951	1.940.653	1.736.478	1.606.484,00
	Differenz	14.957.485	18.374.333	18.258.515	17.663.527	17.313.465,00

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 15.7: **EU-15**: Milk and meat production in t

EU-15	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	124.316.116	126.297.432	126.176.238	125.599.553	125.796.815	126.827.111	127.000.932	126.231.067	126.115.064	126.449.021
Beef	7.869.839	7.989.480	7.954.499	7.891.558	7.653.832	7.680.258	7.442.669	7.361.912	7.480.493	7.428.358
Mutton and goat meat	1.200.152	1.195.573	1.183.594	1.139.667	1.177.390	1.182.098	1.160.784	1.033.177	1.054.027	1.082.663
Pork	16.231.207	16.139.162	16.509.163	16.378.066	17.777.274	18.144.463	17.649.234	17.645.385	17.845.219	17.713.279
Poultry meat	7.681.938	7.969.822	8.307.539	8.549.529	8.892.684	8.721.214	8.801.164	9.045.662	8.860.924	8.902.583

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 15.8: **EU-15**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	8.107.498	5,632	45.665.212
Export(+)/Import(-) surplus in crop production			
- Cereals	2.046.100	5,632	11.524.592
- Rapeseed	-75.371	2,998	-225.961
- Sunflowers	-916.831	1,692	-1.551.308
- Sugar beets	414.522	59,665	24.732.561 ¹⁾
Crop production balance	1.468.420		34.479.884

Potential from:	Produkt-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-656.660
- Butter	454.165 ²⁾
- Cheese	3.636.840 ³⁾
Whole milk equivalent balance	3.434.346
Total milk production	126.449.021
the above as %	2,79

	Produkt-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	110.738
Total production	7.428.358
the above as %	1,51
- Pork	888.423
Total production	17.713.279
the above as %	5,28
- Poultry meat	913.887
Total production	8.902.583
the above as %	11,44

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 15.9: EU-15: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milch	Rindfleisch	Andere	
Beef calves	3.956.537	0,25		989.134		989.134
Calves						
male	8.332.845	0,3		2.499.854		2.499.854
female	10.767.582	0,19	2.045.841			2.045.841
Cattle 1 - 2 Years						
male	5.896.709	0,7		4.127.696		4.127.696
female	10.591.487	0,65	6.884.467			6.884.467
Cattle > 2 Years						
male	1.670.744	1,2		2.004.893		2.004.893
Beef heifers	812.464	1,2		974.957		974.957
other heifers	5.266.704	1,2	6.320.044			6.320.044
Dairy cows	19.680.092	1,2	23.616.110			23.616.110
other cows	11.829.200	1,2		14.195.039		14.195.039
Goats	11.686.376	0,1			1.168.638	1.168.638
Sheep	88.773.351	0,1			8.877.335	8.877.335
Total			38.866.462	24.791.573	10.045.973	73.704.008
Share %			52,73	33,64	13,63	100,00
Roughage area ha						60.072.684
thereof...			31.678.232	20.206.450	8.188.002	

F 15.10: EU-15: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	8.107.498	5,75
Reduction of overproduction		
- Crop production	1.468.420	1,04
- Animal production		
- Milk	860.378	0,61
- Beef	301.226	0,21
- Pork	¹⁾ 591.497	0,42
- Poultry meat	²⁾ 292.056	0,21
Balance of potential area	³⁾ 10.737.522	
Agricultural land	140.973.667	
the above as %	7,62	7,62

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 15.11: **EU-15:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	376.482.000	383.355.000	385.847.000
- Change in % up to.....		1,8256	0,6501
Per capita consumption (grain equivalent)	1.154,6	1.212,3	1.212,3
- Change in % up to.....		5,00	0,00
Consumption change in % up to		5,8806	0,548
Abs. agricultural land in ha	140.973.667		
- Land redesignation in % up to ¹⁾		2,643	2,643
Yield increase in % up to ²⁾		-16,03	-18,69
Balance of all changes in % up to.....		-7,5018	-15,4998
Balance of agricultural land			
- Basis available ha	140.973.667		
- Increase(+) reduction(-) due to redesignation in ha		3.725.524	3.725.524
- Increased(+) decreased(-) demand for food		8.290.113	772.094
- Release due to yield increase in ha (-)		-22.591.225	-26.348.282
- Release due to improved feed conversion in ha (-)		-630.822	-1.233.316
- Potential for biomass in ha per year.....	-10.737.522	-11.206.409	-23.083.979
Accumulation of the above in ha		-21.943.932	-45.027.911
- the above as % of the basis available agricultural land	7,62	15,57	31,94
- quantity equivalents of the above			
- Cereals ³⁾	60.478.737	143.405.289	301.019.997
- Straw	48.382.989	114.724.231	240.815.998

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 15.12 : **EU-15:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	17.713.279		
- Feedgrain consumption t ¹⁾	66.424.798	-3.321.240 ³⁾	-6.642.480 ³⁾
Land equivalent ha cereals	11.793.199	-589.660	-1.179.320
- Poultry meat t	8.902.583		
- Feed grain consumption t ²⁾	16.024.650	-801.233 ³⁾	-1.602.465 ³⁾
Land equivalent ha cereals	2.845.050	-142.253	-284.505
Total land equivalent ha	14.638.249	-731.912	-1.463.825

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 15.13 : **EU-15:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	44.874.798
Grassland for milk production	ha	23.663.905
Overproduction milk	%	2,79
Released grassland due to abandonment of overproduction	ha	642.710
Grassland for beef production	ha	15.094.387
Overproduction beef	%	1,51
Released grassland due to abandonment of overproduction	ha	225.018
Total grassland released	ha	867.728
the above as % of total grassland		1,93
the above as % of potential area for bioenergy sources		8,08

F 15.14 : **EU-15:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	3.725.524	3.725.524
Share of grassland of agricultural land	%	31,83	31,83
Redesignation of grassland	ha	1.185.911	1.185.911
Change to grassland due to change in consumption			
- Rate of change in population	%	1,8256	0,6501
- Rate of change in milk and beef consumption	%	5,0000	0,0000
Total change	%	6,8256	0,6501
Grassland for milk and beef production	ha	38.758.292	38.758.292
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	2.645.480	251.948
Release due to yield increase(-)	ha	-7.191.248	-8.387.196
Total change in grassland	ha	-3.359.857	-6.949.337
Accumulated grassland potential for bioenergy sources	ha	4.227.585	11.176.923
the above as % of total grassland		9,42	24,91
the above as % of potential area		19,27	24,82

F 15.15: **EU-15: Potentials of area and production quantities with and without set-aside**

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
EU-15	obligatory set-aside 10 %					
wheat	17.410,14	100.645,96	17.128,08	113.347,45	17.417,51	132.141,58
rye	1.216,81	5.651,42	1.638,28	9.329,37	1.686,94	11.525,11
barley	10.849,83	49.626,33	10.389,70	52.446,09	10.278,41	57.243,37
oats	1.994,93	6.537,67	1.895,00	7.169,18	1.980,44	8.938,65
grain maize	4.313,46	38.994,83	6.240,34	66.259,96	6.352,12	79.378,88
pulses	1.692,70	4.783,04	1.016,53	2.921,00	978,58	2.983,64
rapeseed	3.138,93	9.619,94	3.347,41	11.967,56	3.334,70	13.795,60
sunflower	1.932,69	3.192,51	1.664,29	2.906,70	1.567,02	2.892,35
set-aside ¹	4.172,69	0,00	4.252,90	0,00	4.276,17	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	1.953,82	115.021,91	1.247,39	82.192,36	1.088,31	79.374,34
potato	1.329,62	47.020,73	1.185,68	48.337,73	1.045,41	49.013,37
Total	50.005,59	381.094,38	50.005,59	396.877,41	50.005,60	437.286,88
Total in GE		266.180,03		306.975,00		350.227,00
EU-15	without set-aside					
wheat	17.410,14	100.645,96	18.008,38	119.245,27	18.290,17	138.854,98
rye	1.216,81	5.651,42	1.972,67	11.107,64	2.065,70	13.985,66
barley	10.849,83	49.626,33	10.854,55	55.237,94	10.613,58	59.595,93
oats	1.994,93	6.537,67	2.029,92	7.751,40	2.144,71	9.831,33
grain maize	4.313,46	38.994,83	7.463,86	79.402,42	7.632,81	95.634,89
pulses	1.692,70	4.783,04	903,14	2.623,66	862,18	2.667,45
rapeseed	3.138,93	9.619,94	3.958,60	14.057,40	3.936,50	16.171,50
sunflower	1.932,69	3.192,51	1.977,61	3.439,04	1.805,89	3.354,82
set-aside ¹	4.172,69	0,00	403,42	0,00	519,85	0,00
ethanol beet	0,00	0,00	0,00	0,00	0,00	0,00
sugar beet	1.953,82	115.021,91	1.247,76	82.214,50	1.088,80	79.405,07
potato	1.329,62	47.020,73	1.185,68	48.337,73	1.045,41	49.013,37
Total	50.005,59	381.094,38	50.005,60	423.417,00	50.005,60	468.515,00
Total in GE		266.180,03		335.333,47		383.418,97
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 15.16: **EU-15: Potentials of area and production quantities with cultivation of ethanol beets**

Country	Ø 1998 - 2002		2010		2020	
	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t	area thousand ha	quantity thousand t
EU-15	without set-aside, ethanol beets at 25 €/t possible					
wheat	17.410,14	100.645,96	16.440,06	108.186,13	16.500,17	124.128,96
rye	1.216,81	5.651,42	1.719,43	9.494,30	1.841,03	12.230,53
barley	10.849,83	49.626,33	9.991,42	49.853,84	9.809,12	54.086,68
oats	1.994,93	6.537,67	2.001,86	7.584,75	2.118,52	9.631,73
grain maize	4.313,46	38.994,83	7.252,84	77.164,52	7.458,46	93.333,32
pulses	1.692,70	4.783,04	1.021,00	2.976,96	940,17	2.981,22
rapeseed	3.138,93	9.619,94	3.545,01	12.506,16	3.647,01	14.879,86
sunflower	1.932,69	3.192,51	1.797,40	3.114,89	1.649,41	3.061,38
set-aside ¹	4.172,69	0,00	344,25	0,00	444,42	0,00
ethanol beet	0,00	0,00	3.553,11	239.102,69	3.555,24	268.597,84
sugar beet	1.953,82	115.021,91	1.153,54	75.378,71	996,65	72.055,13
potato	1.329,62	47.020,73	1.185,68	48.337,73	1.045,41	49.013,37
Total	50.005,59	381.094,38	50.005,59	633.700,69	50.005,60	704.000,06
Total in GE		266.180,03		370.104,19		421.858,53
EU-15	without set-aside, ethanol beets at 25 €/t possible; cereals price +40%					
wheat	17.410,14	100.645,96	19.446,50	130.323,98	19.596,92	150.349,23
rye	1.216,81	5.651,42	1.849,31	10.338,65	2.007,32	13.508,90
barley	10.849,83	49.626,33	10.590,55	53.048,61	10.349,24	57.337,08
oats	1.994,93	6.537,67	2.214,67	8.455,85	2.382,55	10.931,25
grain maize	4.313,46	38.994,83	7.542,03	80.239,27	7.780,63	97.466,00
pulses	1.692,70	4.783,04	612,28	1.514,53	536,46	1.481,09
rapeseed	3.138,93	9.619,94	1.542,93	5.356,85	1.669,27	6.676,54
sunflower	1.932,69	3.192,51	819,21	1.267,49	704,54	1.185,96
set-aside ¹	4.172,69	0,00	129,39	0,00	173,30	0,00
ethanol beet	0,00	0,00	3.102,74	211.619,39	2.970,99	228.988,59
sugar beet	1.953,82	115.021,91	970,31	64.636,42	788,98	58.737,52
potato	1.329,62	47.020,73	1.185,68	48.337,73	1.045,41	49.013,37
Total	50.005,59	381.094,38	50.005,60	615.138,81	50.005,60	675.675,56
Total in GE		266.180,03		373.913,81		426.174,03
1) according to FADN Source: FAOSTAT http://faostat.fao.org/faostat/collections ; own calculations						

F 16 Cyprus**F 16.1: Cyprus: Total land area and agricultural area**

in 1000 ha

Cyprus	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	925	925	925	925	925	925	925	925	925	925	925	925	925
thereof													
Land Area	924	924	924	924	924	924	924	924	924	924	924	924	924
thereof													
Agricultural Area	161	160	159	148	147	147	145	148	147	147	117	117	127
thereof													
Permanent Pasture	5	4	4	4	4	4	4	4	4	4	4	4	4
Permanent Crops	49	48	46	43	43	44	43	43	42	42	41	41	41
Arable Land	107	108	109	101	100	99	98	101	101	101	72	72	82
Arable & Permanent Crops	156	156	155	144	143	143	141	144	143	143	113	113	123
NonArable&NonPermanent	768	768	769	780	781	781	783	780	781	781	811	811	801
All other Land	640	641	642	653	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 16.2: Cyprus: Cultivation area of agricultural crops

Cultivated land in ha											
Cyprus	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	148.000	147.000	147.000	145.000	148.000	147.000	147.000	117.000	117.000		127.000
Cereals	63.500	60.870	58.940	43.020	59.090	58.940	51.480	55.970	59.200	51.400	54.513
Wheat	3.300	3.650	3.700	5.250	5.800	6.600	6.150	5.400	5.900	6.000	5.863
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	60.000	57.000	55.000	37.500	53.000	52.000	45.000	50.200	52.900	45.000	48.275
Oats	200	220	240	270	290	340	330	370	400	400	375
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	14.400	16.400	19.400	35.600	33.000	:	31.270	26.260	22.860	22.760	25.788
Field forage ¹⁾	14.400	16.400	19.400	35.600	33.000	:	30.170	25.260	21.960	21.960	24.838
Green maize ¹⁾	:	:	:	:	:	63	:	:	:	:	0
Permanent grassland ¹⁾	1.700	1.500	1.200	1.100	1.100	:	1.100	1.000	900	800	950
Fallow land ¹⁾	8.200	7.100	6.000	8.000	7.500	:	8.000	8.000	6.900	6.700	7.400

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 16.3: **Cyprus**: Yields of agricultural crops

Yield in dt/ha											
Cyprus	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	25,54	23,85	23,96	11,11	11,14	21,56	9,31	22,76	23,94	27,62	18,67
Wheat	24,24	30,14	35,14	21,91	19,83	21,21	16,26	19,44	21,86	21,67	19,19
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	25,67	23,51	23,27	9,60	10,19	21,67	8,36	23,21	24,27	28,56	18,61
Oats	7,50	7,73	7,92	10,37	12,07	11,77	10,61	10,27	11,25	11,25	10,71
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	94,17	97,92	77,53	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 16.4: **Cyprus**: Production of agricultural crops

Production in t											
Cyprus	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	162.150	145.170	141.190	47.780	65.850	127.100	47.950	127.380	141.750	141.950	105.693
Wheat	8.000	11.000	13.000	11.500	11.500	14.000	10.000	10.500	12.900	13.000	11.133
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	154.000	134.000	128.000	36.000	54.000	112.700	37.600	116.500	128.400	128.500	94.167
Oats	150	170	190	280	350	400	350	380	450	450	393
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	135.600	160.590	150.400	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 16.5: Cyprus: Livestock in 1,000 heads

Cyprus	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	64,40	68,10	70,00	62,40	55,74	53,96	53,98	53,43	58,16	58,65	56,05
under 1 year	20,20	21,40	23,10	22,50	19,53	19,70	20,54	17,99	20,33	20,68	19,88
beef calf	:	:	:	:	5,30	:	:	:	9,83	9,84	9,83
other calves	:	:	:	:	19,53	19,70	20,54	17,99	10,51	10,84	14,97
male	:	:	:	:	:	8,53	9,35	7,62	0,38	0,38	4,43
female	:	:	:	:	:	11,17	11,19	10,37	10,13	10,46	10,54
between 1 and 2 years	16,40	17,00	19,50	14,40	10,40	9,89	9,61	10,76	11,30	10,93	10,65
male	:	:	:	:	:	0,18	0,19	0,27	0,30	0,15	0,23
female	:	:	:	:	:	9,72	9,42	10,49	11,00	10,78	10,42
animals for slaughter	:	:	:	:	:	:	:	:	0,13	0,12	0,13
others	:	:	:	:	:	9,72	9,42	10,49	10,87	10,66	10,36
at least 2 years	:	:	:	:	25,81	24,36	23,84	24,68	26,53	27,04	25,52
male	:	:	:	:	1,99	0,35	0,33	0,32	0,29	0,29	0,31
female	:	:	:	:	23,82	24,01	23,51	24,37	26,23	26,75	25,21
Heifers	:	:	:	:	:	:	:	:	0	0	0
heifers for slaughter	:	:	:	:	:	:	:	:	0	0	0
other heifers	:	:	:	:	:	:	:	:	0	0	0
Cows	27,80	29,70	27,40	25,50	23,82	24,01	23,51	24,37	26,23	26,75	25,21
milk cows	27,60	29,50	27,30	25,40	23,82	24,01	23,51	24,37	26,23	26,61	25,18
other cows	0,20	0,20	0,10	0,10	0,10	:	:	:	0,00	0,14	0,07
Pigs	356,21	374,07	399,53	414,79	436,40	425,19	413,81	450,98	490,82	488,10	460,93
piglets, live weight < 20 kg	67,19	69,92	72,93	149,87	149,09	130,69	137,17	150,83	166,65	169,41	156,01
Pigs, live weight from 20 to < 50 kg	130,36	143,86	155,94	80,20	83,75	92,44	87,64	100,39	108,38	101,63	99,51
Fattening pigs from 50 kg and more ¹⁾	108,56	109,86	119,83	129,37	146,57	151,30	132,96	142,47	157,99	160,03	148,36
Fattening pigs from 50 to < 80 kg	:	:	:	72,95	77,03	78,59	71,87	79,44	85,57	84,18	80,27
Fattening pigs from 80 to < 110 kg	:	:	:	53,95	66,10	66,87	60,47	62,35	69,34	72,68	66,21
Fattening pigs from at least 110 kg	1,20	1,33	4,91	2,47	3,44	5,84	0,62	0,67	3,08	3,17	1,89
breeding pigs, Lebend-live weight of 50 kg and more	50,09	50,43	50,83	55,35	57,00	50,77	56,03	57,30	57,80	57,03	57,04
boars	2,04	2,03	1,96	2,04	2,10	1,79	1,59	1,57	1,48	1,48	1,53
sows in total	48,05	48,40	48,86	53,32	54,90	48,98	54,44	55,73	56,33	55,55	55,51
Goats	210,00	220,00	240,00	275,00	322,00	346,00	345,20	447,10	443,69	407,92	410,98
Sheep	255,00	250,00	252,00	265,00	240,00	233,00	227,00	296,60	274,36	264,55	265,63
Laying hens	:	:	:	:	1.300,00	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 16.6: Cyprus: Imports and Exports in t

Cyprus	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	1.200	1.238	1.283	1.299	1.255,00
Export	43	71	62	101	69,25
Differenz	1.157	1.167	1.221	1.198	1.185,75
Butter of Cow Milk					
Import	1.455	1.449	1.516	1.370	1.447,50
Export	264	329	283	418	323,50
Differenz	1.191	1.120	1.233	952	1.124,00
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	3.434	3.298	3.790	3.476	3.499,50
Export	1.771	1.651	2.234	2.213	1.967,25
Differenz	1.663	1.647	1.556	1.263	1.532,25
Meat Bovine Fresh					
Import	2.062	1.646	1.626	1.528	1.715,50
Export	159	189	113	11	118,00
Differenz	1.903	1.457	1.513	1.517	1.597,50
Meat of Swine					
Import	26	55	0	25	26,50
Export	2.639	2.283	2.223	2.379	2.381,00
Differenz	-2.613	-2.228	-2.223	-2.354	-2.354,50
Meat Poultry Fresh					
Import	174	153	155	118	150,00
Export	409	811	561	230	502,75
Differenz	-235	-658	-406	-112	-352,75
Cereals					
Import	655.134	642.299	583.641	609.506	622.645,00
Export	129	269	116	307	205,25
Differenz	655.005	642.030	583.525	609.199	622.439,75
Wheat					
Import	103.349	73.191	73.468	94.318	86.081,50
Export	1	0	1	9	2,75
Differenz	103.348	73.191	73.467	94.309	86.078,75
Rye					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Barley					
Import	342.750	354.290	290.873	273.408	315.330,25
Export	0	0	0	0	0,00
Differenz	342.750	354.290	290.873	273.408	315.330,25
Oats					
Import	448	729	676	415	567,00
Export	0	0	0	0	0
Differenz	448	729	676	415	567,00
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	200.013	205.637	210.481	231.439	211.892,50
Export	0	0	0	0	0,00
Differenz	200.013	205.637	210.481	231.439	211.892,50
Rapeseed					
Import	71	93	40	81	71,25
Export	0	0	0	0	0,00
Differenz	71	93	40	81	71,25
Sunflower					
Import	1.062	1.611	1.350	145	1.042,00
Export	2	0	0	0	0,50
Differenz	1.060	1.611	1.350	145	1.041,50
Sugar Total (Raw Equiv.)					
Import	30.963	31.545	32.452	42.492	34.363,00
Export	557	873	422	327	544,75
Differenz	30.406	30.672	32.030	42.165	33.818,25
Soybeans					
Import	5.371	4.757	5.650	4.083	4.965,25
Export	0	0	0	0	0
Differenz	5.371	4.757	5.650	4.083	4.965,25

F 16.7: **Cyprus**: Milk and meat production in t

Cyprus	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	167.100	180.900	180.800	177.800	177.900	178.000	193.800	199.400	207.500	200.233
Beef	4.430	5.030	4.900	5.400	4.000	3.950	4.450	3.900	3.900	4.083
Mutton and goat meat	7.390	7.820	7.740	8.080	9.840	10.750	10.520	10.990	12.500	11.337
Pork	42.500	42.800	45.600	46.100	47.200	49.150	52.250	50.700	52.000	51.650
Poultry meat	27.580	29.440	30.824	32.874	32.378	34.356	33.688	35.212	32.414	33.771

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 16.8: **Cyprus**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	7.400	1,867	13.818
Export(+)/Import(-) surplus in crop production			
- Cereals	-333.348	1,867	-622.440
- Rapeseed	0	0,000	-71
- Sunflowers	0	0,000	-1.042
- Sugar beets	0	0,000	-236.728 ¹⁾
Crop production balance	-333.348		-860.280

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-1.186
- Butter ²⁾	-22.480
- Cheese ³⁾	-15.323
Whole milk equivalent balance	-38.988
Total milk production	200.233
the above as %	-16,30

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-1.598
Total production	4.083
the above as %	-28,12
- Pork	2.355
Total production	51.650
the above as %	4,78
- Poultry meat	353
Total production	33.771
the above as %	1,06

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 16.9: Cyprus: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	9.833	0,25		2.458		2.458
Calves						
male	4.432	0,3		1.329		1.329
female	10.536	0,19	2.002			2.002
Cattle 1 - 2 Years						
male	227	0,7		159		159
female	10.422	0,65	104.218			104.218
Cattle > 2 Years						
male	308	1,2		369		369
Beef heifers	0	1,2		0		0
other heifers	0	1,2	0			0
Dairy cows	25.180	1,2	30.216			30.216
other cows	68	1,2		82		82
Goats	410.977	0,1			41.098	41.098
Sheep	265.628	0,1			26.563	26.563
Total			136.435	4.398	67.660	208.493
Share %			65,44	2,11	32,45	100,00
Roughage area ha						25.788
thereof...			16.875	544	8.369	

F 16.10: Cyprus: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	7.400	5,83
Reduction of overproduction		
- Crop production	-333.348	-262,48
- Animal production		
- Milk	-3.286	-2,59
- Beef	-213	-0,17
- Pork		
- Poultry meat		
Balance of potential area	-329.446	
Agricultural land	127.000	
the above as %	-259,41	-259,41

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 16.11: **Cyprus: Estimation of change of potentials for bioenergy sources until 2010 and 2020**

	Basis 2000	2010	2020
Absolute population	786.000	881.000	972.000
- Change in % up to.....		12,0865	10,3292
Per capita consumption (grain equivalent)	1.098,6	1.200,5	1.260,5
- Change in % up to.....		9,28	5,00
Consumption change in % up to		17,0350	12,222
Abs. agricultural land in ha	127.000		
- Land redesignation in % up to ¹⁾		26,403	26,403
Yield increase in % up to ²⁾		25,40	25,40
Balance of all changes in % up to.....		68,8384	64,0259
Balance of agricultural land			
- Basis available ha	127.000		
- Increase(+) reduction(-) due to redesignation in ha		33.531	33.531
- Increased(+) decreased(-) demand for food		21.634	15.523
- Release due to yield increase in ha (-)		32.259	32.259
- Release due to improved feed conversion in ha (-)		-5.434	-10.868
- Potential for biomass in ha per year.....	329.446	81.991	70.445
Accumulation of the above in ha		411.437	481.882
- the above as % of the basis available agricultural land	-259,41	-323,97	-379,43
- quantity equivalents of the above			
- Cereals ³⁾	-615.155	-963.393	-1.128.342
- Straw	-492.124	-770.714	-902.673

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 16.12 : **Cyprus:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	51.650		
- Feedgrain consumption t ¹⁾	193.688	-9.684 ³⁾	-19.369 ³⁾
Land equivalent ha cereals	103.729	-5.186	-10.373
- Poultry meat t	33.771		
- Feed grain consumption t ²⁾	60.788	-3.039 ³⁾	-6.079 ³⁾
Land equivalent ha cereals	32.555	-1.628	-3.256
Total land equivalent ha	136.285	-6.814	-13.628

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 16.13 : **Cyprus:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	950
Grassland for milk production	ha	622
Overproduction milk	%	-16,30
Released grassland due to abandonment of overproduction	ha	-121
Grassland for beef production	ha	20
Overproduction beef	%	-28,12
Released grassland due to abandonment of overproduction	ha	-8
Total grassland released	ha	-129
the above as % of total grassland		-13,57
the above as % of potential area for bioenergy sources		0,04

F 16.14 : **Cyprus**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	33.531	33.531
Share of grassland of agricultural land	%	0,75	0,75
Redesignation of grassland	ha	251	251
Change to grassland due to change in consumption			
- Rate of change in population	%	12,0865	10,3292
- Rate of change in milk and beef consumption	%	6,8000	5,0000
Total change	%	18,8865	15,3292
Grassland for milk and beef production	ha	642	642
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	121	98
Release due to yield increase(-)	ha	241	241
Total change in grassland	ha	613	591
Accumulated grassland potential for bioenergy sources	ha	-742	-1.333
the above as % of total grassland		-78,13	-140,29
the above as % of potential area		0,18	0,28

F 17 Czech Republic**F 17.1: Czech Republic: Total land area and agricultural area**

in 1000 ha

Czech Republic	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	7.887	7.887	7.887	7.887	7.887	7.887	7.887	7.887	7.887	7.887	7.887
thereof											
Land Area	7.728	7.728	7.728	7.728	7.728	7.728	7.728	7.728	7.728	7.728	7.728
thereof											
Agricultural Area	4.282	4.276	4.281	4.280	4.280	4.284	4.282	4.279	4.278	4.273	4.277
thereof											
Permanent Pasture	873	890	902	946	953	947	950	961	966	968	965
Permanent Crops	236	236	236	236	236	236	236	236	236	236	236
Arable Land	3.173	3.150	3.143	3.098	3.091	3.101	3.096	3.082	3.076	3.069	3.076
Arable & Permanent Crops	3.409	3.386	3.379	3.334	3.327	3.337	3.332	3.318	3.312	3.305	3.312
NonArable&NonPermanent	4.319	4.342	4.349	4.394	4.401	4.391	4.396	4.410	4.416	4.423	4.416
All other Land	817	823	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 17.2: **Czech Republic**: Cultivation area of agricultural crops

Cultivated land in ha											
Czech Republic	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	4.276.000	4.281.000	4.280.000	4.280.000	4.284.000	4.282.000	4.279.000	4.278.000	4.273.000		4.276.667
Cereals	1.657.852	1.580.221	1.585.682	1.691.376	1.681.285	1.594.098	1.653.115	1.628.624	1.566.151	1.555.736	1.600.907
Wheat	810.810	830.753	798.610	825.450	912.301	867.102	970.435	923.236	847.910	648.390	847.493
Rye	78.548	79.344	63.597	75.647	71.861	55.069	43.881	40.129	35.332	41.916	40.315
Barley	640.367	557.616	599.847	646.492	577.694	542.910	494.737	495.128	488.070	549.954	506.972
Oats	76.306	60.112	65.541	77.570	57.688	53.988	50.117	47.802	60.981	77.370	59.068
Triticale	14.949	16.219	13.798	14.912	20.308	25.953	37.001	49.499	53.093	45.970	46.391
Maize	26.964	26.441	33.123	41.184	32.907	39.447	47.283	61.938	70.750	85.426	66.349
Rapeseed	189.913	252.675	226.533	227.310	264.310	348.949	323.842	343.004	312.555	250.959	307.590
Sunflower	16.101	19.387	19.710	10.885	17.300	28.450	30.549	28.528	24.242	48.706	33.006
Sugar beet	91.096	93.104	103.668	92.319	81.409	59.012	61.293	77.712	77.499	77.325	73.457
Forage total ¹⁾	1.773.000	1.577.000	1.564.000	1.494.640	1.452.811	1.683.823	1.685.028	1.602.415	1.366.302	1.388.094	1.510.460
Field forage ¹⁾	887.000	675.000	662.000	582.273	531.086	733.624	725.251	662.249	527.456	513.059	607.004
Green maize ¹⁾	272.000	285.000	304.000	259.093	240.436	241.224	232.406	216.823	218.697	214.585	220.628
Permanent grassland ¹⁾	886.000	902.000	902.000	912.367	921.725	950.199	959.777	940.166	838.846	875.035	903.456
Fallow land ^{1**)}	56.000	56.000	84.000	57.000	50.527	58.279	71.150	112.633	83.149	176.990	110.981

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 17.3: **Czech Republic**: Yields of agricultural crops

Yield in dt/ha											
Czech Republic	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	40,96	41,84	41,96	41,36	39,71	43,51	39,08	45,11	43,29	37,12	42,49
Wheat	45,80	46,02	46,67	44,10	42,14	46,46	42,09	48,48	45,60	40,68	45,39
Rye	35,09	33,01	32,12	34,29	36,34	36,75	34,20	37,20	33,72	38,01	35,04
Barley	37,78	38,39	37,72	38,43	36,23	39,37	32,93	39,70	36,73	37,62	36,45
Oats	27,20	31,06	32,68	31,80	31,15	33,18	27,11	28,53	27,50	30,19	27,71
Triticale	37,52	39,33	37,73	38,32	38,97	41,40	37,42	38,74	37,66	35,96	37,94
Maize	33,90	42,84	50,93	69,25	60,95	66,04	64,28	65,98	87,10	55,76	72,45
Rapeseed	23,78	26,21	22,98	24,66	25,74	26,68	26,08	28,38	22,70	15,45	25,72
Sunflower	19,00	16,60	19,31	20,95	21,10	22,22	21,42	19,88	22,52	23,51	21,27
Sugar beet	355,68	398,65	416,29	403,17	427,40	456,00	458,26	454,11	494,52	452,01	468,97
Forage total ¹⁾	86,22	107,19	113,81	107,57	:	:	:	82,92	:	:	82,92
Field forage ¹⁾	141,86	205,48	226,66	223,86	:	149,88	150,77	158,05	181,05	148,42	163,29
Green maize ¹⁾	262,49	287,28	318,17	328,98	345,65	325,22	319,76	328,11	323,85	265,97	323,90
Permanent grassland ¹⁾	30,52	33,63	30,99	33,35	29,17	:	:	30,00	:	:	30,00

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 17.4: **Czech Republic**: Production of agricultural crops

Production in t											
Czech Republic	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	6.790.035	6.610.811	6.653.644	6.994.774	6.675.920	6.935.372	6.459.637	7.346.990	6.780.229	5.775.229	6.862.285
Wheat	3.713.476	3.822.769	3.727.203	3.640.269	3.844.741	4.028.271	4.084.107	4.476.080	3.866.470	2.637.890	4.142.219
Rye	275.654	261.938	204.279	259.412	261.167	202.373	150.052	149.298	119.154	159.312	139.501
Barley	2.419.300	2.140.487	2.262.377	2.484.548	2.093.101	2.137.376	1.629.372	1.965.610	1.792.560	2.068.690	1.795.847
Oats	207.562	186.693	214.163	246.637	179.671	179.130	135.858	136.363	167.708	233.560	146.643
Triticale	56.086	63.786	52.058	57.146	79.137	107.433	138.468	191.771	199.932	165.297	176.724
Maize	91.396	113.274	168.684	285.199	200.562	260.495	303.957	408.653	616.234	476.371	442.948
Rapeseed	451.628	662.176	520.572	560.519	680.216	931.053	844.428	973.321	709.533	387.805	842.427
Sunflower	30.589	32.180	38.065	22.801	36.500	63.228	65.421	56.717	54.581	114.508	58.906
Sugar beet	3.240.124	3.711.602	4.315.566	3.721.980	3.479.400	2.690.948	2.808.839	3.529.005	3.832.466	3.495.148	3.390.103
Forage total ¹⁾	15.287.300	16.903.500	17.800.400	16.077.595	:	:	:	13.286.503	:	:	13.286.503
Field forage ¹⁾	12.583.300	13.870.000	15.005.100	13.034.670	:	10.995.300	10.934.629	10.466.503	9.549.400	7.614.600	10.316.844
Green maize ¹⁾	7.139.800	8.187.600	9.672.500	8.523.600	8.310.653	7.845.000	7.431.370	7.114.078	7.082.500	5.707.400	7.209.316
Permanent grassland ¹⁾	2.704.000	3.033.500	2.795.300	3.042.925	2.689.061	:	:	2.820.000	:	:	2.820.000

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 17.5.: Czech Republic Livestock in 1,000 heads

Czech Republic	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	2.030,00	1.989,00	1.866,00	1.701,00	1.657,00	1.574,00	1.582,00	1.520,00	1.462,00	1.427,00	1.497,75
under 1 year	655,00	636,00	592,00	535,00	511,00	483,00	483,00	461,00	443,00	419,00	451,50
beef calf	:	:	:	:	:	:	:	:	56,00	63,00	59,50
other calves	:	:	:	:	:	:	483,00	461,00	387,00	356,00	421,75
male	:	:	:	:	:	:	228,00	213,00	158,00	142,00	185,25
female	:	:	:	:	:	:	255,00	248,00	229,00	214,00	236,50
between 1 and 2 years	473,00	471,00	446,00	403,00	387,00	367,00	374,00	364,00	350,00	329,00	354,25
male	195,00	195,00	184,00	159,00	150,00	141,00	148,00	144,00	140,00	122,00	138,50
female	278,00	276,00	262,00	244,00	237,00	226,00	226,00	220,00	210,00	207,00	215,75
animals for slaughter	:	:	:	:	:	:	:	:	7,00	7,00	7,00
others	:	:	:	:	:	:	:	:	203,00	200,00	201,50
at least 2 years	902,00	882,00	828,00	763,00	759,00	724,00	725,00	695,00	669,00	679,00	692,00
male	30,00	27,00	28,00	26,00	23,00	23,00	25,00	21,00	22,00	21,00	22,25
female	872,00	855,00	800,00	737,00	736,00	701,00	700,00	674,00	647,00	658,00	669,75
Heifers	104,00	104,00	98,00	90,00	94,00	86,00	89,00	78,00	69,00	79,00	78,75
heifers for slaughter	:	:	:	:	:	:	:	:	1,00	2,00	1,50
other heifers	:	:	:	:	:	:	:	:	68,00	77,00	72,50
Cows	768,00	751,00	702,00	647,00	642,00	615,00	611,00	596,00	578,00	579,00	591,00
milk cows	:	713,00	656,00	598,00	583,00	548,00	529,00	496,00	464,00	449,00	484,50
other cows	:	38,00	46,00	49,00	59,00	67,00	82,00	100,00	114,00	130,00	106,50
Pigs	3.867,00	4.016,00	4.080,00	4.013,00	4.001,00	3.688,00	3.594,00	3.441,00	3.429,00	3.309,00	3.443,25
piglets, live weight < 20 kg	812,00	842,00	834,00	834,00	806,00	748,00	727,00	666,00	979,00	917,00	822,25
Pigs, live weight from 20 to < 50 kg	1.240,00	1.298,00	1.312,00	1.311,00	1.291,00	1.194,00	1.201,00	1.199,00	782,00	744,00	981,50
Fattening pigs from 50 kg and more¹⁾	1.381,00	1.402,00	1.460,00	1.417,00	1.464,00	1.326,00	1.245,00	1.154,00	1.170,00	1.269,00	1.209,50
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	:	677,00	624,00	634,00	649,00	646,00
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	:	488,00	457,00	474,00	534,00	488,25
Fattening pigs from at least 110 kg	:	:	:	:	:	:	80,00	73,00	62,00	86,00	75,25
breeding pigs, Lebend-live weight of 50 kg and more	434,00	474,00	474,00	451,00	440,00	420,00	421,00	422,00	498,00	379,00	430,00
boars	10,00	11,00	11,00	9,00	9,00	8,00	8,00	8,00	9,00	8,00	8,25
sows in total	424,00	463,00	463,00	442,00	431,00	412,00	413,00	414,00	489,00	371,00	421,75
Goats	45,00	42,00	38,00	35,00	34,00	32,00	28,00	14,00	13,00	13,00	17,00
Sheep	165,00	134,00	121,00	94,00	86,00	84,00	90,00	96,00	103,00	104,00	98,25
Laying hens	12.029,00	12.030,00	11.833,00	12.280,00	11.902,00	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 17.6: Czech Republic: Imports and Exports in t

Czech Republic	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	23.505	27.298	43.492	51.330	36.406,25
Export	21.151	19.176	13.372	13.677	16.844,00
Differenz	2.354	8.122	30.120	37.653	19.562,25
Butter of Cow Milk					
Import	726	2.581	4.714	5.008	3.257,25
Export	22.221	24.306	22.766	23.033	23.081,50
Differenz	-21.495	-21.725	-18.052	-18.025	-19.824,25
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0,00
Export	0	0	0	0	0,00
Differenz	0	0	0	0	0,00
Cheese (Whole Cow Milk)					
Import	10.918	12.037	13.735	15.634	13.081,00
Export	18.055	18.088	16.212	17.604	17.489,75
Differenz	-7.137	-6.051	-2.477	-1.970	-4.408,75
Meat Bovine Fresh					
Import	3.939	94	1.725	2.742	2.125,00
Export	1.476	12.576	6.355	1.996	5.600,75
Differenz	2.463	-12.482	-4.630	746	-3.475,75
Meat of Swine					
Import	13.526	15.807	24.238	28.458	20.507,25
Export	4.054	8.154	16.117	9.145	9.367,50
Differenz	9.472	7.653	8.121	19.313	11.139,75
Meat Poultry Fresh					
Import	16.253	15.600	19.969	32.608	21.107,50
Export	7.479	9.264	11.984	12.876	10.400,75
Differenz	8.774	6.336	7.985	19.732	10.706,75
Cereals					
Import	196.930	189.801	155.380	162.690	176.200,25
Export	1.173.144	250.150	265.296	1.105.151	698.435,25
Differenz	-976.214	-60.349	-109.916	-942.461	-522.235,00
Wheat					
Import	7.526	1.428	8.320	8.014	6.322,00
Export	866.379	151.168	152.355	759.872	482.443,50
Differenz	-858.853	-149.740	-144.035	-751.858	-476.121,50
Rye					
Import	20.013	46.786	56.189	58.926	45.478,50
Export	20.772	405	326	5.848	6.837,75
Differenz	-759	46.381	55.863	53.078	38.640,75
Barley					
Import	68.627	68.239	4.758	16.678	39.575,50
Export	131.831	6.745	15.393	158.667	78.159,00
Differenz	-63.204	61.494	-10.635	-141.989	-38.583,50
Oats					
Import	239	2.881	2.636	449	1.551,25
Export	13.000	1.203	512	8.851	5.891,50
Differenz	-12.761	1.678	2.124	-8.402	-4.340,25
Triticale					
Import	19	82	155	80	84,00
Export	6.725	1.294	3.811	13.960	6.447,50
Differenz	-6.706	-1.212	-3.656	-13.880	-6.363,50
Maize					
Import	31.675	9.985	15.530	6.803	15.998,25
Export	23.298	16.364	50.828	115.616	51.526,50
Differenz	8.377	-6.379	-35.298	-108.813	-35.528,25
Rapeseed					
Import	15.158	12.967	10.429	10.850	12.351,00
Export	442.379	338.830	261.083	48.272	272.641,00
Differenz	-427.221	-325.863	-250.654	-37.422	-260.290,00
Sunflower					
Import	24.016	9.125	18.243	17.356	17.185,00
Export	38.065	40.870	35.363	30.934	36.308,00
Differenz	-14.049	-31.745	-17.120	-13.578	-19.123,00
Sugar Total (Raw Equiv.)					
Import	51.739	64.764	39.446	29.964	46.478,25
Export	78.371	155.164	94.867	36.781	91.295,75
Differenz	-26.632	-90.400	-55.421	-6.817	-44.817,50
Soybeans					
Import	8.579	37.659	10.981	13.724	17.735,75
Export	75	229	219	175	174,50
Differenz	8.504	37.430	10.762	13.549	17.561,25

F 17.7: **Czech Republic**: Milk and meat production in t

Czech Republic	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	3.152.711	3.142.683	3.153.485	2.805.001	2.733.113	2.834.671	2.805.118	2.796.954	2.740.018	2.780.697
Beef	170.158	169.512	163.515	155.706	134.461	120.690	108.160	106.045	109.295	107.833
Mutton and goat meat	4.264	4.037	3.627	3.526	3.300	3.483	1.100	1.200	1.300	1.200
Pork	470.554	502.244	502.354	463.556	475.700	451.631	416.600	414.643	415.634	415.626
Poultry meat	119.159	147.638	143.300	172.600	196.493	200.696	214.978	235.718	312.915	254.537

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 17.8: **Czech Republic: Biomass potential in the basis**

Potential from:	ha	Average yield t	Product quantity t
Fallow land	110.981	4,249	471.591
Export(+)/Import(-) surplus in crop production			
- Cereals	122.899	4,249	522.235
- Rapeseed	101.211	2,572	260.290
- Sunflowers	8.990	2,127	19.123
- Sugar beets	6.690	46,897	313.723 ¹⁾
Crop production balance	239.790		1.115.371

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-19.562
- Butter ²⁾	396.485
- Cheese ³⁾	44.088
Whole milk equivalent balance	421.010
Total milk production	2.780.697
the above as %	17,84

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	3.476
Total production	107.833
the above as %	3,33
- Pork	-11.140
Total production	415.626
the above as %	-2,61
- Poultry meat	-10.707
Total production	254.537
the above as %	-4,04

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 17.9: **Czech Republic:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	59.500	0,25		14.875		14.875
Calves						
male	185.250	0,3		55.575		55.575
female	236.500	0,19	44.935			44.935
Cattle 1 - 2 Years						
male	138.500	0,7		96.950		96.950
female	215.750	0,65	140.238			140.238
Cattle > 2 Years						
male	22.250	1,2		26.700		26.700
Beef heifers	1.500	1,2		1.800		1.800
other heifers	72.500	1,2	87.000			87.000
Dairy cows	484.500	1,2	581.400			581.400
other cows	106.500	1,2		127.800		127.800
Goats	17.000	0,1			1.700	1.700
Sheep	98.250	0,1			9.825	9.825
Total			853.573	323.700	11.525	1.188.798
Share %			71,80	27,23	0,97	100,00
Roughage area ha						1.510.460
thereof...			1.084.530	411.286	14.643	

F 17.10: **Czech Republic:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	110.981	2,60
Reduction of overproduction		
- Crop production	239.790	5,61
- Animal production		
- Milk	164.203	3,84
- Beef	13.257	0,31
- Pork	¹⁾ -9.831	-0,23
- Poultry meat	²⁾ -4.535	-0,11
Balance of potential area	³⁾ 528.230	
Agricultural land	4.276.667	
the above as %	12,35	12,35

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 17.11: **Czech Republic:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	10.267.000	10.158.000	9.932.000
- Change in % up to.....		-1,0617	-2,2248
Per capita consumption (grain equivalent)	1.006,1	1.038,3	1.095,5
- Change in % up to.....		3,20	5,51
Consumption change in % up to		1,9444	2,856
Abs. agricultural land in ha	4.276.667		
- Land redesignation in % up to ¹⁾		0,095	0,095
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-7,9607	-12,0493
Balance of agricultural land			
- Basis available ha	4.276.667		
- Increase(+) reduction(-) due to redesignation in ha		4.061	4.061
- Increased(+) decreased(-) demand for food		83.155	122.133
- Release due to yield increase in ha (-)		-427.667	-641.500
- Release due to improved feed conversion in ha (-)		-21.573	-41.270
- Potential for biomass in ha per year.....	-528.230	-362.024	-556.577
Accumulation of the above in ha		-890.254	-1.446.831
- the above as % of the basis available agricultural land	12,35	20,82	33,83
- quantity equivalents of the above			
- Cereals ³⁾	2.244.616	4.161.269	7.070.250
- Straw	1.795.692	3.329.015	5.656.200

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 17.12 : **Czech Republic:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	415.626		
- Feedgrain consumption t ¹⁾	1.558.596	-77.930 ³⁾	-155.860 ³⁾
Land equivalent ha cereals	366.788	-18.339	-36.679
- Poultry meat t	254.537		
- Feed grain consumption t ²⁾	458.167	-22.908 ³⁾	-45.817 ³⁾
Land equivalent ha cereals	107.821	-5.391	-10.782
Total land equivalent ha	474.609	-23.730	-47.461

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 17.13 : **Czech Republic:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	903.456
Grassland for milk production	ha	648.693
Overproduction milk	%	17,84
Released grassland due to abandonment of overproduction	ha	98.215
Grassland for beef production	ha	246.004
Overproduction beef	%	3,33
Released grassland due to abandonment of overproduction	ha	7.929
Total grassland released	ha	106.145
the above as % of total grassland		11,75
the above as % of potential area for bioenergy sources		20,09

F 17.14 : **Czech Republic:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	4.061	4.061
Share of grassland of agricultural land	%	21,13	21,13
Redesignation of grassland	ha	858	858
Change to grassland due to change in consumption			
- Rate of change in population	%	-1,0617	-2,2248
- Rate of change in milk and beef consumption	%	2,3000	6,4000
Total change	%	1,2383	4,1752
Grassland for milk and beef production	ha	894.697	894.697
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	11.079	37.355
Release due to yield increase(-)	ha	-90.346	-135.518
Total change in grassland	ha	-78.408	-97.306
Accumulated grassland potential for bioenergy sources	ha	184.553	281.858
the above as % of total grassland		20,43	31,20
the above as % of potential area		20,73	19,48

F 18 Estonia**F 18.1: Estonia: Total land area and agricultural area**

in 1000 ha

Estonia	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	4.523	4.523	4.523	4.523	4.523	4.523	4.523	4.523	4.523	4.523	4.523	4.523
thereof												
Land Area	4.239	4.239	4.239	4.239	4.239	4.239	4.239	4.239	4.239	4.239	4.239	4.239
thereof												
Agricultural Area	1.374	1.321	1.101	991	1.005	1.024	1.043	1.001	986	890	698	858
thereof												
Permanent Pasture	247	243	140	105	109	123	144	130	131	194	67	131
Permanent Crops	12	11	12	12	12	12	12	12	12	19	18	16
Arable Land	1.115	1.066	949	874	884	888	887	859	843	677	613	711
Arable & Permanent Crops	1.127	1.077	961	886	896	900	899	871	855	696	631	727
NonArable&NonPermanent	3.112	3.162	3.278	3.353	3.343	3.339	3.340	3.368	3.384	3.543	3.608	3.512
All other Land	849	897	1.121	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 18.2: **Estonia**: Cultivation area of agricultural crops

Cultivated land in ha											
Estonia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	1.101.000	991.000	1.005.000	1.024.000	1.043.000	1.001.000	986.000	890.000	698.000		858.000
Cereals	319663	304336	288224	326586	353300	321000	329.423	274.174	259.307	263.135	281.510
Wheat	34215	38601	45927	50887	66800	66100	68.969	59.638	64.500	67.156	65.066
Rye	21661	31992	31004	34262	38800	24200	28.937	20.934	17.900	15.230	20.750
Barley	217933	186468	148028	165729	166800	153900	165.072	134.300	129.900	131.431	140.176
Oats	36154	38495	48985	54367	60200	61000	53.345	48.111	35.200	36.460	43.279
Triticale	0	0	0	0	0	0	0	4.200	5.300	7.158	4.165
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	2646	6030	8552	7905	17500	24200	28.821	27.537	32.855	46.328	33.885
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	500	400	91	17	0	0	0	0	0	0	0
Forage total ¹⁾	695.100	588.100	615.500	597.000	289.600	561.300	541.500	501.400	337.800		460.233
Field forage ¹⁾	554.800	482.900	506.500	473.800	145.700	431.300	410.300	307.600	270.800	180.900	292.400
Green maize ¹⁾	0	0	0	0	400	100	300	500	400	600	450
Permanent grassland ¹⁾	140.200	105.200	109.000	123.200	143.900	130.000	131.200	193.800	67.000		130.667
Fallowness ¹⁾										26.600	26.600
Fallow land ^{1**)}	13.500	23.000	24.900	23.800	25.300	41.200	33.400	33.200	25.200	27.100	29.725

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 18.3: **Estonia** : Yields of agricultural crops

Yield in dt/ha											
Estonia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	15,97	16,87	21,83	19,92	16,31	12,51	21,15	20,36	20,24	19,22	20,58
Wheat	16,69	19,97	22,05	21,85	17,67	13,38	21,28	22,28	23,01	21,57	22,19
Rye	19,08	18,19	20,01	21,00	14,07	16,03	21,01	20,49	23,18	15,31	21,56
Barley	15,58	14,99	21,42	18,81	16,36	12,11	21,05	20,10	19,20	19,30	20,12
Oats	15,93	20,78	23,44	21,10	16,49	11,60	21,95	18,99	17,53	17,38	19,49
Triticale	0	0	0	0	0	0	0	21,43	24,34	13,87	15,26
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	8,19	11,65	11,70	12,16	10,23	12,31	13,45	15,00	19,44	14,94	15,96
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	212,00	317,50	260,99	320,59	0	0	0	0	0	0	0
Forage total ¹⁾	82,09	107,55	97,83	100,74	209,13	:	:	96,29	103,46	:	99,87
Field forage ¹⁾	87,51	112,72	102,25	111,73	357,63	95,19	119,79	122,13	110,32	:	117,41
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	245,00	:
Permanent grassland ¹⁾	:	:	:	:	:	:	55,79	55,27	75,73	:	62,26

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 18.4: **Estonia** : Production of agricultural crops

Production in t

Estonia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	510.490	513.492	629.158	650.546	576.133	401.653	696.647	558.342	524.788	505.686	593.259
Wheat	57.091	77.101	101.249	111.186	118.011	88.424	146.800	132.900	148.400	144.885	142.700
Rye	41.318	58.190	62.050	71.935	54.600	38.800	60.800	42.900	41.500	23.316	48.400
Barley	339.488	279.430	317.090	311.712	272.800	186.400	347.482	270.000	249.400	253.607	288.961
Oats	57.593	80.001	114.801	114.707	99.265	70.765	117.117	91.374	61.700	63.351	90.064
Triticale	0	0	0	0	0	0	0	9.000	12.900	9.927	7.300
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	2.167	7.025	10.007	9.614	17.900	29.800	38.758	41.300	63.865	69.235	47.974
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	10.600	12.700	2.375	545	0	0	0	0	0	0	0
Forage total ¹⁾	5.706.100	6.324.800	6.021.600	6.014.000	6.056.300	:	:	4.827.800	3.494.800	:	4.161.300
Field forage ¹⁾	4.854.800	5.443.400	5.179.100	5.293.600	5.210.600	4.105.600	4.915.100	3.756.700	2.987.400	:	3.886.400
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	14.700	:
Permanent grassland ¹⁾	:	:	:	:	:	:	732.000	1.071.100	507.400	:	770.167

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 18.5: **Estonia** : Livestock in 1,000 heads

Estonia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000-2003
Cattle	419,50	370,40	343,00	325,60	307,50	267,30	252,80	260,50	253,90	257,20	256,10
under 1 year	105,80	97,00	89,10	80,40	77,10	64,30	61,10	69,90	70,00	72,30	68,33
beef calf	:	:	:	:	:	10,80	10,50	16,80	6,00	7,30	10,15
other calves	:	:	:	:	:	53,50	50,60	53,10	64,00	65,00	58,18
male	:	:	:	:	:	10,60	11,10	14,20	23,30	22,30	17,73
female	:	:	:	:	:	42,90	39,50	38,90	40,70	42,70	40,45
between 1 and 2 years	:	:	:	:	:	48,50	44,80	48,80	55,10	52,80	50,38
male	:	:	:	:	:	8,30	9,20	11,10	11,50	12,60	11,10
female	:	:	:	:	:	40,20	35,60	37,70	43,60	40,20	39,28
animals for slaughter	:	:	:	:	:	1,80	1,10	3,60	2,20	1,70	2,15
others	:	:	:	:	:	38,40	34,50	34,10	41,40	38,50	37,13
at least 2 years	313,70	273,40	253,90	245,20	:	154,50	146,90	141,80	128,80	132,10	137,40
male	20,40	17,60	17,50	14,10	:	1,60	1,20	1,20	1,10	0,80	1,08
female	:	:	:	:	:	152,90	145,70	140,60	127,70	131,30	136,33
Heifers	80,70	69,70	64,20	62,80	:	14,00	14,00	11,20	10,50	12,50	12,05
heifers for slaughter	:	:	:	:	:	0,50	0,20	0,40	0,20	0,40	0,30
other heifers	:	:	:	:	:	13,50	13,80	10,80	10,30	12,10	11,75
Cows	212,60	186,10	172,20	168,30	159,40	138,90	131,70	129,40	117,20	118,80	124,28
milk cows	211,40	185,40	171,60	167,70	158,60	138,40	131,00	128,60	115,60	116,80	123,00
other cows	1,20	0,70	0,60	0,60	0,80	0,50	0,70	0,80	1,60	2,00	1,28
Pigs	459,80	448,80	298,40	306,30	326,40	285,70	300,20	345,00	340,80	344,60	332,65
piglets, live weight < 20 kg	:	:	:	:	:	75,20	81,20	100,30	104,10	104,10	97,43
Pigs, live weight from 20 to < 50 kg	:	:	:	:	:	77,90	79,50	103,60	82,80	91,90	89,45
Fattening pigs from 50 kg and more¹⁾	:	:	:	:	:	98,80	99,00	99,50	114,10	110,70	105,83
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	66,00	63,80	57,00	64,70	64,30	62,45
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	29,00	32,00	40,80	45,80	44,60	40,80
Fattening pigs from at least 110 kg	:	:	:	:	:	3,80	3,20	1,70	3,60	1,80	2,58
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	33,80	40,50	41,60	39,80	37,90	39,95
boars	:	:	:	:	:	1,60	1,90	1,50	2,10	1,30	1,70
sows in total	65,60	54,90	38,60	45,20	44,10	32,20	38,60	40,10	37,70	36,60	38,25
Goats	1,50	1,70	1,60	1,70	2,10	2,70	2,40	3,60	3,90	3,50	3,35
Sheep	60,00	48,10	37,60	33,90	28,70	28,20	29,00	28,80	29,90	30,80	29,63
Laying hens	:	:	:	:	:	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 18.6: Estonia : Imports and Exports in t

Estonia	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	3.498	1.020	279	5.589	2.596,50
Export	2.800	2.002	3.677	2.446	2.731,25
Differenz	698	-982	-3.398	3.143	-134,75
Butter of Cow Milk					
Import	1.620	2.760	5.124	10.827	5.082,75
Export	5.439	6.002	7.626	8.445	6.878,00
Differenz	-3.819	-3.242	-2.502	2.382	-1.795,25
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	2.228	5.829	4.086	4.071	4.053,50
Export	4.644	9.088	7.667	9.499	7.724,50
Differenz	-2.416	-3.259	-3.581	-5.428	-3.671,00
Meat Bovine Fresh					
Import	4.267	2.761	1.208	1.051	2.321,75
Export	1.810	633	115	52	652,50
Differenz	2.457	2.128	1.093	999	1.669,25
Meat of Swine					
Import	14.186	11.862	11.860	14.421	13.082,25
Export	7.607	5.739	6.845	9.840	7.507,75
Differenz	6.579	6.123	5.015	4.581	5.574,50
Meat Poultry Fresh					
Import	35.202	25.760	22.894	20.740	26.149,00
Export	18.397	7.286	3.630	5.091	8.601,00
Differenz	16.805	18.474	19.264	15.649	17.548,00
Cereals					
Import	209.800	158.547	213.339	150.162	182.962,00
Export	22.940	20.045	59.489	28.777	32.812,75
Differenz	186.860	138.502	153.850	121.385	150.149,25
Wheat					
Import	70.015	37.272	93.334	76.577	69.299,50
Export	6.439	3.294	16.499	13.782	10.003,50
Differenz	63.576	33.978	76.835	62.795	59.296,00
Rye					
Import	34.670	52.695	42.998	21.299	37.915,50
Export	14.781	15.347	37.059	9.049	19.059,00
Differenz	19.889	37.348	5.939	12.250	18.856,50
Barley					
Import	29.749	5.587	14.248	5.096	13.670,00
Export	11	38	6	1.811	466,50
Differenz	29.738	5.549	14.242	3.285	13.203,50
Oats					
Import	2.092	1.112	2.713	399	1.579,00
Export	0	1.057	4.823	1.369	1.812,25
Differenz	2.092	55	-2.110	-970	-233,25
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	8.217	5.775	27.170	33.127	18.572,25
Export	4	0	0	364	92,00
Differenz	8.213	5.775	27.170	32.763	18.480,25
Rapeseed					
Import	474	3.675	29.272	16.392	12.453,25
Export	5.398	9.540	9.454	22.189	11.645,25
Differenz	-4.924	-5.865	19.818	-5.797	808,00
Sunflower					
Import	977	1.970	718	870	1.133,75
Export	55	34	66	103	64,50
Differenz	922	1.936	652	767	1.069,25
Sugar Total (Raw Equiv.)					
Import	67.996	73.091	87.088	112.445	85.155,00
Export	628	1.381	12.126	11.304	6.359,75
Differenz	67.368	71.710	74.962	101.141	78.795,25
Soybeans					
Import	26	11	34	40	27,75
Export	1	0	0	0	0,25
Differenz	25	11	34	40	27,50

F 18.7: **Estonia** : Milk and meat production in t

Estonia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	771.437	708.560	674.795	716.934	729.547	626.086	629.613	683.977	607.097	640.229
Beef	31.035	25.776	22.114	18.983	19.300	21.739	15.383	14.159	16.508	15.350
Mutton and goat meat	1.296	786	509	461	426	360	296	267	327	297
Pork	30.438	35.386	31.650	29.547	32.380	31.293	30.286	33.632	39.940	34.619
Poultry meat	6.468	5.660	4.265	4.357	7.874	7.652	7.313	9.172	11.496	9.327

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 18.8: **Estonia** : Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	29.725	2,058	61.184
Export(+)/Import(-) surplus in crop production			
- Cereals	-72.947	2,058	-150.149
- Rapeseed	-506	1,596	-808
- Sunflowers	0	0,000	-1.069
- Sugar beets	0	0,000	-551.567 ¹⁾
Crop production balance	-73.453		-703.593

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	135
- Butter ²⁾	35.905
- Cheese ³⁾	36.710
Whole milk equivalent balance	72.750
Total milk production	640.229
the above as %	12,82

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-1.669
Total production	15.350
the above as %	-9,81
- Pork	-5.575
Total production	34.619
the above as %	-13,87
- Poultry meat	-17.548
Total production	9.327
the above as %	-65,29

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 18.9: : **Estonia** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	10.150	0,25		2.538		2.538
Calves						
male	17.725	0,3		5.318		5.318
female	40.450	0,19	7.686			7.686
Cattle 1 - 2 Years						
male	11.100	0,7		7.770		7.770
female	39.275	0,65	25.529			25.529
Cattle > 2 Years						
male	1.075	1,2		1.290		1.290
Beef heifers	300	1,2		360		360
other heifers	11.750	1,2	14.100			14.100
Dairy cows	123.000	1,2	147.600			147.600
other cows	1.275	1,2		1.530		1.530
Goats	3.350	0,1			335	335
Sheep	29.625	0,1			2.963	2.963
Total			194.914	18.805	3.298	217.017
Share %			89,82	8,67	1,52	100,00
Roughage area ha						460.233
thereof...			413.360	39.880	6.993	

F 18.10: **Estonia**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	29.725	3,46
Reduction of overproduction		
- Crop production	-73.453	-8,56
- Animal production		
- Milk	46.970	5,47
- Beef	-4.337	-0,51
- Pork	¹⁾ -10.156	-1,18
- Poultry meat	²⁾ -15.346	-1,79
Balance of potential area	³⁾ -1.094	
Agricultural land	858.000	
the above as %	-0,13	-0,13

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 18.11: **Estonia:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	1.367.000	1.309.000	1.272.000
- Change in % up to.....		-4,2429	-2,8266
Per capita consumption (grain equivalent)	930,4	980,9	1.029,9
- Change in % up to.....		5,43	5,00
Consumption change in % up to		0,9115	1,668
Abs. agricultural land in ha	858.000		
- Land redesignation in % up to ¹⁾		10,000	10,000
Yield increase in % up to ²⁾		-30,00	-30,00
Balance of all changes in % up to.....		-19,0885	-18,3317
Balance of agricultural land			
- Basis available ha	858.000		
- Increase(+) reduction(-) due to redesignation in ha		85.800	85.800
- Increased(+) decreased(-) demand for food		7.820	14.314
- Release due to yield increase in ha (-)		-257.400	-257.400
- Release due to improved feed conversion in ha (-)		-2.112	-4.224
- Potential for biomass in ha per year.....	1.094	-165.892	-161.510
Accumulation of the above in ha		-164.797	-326.307
- the above as % of the basis available agricultural land	-0,13	19,21	38,03
- quantity equivalents of the above			
- Cereals ³⁾	-2.253	440.971	873.145
- Straw	-1.802	352.777	698.516

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 18.12 : **Estonia:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	34.619		
- Feedgrain consumption t ¹⁾	129.823	-6.491 ³⁾	-12.982 ³⁾
Land equivalent ha cereals	63.072	-3.154	-6.307
- Poultry meat t	9.327		
- Feed grain consumption t ²⁾	16.789	839 ³⁾	1.679 ³⁾
Land equivalent ha cereals	8.156	408	816
Total land equivalent ha	71.228	-2.746	-5.492

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 18.13 : **Estonia:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	130.667
Grassland for milk production	ha	117.359
Overproduction milk	%	12,82
Released grassland due to abandonment of overproduction	ha	13.336
Grassland for beef production	ha	11.323
Overproduction beef	%	-9,81
Released grassland due to abandonment of overproduction	ha	-1.231
Total grassland released	ha	12.104
the above as % of total grassland		9,26
the above as % of potential area for bioenergy sources		-1.105,93

F 18.14 : **Estonia:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	85.800	85.800
Share of grassland of agricultural land	%	15,23	15,23
Redesignation of grassland	ha	13.067	13.067
Change to grassland due to change in consumption			
- Rate of change in population	%	-4,2429	-2,8266
- Rate of change in milk and beef consumption	%	0,0000	5,0000
Total change	%	-4,2429	2,1734
Grassland for milk and beef production	ha	128.681	128.681
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	-5.460	2.797
Release due to yield increase(-)	ha	-39.200	-39.200
Total change in grassland	ha	-31.593	-23.337
Accumulated grassland potential for bioenergy sources	ha	43.697	67.034
the above as % of total grassland		33,44	51,30
the above as % of potential area		26,52	20,54

F 19 Hungary**F 19.1: Hungary** : Total land area and agricultural area

in 1000 ha

Hungary	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303	9.303
thereof													
Land Area	9.234	9.234	9.234	9.235	9.235	9.235	9.229	9.229	9.229	9.211	9.211	9.210	9.211
thereof													
Agricultural Area	6.460	6.136	6.130	6.122	6.179	6.184	6.195	6.193	6.186	5.854	5.865	5.867	5.862
thereof													
Permanent Pasture	1.173	1.164	1.157	1.148	1.148	1.148	1.148	1.148	1.147	1.051	1.061	1.063	1.058
Permanent Crops	231	230	225	225	225	225	227	226	224	201	190	190	194
Arable Land	5.056	4.742	4.748	4.749	4.806	4.811	4.820	4.819	4.815	4.602	4.614	4.614	4.610
Arable & Permanent Crops	5.287	4.972	4.973	4.974	5.031	5.036	5.047	5.045	5.039	4.803	4.804	4.804	4.804
NonArable&NonPermanent	3.947	4.262	4.261	4.261	4.204	4.199	4.182	4.184	4.190	4.408	4.407	4.406	4.407
All other Land	1.073	1.386	1.385	1.394	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 19.2: **Hungary** : Cultivation area of agricultural crops

Cultivated land in ha											
Hungary	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	6.122.000	6.179.000	6.184.000	6.195.000	6.193.000	6.186.000	5.854.000	5.865.000	5.867.000		5.862.000
Cereals	2.960.192	2.779.967	2.836.289	2.954.451	2.862.291	2.420.630	2.762.701	3.080.085	2.953.500	2.788.450	2.896.184
Wheat	1.058.749	1.108.000	1.193.340	1.247.569	1.183.540	734.100	1.024.430	1.205.610	1.111.000	1.114.000	1.113.760
Rye	88.361	76.849	59.244	67.277	61.878	39.485	43.094	50.829	48.597	47.000	47.380
Barley	422.727	393.230	325.151	370.042	368.865	333.691	324.744	367.467	370.460	343.000	351.418
Oats	56.272	53.375	47.811	52.213	51.717	70.851	58.277	60.625	63.812	71.000	63.429
Triticale	41.000	64.000	108.437	123.673	129.319	92.552	83.424	119.556	131.685	139.000	118.416
Maize	1.236.670	1.033.200	1.053.198	1.058.901	1.022.548	1.114.762	1.192.702	1.258.120	1.205.817	1.050.000	1.176.660
Rapeseed	28.389	45.144	93.922	89.453	52.055	180.522	115.788	109.656	129.389	71.000	106.458
Sunflower	416.129	491.295	473.043	440.012	426.968	521.272	298.795	320.019	418.020	507.000	385.959
Sugar beet	106.000	125.000	118.147	97.952	80.086	65.842	57.466	65.694	55.357	53.000	57.879
Forage total ¹⁾	1.660.000	1.644.000	1.598.300	1.568.100	2.386.226	2.295.509	1.961.906	1.859.740	1.822.772	1.408.152	1.763.143
Field forage ¹⁾	512.000	496.000	450.000	420.000	1.238.426	1.148.309	910.687	798.582	759.668	345.052	703.497
Green maize ¹⁾	213.000	196.000	162.000	150.000	144.802	142.973	147.092	129.114	120.797	132.839	132.461
Permanent grassland ¹⁾	1.148.000	1.148.000	1.148.300	1.148.100	1.147.800	1.147.200	1.051.219	1.061.158	1.063.104	1.063.100	1.059.645
Fallow ¹⁾										166.760	166.760
Fallow land ^{1**)}	:	:	:	:	212.900	426.000	545.173	129.305	295.207	259.550	307.309

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 19.3.: **Hungary** Yields of agricultural crops

Yield in dt/ha											
Hungary	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	39,69	40,64	40,00	47,86	45,55	47,06	36,33	48,85	79,62	31,44	54,93
Wheat	46,03	41,64	32,78	42,15	41,39	35,95	36,04	43,10	35,20	26,40	38,11
Rye	21,84	22,29	16,57	22,71	20,82	20,35	20,07	23,80	19,63	14,26	21,17
Barley	36,86	35,80	28,34	35,95	35,37	31,23	27,73	35,35	28,23	23,62	30,44
Oats	23,23	26,03	23,48	26,45	25,60	25,46	16,72	24,69	21,56	14,37	20,99
Triticale	36,59	34,22	22,50	30,94	28,15	27,43	28,24	32,95	27,26	20,00	29,48
Maize	38,50	45,30	56,87	64,48	60,08	64,13	41,79	0,00	50,76	43,16	30,85
Rapeseed	18,72	19,65	14,65	16,19	14,03	18,17	15,49	18,71	16,04	14,65	16,74
Sunflower	16,04	16,06	18,36	12,28	16,82	15,21	16,19	19,76	18,58	19,57	18,18
Sugar beet	317,96	335,90	395,87	376,81	419,68	445,54	343,89	441,90	410,76	341,89	398,85
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	50,88	57,48	43,28	83,02	55,60	88,57	60,63
Green maize ¹⁾	178,64	215,31	237,59	263,07	264,88	279,81	163,63	232,35	219,80	171,45	205,26
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 19.4.: **Hungary** Production of agricultural crops

Production in t											
Hungary	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	11.748.782	11.298.996	11.343.967	14.139.126	13.037.861	11.392.349	10.036.050	15.045.901	11.703.295	8.767.850	12.261.749
Wheat	4.873.751	4.614.200	3.911.820	5.258.817	4.898.634	2.638.970	3.692.470	5.196.760	3.910.244	2.941.000	4.266.491
Rye	192.969	171.300	98.148	152.775	128.836	80.338	86.484	120.988	95.410	67.000	100.961
Barley	1.558.295	1.407.640	921.447	1.330.233	1.304.634	1.041.991	900.510	1.299.140	1.045.872	810.000	1.081.841
Oats	130.723	138.956	112.258	138.098	132.385	180.372	97.450	149.694	137.600	102.000	128.248
Triticale	150.000	219.000	244.000	382.602	364.024	253.840	235.592	393.920	358.913	278.000	329.475
Maize	4.761.201	4.679.850	5.989.220	6.827.776	6.143.270	7.149.301	4.984.332		6.120.937	4.532.000	5.552.635
Rapeseed	53.135	88.718	137.613	144.816	73.035	327.937	179.319	205.123	207.528	104.000	197.323
Sunflower	667.480	788.996	868.430	540.297	718.340	792.928	483.649	632.266	776.885	992.000	630.933
Sugar beet	3.370.322	4.198.700	4.677.117	3.690.960	3.361.022	2.933.504	1.976.192	2.903.000	2.273.845	1.812.000	2.384.346
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	6.301.506	6.600.692	3.941.486	6.629.660	4.223.742	3.056.252	4.931.629
Green maize ¹⁾	3.805.000	4.220.000	3.849.000	3.946.000	3.835.512	4.000.474	2.406.894	2.999.903	2.655.149	2.277.581	2.687.315
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 19.5: Hungary: Livestock in 1,000 heads

Hungary	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	910,00	928,00	909,00	871,00	873,00	857,00	805,00	783,00	770,00	739,00	774,25
under 1 year	:	:	:	:	:	:	212,00	205,00	207,00	195,00	204,75
beef calf	:	:	:	:	:	:	63,00	67,00	72,00	71,00	68,25
other calves	:	:	:	:	:	:	149,00	138,00	135,00	124,00	136,50
male	:	:	:	:	:	:	41,00	36,00	33,00	27,00	34,25
female	:	:	:	:	:	:	108,00	102,00	102,00	97,00	102,25
between 1 and 2 years	:	:	:	:	:	:	163,00	166,00	155,00	150,00	158,50
male	:	:	:	:	:	:	32,00	32,00	28,00	28,00	30,00
female	:	:	:	:	:	:	131,00	134,00	127,00	122,00	128,50
animals for slaughter	:	:	:	:	:	:	11,00	11,00	7,00	9,00	9,50
others	:	:	:	:	:	:	120,00	123,00	120,00	113,00	119,00
at least 2 years	:	:	:	:	:	:	431,00	414,00	408,00	393,00	411,50
male	:	:	:	:	:	:	6,00	5,00	5,00	4,00	5,00
female	:	:	:	:	:	:	425,00	409,00	403,00	389,00	406,50
Heifers	:	44,00	:	:	:	:	45,00	41,00	41,00	39,00	41,50
heifers for slaughter	:	:	:	:	:	:	3,00	3,00	2,00	2,00	2,50
other heifers	:	:	:	:	:	:	42,00	38,00	39,00	37,00	39,00
Cows	415,00	421,00	414,00	403,00	407,00	399,00	380,00	368,00	362,00	350,00	365,00
milk cows	390,00	390,00	386,00	379,00	384,00	376,00	355,00	345,00	338,00	310,00	337,00
other cows	25,00	31,00	28,00	24,00	23,00	23,00	25,00	23,00	24,00	41,00	28,25
Pigs	4.356,00	5.032,00	5.289,00	4.931,00	5.479,00	5.335,00	4.834,00	4.822,00	5.082,00	4.913,00	4.912,75
piglets, live weight < 20 kg	:	1.010,00	1.169,00	1.076,00	1.199,00	1.060,00	1.062,00	1.141,00	1.227,00	1.042,00	1.118,00
Pigs, live weight from 20 to < 50 kg	:	1.476,00	1.251,00	1.180,00	1.365,00	1.355,00	1.126,00	966,00	1.109,00	1.122,00	1.080,75
Fattening pigs from 50 kg and more ¹⁾	:	1.948,00	2.365,00	2.198,00	2.392,00	2.427,00	2.174,00	2.241,00	2.234,00	2.308,00	2.239,25
Fattening pigs from 50 to < 80 kg	:	:	862,00	811,00	871,00	868,00	750,00	819,00	839,00	773,00	795,25
Fattening pigs from 80 to < 110 kg	:	:	863,00	807,00	876,00	875,00	798,00	812,00	797,00	834,00	810,25
Fattening pigs from at least 110 kg	:	:	640,00	580,00	645,00	684,00	625,00	610,00	598,00	701,00	633,50
breeding pigs, Lebend-live weight of 50 kg and more	:	:	504,00	477,00	462,00	494,00	472,00	474,00	512,00	441,00	474,75
boars	:	15,00	15,00	13,00	15,00	14,00	13,00	12,00	13,00	11,00	12,25
sows in total	414,00	481,00	489,00	464,00	447,00	480,00	459,00	462,00	500,00	430,00	462,75
Goats	62,00	:	:	:	:	:	87,00	90,00	86,00	82,00	86,25
Sheep	947,00	977,00	872,00	858,00	909,00	934,00	1.129,00	1.136,00	1.103,00	1.296,00	1.166,00
Laying hens	:	:	:	:	:	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 19.6: Hungary : Imports and Exports in t

Hungary	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	1.349	1.114	1.176	4.002	1.910,25
Export	65.165	83.134	60.440	39.199	61.984,50
Differenz	-63.816	-82.020	-59.264	-35.197	-60.074,25
Butter of Cow Milk					
Import	596	713	757	1.663	932,25
Export	704	992	2.189	2.677	1.640,50
Differenz	-108	-279	-1.432	-1.014	-708,25
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	9.666	9.679	9.402	10.548	9.823,75
Export	18.107	19.735	19.875	23.313	20.257,50
Differenz	-8.441	-10.056	-10.473	-12.765	-10.433,75
Meat Bovine Fresh					
Import	4.629	1.399	7.225	4.437	4.422,50
Export	9.550	5.155	7.289	7.706	7.425,00
Differenz	-4.921	-3.756	-64	-3.269	-3.002,50
Meat of Swine					
Import	26.839	30.213	38.644	26.830	30.631,50
Export	105.002	90.019	84.543	83.423	90.746,75
Differenz	-78.163	-59.806	-45.899	-56.593	-60.115,25
Meat Poultry Fresh					
Import	20.423	25.088	14.688	16.945	19.286,00
Export	106.187	115.167	115.500	119.492	114.086,50
Differenz	-85.764	-90.079	-100.812	-102.547	-94.800,50
Cereals					
Import	104.386	111.732	57.293	117.456	97.716,75
Export	1.933.775	3.435.958	3.593.383	2.857.667	2.955.195,75
Differenz	-1.829.389	-3.324.226	-3.536.090	-2.740.211	-2.857.479,00
Wheat					
Import	238	0	530	5.392	1.540,00
Export	582.647	1.515.118	1.158.771	1.228.255	1.121.197,75
Differenz	-582.409	-1.515.118	-1.158.241	-1.222.863	-1.119.657,75
Rye					
Import	1.194	628	34	0	464,00
Export	5.459	7.011	13.270	10.310	9.012,50
Differenz	-4.265	-6.383	-13.236	-10.310	-8.548,50
Barley					
Import	60.608	50.655	193	53.480	41.234,00
Export	82.859	139.892	133.494	112.032	117.069,25
Differenz	-22.251	-89.237	-133.301	-58.552	-75.835,25
Oats					
Import	0	4.626	9	1.099	1.433,50
Export	6.022	7.483	8.398	8.028	7.482,75
Differenz	-6.022	-2.857	-8.389	-6.929	-6.049,25
Triticale					
Import	0	0	0	0	0,00
Export	12.429	32.830	34.626	17.301	24.296,50
Differenz	-12.429	-32.830	-34.626	-17.301	-24.296,50
Maize					
Import	3.764	6.034	4.092	6.121	5.002,75
Export	1.007.202	1.568.555	2.124.865	1.310.644	1.502.816,50
Differenz	-1.003.438	-1.562.521	-2.120.773	-1.304.523	-1.497.813,75
Rapeseed					
Import	60	732	615	0	351,75
Export	193.993	107.507	118.328	59.299	119.781,75
Differenz	-193.933	-106.775	-117.713	-59.299	-119.430,00
Sunflower					
Import	4.170	4.048	5.376	8.477	5.517,75
Export	280.011	199.571	315.648	483.681	319.727,75
Differenz	-275.841	-195.523	-310.272	-475.204	-314.210,00
Sugar Total (Raw Equiv.)					
Import	9.737	16.324	27.623	51.069	26.188,25
Export	27.625	8.800	72.638	33.026	35.522,25
Differenz	-17.888	7.524	-45.015	18.043	-9.334,00
Soybeans					
Import	4.896	55.256	54.317	17.005	32.868,50
Export	11.087	6.253	5.255	3.287	6.470,50
Differenz	-6.191	49.003	49.062	13.718	26.398,00

F 19.7: **Hungary** : Milk and meat production in t

Hungary	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.970.394	2.016.477	2.007.192	2.019.096	2.141.009	2.141.755	2.187.094	2.194.886	2.168.836	2.183.605
Beef	72.100	57.500	50.200	55.270	47.020	50.970	66.940	55.830	54.000	58.923
Mutton and goat meat	1.100	1.870	1.600	1.930	2.530	3.610	7.990	8.340	8.700	8.343
Pork	608.300	578.300	670.700	580.720	569.900	625.890	613.420	528.430	630.000	590.617
Poultry meat	341.200	387.000	377.296	402.071	451.523	399.357	470.028	483.556	505.000	486.195

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 19.8: **Hungary**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	307.309	5,493	1.688.120
Export(+)/Import(-) surplus in crop production			
- Cereals	520.181	5,493	2.857.479
- Rapeseed	71.327	1,674	119.430
- Sunflowers	172.869	1,818	314.210
- Sugar beets	1.638	39,885	65.338 ¹⁾
Crop production balance	766.015		3.356.457

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	60.074
- Butter ²⁾	14.165
- Cheese ³⁾	104.338
Whole milk equivalent balance	178.577
Total milk production	2.183.605
the above as %	8,91

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	3.003
Total production	58.923
the above as %	5,37
- Pork	60.115
Total production	590.617
the above as %	11,33
- Poultry meat	94.801
Total production	486.195
the above as %	24,22

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 19.9: **Hungary**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	68.250	0,25		17.063		17.063
Calves						
male	34.250	0,3		10.275		10.275
female	102.250	0,19	19.428			19.428
Cattle 1 - 2 Years						
male	30.000	0,7		21.000		21.000
female	128.500	0,65	83.525			83.525
Cattle > 2 Years						
male	5.000	1,2		6.000		6.000
Beef heifers	2.500	1,2		3.000		3.000
other heifers	39.000	1,2	46.800			46.800
Dairy cows	337.000	1,2	404.400			404.400
other cows	28.250	1,2		33.900		33.900
Goats	86.250	0,1			8.625	8.625
Sheep	1.166.000	0,1			116.600	116.600
Total			554.153	91.238	125.225	770.615
Share %			71,91	11,84	16,25	100,00
Roughage area ha						1.763.143
thereof...			1.267.883	208.748	286.511	

F 19.10: **Hungary**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	307.309	5,24
Reduction of overproduction		
- Crop production	766.015	13,07
- Animal production		
- Milk	103.688	1,77
- Beef	10.637	0,18
- Pork	¹⁾ 41.038	0,70
- Poultry meat	²⁾ 31.064	0,53
Balance of potential area	³⁾ 1.187.649	
Agricultural land	5.862.000	
the above as %	20,26	20,26

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 19.11: **Hungary:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	10.266.000	9.961.000	9.628.000
- Change in % up to.....		-2,9710	-3,3430
Per capita consumption (grain equivalent)	895,6	960,7	1.011,7
- Change in % up to.....		7,27	5,31
Consumption change in % up to		3,3061	1,512
Abs. agricultural land in ha	5.862.000		
- Land redesignation in % up to ¹⁾		6,275	6,275
Yield increase in % up to ²⁾		-30,00	-30,00
Balance of all changes in % up to.....		-20,4185	-22,2126
Balance of agricultural land			
- Basis available ha	5.862.000		
- Increase(+) reduction(-) due to redesignation in ha		367.867	367.867
- Increased(+) decreased(-) demand for food		193.802	88.633
- Release due to yield increase in ha (-)		-1.758.600	-1.758.600
- Release due to improved feed conversion in ha (-)		-21.635	-43.269
- Potential for biomass in ha per year.....	-1.187.649	-1.218.565	-1.345.369
Accumulation of the above in ha		-2.406.215	-3.751.584
- the above as % of the basis available agricultural land	20,26	41,05	64,00
- quantity equivalents of the above			
- Cereals ³⁾	6.524.039	17.183.280	26.790.842
- Straw	5.219.231	13.746.624	21.432.674

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 19.12 : **Hungary:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	590.617		
- Feedgrain consumption t ¹⁾	2.214.813	-110.741 ³⁾	-221.481 ³⁾
Land equivalent ha cereals	403.189	-20.159	-40.319
- Poultry meat t	486.195		
- Feed grain consumption t ²⁾	875.150	-43.758 ³⁾	-87.515 ³⁾
Land equivalent ha cereals	159.314	-7.966	-15.931
Total land equivalent ha	562.503	-28.125	-56.250

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 19.13 : **Hungary:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	1.059.645
Grassland for milk production	ha	761.995
Overproduction milk	%	8,91
Released grassland due to abandonment of overproduction	ha	62.317
Grassland for beef production	ha	125.457
Overproduction beef	%	5,37
Released grassland due to abandonment of overproduction	ha	6.393
Total grassland released	ha	68.709
the above as % of total grassland		6,48
the above as % of potential area for bioenergy sources		5,79

F 19.14 : **Hungary:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	367.867	367.867
Share of grassland of agricultural land	%	18,08	18,08
Redesignation of grassland	ha	66.498	66.498
Change to grassland due to change in consumption			
- Rate of change in population	%	-2,9710	-3,3430
- Rate of change in milk and beef consumption	%	3,7000	6,2000
Total change	%	0,7290	2,8570
Grassland for milk and beef production	ha	887.453	887.453
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	6.470	25.354
Release due to yield increase(-)	ha	-317.894	-317.894
Total change in grassland	ha	-244.926	-226.042
Accumulated grassland potential for bioenergy sources	ha	313.636	539.677
the above as % of total grassland		29,60	50,93
the above as % of potential area		13,03	14,39

F 20 Latvia**F 20.1: Latvia: Total land area and agricultural area**

in 1000 ha

Latvia	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	6.460	6.460	6.460	6.460	6.460	6.460	6.460	6.460	6.460	6.460	6.460	6.460
thereof												
Land Area	6.205	6.205	6.205	6.205	6.205	6.205	6.205	6.205	6.205	6.205	6.205	6.205
thereof												
Agricultural Area	2.530	2.514	2.540	2.542	2.521	2.508	2.489	2.486	2.485	2.480	2.474	2.480
thereof												
Permanent Pasture	820	803	800	798	795	678	618	606	611	610	613	611
Permanent Crops	22	24	30	31	31	30	30	29	29	29	29	29
Arable Land	1.688	1.687	1.710	1.713	1.695	1.800	1.841	1.851	1.845	1.841	1.832	1.839
Arable & Permanent Crops	1.710	1.711	1.740	1.744	1.726	1.830	1.871	1.880	1.874	1.870	1.861	1.868
NonArable&NonPermanent	4.495	4.494	4.465	4.461	4.479	4.375	4.334	4.325	4.331	4.335	4.344	4.337
All other Land	860	852	795	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 20.2: **Latvia**: Cultivation area of agricultural crops

Cultivated land in ha											
Latvia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	2.540.000	2.542.000	2.521.000	2.508.000	2.489.000	2.486.000	2.485.000	2.480.000	2.474.000		2.479.667
Cereals	488.300	410.450	446.300	483.400	469.670	415.700	433.007	457.700	429.000	439.100	439.702
Wheat	94.600	109.600	149.200	152.300	150.884	146.000	158.087	166.800	153.500	167.800	161.547
Rye	62.700	40.400	56.400	62.500	57.703	47.200	54.777	55.800	42.300	44.200	49.269
Barley	266.500	203.300	178.400	194.500	173.370	147.300	134.934	130.300	136.900	129.200	132.834
Oats	54.000	45.600	53.600	59.100	59.700	47.200	45.521	55.200	47.100	49.400	49.305
Triticale	3.100	2.700	1.700	2.800	5.313	5.800	5.875	13.000	15.500	19.100	13.369
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	2.200	1.100	800	400	1.219	6.954	6.900	8.400	18.400	25.900	14.900
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	12.000	9.500	10.000	10.900	16.356	15.470	12.700	14.100	15.900	14.400	14.275
Forage total ¹⁾	:	:	:	:	:	:	965.500	925.100	953.800	907.600	938.000
Field forage ¹⁾	564.700	393.400	411.500	403.400	406.000	395.800	359.800	313.800	343.500	294.500	327.900
Green maize ¹⁾	2.700	600	1.200	500	500	700	1.200	1.000	1.200	1.700	1.275
Permanent grassland ¹⁾	803.400	800.500	798.100	738.000	677.900	617.700	605.700	611.300	610.300	613.100	610.100
Fallow ¹⁾							88.280			102.730	95.505
Fallow land ^{1**)}	25.300	:	:	:	:	73.500	92.200	88.300	94.000	104.700	94.800

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 20.3: **Latvia**: Yields of agricultural crops

Yield in dt/ha											
Latvia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	18,41	16,86	21,53	21,43	20,52	18,85	21,72	20,52	24,34	21,45	22,19
Wheat	21,08	22,24	23,96	25,91	25,54	24,10	27,04	27,08	33,84	27,91	29,32
Rye	18,09	17,65	20,02	21,36	18,16	18,79	20,21	19,21	24,00	19,82	21,14
Barley	18,05	13,97	20,82	18,50	18,56	15,79	19,35	17,74	19,17	18,61	18,75
Oats	16,46	16,05	18,92	19,71	17,35	14,00	17,48	14,93	16,92	15,85	16,44
Triticale	18,07	18,15	20,00	26,79	23,72	20,52	23,01	22,23	26,39	17,28	23,88
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	8,36	8,27	15,88	13,50	12,96	12,14	14,49	15,48	17,77	14,44	15,91
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	190,17	277,01	257,80	355,51	365,00	291,86	321,02	348,37	391,38	369,72	353,59
Forage total ¹⁾	:	:	:	:	:	:	67,41	62,69	65,50	66,97	65,20
Field forage ¹⁾	101,71	126,91	116,20	110,72	149,37	119,25	136,50	105,08	133,44	143,73	125,01
Green maize ¹⁾	98,15	216,67	99,17	208,00	266,00	224,29	200,83	251,00	214,17	260,59	222,00
Permanent grassland ¹⁾	:	:	:	:	:	:	26,37	40,93	27,27	30,10	31,52

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 20.4: **Latvia**: Production of agricultural crops

Production in t

Latvia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	899.100	692.040	960.900	1.036.000	963.900	783.600	940.697	939.100	1.044.000	941.700	974.599
Wheat	199.400	243.700	357.500	394.600	385.300	351.900	427.396	451.700	519.500	468.400	466.199
Rye	113.400	71.300	112.900	133.500	104.800	88.700	110.717	107.200	101.500	87.600	106.472
Barley	481.100	284.000	371.500	359.800	321.700	232.600	261.121	231.100	262.400	240.400	251.540
Oats	88.900	73.200	101.400	116.500	103.600	66.100	79.586	82.400	79.700	78.300	80.562
Triticale	5.600	4.900	3.400	7.500	12.600	11.900	13.519	28.900	40.900	33.000	27.773
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	1.840	910	1.270	540	1.580	8.440	10.000	13.000	32.700	37.400	18.567
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	228.200	263.158	257.800	387.500	597.000	451.500	407.700	491.200	622.300	532.400	507.067
Forage total ¹⁾	:	:	:	:	:	:	6.508.700	5.799.600	6.247.600	6.078.300	6.185.300
Field forage ¹⁾	5.743.400	4.992.500	4.781.600	4.466.500	6.064.500	4.719.900	4.911.300	3.297.400	4.583.500	4.232.900	4.264.067
Green maize ¹⁾	26.500	13.000	11.900	10.400	13.300	15.700	24.100	25.100	25.700	44.300	24.967
Permanent grassland ¹⁾	:	:	:	:	:	:	1.597.400	2.502.200	1.664.100	1.845.400	1.921.233

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 20.5: **Latvia**: Livestock in 1,000 heads

Latvia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	550,80	537,10	509,40	476,90	434,40	378,40	366,70	384,70	388,10	378,60	379,53
under 1 year	:	134,80	134,40	123,70	109,30	100,60	97,90	112,00	110,70	109,10	107,43
beef calf	:	:	37,10	37,10	28,20	27,30	24,70	68,60	64,70	64,30	55,58
other calves	:	:	97,30	86,60	81,10	73,30	73,20	43,40	46,00	44,80	51,85
male	:	:	29,00	25,60	24,20	34,40	24,50	2,00	1,10	1,30	7,23
female	:	:	68,30	61,00	56,90	38,90	48,70	41,40	44,90	43,50	44,63
between 1 and 2 years	:	:	79,30	70,70	65,90	59,50	51,60	49,00	60,30	66,70	56,90
male	:	:	22,90	20,60	16,10	17,00	13,50	18,10	20,20	24,40	19,05
female	:	:	56,40	50,10	49,80	42,50	38,10	30,90	40,10	42,30	37,85
animals for slaughter	:	:	:	:	:	2,90	1,50	2,20	3,40	4,40	2,88
others	:	:	:	:	:	39,60	36,60	28,70	36,70	37,90	34,98
at least 2 years	:	:	295,70	282,50	259,20	218,30	217,20	223,70	217,10	202,80	215,20
male	:	:	3,30	2,60	1,60	1,10	0,80	1,70	1,10	1,50	1,28
female	:	:	292,40	279,90	257,60	217,20	216,40	222,00	216,00	201,30	213,93
Heifers	:	:	15,00	13,80	12,70	9,50	9,80	10,40	8,70	11,20	10,03
heifers for slaughter	:	:	:	:	:	0,50	0,20	0,40	0,40	0,50	0,38
other heifers	:	:	:	:	:	9,00	9,60	10,00	8,30	10,70	9,65
Cows	311,90	291,90	277,40	266,10	244,90	207,70	206,60	211,60	207,30	190,10	203,90
milk cows	311,90	291,90	274,60	262,80	242,10	205,60	204,50	209,10	204,60	186,30	201,13
other cows	:	:	2,80	3,30	2,80	2,10	2,10	2,50	2,70	3,80	2,78
Pigs	500,70	552,80	459,60	429,90	421,10	404,90	393,50	428,70	453,20	444,40	429,95
piglets, live weight < 20 kg	:	151,40	95,90	88,60	94,70	81,70	81,90	85,40	98,10	95,10	90,13
Pigs, live weight from 20 to < 50 kg	:	:	125,20	116,00	112,80	91,80	84,60	103,70	96,80	98,10	95,80
Fattening pigs from 50 kg and more ¹⁾	:	287,70	196,10	175,50	167,10	191,50	185,90	189,90	208,40	200,40	196,15
Fattening pigs from 50 to < 80 kg	:	:	88,80	83,20	89,30	86,30	86,30	102,90	115,70	124,30	107,30
Fattening pigs from 80 to < 110 kg	:	:	71,80	61,50	57,10	74,10	65,30	64,30	63,00	44,70	59,33
Fattening pigs from at least 110 kg	:	:	35,50	30,90	20,70	31,10	34,30	22,70	29,70	31,40	29,53
breeding pigs, Lebend-live weight of 50 kg and more	:	:	42,40	49,80	46,50	39,90	41,10	49,70	49,90	50,80	47,88
boars	:	:	2,80	3,70	2,90	2,80	2,40	2,30	2,10	2,00	2,20
sows in total	71,00	70,30	39,60	46,10	43,60	37,10	38,70	47,50	47,80	48,80	45,70
Goats	7,40	8,90	8,40	8,90	10,50	8,10	10,40	11,50	13,20	15,00	12,53
Sheep	86,30	72,10	55,50	40,70	29,40	27,00	28,60	29,00	31,50	39,20	32,08
Laying hens	2.093,50	2.071,20	2.264,00	2.223,00	2.066,40	2.032,40	1.980,50	2.047,60	2.277,50	:	2.101,87

¹⁾ including retired boars and sows, : no data

F 20.6: Latvia: Imports and Exports in t

Latvia	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	5.586	2.756	2.894	3.377	3.653,25
Export	3.661	1.143	305	2.613	1.930,50
Differenz	1.925	1.613	2.589	764	1.722,75
Butter of Cow Milk					
Import	1.117	968	1.037	1.081	1.050,75
Export	2.576	2.062	2.230	3.123	2.497,75
Differenz	-1.459	-1.094	-1.193	-2.042	-1.447,00
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	1.910	3.071	3.523	4.102	3.151,50
Export	2.560	4.708	4.466	6.623	4.589,25
Differenz	-650	-1.637	-943	-2.521	-1.437,75
Meat Bovine Fresh					
Import	3.210	3.765	3.161	2.898	3.258,50
Export	6	7	26	22	15,25
Differenz	3.204	3.758	3.135	2.876	3.243,25
Meat of Swine					
Import	4.750	7.922	11.751	17.078	10.375,25
Export	10	10	30	49	24,75
Differenz	4.740	7.912	11.721	17.029	10.350,50
Meat Poultry Fresh					
Import	17.285	18.180	23.690	24.254	20.852,25
Export	109	168	168	448	223,25
Differenz	17.176	18.012	23.522	23.806	20.629,00
Cereals					
Import	77.885	38.165	31.199	27.695	43.736,00
Export	6.762	107.048	115.061	166.412	98.820,75
Differenz	71.123	-68.883	-83.862	-138.717	-55.084,75
Wheat					
Import	3.167	79	124	205	893,75
Export	3.225	86.081	102.687	149.050	85.260,75
Differenz	-58	-86.002	-102.563	-148.845	-84.367,00
Rye					
Import	13.494	13.772	3.324	31	7.655,25
Export	186	7.877	1.805	5.096	3.741,00
Differenz	13.308	5.895	1.519	-5.065	3.914,25
Barley					
Import	22.979	130	116	116	5.835,25
Export	0	5.915	0	342	1.564,25
Differenz	22.979	-5.785	116	-226	4.271,00
Oats					
Import	1.753	1.364	3.131	1	1.562,25
Export	0	0	0	0	0,00
Differenz	1.753	1.364	3.131	1	1.562,25
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	24.022	10.844	10.677	16.151	15.423,50
Export	16	388	15	0	104,75
Differenz	24.006	10.456	10.662	16.151	15.318,75
Rapeseed					
Import	267	1.107	3.078	2.079	1.632,75
Export	9.206	12.095	27.529	11.938	15.192,00
Differenz	-8.939	-10.988	-24.451	-9.859	-13.559,25
Sunflower					
Import	3.299	1.728	1.348	1.530	1.976,25
Export	33	31	51	30	36,25
Differenz	3.266	1.697	1.297	1.500	1.940,00
Sugar Total (Raw Equiv.)					
Import	4.366	4.798	6.042	9.906	6.278,00
Export	12.965	60	388	19.427	8.210,00
Differenz	-8.599	4.738	5.654	-9.521	-1.932,00
Soybeans					
Import	84	120	12	20	59,00
Export	0	6	3	0	2,25
Differenz	84	114	9	20	56,75

F 20.7: **Latvia**: Milk and meat production in t

Latvia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.001.100	947.700	922.735	987.564	950.216	798.726	824.966	847.962	813.643	828.857
Beef	68.100	48.000	26.500	25.504	25.837	20.519	22.342	19.044	16.043	19.143
Mutton and goat meat	2.200	1.100	725	412	337	263	388	361	350	366
Pork	53.800	62.600	39.500	37.053	36.482	34.617	31.541	31.648	35.891	33.027
Poultry meat	11.400	10.800	8.662	7.613	7.865	6.254	7.229	8.895	10.642	8.922

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 20.8: **Latvia**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	94.800	2,219	210.387
Export(+)/Import(-) surplus in crop production			
- Cereals	24.821	2,219	55.085
- Rapeseed	8.521	1,591	13.559
- Sunflowers	0	0,000	-1.940
- Sugar beets	382	35,359	13.524 ¹⁾
Crop production balance	33.724		80.228

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-1.723
- Butter ²⁾	28.940
- Cheese ³⁾	14.378
Whole milk equivalent balance	41.595
Total milk production	828.857
the above as %	5,28

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-3.243
Total production	19.143
the above as %	-14,49
- Pork	-10.351
Total production	33.027
the above as %	-23,86
- Poultry meat	-20.629
Total production	8.922
the above as %	-69,81

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 20.9: **Latvia:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	55.575	0,25		13.894		13.894
Calves						
male	7.225	0,3		2.168		2.168
female	44.625	0,19	8.479			8.479
Cattle 1 - 2 Years						
male	19.050	0,7		13.335		13.335
female	37.850	0,65	24.603			24.603
Cattle > 2 Years						
male	1.275	1,2		1.530		1.530
Beef heifers	375	1,2		450		450
other heifers	9.650	1,2	11.580			11.580
Dairy cows	201.125	1,2	241.350			241.350
other cows	2.775	1,2		3.330		3.330
Goats	12.525	0,1			1.253	1.253
Sheep	32.075	0,1			3.208	3.208
Total			286.011	34.706	4.460	325.178
Share %			87,96	10,67	1,37	100,00
Roughage area ha						938.000
thereof...			825.022	100.113	12.865	

F 20.10: **Latvia:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	94.800	3,82
Reduction of overproduction		
- Crop production	33.724	1,36
- Animal production		
- Milk	41.402	1,67
- Beef	-16.961	-0,68
- Pork	¹⁾ -17.490	-0,71
- Poultry meat	²⁾ -16.732	-0,67
Balance of potential area ³⁾	152.965	
Agricultural land	2.479.667	
the above as %	6,17	6,17

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 20.11: **Latvia:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	2.373.000	2.248.000	2.129.000
- Change in % up to.....		-5,2676	-5,2936
Per capita consumption (grain equivalent)	786,3	831,0	878,0
- Change in % up to.....		5,68	5,66
Consumption change in % up to		0,3295	0,286
Abs. agricultural land in ha	2.479.667		
- Land redesignation in % up to ¹⁾		2,658	2,658
Yield increase in % up to ²⁾		-26,62	-26,62
Balance of all changes in % up to.....		-23,6333	-23,6768
Balance of agricultural land			
- Basis available ha	2.479.667		
- Increase(+) reduction(-) due to redesignation in ha		65.909	65.909
- Increased(+) decreased(-) demand for food		8.171	7.094
- Release due to yield increase in ha (-)		-660.108	-660.108
- Release due to improved feed conversion in ha (-)		-6.462	-4.979
- Potential for biomass in ha per year.....	-152.965	-592.489	-592.084
Accumulation of the above in ha		-745.455	-1.337.538
- the above as % of the basis available agricultural land	6,17	30,06	53,94
- quantity equivalents of the above			
- Cereals ³⁾	339.471	2.094.774	3.758.567
- Straw	271.577	1.675.820	3.006.854

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 20.12 : **Latvia:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	33.027		
- Feedgrain consumption t ¹⁾	123.850	-6.193 ³⁾	-12.385 ³⁾
Land equivalent ha cereals	55.807	-2.790	-5.581
- Poultry meat t	8.922		
- Feed grain consumption t ²⁾	16.060	-803 ³⁾	-1.606 ³⁾
Land equivalent ha cereals	7.236	-5.392	-724
Total land equivalent ha	63.043	-8.182	-6.304

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 20.13 : **Latvia:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	610.100
Grassland for milk production	ha	536.616
Overproduction milk	%	5,28
Released grassland due to abandonment of overproduction	ha	26.929
Grassland for beef production	ha	65.116
Overproduction beef	%	-14,49
Released grassland due to abandonment of overproduction	ha	-11.032
Total grassland released	ha	15.897
the above as % of total grassland		2,61
the above as % of potential area for bioenergy sources		5,49

F 20.14 : **Latvia:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	65.909	65.909
Share of grassland of agricultural land	%	24,60	24,60
Redesignation of grassland	ha	16.216	16.216
Change to grassland due to change in consumption			
- Rate of change in population	%	-5,2676	-5,2936
- Rate of change in milk and beef consumption	%	0,0000	6,6000
Total change	%	-5,2676	1,3064
Grassland for milk and beef production	ha	601.732	601.732
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	-31.697	7.861
Release due to yield increase(-)	ha	-162.414	-162.414
Total change in grassland	ha	-177.894	-138.336
Accumulated grassland potential for bioenergy sources	ha	193.791	332.127
the above as % of total grassland		31,76	54,44
the above as % of potential area		21,97	22,53

F 21 Lithuania**F 21.1:Lithuania:** Total land area and agricultural area

in 1000 ha

Lithuania	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	6.530	6.530	6.530	6.530	6.530	6.530	6.530	6.530	6.530	6.530	6.530	6.530
thereof												
Land Area	6.268	6.268	6.268	6.268	6.268	6.268	6.268	6.268	6.268	6.268	6.268	6.268
thereof												
Agricultural Area	3.513	3.513	3.513	3.508	3.508	3.502	3.496	3.496	3.489	3.487	3.487	3.488
thereof												
Permanent Pasture	460	460	496	501	501	496	492	500	497	498	498	498
Permanent Crops	59	59	59	60	60	60	59	59	59	59	59	59
Arable Land	2.994	2.994	2.958	2.947	2.947	2.946	2.945	2.937	2.933	2.930	2.930	2.931
Arable & Permanent Crops	3.053	3.053	3.017	3.007	3.007	3.006	3.004	2.996	2.992	2.989	2.989	2.990
NonArable&NonPermanent	3.215	3.215	3.251	3.261	3.261	3.262	3.264	3.272	3.276	3.279	3.279	3.278
All other Land	806	806	772	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 21.2: **Lithuania**: Cultivation area of agricultural crops

Cultivated land in ha											
Lithuania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	3.513.000	3.508.000	3.508.000	3.502.000	3.496.000	3.496.000	3.489.000	3.487.000	3.487.000		3.487.667
Cereals	1.194.500	1.026.700	1.078.900	1.161.800	1.107.500	1.012.700	979.600	914.800	915.100	862.100	917.900
Wheat	270.000	260.600	347.700	375.600	359.600	333.700	370.400	337.800	335.100	336.700	345.000
Rye	203.500	134.700	152.200	158.700	174.300	134.800	133.100	110.500	74.600	59.900	94.525
Barley	619.900	544.500	473.800	503.000	462.900	421.200	353.200	331.300	365.000	308.600	339.525
Oats	54.500	47.400	51.600	56.100	49.600	51.200	44.300	47.600	55.000	48.300	48.800
Triticale	27.500	22.500	34.100	40.600	36.900	45.000	50.800	59.600	56.000	78.100	61.125
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	12.000	13.900	11.800	22.100	38.600	83.800	55.500	36.400	60.000	66.800	54.675
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	26.600	24.300	31.200	35.200	30.000	30.600	27.700	26.500	27.000	27.000	27.050
Forage total ¹⁾	1.574.600	1.523.500	1.575.900	1.573.800	1.579.800	1.536.200	1.512.400	1.457.500	1.430.800	1.185.500	1.396.550
Field forage ¹⁾	1.078.700	1.023.000	1.072.100	1.077.800	1.087.500	1.036.000	1.015.300	235.900	227.400	212.600	422.800
Green maize ¹⁾	7.500	4.200	4.300	3.500	6.200	6.300	10.300	11.600	13.800	13.400	12.275
Permanent grassland ¹⁾	495.900	500.500	503.800	496.000	492.300	500.200	497.100	1.221.600	1.203.400	972.900	973.750
Fallow land ^{1**)}	89.500	77.700	109.800	64.300	80.500	94.600	124.400	165.400	193.100	153.800	159.175

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 21.3: **Lithuania**: Yields of agricultural crops

Yield in dt/ha											
Lithuania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	17,57	18,57	24,24	25,35	24,53	20,23	27,13	25,63	27,66	30,43	26,80
Wheat	20,35	24,46	26,93	30,02	28,67	26,10	33,41	31,86	36,34	35,76	33,87
Rye	15,38	17,77	18,84	21,94	20,01	19,36	23,40	20,91	22,82	24,56	22,37
Barley	17,59	16,37	24,83	23,73	23,86	17,61	24,34	23,43	23,87	29,16	23,88
Oats	12,66	14,07	19,69	19,91	19,60	13,11	18,71	17,71	17,73	23,73	18,05
Triticale	18,40	20,71	22,76	28,10	25,72	18,91	25,77	24,13	25,95	27,43	25,28
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	11,00	13,60	19,15	16,83	18,63	13,72	14,59	17,80	17,60	17,89	16,67
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	173,50	284,94	254,97	284,63	316,33	284,61	318,27	332,23	389,78	362,00	346,76
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	120,85	:
Field forage ¹⁾	76,33	98,69	86,65	87,57	93,90	71,65	68,56	311,69	251,47	145,07	210,57
Green maize ¹⁾	104,93	256,43	206,51	262,00	261,29	259,52	280,10	239,48	216,01	290,22	245,20
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	115,56	:

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 21.4: **Lithuania**: Production of agricultural crops

Production in t											
Lithuania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	2.098.200	1.906.500	2.615.100	2.945.300	2.716.800	2.048.600	2.657.800	2.344.200	2.530.800	2.623.100	2.510.933
Wheat	549.400	637.300	936.200	1.127.400	1.031.000	870.900	1.237.600	1.076.300	1.217.600	1.204.100	1.177.167
Rye	313.000	239.300	286.800	348.200	348.700	260.900	311.400	231.100	170.200	147.100	237.567
Barley	1.090.500	891.500	1.176.600	1.193.500	1.104.300	741.600	859.600	776.200	871.100	899.800	835.633
Oats	69.000	66.700	101.600	111.700	97.200	67.100	82.900	84.300	97.500	114.600	88.233
Triticale	50.600	46.600	77.600	114.100	94.900	85.100	130.900	143.800	145.300	214.200	140.000
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	13.200	18.900	22.600	37.200	71.900	115.000	81.000	64.800	105.600	119.500	83.800
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	461.500	692.400	795.500	1.001.900	949.000	870.900	881.600	880.400	1.052.400	977.400	938.133
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	14.326.700	:
Field forage ¹⁾	8.233.800	10.095.830	9.290.130	9.437.950	10.211.540	7.422.400	6.960.800	7.352.800	5.718.500	3.084.200	6.677.367
Green maize ¹⁾	78.700	107.700	88.800	91.700	162.000	163.500	288.500	277.800	298.100	388.900	288.133
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	11.242.500	:

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 21.5: **Lithuania**: Livestock in 1,000 heads

Lithuania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	1.152,40	1.065,10	1.054,10	1.016,30	922,80	897,80	748,30	751,70	779,10	812,10	772,80
under 1 year	:	:	:	202,10	206,40	210,10	162,10	164,00	174,60	188,90	172,40
beef calf	:	:	:	104,00	113,20	113,40	81,20	81,30	79,90	83,70	81,53
other calves	:	:	:	98,10	93,20	96,70	80,90	82,70	94,70	105,20	90,88
male	:	:	:	13,30	12,80	16,00	12,40	10,60	13,50	14,70	12,80
female	:	:	:	84,80	80,40	80,70	68,50	72,10	81,20	90,50	78,08
between 1 and 2 years	:	:	:	164,00	131,30	144,40	113,50	109,80	122,80	131,60	119,43
male	:	:	:	67,80	53,40	60,90	44,10	42,50	46,00	45,00	44,40
female	:	:	:	96,20	77,90	83,50	69,40	67,30	76,80	86,60	75,03
animals for slaughter	:	:	:	19,00	14,00	21,60	15,90	12,00	11,60	13,00	13,13
others	:	:	:	77,20	63,90	61,90	53,50	55,30	65,20	73,60	61,90
at least 2 years	:	:	:	650,20	585,10	543,30	472,70	477,90	481,70	491,60	480,98
male	:	:	:	17,20	11,90	12,90	7,90	9,00	8,40	9,10	8,60
female	:	:	:	633,00	573,20	530,40	464,80	468,90	473,30	482,50	472,38
Heifers	:	:	:	42,60	28,60	30,40	23,30	22,90	25,70	29,20	25,28
heifers for slaughter	:	:	:	7,40	4,50	5,70	4,00	2,80	3,50	4,40	3,68
other heifers	:	:	:	35,20	24,10	24,70	19,30	20,10	22,20	24,80	21,60
Cows	:	:	:	590,40	544,60	500,00	441,50	446,00	447,60	453,30	447,10
milk cows	614,90	586,00	589,90	582,80	537,70	494,30	438,40	441,80	443,30	448,10	442,90
other cows	:	0,00	0,00	7,60	6,90	5,70	3,10	4,20	4,30	5,20	4,20
Pigs	1.259,80	1.270,00	1.127,60	1.200,10	1.159,00	936,10	867,60	1.010,80	1.061,00	1.057,40	999,20
piglets, live weight < 20 kg	:	:	:	220,10	232,50	159,40	161,40	188,50	181,20	194,30	181,35
Pigs, live weight from 20 to < 50 kg	:	:	:	291,70	272,40	216,80	210,70	258,40	274,00	249,30	248,10
Fattening pigs from 50 kg and more ¹⁾	:	:	:	557,90	548,10	471,20	415,00	464,40	506,80	517,40	475,90
Fattening pigs from 50 to < 80 kg	:	:	:	295,40	280,60	237,90	212,50	241,30	241,70	236,40	232,98
Fattening pigs from 80 to < 110 kg	:	:	:	168,30	182,90	153,50	131,30	153,40	189,00	205,70	169,85
Fattening pigs from at least 110 kg	:	:	:	94,20	84,60	79,80	71,20	69,70	76,10	75,30	73,08
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	130,40	106,00	88,70	80,50	99,50	99,00	96,40	93,85
boars	:	:	:	4,50	4,00	3,90	3,20	3,60	3,50	2,20	3,13
sows in total	278,70	283,70	288,90	125,90	102,00	84,80	77,30	95,90	95,50	94,20	90,73
Goats	12,40	14,60	16,90	18,50	23,70	24,70	23,00	23,70	22,00	27,20	23,98
Sheep	40,00	32,30	28,20	24,00	15,80	13,80	11,50	12,30	13,60	16,90	13,58
Laying hens	:	:	:	4.706,90	4.258,40	3.837,30	3.500,40	3.658,50	3.637,60	3.964,80	3.690,33

¹⁾ including retired boars and sows, : no data

F 21.6: Lithuania : Imports and Exports in t

Lithuania	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	461	407	788	806	615,50
Export	8.329	4.623	3.728	11.373	7.013,25
Differenz	-7.868	-4.216	-2.940	-10.567	-6.397,75
Butter of Cow Milk					
Import	794	728	200	903	656,25
Export	11.664	9.273	8.224	6.471	8.908,00
Differenz	-10.870	-8.545	-8.024	-5.568	-8.251,75
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	239	351	377	645	403,00
Export	32.184	35.357	40.266	40.285	37.023,00
Differenz	-31.945	-35.006	-39.889	-39.640	-36.620,00
Meat Bovine Fresh					
Import	305	305	1.213	162	496,25
Export	21.171	3.098	3.299	5.200	8.192,00
Differenz	-20.866	-2.793	-2.086	-5.038	-7.695,75
Meat of Swine					
Import	3.536	3.418	4.761	9.281	5.249,00
Export	55	959	3.647	1.662	1.580,75
Differenz	3.481	2.459	1.114	7.619	3.668,25
Meat Poultry Fresh					
Import	9.766	9.792	21.846	22.123	15.881,75
Export	1.011	1.167	11.545	10.499	6.055,50
Differenz	8.755	8.625	10.301	11.624	9.826,25
Cereals					
Import	101.909	57.771	182.278	223.641	141.399,75
Export	141.153	460.363	323.771	629.429	388.679,00
Differenz	-39.244	-402.592	-141.493	-405.788	-247.279,25
Wheat					
Import	1.223	264	78.138	53.100	33.181,25
Export	111.293	408.776	291.315	553.286	341.167,50
Differenz	-110.070	-408.512	-213.177	-500.186	-307.986,25
Rye					
Import	8.029	2.568	44.609	47.433	25.659,75
Export	19.544	9.195	8.358	20.030	14.281,75
Differenz	-11.515	-6.627	36.251	27.403	11.378,00
Barley					
Import	46.514	9.711	1.344	13.828	17.849,25
Export	5.066	29.082	16.523	37.155	21.956,50
Differenz	41.448	-19.371	-15.179	-23.327	-4.107,25
Oats					
Import	1.110	10	58	3	295,25
Export	0	2	2	0	1,00
Differenz	1.110	8	56	3	294,25
Triticale					
Import	45	15	2.239	37.539	9.959,50
Export	0	0	0	0	0,00
Differenz	45	15	2.239	37.539	9.959,50
Maize					
Import	30.897	30.485	44.052	60.513	41.486,75
Export	1.608	1.525	159	523	953,75
Differenz	29.289	28.960	43.893	59.990	40.533,00
Rapeseed					
Import	20.782	33.046	13.572	5.459	18.214,75
Export	63.561	102.493	88.589	103.805	89.612,00
Differenz	-42.779	-69.447	-75.017	-98.346	-71.397,25
Sunflower					
Import	3.369	4.564	4.972	8.295	5.300,00
Export	592	721	443	3.349	1.276,25
Differenz	2.777	3.843	4.529	4.946	4.023,75
Sugar Total (Raw Equiv.)					
Import	2.392	2.939	13.393	31.571	12.573,75
Export	68.463	45.374	19.279	19.140	38.064,00
Differenz	-66.071	-42.435	-5.886	12.431	-25.490,25
Soybeans					
Import	11	172	142	303	157,00
Export	0	0	11	1	3,00
Differenz	11	172	131	302	154,00

F 21.7: **Lithuania**: Milk and meat production in t

Lithuania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.896.400	1.818.900	1.831.500	1.949.700	1.929.900	1.714.200	1.724.700	1.729.800	1.770.900	1.741.800
Beef	116.100	86.900	83.000	89.600	81.400	77.300	75.400	47.300	37.700	53.467
Mutton and goat meat	1.700	1.600	1.400	1.200	1.200	1.200	900	800	800	833
Pork	81.600	93.100	88.500	87.100	95.600	91.000	84.500	72.300	85.700	80.833
Poultry meat	23.900	26.000	27.400	28.000	23.600	23.000	25.100	29.700	32.800	29.200

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 21.8: **Lithuania**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	159.175	2,680	426.657
Export(+)/Import(-) surplus in crop production			
- Cereals	92.254	2,680	247.279
- Rapeseed	42.841	1,667	71.397
- Sunflowers	0	0,000	-4.024
- Sugar beets	5.146	34,676	178.432 ¹⁾
Crop production balance	140.241		493.085

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	6.398
- Butter ²⁾	165.035
- Cheese ³⁾	366.200
Whole milk equivalent balance	537.633
Total milk production	1.741.800
the above as %	44,65

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	7.696
Total production	53.467
the above as %	16,81
- Pork	-3.668
Total production	80.833
the above as %	-4,34
- Poultry meat	-9.826
Total production	29.200
the above as %	-25,18

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 21.9: **Lithuania**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	81.525	0,25		20.381		20.381
Calves						
male	12.800	0,3		3.840		3.840
female	78.075	0,19	14.834			14.834
Cattle 1 - 2 Years						
male	44.400	0,7		31.080		31.080
female	75.025	0,65	48.766			48.766
Cattle > 2 Years						
male	8.600	1,2		10.320		10.320
Beef heifers	3.675	1,2		4.410		4.410
other heifers	21.600	1,2	25.920			25.920
Dairy cows	442.900	1,2	531.480			531.480
other cows	4.200	1,2		5.040		5.040
Goats	23.975	0,1			2.398	2.398
Sheep	13.575	0,1			1.358	1.358
Total			621.001	75.071	3.755	699.827
Share %			88,74	10,73	0,54	100,00
Roughage area ha						1.396.550
thereof...			1.239.247	149.810	7.493	

F 21.10: **Lithuania**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	159.175	4,56
Reduction of overproduction		
- Crop production	140.241	4,02
- Animal production		
- Milk	382.512	10,97
- Beef	21.563	0,62
- Pork	¹⁾	-5,132
- Poultry meat	²⁾	-6,599
Balance of potential area	³⁾	
Agricultural land	3.487.667	
the above as %	20,17	20,17

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 21.11: **Lithuania:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	3.500.000	3.358.000	3.214.000
- Change in % up to.....		-4,0571	-4,2883
Per capita consumption (grain equivalent)	889,2	961,4	1.009,5
- Change in % up to.....		8,12	5,00
Consumption change in % up to		3,1250	0,550
Abs. agricultural land in ha	3.487.667		
- Land redesignation in % up to ¹⁾		0,891	0,891
Yield increase in % up to ²⁾		-30,00	-30,00
Balance of all changes in % up to.....		-25,9835	-28,5587
Balance of agricultural land			
- Basis available ha	3.487.667		
- Increase(+) reduction(-) due to redesignation in ha		31.091	31.091
- Increased(+) decreased(-) demand for food		108.990	19.178
- Release due to yield increase in ha (-)		-1.046.300	-1.046.300
- Release due to improved feed conversion in ha (-)		-5.104	-10.207
- Potential for biomass in ha per year.....	-703.491	-911.323	-1.006.238
Accumulation of the above in ha		-1.614.814	-2.621.052
- the above as % of the basis available agricultural land	20,17	46,30	75,15
- quantity equivalents of the above			
- Cereals ³⁾	1.885.654	5.626.903	9.133.193
- Straw	1.508.523	4.501.522	7.306.554

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 21.12 : **Lithuania:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	80.833		
- Feedgrain consumption t ¹⁾	303.125	-15.156 ³⁾	-30.313 ³⁾
Land equivalent ha cereals	113.088	-5.654	-11.309
- Poultry meat t	29.200		
- Feed grain consumption t ²⁾	52.560	-2.628 ³⁾	-5.256 ³⁾
Land equivalent ha cereals	19.609	-980	-1.961
Total land equivalent ha	132.697	-6.635	-13.270

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 21.13 : **Lithuania:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	973.750
Grassland for milk production	ha	864.070
Overproduction milk	%	44,65
Released grassland due to abandonment of overproduction	ha	266.708
Grassland for beef production	ha	104.455
Overproduction beef	%	16,81
Released grassland due to abandonment of overproduction	ha	15.035
Total grassland released	ha	281.743
the above as % of total grassland		28,93
the above as % of potential area for bioenergy sources		40,05

F 21.14 : **Lithuania:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	31.091	31.091
Share of grassland of agricultural land	%	27,92	27,92
Redesignation of grassland	ha	8.681	8.681
Change to grassland due to change in consumption			
- Rate of change in population	%	-4,0571	-4,2883
- Rate of change in milk and beef consumption	%	5,6000	5,0000
Total change	%	1,5429	0,7117
Grassland for milk and beef production	ha	968.525	968.525
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	14.943	6.893
Release due to yield increase(-)	ha	-292.125	-292.125
Total change in grassland	ha	-268.502	-276.551
Accumulated grassland potential for bioenergy sources	ha	550.245	826.796
the above as % of total grassland		56,51	84,91
the above as % of potential area		34,07	31,54

F 22 Malta**F 22.1:Malta** : Total land area and agricultural area

in 1000 ha

Malta	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	32	32	32	32	32	32	32	32	32	32	32	32	32
thereof													
Land Area	32	32	32	32	32	32	32	32	32	32	32	32	32
thereof													
Agricultural Area	13	13	13	13	11	11	10	9	9	9	10	10	10
thereof													
Permanent Pasture													
Permanent Crops	1	1	1	1	1	1	1	1	1	1	1	1	1
Arable Land	12	12	12	12	10	10	9	8	8	8	9	9	9
Arable & Permanent Crops	13	13	13	13	11	11	10	9	9	9	10	10	10
NonArable&NonPermanent	19	19	19	19	21	21	22	23	23	23	22	22	22
All other Land	19	19	19	19	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 22.2: **Malta**: Cultivation area of agricultural crops

Cultivated land in ha											
Malta	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	13.000	11.000	11.000	10.000	9.000	9.000	9.000	10.000	10.000		9.667
Cereals	2.800	2.950	2.000	2.700	2.700	2.700	2.923	2.950	2.950	2.840	2.916
Wheat	2.200	2.400	1.100	2.200	2.200	2.200	2.381	2.400	2.400	2.300	2.370
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	600	550	900	500	500	500	542	550	550	540	546
Oats	0	0	0	0	0	0	0	0	0	0	0
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	:	:	:	:	4.200	4.500	4.500	4.500	4.500	5.197	4.674
Field forage ¹⁾	4.200	4.200	4.200	4.200	42.000	4.500	4.500	4.500	4.500	5.197	4.674
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	0	0
Permanent grassland ¹⁾	:	:	:	:	:	:	0	0	0	0	0
Fallow ¹⁾										700	700
Fallow land ^{1**)}	:	:	:	:	:	:	0	100	200	696	249

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 22.3: **Malta** : Yields of agricultural crops

Yield in dt/ha											
Malta	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	26,07	25,09	35,00	39,05	39,63	40,37	40,08	40,00	40,00	41,20	40,03
Wheat	27,27	26,25	38,18	41,07	40,91	40,91	40,13	40,00	40,00	41,30	40,04
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	21,67	20,00	31,11	30,14	34,00	38,00	39,82	40,00	40,00	40,74	39,94
Oats	0	0	0	0	0	0	0	0	0	0	0
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	:	:	:	:	86,79	81,11	72,00	63,11	81,11	86,93	75,79
Field forage ¹⁾	83,33	83,33	83,33	83,33	86,79	81,11	72,00	63,11	81,11	86,93	75,79
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 22.4: **Malta**: Production of agricultural crops

Production in t

Malta	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	7.300	7.400	7.000	10.543	10.700	10.900	11.714	11.800	11.800	11.700	11.771
Wheat	6.000	6.300	4.200	9.036	9.000	9.000	9.556	9.600	9.600	9.500	9.585
Rye	0	0	0	0	0	0	0	0	0	0	0
Barley	1.300	1.100	2.800	1.507	1.700	1.900	2.158	2.200	2.200	2.200	2.186
Oats	0	0	0	0	0	0	0	0	0	0	0
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	0	0	0	0	0	0	0	0	0	0	0
Rapeseed	0	0	0	0	0	0	0	0	0	0	0
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	0	0	0	0	0	0	0	0	0	0	0
Forage total ¹⁾	35.000	35.000	35.000	35.000	36.450	36.500	32.400	28.400	36.500	45.178	35.620
Field forage ¹⁾	35.000	35.000	35.000	35.000	36.450	36.500	32.400	28.400	36.500	45.178	35.620
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 22.5: **Malta**: Livestock in 1,000 heads

Malta	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	:	:	:	:	:	:	:	19,00	18,77	17,94	18,57
under 1 year	:	:	:	:	:	:	:	5,28	5,00	4,91	5,06
beef calf	:	:	:	:	:	:	:	0,00	0,00	0,00	0,00
other calves	:	:	:	:	:	:	:	5,28	5,00	4,91	5,06
male	:	:	:	:	:	:	:	2,48	2,35	2,38	2,40
female	:	:	:	:	:	:	:	2,79	2,65	2,53	2,66
between 1 and 2 years	:	:	:	:	:	:	:	3,68	4,99	4,94	4,54
male	:	:	:	:	:	:	:	1,30	1,72	1,59	1,54
female	:	:	:	:	:	:	:	2,38	3,27	3,35	3,00
animals for slaughter	:	:	:	:	:	:	:	0,37	0,26	0,20	0,28
others	:	:	:	:	:	:	:	2,01	3,01	3,15	2,72
at least 2 years	:	:	:	:	:	:	:	10,05	8,78	8,09	8,97
male	:	:	:	:	:	:	:	0,20	0,20	0,10	0,17
female	:	:	:	:	:	:	:	9,84	8,58	8,00	8,81
Heifers	:	:	:	:	:	:	:	1,43	0,55	0,39	0,79
heifers for slaughter	:	:	:	:	:	:	:	0,28	0,06	0,07	0,13
other heifers	:	:	:	:	:	:	:	1,15	0,49	0,33	0,66
Cows	:	:	:	:	:	:	:	8,41	8,03	7,61	8,02
milk cows	:	:	:	:	:	:	:	8,24	8,03	7,61	7,96
other cows	:	:	:	:	:	:	:	0,17	0,00	0,00	0,06
Pigs	55,47	55,09	64,57	67,11	61,42	:	:	80,90	78,30	73,07	77,42
piglets, live weight < 20 kg	5,79	7,05	8,61	9,70	7,22	:	:	22,66	18,90	18,35	19,97
Pigs, live weight from 20 to < 50 kg	19,27	29,00	34,22	34,80	32,63	:	:	13,04	21,36	21,53	18,64
Fattening pigs from 50 kg and more ¹⁾	30,40	19,04	21,74	22,61	21,57	:	:	36,99	30,25	25,00	30,74
Fattening pigs from 50 to < 80 kg	18,91	10,18	10,48	9,10	9,94	:	:	26,46	20,09	18,30	21,61
Fattening pigs from 80 to < 110 kg	11,50	8,86	11,26	13,51	11,63	:	:	9,92	8,93	6,24	8,36
Fattening pigs from at least 110 kg	:	:	:	:	:	:	:	0,61	1,24	0,46	0,77
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	:	:	8,22	7,79	8,19	8,07
boars	:	:	:	:	:	:	:	0,46	0,40	0,44	0,43
sows in total	:	:	:	:	:	:	:	7,75	7,39	7,75	7,63
Goats	:	:	:	:	:	:	:	2,61	5,16	5,37	4,38
Sheep	:	:	:	:	:	:	:	8,08	12,25	14,86	11,73
Laying hens	:	:	:	:	:	:	:	:	417,80	420,00	418,90

¹⁾ including retired boars and sows, : no data

F 22.6: **Malta** : Imports and Exports in t

Malta	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	115	66	111	464	189,00
Export	122	1	48	46	54,25
Differenz	-7	65	63	418	134,75
Butter of Cow Milk					
Import	551	500	469	555	518,75
Export	350	164	83	2	149,75
Differenz	201	336	386	553	369,00
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	4.665	4.552	4.691	6.678	5.146,50
Export	28	22	25	5	20,00
Differenz	4.637	4.530	4.666	6.673	5.126,50
Meat Bovine Fresh					
Import	6.260	3.427	5.785	5.771	5.310,75
Export	5	17	2	2	6,50
Differenz	6.255	3.410	5.783	5.769	5.304,25
Meat of Swine					
Import	125	455	37	1.005	405,50
Export	0	8	13	13	8,50
Differenz	125	447	24	992	397,00
Meat Poultry Fresh					
Import	271	568	564	718	530,25
Export	1	3	1	9	3,50
Differenz	270	565	563	709	526,75
Cereals					
Import	193.399	165.227	169.249	124.291	163.041,50
Export	6	19	30	4.356	1.102,75
Differenz	193.393	165.208	169.219	119.935	161.938,75
Wheat					
Import	58.001	38.833	55.925	33.498	46.564,25
Export	0	0	18	2.150	542,00
Differenz	58.001	38.833	55.907	31.348	46.022,25
Rye					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Barley					
Import	46.540	44.767	44.474	35.909	42.922,50
Export	0	0	0	0	0,00
Differenz	46.540	44.767	44.474	35.909	42.922,50
Oats					
Import	4.613	753	894	458	1.679,50
Export	0	0	0	0	0,00
Differenz	4.613	753	894	458	1.679,50
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	73.055	69.620	56.031	43.785	60.622,75
Export	0	0	0	2.187	546,75
Differenz	73.055	69.620	56.031	41.598	60.076,00
Rapeseed					
Import	38	27	50	27	35,50
Export	0	0	0	0	0,00
Differenz	38	27	50	27	35,50
Sunflower					
Import	198	303	425	272	299,50
Export	0	0	2	2	1,00
Differenz	198	303	423	270	298,50
Sugar Total (Raw Equiv.)					
Import	23.414	25.819	28.096	36.826	28.538,75
Export	19	88	210	92	102,25
Differenz	23.395	25.731	27.886	36.734	28.436,50
Soybeans					
Import	78	216	1.150	6	362,50
Export	0	0	0	0	0
Differenz	78	216	1.150	6	362,50

F 22.7: **Malta**: Milk and meat production in t

Malta	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	27.800	26.300	45.750	51.001	50.368	50.456	50.669	49.896	46.993	49.186
Beef	1.650	1.736	1.750	1.686	1.584	1.588	1.608	1.536	1.636	1.593
Mutton and goat meat	38	41	52	20	17	17	18	20	23	20
Pork	9.300	8.500	8.600	10.191	10.397	10.258	9.069	9.930	10.405	9.801
Poultry meat	4.771	5.076	5.168	5.294	5.148	5.397	5.347	5.660	5.747	5.585

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 22.8: **Malta** : Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	249	4,003	997
Export(+)/Import(-) surplus in crop production			
- Cereals	-40.459	4,003	-161.939
- Rapeseed	0	0,000	-36
- Sunflowers	0	0,000	-299
- Sugar beets	0	0,000	-199.056 ¹⁾
Crop production balance	-40.459		-361.328

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-135
- Butter ²⁾	-7.380
- Cheese ³⁾	-51.265
Whole milk equivalent balance	-58.780
Total milk production	49.186
the above as %	-54,44

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-5.304
Total production	1.593
the above as %	-76,90
- Pork	-397
Total production	9.801
the above as %	-3,89
- Poultry meat	-527
Total production	5.585
the above as %	-8,62

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 22.9: **Malta** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	0	0,25		0		0
Calves						
male	2.404	0,3		721		721
female	2.656	0,19	505			505
Cattle 1 - 2 Years						
male	1.536	0,7		1.075		1.075
female	2.999	0,65	1.950			1.950
Cattle > 2 Years						
male	166	1,2		199		199
Beef heifers	134	1,2		161		161
other heifers	657	1,2	788			788
Dairy cows	7.960	1,2	9.552			9.552
other cows	57	1,2		69		69
Goats	4.383	0,1			438	438
Sheep	11.733	0,1			1.173	1.173
Total			12.795	2.226	1.612	16.632
Share %			76,93	13,38	9,69	100,00
Roughage area ha						4.674
thereof...			3.596	626	453	

F 22.10: **Malta**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	249	2,58
Reduction of overproduction		
- Crop production	-40.459	-418,54
- Animal production		
- Milk	-4.297	-44,45
- Beef	-2.083	-21,54
- Pork	¹⁾ -372	-3,85
- Poultry meat	²⁾ -237	-2,45
Balance of potential area	³⁾ -46.590	
Agricultural land	9.667	
the above as %	-481,97	-481,97

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 22.11: **Malta:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	392.000	411.000	426.000
- Change in % up to.....		4,8469	3,6496
Per capita consumption (grain equivalent)	1.051,0	1.109,5	1.150,6
- Change in % up to.....		5,57	3,70
Consumption change in % up to		9,4664	6,395
Abs. agricultural land in ha	9.667		
- Land redesignation in % up to ¹⁾		41,596	41,596
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		41,0628	32,9911
Balance of agricultural land			
- Basis available ha	9.667		
- Increase(+) reduction(-) due to redesignation in ha		4.021	4.021
- Increased(+) decreased(-) demand for food		915	618
- Release due to yield increase in ha (-)		-967	-1.450
- Release due to improved feed conversion in ha (-)		-532	-1.017
- Potential for biomass in ha per year.....	46.590	3.438	2.172
Accumulation of the above in ha		50.028	52.200
- the above as % of the basis available agricultural land	-481,97	-517,53	-540,00
- quantity equivalents of the above			
- Cereals ³⁾	-186.477	-220.260	-240.271
- Straw	-149.181	-176.208	-192.217

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 22.12 : **Malta:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	9.801		
- Feedgrain consumption t ¹⁾	36.755	-1.838 ³⁾	-3.676 ³⁾
Land equivalent ha cereals	9.183	-459	-918
- Poultry meat t	5.585		
- Feed grain consumption t ²⁾	10.052	-503 ³⁾	-1.005 ³⁾
Land equivalent ha cereals	2.512	-126	-251
Total land equivalent ha	11.695	-585	-1.169

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 22.13 : **Malta:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	0
Grassland for milk production	ha	0
Overproduction milk	%	-54,44
Released grassland due to abandonment of overproduction	ha	0
Grassland for beef production	ha	0
Overproduction beef	%	-76,90
Released grassland due to abandonment of overproduction	ha	0
Total grassland released	ha	0
the above as % of total grassland		0,00
the above as % of potential area for bioenergy sources		0,00

F 22.14 : **Malta:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	4.021	4.021
Share of grassland of agricultural land	%	0,00	0,00
Redesignation of grassland	ha	0	0
Change to grassland due to change in consumption			
- Rate of change in population	%	4,8469	3,6496
- Rate of change in milk and beef consumption	%	3,9000	2,1000
Total change	%	8,7469	5,7496
Grassland for milk and beef production	ha	0	0
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	0	0
Release due to yield increase(-)	ha	0	0
Total change in grassland	ha	0	0
Accumulated grassland potential for bioenergy sources	ha	0	0
the above as % of total grassland		0,00	0,00
the above as % of potential area		0,00	0,00

F 23 Poland**F 23.1: Poland: Total land area and agricultural area**

in 1000 ha

Poland	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269	31.269
thereof													
Land Area	30.442	30.442	30.442	30.439	30.438	30.436	30.436	30.437	30.436	30.436	30.435	30.629	30.500
thereof													
Agricultural Area	18.753	18.743	18.715	18.707	18.622	18.474	18.457	18.443	18.435	18.413	18.392	18.345	18.383
thereof													
Permanent Pasture	4.038	4.044	4.047	4.055	4.047	4.125	4.136	4.064	4.034	4.083	4.078	4.119	4.093
Permanent Crops	355	362	363	352	365	345	315	322	329	337	340	304	327
Arable Land	14.360	14.337	14.305	14.300	14.210	14.004	14.006	14.057	14.072	13.993	13.974	13.922	13.963
Arable & Permanent Crops	14.715	14.699	14.668	14.652	14.575	14.349	14.321	14.379	14.401	14.330	14.314	14.226	14.290
NonArable&NonPermanent	15.727	15.743	15.774	15.787	15.863	16.087	16.115	16.058	16.035	16.106	16.121	16.403	16.210
All other Land	2.957	2.967	2.995	3.000	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 23.2: Poland : Cultivation area of agricultural crops

Cultivated land in ha											
Poland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	18.707.000	18.622.000	18.474.000	18.457.000	18.443.000	18.435.000	18.413.000	18.392.000	18.345.000		18.383.333
Cereals	8.480.981	8.571.214	8.720.105	8.899.413	8.843.718	8.701.304	8.813.629	8.820.941	8.293.400	8.163.257	8.522.807
Wheat	2.407.047	2.406.786	2.480.428	2.555.092	2.631.319	2.582.969	2.635.097	2.627.047	2.414.175	2.308.045	2.496.091
Rye	2.436.266	2.451.600	2.414.978	2.297.919	2.290.852	2.242.462	2.130.229	2.002.329	1.560.000	1.479.300	1.792.965
Barley	1.031.953	1.047.578	1.129.754	1.241.996	1.137.556	1.107.456	1.095.998	1.071.154	1.050.714	1.016.150	1.058.504
Oats	618.142	595.360	624.759	625.540	561.283	572.349	565.632	531.010	605.175	526.897	557.179
Triticale	586.242	616.443	696.535	630.122	635.463	660.116	695.308	839.000	943.895	985.600	865.951
Maize	50.402	48.165	69.296	77.117	85.180	104.226	152.273	224.435	318.694	356.337	262.935
Rapeseed	370.275	606.382	282.625	317.352	465.995	545.273	436.768	443.227	438.986	426.270	436.313
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	400.467	384.477	452.638	419.364	400.274	371.714	333.131	317.448	303.000	286.300	309.970
Forage total ¹⁾	:	:	:	:	4.649.866	4.651.712	4.658.973	4.648.366	4.003.204	3.908.310	4.304.713
Field forage ¹⁾	:	:	:	:	807.900	834.717	786.867	784.728	441.365	639.849	663.202
Green maize ¹⁾	151.000	132.600	153.600	147.900	145.400	145.841	162.455	179.481	196.064	239.244	194.311
Permanent grassland ¹⁾	3.805.400	3.769.900	3.867.700	3.889.600	3.841.966	3.816.995	3.872.106	3.863.638	3.561.839	3.268.461	3.641.511
Fallow land ^{1**)}	1.611.900	1.383.500	1.857.700	1.658.100	1.536.407	1.620.860	1.724.107	1.725.974	2.321.258	1.785.295	1.889.159

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 23.3: **Poland:** Yields of agricultural crops

Yield in dt/ha											
Poland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	25,66	30,22	29,01	28,54	30,71	29,59	25,35	30,56	32,41	28,65	29,44
Wheat	31,82	36,02	34,57	32,06	36,24	35,04	32,27	35,34	38,54	34,05	35,38
Rye	21,76	25,65	23,41	23,06	24,72	23,10	18,79	24,29	24,56	21,44	22,55
Barley	26,03	31,30	30,42	31,13	31,75	30,71	25,40	31,09	32,07	27,86	29,52
Oats	20,10	25,11	25,31	26,06	26,01	25,27	18,92	24,58	24,56	22,43	22,69
Triticale	27,82	33,23	30,58	29,21	32,39	31,77	27,34	32,16	32,29	28,53	30,59
Maize	37,50	49,59	50,51	54,01	58,27	57,51	60,64	60,68	61,56	52,86	60,96
Rapeseed	20,41	22,70	15,90	18,75	23,59	20,76	21,94	24,00	21,70	18,60	22,55
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	291,56	346,16	394,27	378,82	379,01	337,99	394,27	357,98	443,36	410,04	398,54
Forage total ¹⁾	:	:	:	:	70,51	65,78	52,95	59,59	59,74	59,09	57,43
Field forage ¹⁾	:	:	:	:	181,10	174,51	136,55	150,42	221,79	180,77	169,59
Green maize ¹⁾	271,22	350,16	428,31	423,41	442,87	409,77	429,49	451,38	430,23	400,48	437,03
Permanent grassland ¹⁾	38,52	44,65	47,09	46,45	47,26	42,00	35,96	41,14	39,66	35,27	38,92

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 23.4: **Poland**: Production of agricultural crops

Production in t											
Poland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	21.763.445	25.905.314	25.297.819	25.399.486	27.158.723	25.750.319	22.340.612	26.960.313	26.877.272	23.390.757	25.392.732
Wheat	7.658.457	8.668.035	8.575.954	8.192.681	9.536.576	9.051.339	8.502.865	9.283.044	9.304.000	7.858.160	9.029.970
Rye	5.300.132	6.287.642	5.652.480	5.299.513	5.663.665	5.180.658	4.003.047	4.863.637	3.831.000	3.172.240	4.232.561
Barley	2.685.786	3.278.613	3.436.598	3.866.103	3.611.680	3.401.107	2.783.359	3.330.484	3.369.850	2.831.485	3.161.231
Oats	1.242.712	1.494.655	1.581.000	1.629.989	1.460.063	1.446.307	1.070.210	1.305.195	1.486.560	1.181.888	1.287.322
Triticale	1.631.083	2.048.148	2.130.301	1.840.675	2.058.374	2.096.914	1.900.959	2.697.862	3.047.740	2.811.596	2.548.854
Maize	189.024	238.831	350.041	416.516	496.363	599.362	923.341	1.361.938	1.961.980	1.883.677	1.415.753
Rapeseed	755.695	1.376.599	449.305	594.899	1.099.084	1.131.867	958.145	1.063.638	952.737	792.971	991.507
Sunflower	0	0	0	0	0	0	0	0	0	0	0
Sugar beet	11.676.090	13.309.070	17.845.920	15.886.194	15.170.608	12.563.612	13.134.383	11.363.907	13.433.900	11.739.509	12.644.063
Forage total ¹⁾	:	:	:	:	32.787.987	30.598.381	24.666.746	27.699.342	23.916.748	23.093.881	25.427.612
Field forage ¹⁾	:	:	:	:	14.630.705	14.566.426	10.744.365	11.803.784	9.789.211	11.566.555	10.779.120
Green maize ¹⁾	4.095.400	4.643.100	6.578.800	6.262.300	6.439.366	5.976.183	6.977.277	8.101.396	8.435.194	9.581.186	7.837.956
Permanent grassland ¹⁾	14.659.100	16.831.100	18.211.400	18.065.700	18.157.282	16.031.955	13.922.381	15.895.558	14.127.537	11.527.326	14.648.492

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 23.5: Poland : Livestock in 1,000 heads

Poland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	7.120,00	7.193,00	6.958,10	7.028,80	6.455,20	6.092,60	5.723,00	5.498,79	5.420,99	5.276,81	5.479,90
under 1 year	2.023,70	2.156,90	2.164,20	2.031,90	1.543,50	1.416,70	1.355,20	1.278,18	1.226,03	1.222,24	1.270,41
beef calf	:	:	:	:	168,70	201,50	182,20	126,93	110,08	138,84	139,51
other calves	:	:	:	:	1.374,80	1.215,20	1.173,00	1.151,25	1.115,95	1.083,40	1.130,90
male	:	:	:	:	662,30	608,60	574,80	511,60	497,38	476,66	515,11
female	:	:	:	:	712,50	606,60	598,20	639,66	618,57	606,74	615,79
between 1 and 2 years	:	:	:	:	1.132,60	1.073,50	1.056,80	985,05	973,56	911,18	981,65
male	:	:	:	:	507,80	519,20	512,00	441,71	413,69	358,27	431,42
female	1.082,80	882,90	781,10	860,10	624,80	554,30	544,80	543,34	559,87	552,91	550,23
animals for slaughter	:	:	:	:	95,40	87,70	85,40	68,58	58,39	58,92	67,82
others	:	:	:	:	529,40	466,60	459,40	474,76	501,49	493,99	482,41
at least 2 years	:	:	:	:	3.779,10	3.602,40	3.311,00	3.235,56	3.221,40	3.143,39	3.227,84
male	:	:	:	:	107,50	120,80	72,10	64,88	48,83	70,90	64,18
female	:	:	:	:	3.671,60	3.481,60	3.238,90	3.170,69	3.172,57	3.072,49	3.163,66
Heifers	:	:	:	:	200,70	185,90	191,80	180,07	205,38	210,62	196,97
heifers for slaughter	:	:	:	:	14,30	16,40	11,80	8,23	7,97	11,11	9,78
other heifers	:	:	:	:	186,40	169,50	180,00	171,84	197,41	199,51	187,19
Cows	3.715,00	3.555,50	3.442,10	3.495,80	3.470,90	3.295,70	3.047,10	2.990,61	2.967,19	2.861,87	2.966,69
milk cows	:	:	:	:	3.360,80	3.215,10	2.982,40	2.929,65	2.934,62	2.816,14	2.915,70
other cows	:	:	:	:	110,10	80,60	64,70	60,96	32,57	45,72	50,99
Pigs	19.137,50	20.342,70	17.696,70	18.496,70	19.275,40	18.223,90	16.991,50	17.493,96	18.997,03	18.439,24	17.980,43
piglets, live weight < 20 kg	:	:	:	:	6.305,60	5.833,20	5.412,50	5.642,65	6.198,80	5.899,32	5.788,32
Pigs, live weight from 20 to < 50 kg	:	:	:	:	4.667,80	4.424,40	4.177,50	4.424,08	4.728,60	4.484,40	4.453,65
Fattening pigs from 50 kg and more¹⁾	:	:	:	:	6.364,90	6.210,20	5.812,00	5.713,98	6.203,87	6.300,42	6.007,57
Fattening pigs from 50 to < 80 kg	:	:	:	:	3.011,40	3.059,70	2.992,30	2.913,19	3.186,76	3.122,56	3.053,70
Fattening pigs from 80 to < 110 kg	:	:	:	:	2.638,80	2.571,30	2.369,80	2.378,91	2.531,87	2.626,78	2.476,84
Fattening pigs from at least 110 kg	:	:	:	:	714,70	579,20	449,90	421,88	485,25	551,09	477,03
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	1.937,10	1.756,10	1.589,50	1.713,25	1.865,76	1.755,09	1.730,90
boars	:	:	:	:	57,60	52,70	45,00	40,73	45,10	50,40	45,31
sows in total	1.769,50	1.856,30	1.636,90	1.757,30	1.879,50	1.703,40	1.544,50	1.672,52	1.820,66	1.704,69	1.685,59
Goats	:	:	179,30	:	185,50	181,10	176,50	:	:	:	176,50
Sheep	766,00	608,00	506,00	468,00	422,00	372,00	337,00	331,07	332,19	331,28	332,89
Laying hens	41.786,00	39.766,00	45.880,00	44.612,00	43.386,00	:	:	:	51.759,00	45.113,00	48.436,00

¹⁾ including retired boars and sows, : no data

F 23.6: Poland: Imports and Exports in t

Poland	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	6.234	13.314	11.330	6.312	9.297,50
Export	789	485	11.432	145	3.212,75
Differenz	5.445	12.829	-102	6.167	6.084,75
Butter of Cow Milk					
Import	12.200	3.495	4.580	5.303	6.394,50
Export	2.916	18.606	11.568	9.100	10.547,50
Differenz	9.284	-15.111	-6.988	-3.797	-4.153,00
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	6.253	4.815	3.374	4.591	4.758,25
Export	27.146	45.388	32.854	43.721	37.277,25
Differenz	-20.893	-40.573	-29.480	-39.130	-32.519,00
Meat Bovine Fresh					
Import	182	63	8	261	128,50
Export	13.524	25.627	63.207	43.127	36.371,25
Differenz	-13.342	-25.564	-63.199	-42.866	-36.242,75
Meat of Swine					
Import	35.025	17.807	43.714	46.262	35.702,00
Export	58.311	37.930	35.303	197.143	82.171,75
Differenz	-23.286	-20.123	8.411	-150.881	-46.469,75
Meat Poultry Fresh					
Import	12.793	23.629	18.720	15.703	17.711,25
Export	30.539	41.975	36.426	78.212	46.788,00
Differenz	-17.746	-18.346	-17.706	-62.509	-29.076,75
Cereals					
Import	1.864.175	1.192.523	648.162	615.243	1.080.025,75
Export	15.271	9.644	575.614	588.653	297.295,50
Differenz	1.848.904	1.182.879	72.548	26.590	782.730,25
Wheat					
Import	675.156	318.454	205.661	97.856	324.281,75
Export	2.183	420	548.912	559.174	277.672,25
Differenz	672.973	318.034	-343.251	-461.318	46.609,50
Rye					
Import	294.153	331.941	13.002	83.900	180.749,00
Export	2.407	52	1.779	9.888	3.531,50
Differenz	291.746	331.889	11.223	74.012	177.217,50
Barley					
Import	289.898	169.666	156.719	151.307	191.897,50
Export	0	10	0	0	0,00
Differenz	289.898	169.656	156.719	151.307	191.895,00
Oats					
Import	13.621	8.904	0	5.069	6.898,50
Export	0	1.115	4.002	2.329	1.861,50
Differenz	13.621	7.789	-4.002	2.740	5.037,00
Triticale					
Import	6.352	579	0	0	1.732,75
Export	0	381	0	0	95,25
Differenz	6.352	198	0	0	1.637,50
Maize					
Import	417.765	240.933	123.918	133.462	229.019,50
Export	318	34	663	261	319,00
Differenz	417.447	240.899	123.255	133.201	228.700,50
Rapeseed					
Import	23.370	6.760	7.250	16.320	13.425,00
Export	27.894	292.481	35.927	6.255	90.639,25
Differenz	-4.524	-285.721	-28.677	10.065	-77.214,25
Sunflower					
Import	21.921	19.684	21.093	24.964	21.915,50
Export	121	215	126	173	158,75
Differenz	21.800	19.469	20.967	24.791	21.756,75
Sugar Total (Raw Equiv.)					
Import	59.287	69.322	91.599	80.786	75.248,50
Export	458.962	316.622	224.671	459.950	365.051,25
Differenz	-399.675	-247.300	-133.072	-379.164	-289.802,75
Soybeans					
Import	5.140	14.467	9.351	5.507	8.616,25
Export	0	22	0	0	5,50
Differenz	5.140	14.445	9.351	5.507	8.610,75

F 23.7: **Poland** : Milk and meat production in t

Poland	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	12.224.344	11.644.076	11.697.456	12.124.645	12.597.041	12.285.423	11.890.331	11.885.082	11.873.598	11.883.004
Beef	421.300	385.700	414.900	429.100	429.900	384.600	348.500	316.300	281.300	315.367
Mutton and goat meat	8.300	5.600	4.600	2.900	1.300	1.600	1.300	1.300	1.100	1.233
Pork	1.681.300	1.962.300	2.063.700	1.891.300	2.026.200	2.043.000	1.923.000	1.849.100	2.023.300	1.931.800
Poultry meat	380.700	383.600	438.000	478.000	522.500	608.500	620.100	727.400	847.200	731.567

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 23.8: **Poland** : Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	1.889.159	2,944	5.561.671
Export(+)/Import(-) surplus in crop production			
- Cereals	-265.874	2,944	-782.730
- Rapeseed	34.247	2,255	77.214
- Sunflowers	0	0,000	-21.757
- Sugar beets	50.902	39,854	2.028.619 ¹⁾
Crop production balance	-180.724		1.301.347

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-6.085
- Butter ²⁾	83.060
- Cheese ³⁾	325.190
Whole milk equivalent balance	402.165
Total milk production	11.883.004
the above as %	3,50

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	36.243
Total production	315.367
the above as %	12,98
- Pork	46.470
Total production	1.931.800
the above as %	2,46
- Poultry meat	29.077
Total production	731.567
the above as %	4,14

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 23.9: **Poland** : Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	139.511	0,25		34.878		34.878
Calves						
male	515.110	0,3		154.533		154.533
female	615.791	0,19	117.000			117.000
Cattle 1 - 2 Years						
male	431.417	0,7		301.992		301.992
female	550.231	0,65	357.650			357.650
Cattle > 2 Years						
male	64.177	1,2		77.012		77.012
Beef heifers	9.779	1,2		11.735		11.735
other heifers	187.189	1,2	224.627			224.627
Dairy cows	2.915.704	1,2	3.498.845			3.498.845
other cows	50.989	1,2		61.186		61.186
Goats	176.500	0,1			17.650	17.650
Sheep	332.887	0,1			33.289	33.289
Total			4.198.122	641.335	50.939	4.890.396
Share %			85,84	13,11	1,04	100,00
Roughage area ha						4.304.713
thereof...			3.695.347	564.528	44.838	

F 23.10: **Poland**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	1.889.159	10,28
Reduction of overproduction		
- Crop production	-180.724	-0,98
- Animal production		
- Milk	125.064	0,68
- Beef	64.877	0,35
- Pork	¹⁾ 59.192	0,32
- Poultry meat	²⁾ 17.778	0,10
Balance of potential area	³⁾ 1.898.375	
Agricultural land	18.383.333	
the above as %	10,33	10,33

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 23.11: **Poland**: Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	38.649.000	38.359.000	37.712.000
- Change in % up to.....		-0,7503	-1,6867
Per capita consumption (grain equivalent)	984,4	1.049,4	1.106,4
- Change in % up to.....		6,60	5,43
Consumption change in % up to		5,1807	3,257
Abs. agricultural land in ha	18.383.333		
- Land redesignation in % up to ¹⁾		2,221	2,221
Yield increase in % up to ²⁾		-12,97	-15,00
Balance of all changes in % up to.....		-5,5684	-9,5229
Balance of agricultural land			
- Basis available ha	18.383.333		
- Increase(+) reduction(-) due to redesignation in ha		408.217	408.217
- Increased(+) decreased(-) demand for food		952.392	598.654
- Release due to yield increase in ha (-)		-2.384.261	-2.757.500
- Release due to improved feed conversion in ha (-)		-128.706	-252.868
- Potential for biomass in ha per year.....	-1.898.375	-1.152.358	-2.003.497
Accumulation of the above in ha		-3.050.733	-5.054.230
- the above as % of the basis available agricultural land	10,33	16,60	27,49
- quantity equivalents of the above			
- Cereals ³⁾	5.588.805	8.981.339	14.879.622
- Straw	4.471.044	7.185.071	11.903.698

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 23.12 : **Poland:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	1.931.800		
- Feedgrain consumption t ¹⁾	7.244.250	-362.213 ³⁾	-724.425 ³⁾
Land equivalent ha cereals	2.460.688	-123.034	-246.069
- Poultry meat t	731.567		
- Feed grain consumption t ²⁾	1.316.820	-65.841 ³⁾	-131.682 ³⁾
Land equivalent ha cereals	447.290	-22.365	-44.729
Total land equivalent ha	2.907.978	-145.399	-290.798

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 23.13 : **Poland:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	3.641.511
Grassland for milk production	ha	3.126.026
Overproduction milk	%	3,50
Released grassland due to abandonment of overproduction	ha	105.796
Grassland for beef production	ha	477.554
Overproduction beef	%	12,98
Released grassland due to abandonment of overproduction	ha	54.882
Total grassland released	ha	160.678
the above as % of total grassland		4,41
the above as % of potential area for bioenergy sources		8,46

F 23.14 : **Poland**: Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	408.217	408.217
Share of grassland of agricultural land	%	19,81	19,81
Redesignation of grassland	ha	80.863	80.863
Change to grassland due to change in consumption			
- Rate of change in population	%	-0,7503	-1,6867
- Rate of change in milk and beef consumption	%	0,0000	6,3000
Total change	%	-0,7503	4,6133
Grassland for milk and beef production	ha	3.603.581	3.603.581
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	-27.039	166.244
Release due to yield increase(-)	ha	-472.293	-546.227
Total change in grassland	ha	-418.469	-299.120
Accumulated grassland potential for bioenergy sources	ha	579.147	878.267
the above as % of total grassland		15,90	24,12
the above as % of potential area		18,98	17,38

F 24 Slovakia**F 24.1:Slovakia** : Total land area and agricultural area

in 1000 ha

Slovakia	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area			4.903	4.903	4.903	4.903	4.903	4.903	4.903	4.903	4.903	4.903	4.903
thereof													
Land Area			4.808	4.808	4.808	4.808	4.808	4.808	4.808	4.808	4.808	4.808	4.808
thereof													
Agricultural Area			2.446	2.446	2.446	2.444	2.445	2.443	2.443	2.441	2.450	2.433	2.441
thereof													
Permanent Pasture			835	835	840	842	846	848	856	865	874	874	871
Permanent Crops			127	128	127	127	127	126	126	126	126	126	126
Arable Land			1.484	1.483	1.479	1.475	1.472	1.469	1.461	1.450	1.450	1.433	1.444
Arable & Permanent Crops			1.611	1.611	1.606	1.602	1.599	1.595	1.587	1.576	1.576	1.559	1.570
NonArable&NonPermanent			3.197	3.197	3.202	3.206	3.209	3.213	3.221	3.232	3.232	3.249	3.238
All other Land			373	373	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 24.2: Slovakia : Cultivation area of agricultural crops

Cultivated land in ha											
Slovakia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	2.446.000	2.446.000	2.444.000	2.445.000	2.443.000	2.443.000	2.441.000	2.450.000	2.433.000		2.441.333
Cereals	859.494	847.553	827.111	849.544	858.923	732.567	812.049	833.836	818.811	793.445	814.535
Wheat	442.031	436.688	414.767	412.472	428.826	295.832	405.249	445.278	405.829	306.916	390.818
Rye	31.151	30.897	28.740	29.645	34.389	29.829	31.499	38.900	38.047	25.164	33.403
Barley	238.000	233.573	225.702	242.640	249.008	245.867	199.365	186.400	194.691	269.271	212.432
Oats	14.387	15.751	18.023	19.499	18.854	22.795	20.856	17.000	20.477	30.416	22.187
Triticale	6.855	7.683	8.427	6.997	11.404	7.284	8.941	10.463	18.372	13.757	12.883
Maize	125.925	121.864	130.369	137.650	115.782	129.937	144.979	135.200	140.411	146.000	141.648
Rapeseed	44.670	67.477	74.878	86.243	60.628	113.253	91.706	105.292	123.722	52.180	93.225
Sunflower	33.529	46.652	52.947	46.995	64.902	95.175	68.903	63.535	62.347	131.033	81.455
Sugar beet	32.202	34.335	42.107	47.716	34.829	34.458	31.654	31.500	30.856	31.997	31.502
Forage total ¹⁾	1.207.740	1.181.200	1.172.185	1.155.700	1.143.651	1.179.586	1.145.138	1.059.311	1.053.826	1.055.897	1.078.543
Field forage ¹⁾	373.140	346.400	333.160	313.990	314.020	332.179	290.417	275.406	255.158	261.164	270.536
Green maize ¹⁾	160.020	145.730	137.250	126.840	119.318	123.221	99.060	101.836	100.078	97.600	99.644
Permanent grassland ¹⁾	834.600	834.800	839.025	841.710	829.631	847.407	854.721	783.905	798.668	794.733	808.007
Fallow land ^{1**)}	6.900	8.100	19.400	6.290	4.718	2.395	31.528	3.507	3.551	5.014	10.900

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 24.3: Slovakia : Yields of agricultural crops

Yield in dt/ha											
Slovakia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	43,05	41,17	40,16	44,03	40,57	38,61	27,11	40,92	39,00	31,38	35,68
Wheat	48,52	44,38	41,30	45,72	41,73	40,13	30,95	42,54	38,30	30,31	37,26
Rye	30,88	28,91	24,85	28,40	27,99	23,32	20,37	28,97	25,36	24,75	24,90
Barley	36,72	34,00	31,82	35,80	35,14	29,43	19,90	32,90	35,70	29,87	29,50
Oats	24,69	26,79	22,77	25,21	25,19	21,25	11,97	19,12	21,20	19,02	17,43
Triticale	40,33	35,70	31,28	46,86	33,45	26,37	21,53	31,90	26,51	22,63	26,65
Maize	41,36	48,96	57,53	59,48	55,06	59,97	30,37	53,65	53,69	41,19	45,90
Rapeseed	21,09	22,03	19,06	22,78	18,71	20,94	14,59	22,85	20,80	10,15	19,42
Sunflower	16,39	17,28	19,79	14,37	16,54	13,14	17,03	18,67	18,75	19,29	18,15
Sugar beet	345,34	342,59	406,81	353,68	382,13	407,72	303,74	408,29	436,27	366,20	382,77
Forage total ¹⁾	23,47	27,07	27,43	27,25	28,00	51,19	31,98	49,18	47,62	36,31	42,92
Field forage ¹⁾	51,22	52,30	55,52	56,73	52,02	139,43	98,14	132,46	147,03	110,91	125,88
Green maize ¹⁾	39,15	46,76	54,12	54,10	52,25	250,40	191,02	253,23	264,62	215,29	236,29
Permanent grassland ¹⁾	11,06	16,59	16,28	16,25	18,91	16,60	9,50	19,92	15,86	11,79	15,09

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 24.4: **Slovakia**: Production of agricultural crops

Production in t

Slovakia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	3.700.440	3.489.479	3.321.529	3.740.263	3.484.621	2.828.545	2.201.463	3.412.164	3.193.329	2.489.505	2.935.652
Wheat	2.144.630	1.937.940	1.713.060	1.885.961	1.789.299	1.187.264	1.254.310	1.894.100	1.554.424	930.363	1.567.611
Rye	96.188	89.318	71.423	84.183	96.239	69.562	64.178	112.700	96.484	62.270	91.121
Barley	873.860	794.182	718.063	868.538	874.953	723.663	396.748	613.300	695.017	804.200	568.355
Oats	35.527	42.193	41.029	49.165	47.483	48.434	24.972	32.500	43.418	57.856	33.630
Triticale	27.644	27.430	26.356	32.790	38.151	19.206	19.252	33.374	48.700	31.136	33.775
Maize	520.806	596.609	749.978	818.728	637.446	779.286	440.365	725.300	753.840	601.440	639.835
Rapeseed	94.221	148.656	142.709	196.420	113.446	237.120	133.844	240.629	257.307	52.962	210.593
Sunflower	54.945	80.597	104.753	67.515	107.323	125.076	117.344	118.642	116.876	252.708	117.621
Sugar beet	1.112.057	1.176.269	1.712.973	1.687.604	1.330.910	1.404.931	961.465	1.286.100	1.346.158	1.171.718	1.197.908
Forage total ¹⁾	2.834.370	3.197.030	3.215.360	3.148.680	3.202.035	6.038.259	3.661.874	5.209.624	5.018.048	3.833.751	4.629.849
Field forage ¹⁾	1.911.180	1.811.760	1.849.840	1.781.270	1.633.595	4.631.649	2.850.162	3.647.938	3.751.575	2.896.661	3.416.558
Green maize ¹⁾	626.470	681.360	742.800	686.240	623.436	3.085.414	1.892.248	2.578.744	2.648.245	2.101.197	2.373.079
Permanent grassland ¹⁾	923.190	1.385.270	1.365.520	1.367.410	1.568.440	1.406.610	811.712	1.561.686	1.266.473	937.090	1.213.290

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 24.5: Slovakia: Livestock in 1,000 heads

Slovakia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	916,00	929,00	892,00	803,00	705,00	665,06	646,15	625,19	607,84	593,18	618,09
under 1 year	:	302,00	281,00	231,00	196,00	180,31	176,43	172,55	165,65	185,56	175,05
beef calf	:	60,00	52,00	60,00	78,00	50,71	48,59	68,98	33,16	37,45	47,05
other calves	:	242,00	229,00	172,00	118,00	129,61	127,84	103,57	132,49	148,10	128,00
male	:	78,00	72,00	46,00	2,00	32,79	34,94	15,65	38,23	45,65	33,62
female	:	164,00	157,00	126,00	116,00	96,81	92,90	87,92	94,26	102,45	94,38
between 1 and 2 years	:	209,00	206,00	196,00	164,00	152,50	143,79	145,12	130,25	120,46	134,91
male	:	80,00	80,00	62,00	48,00	46,04	41,73	40,22	31,17	32,48	36,40
female	:	129,00	126,00	134,00	116,00	106,46	102,06	104,90	99,09	87,98	98,51
animals for slaughter	:	:	:	7,00	4,00	4,81	3,93	8,12	4,95	3,78	5,20
others	:	:	:	127,00	112,00	101,66	98,13	96,78	94,13	84,20	93,31
at least 2 years	:	418,00	405,00	377,00	345,00	332,24	325,93	307,52	311,94	287,17	308,14
male	:	14,00	17,00	13,00	10,00	9,77	10,93	8,94	6,48	4,97	7,83
female	:	404,00	388,00	364,00	335,00	322,47	315,00	298,58	305,46	282,20	300,31
Heifers	:	49,00	53,00	54,00	51,00	48,41	43,82	39,31	45,59	36,40	41,28
heifers for slaughter	:	:	:	1,00	1,00	1,18	1,75	1,76	1,74	0,93	1,54
other heifers	:	:	:	53,00	50,00	47,22	42,07	37,56	43,84	35,47	39,74
Cows	359,00	355,00	335,00	310,00	284,00	274,07	271,18	259,27	259,87	245,80	259,03
milk cows	:	:	:	300,00	265,00	250,97	242,50	230,38	230,18	214,47	229,38
other cows	:	:	:	10,00	19,00	23,09	28,69	28,89	29,69	31,34	29,65
Pigs	2.037,00	2.076,00	1.985,00	1.810,00	1.593,00	1.562,11	1.488,44	1.517,29	1.553,88	1.443,01	1.500,66
piglets, live weight < 20 kg	:	442,00	438,00	437,00	451,00	404,69	388,69	410,82	445,01	409,12	413,41
Pigs, live weight from 20 to < 50 kg	:	645,00	614,00	496,00	389,00	408,90	392,10	346,89	354,49	328,11	355,40
Fattening pigs from 50 kg and more¹⁾	:	739,00	696,00	654,00	541,00	552,01	519,59	589,02	573,55	555,24	559,35
Fattening pigs from 50 to < 80 kg	:	:	:	:	270,00	303,76	240,21	269,75	255,71	248,27	253,49
Fattening pigs from 80 to < 110 kg	:	:	:	:	216,00	208,42	204,46	223,89	216,29	228,88	218,38
Fattening pigs from at least 110 kg	:	:	:	:	55,00	39,83	74,91	95,38	101,55	78,09	87,48
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	196,51	188,06	170,57	180,84	150,55	172,51
boars	6,00	6,00	6,00	7,00	6,00	6,64	6,25	7,64	9,06	6,63	7,40
sows in total	238,00	244,00	231,00	215,00	203,00	189,87	181,81	162,93	171,78	143,92	165,11
Goats	25,00	25,00	26,00	27,00	51,00	51,08	51,42	40,39	40,19	39,23	42,81
Sheep	397,00	428,00	419,00	417,00	326,00	340,35	347,98	316,30	316,03	325,52	326,46
Laying hens	7.578,00	7.625,00	7.405,00	7.258,00	6.161,00	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 24.6: Slovakia: Imports and Exports in t

Slovakia	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	2.870	5.068	2.986	2.897	3.455,25
Export	26.653	16.258	40.065	43.603	31.644,75
Differenz	-23.783	-11.190	-37.079	-40.706	-28.189,50
Butter of Cow Milk					
Import	373	506	2.465	2.064	1.352,00
Export	2.208	2.167	2.060	3.041	2.369,00
Differenz	-1.835	-1.661	405	-977	-1.017,00
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	4.118	5.190	4.813	4.237	4.589,50
Export	10.446	11.632	11.940	12.254	11.568,00
Differenz	-6.328	-6.442	-7.127	-8.017	-6.978,50
Meat Bovine Fresh					
Import	1.599	1.545	868	2.062	1.518,50
Export	65	0	1.760	1.634	864,75
Differenz	1.534	1.545	-892	428	653,75
Meat of Swine					
Import	8.926	12.076	14.873	11.467	11.835,50
Export	778	0	249	30	264,25
Differenz	8.148	12.076	14.624	11.437	11.571,25
Meat Poultry Fresh					
Import	8.299	11.656	15.143	18.502	13.400,00
Export	3.560	4.369	3.556	5.318	4.200,75
Differenz	4.739	7.287	11.587	13.184	9.199,25
Cereals					
Import	182.117	387.230	80.889	123.435	193.417,75
Export	41.893	49.562	130.953	256.701	119.777,25
Differenz	140.224	337.668	-50.064	-133.266	73.640,50
Wheat					
Import	24.142	188.964	1.627	23.539	59.568,00
Export	20.235	8.307	59.112	26.169	28.455,75
Differenz	3.907	180.657	-57.485	-2.630	31.112,25
Rye					
Import	3.925	6.009	321	931	2.796,50
Export	654	0	26.198	6.980	8.458,00
Differenz	3.271	6.009	-25.877	-6.049	-5.661,50
Barley					
Import	48.402	85.151	14.033	35.439	45.756,25
Export	7.847	5.068	5.827	55.704	0,00
Differenz	40.555	80.083	8.206	-20.265	27.144,75
Oats					
Import	362	421	171	7	240,25
Export	0	0	255	2.362	654,25
Differenz	362	421	-84	-2.355	-414,00
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	45.843	33.620	4.930	5.476	22.467,25
Export	11.233	33.750	35.494	154.177	58.663,50
Differenz	34.610	-130	-30.564	-148.701	-36.196,25
Rapeseed					
Import	14.807	1.817	8.473	11.166	9.065,75
Export	75.058	82.572	81.235	5.344	61.052,25
Differenz	-60.251	-80.755	-72.762	5.822	-51.986,50
Sunflower					
Import	711	584	471	900	666,50
Export	84.608	87.301	62.451	80.005	78.591,25
Differenz	-83.897	-86.717	-61.980	-79.105	-77.924,75
Sugar Total (Raw Equiv.)					
Import	58.921	76.699	64.595	79.777	69.998,00
Export	19.459	31.576	48.752	27.735	31.880,50
Differenz	39.462	45.123	15.843	52.042	38.117,50
Soybeans					
Import	2.340	1.743	3.654	2.389	2.531,50
Export	4.415	3.453	2.695	1.660	3.055,75
Differenz	-2.075	-1.710	959	729	-524,25

F 24.7: **Slovakia**: Milk and meat production in t

Slovakia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.208.100	1.205.375	1.142.605	1.133.833	1.195.814	1.186.998	1.091.368	1.171.364	1.222.508	1.161.747
Beef	67.064	59.336	61.109	65.572	58.813	50.164	47.950	38.175	37.544	41.223
Mutton and goat meat	2.165	2.221	1.946	1.984	1.808	1.646	1.816	2.124	2.095	2.012
Pork	244.274	242.774	250.823	254.810	227.037	220.288	163.603	153.012	154.310	156.975
Poultry meat	64.340	89.000	113.600	85.630	121.900	129.470	119.715	121.155	127.500	122.790

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 24.8: Slovakia : Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	10.900	3,568	38.888
Export(+)/Import(-) surplus in crop production			
- Cereals	-20.641	3,568	-73.641
- Rapeseed	26.776	1,942	51.987
- Sunflowers	42.934	1,815	77.925
- Sugar beets	-6.971	38,277	-266.823 ¹⁾
Crop production balance	42.098		-210.552

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	28.190
- Butter ²⁾	20.340
- Cheese ³⁾	69.785
Whole milk equivalent balance	118.315
Total milk production	1.161.747
the above as %	11,34

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-654
Total production	41.223
the above as %	-1,56
- Pork	-11.571
Total production	156.975
the above as %	-6,87
- Poultry meat	-9.199
Total production	122.790
the above as %	-6,97

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 24.9: Slovakia : Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	47.046	0,25		11.761		11.761
Calves						
male	33.617	0,3		10.085		10.085
female	94.383	0,19	17.933			17.933
Cattle 1 - 2 Years						
male	36.398	0,7		25.479		25.479
female	98.508	0,65	64.030			64.030
Cattle > 2 Years						
male	7.827	1,2		9.392		9.392
Beef heifers	1.543	1,2		1.851		1.851
other heifers	39.736	1,2	47.684			47.684
Dairy cows	229.381	1,2	275.257			275.257
other cows	29.651	1,2		35.581		35.581
Goats	42.806	0,1			4.281	4.281
Sheep	326.459	0,1			32.646	32.646
Total			404.903	94.150	36.926	535.980
Share %			75,54	17,57	6,89	100,00
Roughage area ha						1.078.543
thereof...			814.781	189.456	74.306	

F 24.10: Slovakia: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	10.900	0,45
Reduction of overproduction		
- Crop production	42.098	1,72
- Animal production		
- Milk	82.979	3,40
- Beef	-3.005	-0,12
- Pork	¹⁾ -12.163	-0,50
- Poultry meat	²⁾ -4.641	-0,19
Balance of potential area ³⁾	132.973	
Agricultural land	2.441.333	
the above as %	5,45	5,45

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 24.11: **Slovakia:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	5.400.000	5.400.000	5.350.000
- Change in % up to.....		0,0000	-0,9259
Per capita consumption (grain equivalent)	862,0	862,0	910,2
- Change in % up to.....		0,00	5,59
Consumption change in % up to		0,0000	4,057
Abs. agricultural land in ha	2.441.333		
- Land redesignation in % up to ¹⁾		0,295	0,295
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-9,7046	-10,6474
Balance of agricultural land			
- Basis available ha	2.441.333		
- Increase(+) reduction(-) due to redesignation in ha		7.212	7.212
- Increased(+) decreased(-) demand for food		0	99.049
- Release due to yield increase in ha (-)		-244.133	-366.200
- Release due to improved feed conversion in ha (-)		-10.316	-19.735
- Potential for biomass in ha per year.....	-132.973	-247.237	-279.674
Accumulation of the above in ha		-380.209	-659.883
- the above as % of the basis available agricultural land	5,45	15,57	27,03
- quantity equivalents of the above			
- Cereals ³⁾	474.405	1.492.119	2.707.402
- Straw	379.524	1.193.695	2.165.922

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 24.12 : **Slovakia:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	156.975		
- Feedgrain consumption t ¹⁾	588.656	-29.433 ³⁾	-58.866 ³⁾
Land equivalent ha cereals	164.996	-8.250	-16.500
- Poultry meat t	122.790		
- Feed grain consumption t ²⁾	221.022	-11.051 ³⁾	-22.102 ³⁾
Land equivalent ha cereals	61.951	-3.098	-6.195
Total land equivalent ha	226.947	-11.347	-22.695

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 24.13 : **Slovakia:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	808.007
Grassland for milk production	ha	610.405
Overproduction milk	%	11,34
Released grassland due to abandonment of overproduction	ha	62.165
Grassland for beef production	ha	141.934
Overproduction beef	%	-1,56
Released grassland due to abandonment of overproduction	ha	-2.251
Total grassland released	ha	59.914
the above as % of total grassland		7,42
the above as % of potential area for bioenergy sources		45,06

F 24.14 : **Slovakia:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	7.212	7.212
Share of grassland of agricultural land	%	33,10	33,10
Redesignation of grassland	ha	2.387	2.387
Change to grassland due to change in consumption			
- Rate of change in population	%	0,0000	-0,9259
- Rate of change in milk and beef consumption	%	0,0000	6,9000
Total change	%	0,0000	5,9741
Grassland for milk and beef production	ha	752.339	752.339
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	0	44.945
Release due to yield increase(-)	ha	-80.801	-121.201
Total change in grassland	ha	-78.414	-73.869
Accumulated grassland potential for bioenergy sources	ha	138.328	212.196
the above as % of total grassland		17,12	26,26
the above as % of potential area		36,38	32,16

F 25 Slovenia**F 25.1: Slovenia: Total land area and agricultural area**

in 1000 ha

Slovenia	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area		2027	2027	2027	2027	2027	2027	2027	2027	2027	2027	2027	2.027
thereof													
Land Area		2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2014	2.014
thereof													
Agricultural Area		564	560	549	538	525	495	490	500	518	510	505	511
thereof													
Permanent Pasture		328	325	319	309	301	290	287	298	314	307	307	309
Permanent Crops		36	35	34	33	33	32	31	31	31	30	30	30
Arable Land		200	200	196	196	191	173	172	171	173	173	168	171
Arable & Permanent Crops		236	235	230	229	224	205	203	202	204	203	198	202
NonArable&NonPermanent		1778	1779	1784	1785	1790	1809	1811	1812	1810	1811	1816	1.812
All other Land		373	377	388	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 25.2: **Slovenia**: Cultivation area of agricultural crops

Cultivated land in ha											
Slovenia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	549.000	538.000	525.000	495.000	490.000	500.000	518.000	510.000	505.000		511.000
Cereals	112.697	101.696	100.134	96.420	96.025	91.870	102.576	105.131	100.725	97.904	101.584
Wheat	41.953	36.779	35.159	33.431	35.025	31.615	38.256	39.335	35.729	34.364	36.921
Rye	2.101	1.925	1.938	1.335	1.227	910	674	745	620	630	667
Barley	12.652	12.719	12.535	10.828	10.871	10.935	11.570	12.664	12.392	13.709	12.584
Oats	2.590	1.866	1.888	1.817	1.793	2.405	2.251	1.917	2.014	1.964	2.037
Triticale	0	0	0	0	0	0	0	1.000	2.000	2.000	1.250
Maize	51.508	46.750	47.123	47.491	45.592	44.401	48.009	47.571	45.525	42.962	46.017
Rapeseed	2.278	296	149	19	0	0	0	0	0	0	0
Sunflower	214	222	170	87	70	45	24	20	35	30	27
Sugar beet	4.910	6.132	6.341	6.370	7.670	10.837	8.116	4.700	4.450	5.407	5.668
Forage total ¹⁾	367.729	360.168	350.326	336.241	341.088	350.561	356.485	356.327	356.171	364.065	358.262
Field forage ¹⁾	48.623	51.494	49.520	48.768	51.101	52.337	48.289	492.900	48.995	55.717	161.475
Green maize ¹⁾	30.331	30.321	30.953	29.953	29.285	30.204	26.851	24.491	23.933	30.200	26.369
Permanent grassland ¹⁾	319.106	308.674	300.806	287.473	289.987	298.224	308.196	307.037	307.176	308.348	307.689
Fallow ^{1*)}							1.040			320	680
Fallow land ^{1**)}	1.020	1.824	1.913	2.085	2.085	1.904	1.038	816	464	320	660

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 25.3: **Slovenia**: Yields of agricultural crops

Yield in dt/ha											
Slovenia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	50,64	44,59	48,63	56,39	58,01	51,95	48,15	47,45	61,02	38,13	52,21
Wheat	43,32	42,30	39,00	41,56	48,28	37,09	42,49	46,04	48,94	33,95	45,82
Rye	29,23	30,23	28,59	26,29	31,43	28,02	26,23	30,42	32,87	21,71	29,84
Barley	34,98	34,61	32,41	35,86	39,93	37,91	32,63	35,13	38,84	28,67	35,54
Oats	24,79	23,89	24,13	25,02	26,12	23,48	23,75	25,82	29,22	18,56	26,26
Triticale	0	0	0	0	0	0	0	40,00	35,00	25,00	25,00
Maize	63,75	51,43	62,88	74,81	73,14	69,37	58,82	54,14	81,57	47,05	64,84
Rapeseed	22,84	24,73	21,95	19,47	0	0	0	0	0	0	0
Sunflower	13,04	20,59	20,00	16,78	17,14	15,56	10,83	11,00	10,00	16,67	10,61
Sugar beet	451,91	432,29	485,74	453,34	495,76	431,06	430,09	395,17	521,82	279,47	449,03
Forage total ¹⁾	79,65	78,71	79,74	87,55	89,99	82,30	64,87	61,86	78,53	54,36	68,42
Field forage ¹⁾	269,51	262,60	281,51	308,09	296,03	271,07	222,43	197,97	252,30	179,84	224,23
Green maize ¹⁾	394,24	399,81	404,00	451,56	466,61	412,36	359,64	340,22	445,47	298,21	381,78
Permanent grassland ¹⁾	:	:	:	:	50,34	49,18	40,18	40,01	50,81	31,69	43,66

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 25.4: Slovenia: Production of agricultural crops

Production in t											
Slovenia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	570.712	453.456	486.984	543.728	556.997	477.283	493.942	498.888	614.664	373.335	535.831
Wheat	181.743	155.575	137.120	138.930	169.097	117.251	162.559	181.083	174.868	116.674	172.837
Rye	6.141	5.819	5.540	3.510	3.857	2.550	1.768	2.266	2.038	1.368	2.024
Barley	44.250	44.018	40.626	38.834	43.407	41.454	37.756	44.490	48.135	39.302	43.460
Oats	6.420	4.458	4.555	4.546	4.683	5.646	5.346	4.950	5.885	3.645	5.394
Triticale	0	0	0	0	0	0	0	4.000	7.000	5.000	3.667
Maize	328.342	240.415	296.302	355.285	333.456	308.000	282.393	257.546	371.365	202.146	303.768
Rapeseed	5.203	732	327	37	0	0	0	0	0	0	0
Sunflower	279	457	340	146	120	70	26	22	35	50	28
Sugar beet	221.886	265.080	308.005	288.775	380.245	467.137	349.065	185.732	232.209	151.112	255.669
Forage total ¹⁾	2.928.966	2.834.779	2.793.374	2.943.920	3.069.292	2.885.231	2.312.381	2.204.110	2.796.859	1.978.986	2.437.783
Field forage ¹⁾	1.310.460	1.352.218	1.394.024	1.502.500	1.512.763	1.418.688	1.074.090	975.806	1.236.127	1.001.990	1.095.341
Green maize ¹⁾	1.195.769	1.212.264	1.250.501	1.352.551	1.366.475	1.245.499	965.677	833.230	1.066.141	900.579	955.016
Permanent grassland ¹⁾	:	:	:	:	1.459.877	1.466.543	1.238.291	1.228.304	1.560.732	976.996	1.342.442

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 25.5: Slovenia: Livestock in 1,000 heads

Slovenia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	477,00	496,00	486,00	445,70	453,10	471,43	493,67	477,08	473,24	449,85	473,46
under 1 year	:	:	162,00	142,00	153,00	160,89	145,73	136,99	138,78	130,90	138,10
beef calf	:	:	:	:	:	:	17,87	14,14	9,57	10,04	12,91
other calves	:	:	:	:	:	:	127,86	122,86	129,21	120,86	125,20
male	:	:	:	:	:	:	69,13	65,08	65,43	62,71	65,59
female	:	:	:	:	:	:	58,74	57,78	63,78	58,15	59,61
between 1 and 2 years	:	:	102,00	87,00	88,00	90,76	127,20	127,41	118,07	112,39	121,27
male	:	:	:	37,00	46,00	44,46	62,04	62,75	57,59	53,63	59,00
female	:	:	:	49,00	42,00	46,30	65,16	64,66	60,48	58,75	62,26
animals for slaughter	:	:	:	:	:	12,47	12,32	10,47	7,69	6,57	9,26
others	:	:	:	:	:	33,82	52,84	54,19	52,79	52,18	53,00
at least 2 years	:	:	222,00	216,00	212,00	219,77	220,74	212,67	216,39	206,56	214,09
male	:	:	:	:	:	:	8,76	7,70	5,22	4,16	6,46
female	:	:	:	:	:	:	211,98	204,98	211,17	202,40	207,63
Heifers	:	:	:	:	:	:	17,85	16,40	16,18	16,59	16,75
heifers for slaughter	:	:	:	:	:	:	1,42	1,40	1,05	1,08	1,24
other heifers	:	:	:	:	:	:	16,43	15,00	15,12	15,51	15,52
Cows	207,00	212,00	187,00	182,60	181,20	185,60	194,13	188,58	194,99	185,82	190,88
milk cows	:	:	:	147,60	146,50	149,08	140,24	135,81	139,98	130,71	136,68
other cows	:	:	:	35,00	34,70	36,51	53,90	52,78	55,01	55,11	54,20
Pigs	571,00	592,00	552,00	578,00	592,00	558,46	603,59	599,90	655,67	620,51	619,92
piglets, live weight < 20 kg	162,00	178,00	151,00	150,00	166,00	155,03	178,32	181,20	179,05	182,15	180,18
Pigs, live weight from 20 to < 50 kg	242,00	249,00	116,00	136,00	128,00	116,62	122,25	122,95	143,13	124,07	128,10
Fattening pigs from 50 kg and more¹⁾	110,00	107,00	228,00	227,00	237,00	226,79	235,52	229,58	267,76	249,97	245,71
Fattening pigs from 50 to < 80 kg	:	:	100,00	108,00	111,00	108,97	106,52	102,22	90,94	86,53	96,55
Fattening pigs from 80 to < 110 kg	:	:	71,00	62,00	68,00	64,03	74,40	72,40	83,52	75,33	76,41
Fattening pigs from at least 110 kg	:	:	57,00	57,00	58,00	53,79	54,60	54,96	93,30	88,11	72,74
breeding pigs, Lebend-live weight of 50 kg and more	:	:	57,00	65,00	62,00	60,02	67,50	66,17	65,73	64,31	65,93
boars	1,50	1,50	2,00	2,00	2,00	1,74	1,94	1,81	1,56	2,22	1,88
sows in total	56,00	56,00	55,00	63,00	60,00	58,28	65,56	64,35	64,17	62,09	64,04
Goats	10,00	11,00	9,00	:	17,00	14,64	22,04	19,90	21,98	23,29	21,80
Sheep	18,00	28,00	28,00	:	72,00	72,53	96,23	94,07	107,40	105,66	100,84
Laying hens	:	:	:	:	:	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 25.6: **Slovenia**: Imports and Exports in t

Slovenia	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	15.076	913	610	997	4.399,00
Export	35.615	68.122	56.185	41.169	50.272,75
Differenz	-20.539	-67.209	-55.575	-40.172	-45.873,75
Butter of Cow Milk					
Import	475	171	193	200	259,75
Export	2.150	1.622	1.837	3.487	2.274,00
Differenz	-1.675	-1.451	-1.644	-3.287	-2.014,25
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	4.701	1.096	1.638	2.302	2.434,25
Export	10.452	3.726	3.642	5.976	5.949,00
Differenz	-5.751	-2.630	-2.004	-3.674	-3.514,75
Meat Bovine Fresh					
Import	2.747	483	623	523	1.094,00
Export	360	9.349	4.984	3.837	4.632,50
Differenz	2.387	-8.866	-4.361	-3.314	-3.538,50
Meat of Swine					
Import	11.293	22.270	22.484	22.071	19.529,50
Export	20	63	187	208	119,50
Differenz	11.273	22.207	22.297	21.863	19.410,00
Meat Poultry Fresh					
Import	5.472	3.003	4.369	3.376	4.055,00
Export	1.335	8.414	6.944	8.692	6.346,25
Differenz	4.137	-5.411	-2.575	-5.316	-2.291,25
Cereals					
Import	342.658	446.394	373.729	387.643	387.606,00
Export	78.805	8.420	8.208	5.352	25.196,25
Differenz	263.853	437.974	365.521	382.291	362.409,75
Wheat					
Import	21.001	110.243	65.994	72.201	67.359,75
Export	23.927	193	148	687	6.238,75
Differenz	-2.926	110.050	65.846	71.514	61.121,00
Rye					
Import	7.821	9.791	8.735	4.670	7.754,25
Export	3.368	0	25	0	848,25
Differenz	4.453	9.791	8.710	4.670	6.906,00
Barley					
Import	133.857	25.437	57.838	64.542	70.418,50
Export	23.825	66	1.096	50	0,00
Differenz	110.032	25.371	56.742	64.492	64.159,25
Oats					
Import	3.100	4.820	3.769	4.887	4.144,00
Export	0	843	0	0	210,75
Differenz	3.100	3.977	3.769	4.887	3.933,25
Triticale					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Maize					
Import	110.721	229.451	174.184	193.846	177.050,50
Export	22.144	1.187	926	767	6.256,00
Differenz	88.577	228.264	173.258	193.079	170.794,50
Rapeseed					
Import	22.047	21	22	19	5.527,25
Export	82	1.010	5.270	4.974	2.834,00
Differenz	21.965	-989	-5.248	-4.955	2.693,25
Sunflower					
Import	3.228	762	845	1.040	1.468,75
Export	0	0	1	1	0,50
Differenz	3.228	762	844	1.039	1.468,25
Sugar Total (Raw Equiv.)					
Import	53.135	20.005	25.954	27.874	31.742,00
Export	1.404	128	119	171	455,50
Differenz	51.731	19.877	25.835	27.703	31.286,50
Soybeans					
Import	1.394	1.282	1.070	1.087	1.208,25
Export	25	0	28	61	28,50
Differenz	1.369	1.282	1.042	1.026	1.179,75

F 25.7: **Slovenia**: Milk and meat production in t

Slovenia	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	576.949	608.270	593.370	587.305	599.860	634.448	629.736	633.820	706.446	656.667
Beef	52.200	51.200	53.700	54.000	47.500	47.700	43.300	49.100	42.700	45.033
Mutton and goat meat	140	100	250	600	720	1.020	930	1.200	1.200	1.110
Pork	71.096	60.800	62.700	59.200	64.900	71.200	60.000	66.400	62.000	62.800
Poultry meat	54.338	66.968	69.869	72.703	71.700	67.500	67.100	71.600	66.100	68.267

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 25.8: **Slovenia**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	660	5,221	3.443
Export(+)/Import(-) surplus in crop production			
- Cereals	-69.413	5,221	-362.410
- Rapeseed	0	0,000	-2.693
- Sunflowers	-1.384	1,061	-1.468
- Sugar beets	-4.877	44,903	-219.006 ¹⁾
Crop production balance	-75.674		-585.577

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	45.874
- Butter ²⁾	40.285
- Cheese ³⁾	35.148
Whole milk equivalent balance	121.306
Total milk production	656.667
the above as %	22,66

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	3.539
Total production	45.033
the above as %	8,53
- Pork	-19.410
Total production	62.800
the above as %	-23,61
- Poultry meat	2.291
Total production	68.267
the above as %	3,47

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 25.9: **Slovenia**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	12.905	0,25		3.226		3.226
Calves						
male	65.586	0,3		19.676		19.676
female	59.612	0,19	11.326			11.326
Cattle 1 - 2 Years						
male	59.002	0,7		41.302		41.302
female	62.264	0,65	40.471			40.471
Cattle > 2 Years						
male	6.459	1,2		7.751		7.751
Beef heifers	1.237	1,2		1.485		1.485
other heifers	15.515	1,2	18.618			18.618
Dairy cows	136.683	1,2	164.020			164.020
other cows	54.198	1,2		65.038		65.038
Goats	21.802	0,1			2.180	2.180
Sheep	100.839	0,1			10.084	10.084
Total			234.435	138.476	12.264	385.176
Share %			60,86	35,95	3,18	100,00
Roughage area ha						358.262
thereof...			218.054	128.800	11.407	

F 25.10: **Slovenia**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	660	0,13
Reduction of overproduction		
- Crop production	-75.674	-14,81
- Animal production		
- Milk	49.408	9,67
- Beef	10.984	2,15
- Pork	¹⁾ -13.941	-2,73
- Poultry meat	²⁾ 790	0,15
Balance of potential area	³⁾ -14.623	
Agricultural land	511.000	
the above as %	-2,86	-2,86

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 25.11: **Slovenia:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	1.967.000	1.959.000	1.917.000
- Change in % up to.....		-0,4067	-2,1440
Per capita consumption (grain equivalent)	1.063,0	1.132,1	1.175,8
- Change in % up to.....		6,50	3,86
Consumption change in % up to		5,3599	1,492
Abs. agricultural land in ha	511.000		
- Land redesignation in % up to ¹⁾		12,436	12,436
Yield increase in % up to ²⁾		-13,69	-15,00
Balance of all changes in % up to.....		4,1029	-1,0722
Balance of agricultural land			
- Basis available ha	511.000		
- Increase(+) reduction(-) due to redesignation in ha		63.545	63.545
- Increased(+) decreased(-) demand for food		27.389	7.626
- Release due to yield increase in ha (-)		-69.968	-76.650
- Release due to improved feed conversion in ha (-)		-3.019	-5.969
- Potential for biomass in ha per year.....	14.623	17.947	-11.448
Accumulation of the above in ha		32.570	21.122
- the above as % of the basis available agricultural land	-2,86	-6,37	-4,13
- quantity equivalents of the above			
- Cereals ³⁾	-76.345	-193.333	-126.822
- Straw	-61.076	-154.666	-101.457

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 25.12 : **Slovenia:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	62.800		
- Feedgrain consumption t ¹⁾	235.500	-11.775 ³⁾	-23.550 ³⁾
Land equivalent ha cereals	45.106	-2.255	-4.511
- Poultry meat t	68.267		
- Feed grain consumption t ²⁾	122.880	-6.144 ³⁾	-12.288 ³⁾
Land equivalent ha cereals	23.535	-1.177	-2.354
Total land equivalent ha	68.641	-3.432	-6.864

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 25.13 : : Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	307.689
Grassland for milk production	ha	187.274
Overproduction milk	%	22,66
Released grassland due to abandonment of overproduction	ha	34.595
Grassland for beef production	ha	110.619
Overproduction beef	%	8,53
Released grassland due to abandonment of overproduction	ha	8.692
Total grassland released	ha	43.287
the above as % of total grassland		14,07
the above as % of potential area for bioenergy sources		-296,03

F 25.14 : **Slovenia:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	63.545	63.545
Share of grassland of agricultural land	%	60,21	60,21
Redesignation of grassland	ha	38.263	38.263
Change to grassland due to change in consumption			
- Rate of change in population	%	-0,4067	-2,1440
- Rate of change in milk and beef consumption	%	4,8000	2,5000
Total change	%	4,3933	0,3560
Grassland for milk and beef production	ha	297.892	297.892
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	13.087	1.061
Release due to yield increase(-)	ha	-42.130	-46.153
Total change in grassland	ha	9.220	-6.830
Accumulated grassland potential for bioenergy sources	ha	34.067	40.897
the above as % of total grassland		11,07	13,29
the above as % of potential area		-104,60	-193,62

F 26 EU-25

F 26.1: EU-25: Total land area and agricultural area

in 1000 ha

EU-25	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	not available												
thereof													
Land Area													
thereof													
Agricultural Area													
thereof													
Permanent Pasture													
Permanent Crops													
Arable Land													
Arable & Permanent Crops													
NonArable&NonPermanent													
All other Land													

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 26.2: EU-25: Cultivation area of agricultural crops

Cultivated land in ha											
EU-25	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land											
Cereals	52.409.384	52.792.772	54.583.470	56.412.528	54.575.169	52.493.541	55.401.086	54.253.242	54.726.800		54.793.709
Wheat											
Rye											
Barley											
Oats											
Triticale											
Maize											
Rapeseed	3.447.621	3.890.048	3.343.098	3.588.447	3.999.966	4.878.934	4.074.732	4.089.377	4.217.766		4.127.292
Sunflower	3.401.820	3.037.533	2.951.705	2.728.061	2.687.136	2.635.523	2.282.595	2.275.445	2.126.167		2.228.069
Sugar beet	3.788.914	3.849.532	3.680.634	4.111.505	3.543.146	3.727.675	3.296.431	3.327.955	3.313.910		3.312.765
Forage total ¹⁾	:	:	:	:	:	:	72.935.384	:	:	:	72.935.384
Field forage ¹⁾	:	:	:	:	:	:	19.407.787	17.480.128	:	17.496.707	18.128.207
Green maize ¹⁾	:	:	:	:	:	4.414.515	:	:	:	:	0
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Fallow ¹⁾											
Fallow land ^{1**)}							10.551.328	10.521.858	:	10.667.704	10.580.297

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

***) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 26.3: EU-25: Yields of agricultural crops

Yield in dt/ha											
EU-25	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	42,84	43,77	47,66	46,72	49,29	48,44	47,41	47,94	48,96		48,10
Wheat											
Rye											
Barley											
Oats											
Triticale											
Maize											
Rapeseed	24,15	27,04	25,14	28,61	29	29	27	28	28		28
Sunflower	14,13	13,96	16,70	16,82	16,57	16,01	17,79	16,87	17,46		17,37
Sugar beet	338,56	352,12	390,35	359,62	396,19	387,99	393,43	356,71	405,69		385,28

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 26.4: EU-25: Production of agricultural crops

Production in t											
EU-25	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	224.529.732	231.091.264	260.137.381	263.569.913	268.987.886	254.274.409	262.642.289	260.079.033	267.937.235	234.748.645	263.552.852
Wheat											
Rye											
Barley											
Oats											
Triticale											
Maize											
Rapeseed	8.326.549	10.520.437	8.403.855	10.264.835	11.610.906	14.208.443	11.201.313	11.476.677	11.638.089		11.438.693
Sunflower	4.806.638	4.241.735	4.929.814	4.589.543	4.451.365	4.219.466	4.061.301	3.838.955	3.711.351		3.870.536
Sugar beet	128.277.310	135.551.310	143.675.169	147.856.482	140.376.320	144.631.287	129.692.296	118.710.998	134.441.057		127.614.784

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 26.5: EU-25: Livestock in 1,000 heads

EU-25	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003
Cattle	:	:	:	:	:	:	:	90.338,89	88.759,41	87.489,19
under 1 year	:	:	:	:	:	:	:	25.889,69	25.510,51	25.195,28
beef calf	:	:	:	:	:	:	:	:	4369,112	4439,644
other calves	:	:	:	:	:	:	:	21.422,26	21.141,40	20.755,63
male	:	:	:	:	:	:	:	9.210,04	9.189,66	9.030,02
female	:	:	:	:	:	:	:	12.212,22	11.951,74	11.725,63
between 1 and 2 years	:	:	:	:	:	:	:	18.760,56	18.294,02	17.936,27
male	:	:	:	:	:	:	:	6.716,01	6.585,40	6.507,36
female	:	:	:	:	:	:	:	12.044,56	11.708,62	11.428,81
animals for slaughter	:	:	:	:	:	:	:	:	2.010,73	1.889,19
others	:	:	:	:	:	:	:	:	9.697,89	9.539,65
at least 2 years	:	:	:	:	:	:	:	45.496,86	44.769,88	44.133,29
male	:	:	:	:	:	:	:	1.809,66	1.688,82	1.672,69
female	:	:	:	:	:	:	:	43.687,20	43.081,05	42.460,56
Heifers	:	:	:	:	:	:	:	:	6.590,52	6.465,82
heifers for slaughter	:	:	:	:	:	:	:	:	852,54	790,14
other heifers	:	:	:	:	:	:	:	:	5.737,98	5.675,64
Cows	:	:	:	:	:	:	:	37.101,89	36.490,53	35.994,73
milk cows	:	:	:	:	:	:	:	24.951,02	24.455,67	23.963,25
other cows	:	:	:	:	:	:	:	:	12.034,86	12.032,49
Pigs	:	150.831,16	150.425,67	151.194,43	158.751,13	:	:	152.902,47	154.356,34	152.793,05
piglets, live weight < 20 kg	:	:	:	:	:	:	:	42.409,96	43.393,81	42.119,92
Pigs, live weight from 20 to < 50 kg	:	:	:	:	:	:	:	36.385,42	36.550,53	36.407,81
Fattening pigs from 50 kg and more ¹⁾	:	:	:	:	:	:	:	58.291,86	58.282,52	58.714,29
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	:	:	30.121,05	30.046,87	29.823,55
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	:	:	22.243,12	22.063,42	22.398,91
Fattening pigs from at least 110 kg	:	:	:	:	:	:	:	5.927,68	6.172,22	6.492,83
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	:	:	15.815,23	16.129,49	15.555,04
boars	:	:	:	:	:	:	:	423,81	424,81	382,00
sows in total	:	:	:	:	:	:	:	15.391,52	15.705,68	15.173,04
Goats	:	:	:	:	:	:	:	:	:	:
Sheep	:	:	:	:	:	:	:	90.497,66	89.923,21	:
Laying hens	:	:	:	:	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 26.6: EU-25: Imports and Exports in t

EU-25	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import					
Export					
Differenz					-544.679,75
Butter of Cow Milk					
Import					
Export					
Differenz					60.426,00
Cheese (Skim Cow Milk)					
Import					
Export					
Differenz					
Cheese (Whole Cow Milk)					
Import					
Export					
Differenz					456.608,75
Meat Bovine Fresh					
Import					
Export					
Differenz					-152.224,75
Meat of Swine					
Import					
Export					
Differenz					-935.250,75
Meat Poultry Fresh					
Import					
Export					
Differenz					-971.971,75
Cereals					0,00
Import					
Export					
Differenz					-13.053.361,50
Wheat					
Import					
Export					
Differenz					
Rye					
Import					
Export					
Differenz					
Barley					
Import					
Export					
Differenz					
Oats					
Import					
Export					
Differenz					
Triticale					
Import					
Export					
Differenz					
Maize					
Import					
Export					
Differenz					
Rapeseed					
Import					
Export					
Differenz					-364.308,75
Sunflower					
Import					
Export					
Differenz					1.171.648,50
Sugar Total (Raw Equiv.)					
Import					
Export					
Differenz					-3.694.146,75
Soybeans					
Import					
Export					
Differenz					

not available

F 26.7: **EU-25**: Milk and meat production in t

EU-25	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk										148.320.725
Beef										8.094.964
Mutton and goat meat										1.109.327
Pork										21.061.883
Poultry meat										10.634.867

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 26.8: **EU-25**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	10.580.297	4,810	50.892.797
Export(+)/Import(-) surplus in crop production			
- Cereals	2.713.713	4,810	13.053.362
- Rapeseed	131.445	2,772	364.309
- Sunflowers	-674.404	1,737	-1.171.649
- Sugar beets	671.182	38,528	25.859.027 ¹⁾
Crop production balance	2.841.935		38.105.049

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-544.680
- Butter ²⁾	1.208.520
- Cheese ³⁾	4.566.088
Whole milk equivalent balance	5.229.928
Total milk production	148.320.725
the above as %	3,65

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-152.225
Total production	8.094.964
the above as %	-1,85
- Pork	935.251
Total production	21.061.883
the above as %	4,65
- Poultry meat	971.972
Total production	10.634.867
the above as %	10,06

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 26.9: **EU-25**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	4.404.378	0,25		1.101.095		1.101.095
Calves						
male	9.143.242	0,3		2.742.973		2.742.973
female	11.963.196	0,19	2.273.007			2.273.007
Cattle 1 - 2 Years						
male	6.602.922	0,7		4.622.045		4.622.045
female	11.727.329	0,65	7.622.764			7.622.764
Cattle > 2 Years						
male	1.723.724	1,2		2.068.468		2.068.468
Beef heifers	821.343	1,2		985.612		985.612
other heifers	5.706.811	1,2	6.848.173			6.848.173
Dairy cows	24.456.648	1,2	29.347.977			29.347.977
other cows	12.033.672	1,2		14.440.406		14.440.406
Goats	0	0,1			0	0
Sheep	90.210.435	0,1			9.021.044	9.021.044
Total			46.091.921	25.960.599	9.021.044	81.073.564
Share %			56,85	32,02	11,13	100,00
Roughage area ha						72.935.384
thereof...			41.465.206	23.354.669	8.115.509	

F 26.10: **EU-25**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	10.580.297	5,90
Reduction of overproduction		
- Crop production	2.841.935	1,58
- Animal production		
- Milk	1.462.102	0,81
- Beef	-439.182	-0,24
- Pork	¹⁾ 729.123	0,41
- Poultry meat	²⁾ 363.720	0,20
Balance of potential area	³⁾ 14.445.153	
Agricultural land	179.410.000	
the above as %	8,05	8,05

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 26.11: **EU-25:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	451.449.000	457.399.000	458.399.000
- Change in % up to.....		1,3180	0,2186
Per capita consumption (grain equivalent)	1.132,5	1.191,4	1.202,1
- Change in % up to.....		5,20	0,90
Consumption change in % up to		5,6008	0,939
Abs. agricultural land in ha	179.410.000		
- Land redesignation in % up to ¹⁾		2,604	2,604
Yield increase in % up to ²⁾		-16,39	-18,89
Balance of all changes in % up to.....		-8,1867	-15,3415
Balance of agricultural land			
- Basis available ha	179.410.000		
- Increase(+) reduction(-) due to redesignation in ha		4.672.303	4.672.303
- Increased(+) decreased(-) demand for food		10.048.387	1.685.263
- Release due to yield increase in ha (-)		-29.408.369	-33.881.731
- Release due to improved feed conversion in ha (-)		-876.331	-1.715.904
- Potential for biomass in ha per year.....	-14.445.153	-15.564.011	-29.240.069
Accumulation of the above in ha		-30.009.163	-59.249.232
- the above as % of the basis available agricultural land	8,05	16,73	33,02
- quantity equivalents of the above			
- Cereals ³⁾	69.483.327	168.009.722	338.819.637
- Straw	55.586.661	134.407.778	271.055.709

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 26.12 : **EU-25**: Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	21.061.883		
- Feedgrain consumption t ¹⁾	78.982.063	-3.949.103 ³⁾	-7.898.206 ³⁾
Land equivalent ha cereals	16.419.881	-820.994	-1.641.988
- Poultry meat t	10.634.867		
- Feed grain consumption t ²⁾	19.142.761	-957.138 ³⁾	-1.914.276 ³⁾
Land equivalent ha cereals	3.979.661	-198.983	-397.966
Total land equivalent ha	20.399.542	-1.019.977	-2.039.954

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 26.13 : : Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	53.310.572
Grassland for milk production	ha	30.308.113
Overproduction milk	%	3,65
Released grassland due to abandonment of overproduction	ha	1.068.692
Grassland for beef production	ha	17.070.600
Overproduction beef	%	-1,85
Released grassland due to abandonment of overproduction	ha	-321.010
Total grassland released	ha	747.682
the above as % of total grassland		1,40
the above as % of potential area for bioenergy sources		5,18

F 26.14 : **EU-25:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	4.672.303	4.672.303
Share of grassland of agricultural land	%	29,71	29,71
Redesignation of grassland	ha	1.388.346	1.388.346
Change to grassland due to change in consumption			
- Rate of change in population	%	1,3180	0,2186
- Rate of change in milk and beef consumption	%	5,2000	0,9000
Total change	%	6,5180	1,1186
Grassland for milk and beef production	ha	47.378.713	47.378.713
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	3.088.134	529.991
Release due to yield increase(-)	ha	-8.738.515	-10.067.747
Total change in grassland	ha	-4.262.035	-8.149.410
Accumulated grassland potential for bioenergy sources	ha	5.009.717	13.159.127
the above as % of total grassland		9,40	24,68
the above as % of potential area		16,69	22,21

F 27 Bulgaria**F 27.1: Bulgaria: Total land area and agricultural area**

in 1000 ha

Bulgaria	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099	11.099
thereof													
Land Area	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063	11.063
thereof													
Agricultural Area	6.161	6.154	6.121	6.159	6.164	6.164	6.203	5.645	5.679	5.582	5.498	5.325	5.468
thereof													
Permanent Pasture	1.999	1.824	1.811	1.942	1.962	1.762	1.706	1.829	1.820	1.804	1.786	1.742	1.777
Permanent Crops	298	283	247	216	204	199	199	280	281	252	245	228	242
Arable Land	3.864	4.047	4.063	4.001	3.998	4.203	4.298	3.536	3.578	3.526	3.467	3.355	3.449
Arable & Permanent Crops	4.162	4.330	4.310	4.217	4.202	4.402	4.497	3.816	3.859	3.778	3.712	3.583	3.691
NonArable&NonPermanent	6.901	6.733	6.753	6.846	6.861	6.661	6.566	7.247	7.204	7.285	7.351	7.480	7.372
All other Land	1.554	1.561	1.594	1.556	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 27.2: **Bulgaria**: Cultivation area of agricultural crops

Cultivated land in ha

Bulgaria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	6.159.000	6.164.000	6.164.000	6.203.000	5.645.000	5.679.000	5.582.000	5.498.000	5.325.000		5.468.333
Cereals	2.301.637	2.133.732	1.783.266	2.059.966	2.010.156	1.791.071	1.789.589	2.097.908	2.147.270	1.604.403	1.909.793
Wheat	1.319.760	1.181.120	957.670	1.211.720	1.141.682	966.282	978.575	1.355.500	1.368.630	841.014	1.135.930
Rye	14.499	14.183	15.477	18.151	18.414	21.887	21.201	19.500	13.105	9.800	15.902
Barley	389.572	396.211	260.517	291.306	289.948	254.690	251.962	292.197	388.798	270.612	300.892
Oats	53.108	35.715	35.396	41.085	44.538	56.469	40.605	52.726	41.025	37.615	42.993
Triticale	11.600	10.700	9.000	8.000	9.000	5.500	5.300	4.343	10.165	11.886	7.924
Maize	493.163	475.256	477.750	463.710	477.140	455.026	466.475	353.113	304.054	414.680	384.581
Rapeseed	5.000	5.000	6.000	6.000	7.000	9.000	15.000	16.700	6.901	12.687	12.822
Sunflower	495.937	586.009	499.842	452.863	538.777	592.165	511.015	389.472	471.013	659.632	507.783
Sugar beet	8.060	9.377	8.493	5.157	4.165	3.190	2.210	1.343	2.162	394	1.527
Forage total ¹⁾	:	:	:	:	2.056.418	2.030.209	1.948.918	1.928.537	1.890.429	1.958.080	1.931.491
Field forage ¹⁾	332.000	299.000	233.000	226.000	227.291	209.469	152.438	142.304	148.324	166.362	152.357
Green maize ¹⁾	53.000	64.000	83.000	57.870	122.616	102.769	50.700	43.306	50.213	58.501	50.680
Permanent grassland ¹⁾	1.942.000	1.962.000	1.748.000	1.692.000	1.829.127	1.820.740	1.796.480	1.786.233	1.742.105	1.791.718	1.779.134
Fallow land ^{1**)}	597.000	643.000	1.293.000	1.175.000	140.769	377.438	472.906	515.581	315.689	577.749	470.481

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 27.3: **Bulgaria**: Yields of agricultural crops

Yield in dt/ha											
Bulgaria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	27,99	30,69	19,09	30,03	26,76	29,37	25,27	28,96	31,54	23,80	28,59
Wheat	28,45	29,09	18,82	29,50	28,06	27,35	28,42	30,08	30,12	23,83	29,54
Rye	15,39	13,71	10,44	14,79	14,42	18,73	10,73	20,00	13,98	12,10	14,90
Barley	29,35	29,60	17,53	27,80	24,73	25,67	26,77	31,86	31,16	19,40	29,93
Oats	15,96	13,18	11,43	13,25	14,31	16,65	11,58	18,74	15,22	13,70	15,18
Triticale	19,14	20,47	14,44	29,13	22,78	36,55	28,30	23,00	23,02	15,39	24,77
Maize	28,06	38,24	21,81	35,78	27,32	38,24	17,24	24,71	42,36	28,00	28,11
Rapeseed	12,00	14,00	11,67	11,67	11,43	11,11	13,33	11,26	11,68	8,90	12,09
Sunflower	12,13	13,09	10,53	9,68	9,73	10,23	8,32	10,40	13,70	11,96	10,81
Sugar beet	138,49	167,94	102,30	154,20	148,35	167,62	104,34	141,00	237,40	230,36	160,91
Forage total ¹⁾	:	:	:	:	15,85	14,66	11,60	13,07	15,48	:	13,38
Field forage ¹⁾	:	:	:	:	57,57	58,08	35,83	52,21	83,86	:	57,30
Green maize ¹⁾	100,38	113,13	70,24	118,78	82,64	85,46	59,46	84,11	152,13	97,60	98,57
Permanent grassland ¹⁾	:	:	:	:	10,66	9,67	9,54	9,95	9,66	:	9,72

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 27.4: **Bulgaria** Production of agricultural crops

Production in t											
Bulgaria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	6.441.908	6.548.382	3.403.520	6.186.844	5.378.183	5.260.141	4.521.694	6.075.955	6.773.394	3.818.589	5.790.348
Wheat	3.754.310	3.435.250	1.802.110	3.574.840	3.203.359	2.642.973	2.781.242	4.077.497	4.122.765	2.003.940	3.660.501
Rye	22.315	19.450	16.162	26.850	26.557	41.000	22.750	39.000	18.324	11.859	26.691
Barley	1.143.200	1.172.650	456.669	809.841	717.105	653.799	674.461	930.918	1.211.435	524.990	938.938
Oats	84.748	47.069	40.457	54.440	63.726	94.000	47.023	98.800	62.445	51.533	69.423
Triticale	22.200	21.900	13.000	23.300	20.500	20.100	15.000	9.989	23.398	18.288	16.129
Maize	1.383.600	1.817.220	1.041.950	1.659.240	1.303.436	1.739.969	804.134	872.645	1.288.105	1.161.107	988.295
Rapeseed	6.000	7.000	7.000	7.000	8.000	10.000	20.000	18.800	8.061	11.291	15.620
Sunflower	601.571	766.879	526.492	438.346	524.238	605.832	425.369	405.087	645.369	788.763	491.942
Sugar beet	111.622	157.481	86.884	79.519	61.786	53.471	23.060	18.936	51.326	9.076	31.107
Forage total ¹⁾	:	:	:	:	3.258.657	2.976.977	2.260.550	2.520.663	2.927.087	:	2.569.433
Field forage ¹⁾	:	:	:	:	1.308.571	1.216.579	546.222	742.916	1.243.769	:	844.302
Green maize ¹⁾	532.000	724.000	583.000	687.400	1.013.299	878.260	301.475	364.255	763.883	570.965	476.538
Permanent grassland ¹⁾	:	:	:	:	1.950.086	1.760.398	1.714.328	1.777.747	1.683.318	:	1.725.131

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 27.5: **Bulgaria** Livestock in 1,000 heads

Bulgaria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	652,00	645,00	593,00	622,30	681,70	690,90	652,20	641,10	699,00	736,20	682,13
under 1 year	201,00	:	:	:	:	:	200,80	212,10	226,60	247,60	221,78
beef calf	:	:	:	:	:	:	96,50	105,00	107,90	84,20	98,40
other calves	:	:	:	:	:	:	104,30	107,10	118,70	163,40	123,38
male	:	:	:	:	:	:	51,80	51,30	56,70	77,60	59,35
female	:	:	:	:	:	:	52,50	55,80	62,00	85,80	64,03
between 1 and 2 years	21,00	:	:	:	:	:	44,10	32,90	57,70	70,10	51,20
male	:	:	:	:	:	:	12,20	8,40	14,20	21,40	14,05
female	:	:	:	:	:	:	31,90	24,50	43,50	48,70	37,15
animals for slaughter	:	:	:	:	:	:	7,90	5,50	9,10	12,57	8,77
others	:	:	:	:	:	:	24,00	19,00	34,40	36,20	28,40
at least 2 years	417,00	:	:	:	:	:	398,30	389,60	407,20	410,50	401,40
male	:	:	:	:	:	:	3,40	3,20	6,20	6,00	4,70
female	:	:	:	:	:	:	394,90	386,40	401,00	404,50	396,70
Heifers	62,00	:	:	:	:	:	18,50	14,50	25,00	26,30	21,08
heifers for slaughter	:	:	:	:	:	:	2,70	2,00	2,30	1,80	2,20
other heifers	:	:	:	:	:	:	15,80	12,50	22,70	24,50	18,88
Cows	351,00	371,00	358,00	389,00	424,00	434,00	376,40	371,90	376,00	378,10	375,60
milk cows	349,00	370,00	357,00	387,10	421,40	431,00	362,60	358,60	358,20	361,80	360,30
other cows	2,00	1,00	1,00	2,00	2,50	2,80	13,80	13,30	17,80	16,30	15,30
Pigs	1.986,00	2.140,00	1.500,00	1.480,00	1.721,00	1.512,00	831,40	788,50	996,50	1.032,30	912,18
piglets, live weight < 20 kg	557,00	:	:	:	:	:	150,80	154,20	189,40	204,90	174,83
Pigs, live weight from 20 to < 50 kg	358,00	:	:	:	:	:	147,50	119,90	180,10	167,60	153,78
Fattening pigs from 50 kg and more ¹⁾	:	:	:	:	:	:	423,60	405,30	527,50	547,30	475,93
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	:	135,70	135,60	187,10	159,80	154,55
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	:	177,80	138,00	180,80	205,20	175,45
Fattening pigs from at least 110 kg	:	:	:	:	:	:	110,10	131,70	159,60	182,20	145,90
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	:	109,50	109,10	99,50	112,50	107,65
boars	12,00	:	:	:	:	:	4,60	4,60	5,80	7,20	5,55
sows in total	345,00	:	:	:	:	:	104,90	104,50	93,70	105,30	102,10
Goats	795,00	833,00	849,00	966,00	1.048,00	1.046,00	740,00	675,30	754,50	725,30	723,78
Sheep	3.398,00	3.383,00	3.020,00	2.848,00	2.774,00	2.526,00	1.709,70	1.571,40	1.728,40	1.598,60	1.652,03
Laying hens	11.632,00	10.615,00	8.957,00	8.524,00	8.896,00	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 27.6: Bulgaria Imports and Exports in t

Bulgaria	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	1.063	828	549	240	670,00
Export	28	146	229	191	148,50
Differenz	1.035	682	320	49	521,50
Butter of Cow Milk					
Import	1.125	1.159	1.194	1.704	1.295,50
Export	0	67	27	34	32,00
Differenz	1.125	1.092	1.167	1.670	1.263,50
Cheese (Skim Cow Milk)					
Import	0	0	0	0	0
Export	0	0	0	0	0
Differenz	0	0	0	0	0
Cheese (Whole Cow Milk)					
Import	1.906	1.061	1.329	2.014	1.577,50
Export	6.400	8.573	10.435	13.513	9.730,25
Differenz	-4.494	-7.512	-9.106	-11.499	-8.152,75
Meat Bovine Fresh					
Import	8.521	15.361	22.316	22.481	17.169,75
Export	203	129	492	354	294,50
Differenz	8.318	15.232	21.824	22.127	16.875,25
Meat of Swine					
Import	12.500	11.448	18.232	18.898	15.269,50
Export	170	157	138	138	150,75
Differenz	12.330	11.291	18.094	18.760	15.118,75
Meat Poultry Fresh					
Import	22.000	24.081	32.791	33.534	28.101,50
Export	4.988	5.072	3.406	3.458	4.231,00
Differenz	17.012	19.009	29.385	30.076	23.870,50
Cereals					
Import	163.185	131.842	161.118	215.475	167.905,00
Export	809.159	728.761	1.982.150	593.942	1.028.503,00
Differenz	-645.974	-596.919	-1.821.032	-378.467	-860.598,00
Wheat					
Import	21.000	15.758	14.701	87.059	34.629,50
Export	498.700	365.892	1.302.893	313.069	620.138,50
Differenz	-477.700	-350.134	-1.288.192	-226.010	-585.509,00
Rye					
Import	0	0	0	3	0,75
Export	0	86	608	155	212,25
Differenz	0	-86	-608	-152	-211,50
Barley					
Import	11.437	754	57	5.513	4.440,25
Export	172.347	274.136	526.308	15.202	246.998,25
Differenz	-160.910	-273.382	-526.251	-9.689	-242.558,00
Oats					
Import	0	16	0	0	4,00
Export	100	3.842	4.541	1.534	2.504,25
Differenz	-100	-3.826	-4.541	-1.534	-2.500,25
Triticale					
Import	0	0	0	0	0
Export	0	191	504	421	279,00
Differenz	0	-191	-504	-421	-279,00
Maize					
Import	100.000	81.928	121.001	90.657	98.396,50
Export	121.300	48.718	118.648	216.231	126.224,25
Differenz	-21.300	33.210	2.353	-125.574	-27.827,75
Rapeseed					
Import	47	154	146	102	112,25
Export	200	5.628	3.859	5.655	3.835,50
Differenz	-153	-5.474	-3.713	-5.553	-3.723,25
Sunflower					
Import	2.061	8.103	6.299	6.992	5.863,75
Export	48.507	120.596	258.783	297.197	181.270,75
Differenz	-46.446	-112.493	-252.484	-290.205	-175.407,00
Sugar Total (Raw Equiv.)					
Import	224.506	239.787	298.043	257.616	254.988,00
Export	7.678	4.499	43.882	13.983	17.510,50
Differenz	216.828	235.288	254.161	243.633	237.477,50
Soybeans					
Import	2.832	16.179	515	30	4.889,00
Export	8	7	5	0	5,00
Differenz	2.824	16.172	510	30	4.884,00

F 27.7: **Bulgaria** Milk and meat production in t

Bulgaria	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	1.464.530	1.447.751	1.432.619	1.480.075	1.637.820	1.705.770	1.706.718	1.474.629	1.508.621	1.563.323
Beef	89.243	64.802	78.829	56.517	54.700	63.300	49.600	62.200	54.155	55.318
Mutton and goat meat	46.843	44.895	55.643	50.249	53.000	57.900	58.900	61.100	60.400	60.133
Pork	207.096	256.430	252.420	226.700	248.050	267.132	242.865	237.000	248.000	242.622
Poultry meat	81.701	92.199	99.100	100.756	105.142	106.031	104.395	110.000	120.000	111.465

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 27.8: **Bulgaria** Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	470.481	2,859	1.345.151
Export(+)/Import(-) surplus in crop production			
- Cereals	301.004	2,859	860.598
- Rapeseed	3.079	1,209	3.723
- Sunflowers	162.280	1,081	175.407
- Sugar beets	-103.306	16,091	-1.662.343 ¹⁾
Crop production balance	363.057		-622.614

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-522
- Butter ²⁾	-25.270
- Cheese ³⁾	81.528
Whole milk equivalent balance	55.736
Total milk production	1.563.323
the above as %	3,70

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-16.875
Total production	55.318
the above as %	-23,37
- Pork	-15.119
Total production	242.622
the above as %	-5,87
- Poultry meat	-23.871
Total production	111.465
the above as %	-17,64

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 27.9: **Bulgaria:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	98.400	0,25		24.600		24.600
Calves						
male	59.350	0,3		17.805		17.805
female	64.025	0,19	12.165			12.165
Cattle 1 - 2 Years						
male	14.050	0,7		9.835		9.835
female	37.150	0,65	24.148			24.148
Cattle > 2 Years						
male	4.700	1,2		5.640		5.640
Beef heifers	2.200	1,2		2.640		2.640
other heifers	18.875	1,2	22.650			22.650
Dairy cows	360.300	1,2	432.360			432.360
other cows	15.300	1,2		18.360		18.360
Goats	723.775	0,1			72.378	72.378
Sheep	1.652.025	0,1			165.203	165.203
Total			491.322	78.880	237.580	807.782
Share %			60,82	9,77	29,41	100,00
Roughage area ha						1.931.491
thereof...			1.174.802	188.610	568.078	

F 27.10: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	470.481	8,60
Reduction of overproduction		
- Crop production	363.057	6,64
- Animal production		
- Milk	41.884	0,77
- Beef	-57.537	-1,05
- Pork	¹⁾ -19.830	-0,36
- Poultry meat	²⁾ -15.028	-0,27
Balance of potential area	³⁾ 817.886	
Agricultural land	5.468.333	
the above as %	14,96	14,96

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 27.11: **Bulgaria** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	7.997.000	7.446.000	6.859.000
- Change in % up to.....		-6,8901	-7,8834
Per capita consumption (grain equivalent)	786,8	840,8	899,7
- Change in % up to.....		6,86	7,01
Consumption change in % up to		-0,0244	-0,764
Abs. agricultural land in ha	5.468.333		
- Land redesignation in % up to ¹⁾		1,457	1,457
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-8,5671	-14,3064
Balance of agricultural land			
- Basis available ha	5.468.333		
- Increase(+) reduction(-) due to redesignation in ha		79.689	79.689
- Increased(+) decreased(-) demand for food		-1.334	-41.759
- Release due to yield increase in ha (-)		-546.833	-820.250
- Release due to improved feed conversion in ha (-)		-17.654	-33.774
- Potential for biomass in ha per year.....	-817.886	-486.133	-816.094
Accumulation of the above in ha		-1.304.019	-2.120.113
- the above as % of the basis available agricultural land	14,96	23,85	38,77
- quantity equivalents of the above			
- Cereals ³⁾	2.338.414	4.101.146	6.970.845
- Straw	1.870.731	3.280.917	5.576.676

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 27.12 : **Bulgaria:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	242.622		
- Feedgrain consumption t ¹⁾	909.831	-45.492 ³⁾	-90.983 ³⁾
Land equivalent ha cereals	318.224	-15.911	-31.822
- Poultry meat t	111.465		
- Feed grain consumption t ²⁾	200.637	-10.032 ³⁾	-20.064 ³⁾
Land equivalent ha cereals	70.175	-3.509	-7.018
Total land equivalent ha	388.399	-19.420	-38.840

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 27.13 : **Bulgaria:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	1.779.134
Grassland for milk production	ha	1.082.133
Overproduction milk	%	3,70
Released grassland due to abandonment of overproduction	ha	38.581
Grassland for beef production	ha	173.733
Overproduction beef	%	-23,37
Released grassland due to abandonment of overproduction	ha	-52.998
Total grassland released	ha	-14.418
the above as % of total grassland		-0,81
the above as % of potential area for bioenergy sources		-1,76

F 27.14 : **Bulgaria:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	79.689	79.689
Share of grassland of agricultural land	%	32,54	32,54
Redesignation of grassland	ha	25.927	25.927
Change to grassland due to change in consumption			
- Rate of change in population	%	-6,8901	-7,8834
- Rate of change in milk and beef consumption	%	0,0000	7,0000
Total change	%	-6,8901	-0,8834
Grassland for milk and beef production	ha	1.255.866	1.255.866
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	-86.530	-11.095
Release due to yield increase(-)	ha	-177.913	-266.870
Total change in grassland	ha	-238.517	-252.038
Accumulated grassland potential for bioenergy sources	ha	224.099	476.137
the above as % of total grassland		12,60	26,76
the above as % of potential area		17,19	22,46

F 28 Romania**F 28.1: Romania: Total land area and agricultural area**

in 1000 ha

Romania	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839	23.839
thereof													
Land Area	22.946	22.946	22.946	22.951	22.949	22.952	22.953	22.959	22.960	22.971	22.971	22.987	22.976
thereof													
Agricultural Area	14.798	14.790	14.793	14.798	14.797	14.782	14.798	14.747	14.781	14.857	14.852	14.837	14.849
thereof													
Permanent Pasture	4.778	4.830	4.852	4.872	4.890	4.900	4.900	4.904	4.936	4.949	4.931	4.938	4.939
Permanent Crops	597	603	600	587	570	545	552	518	513	527	519	501	516
Arable Land	9.423	9.357	9.341	9.339	9.337	9.337	9.346	9.325	9.332	9.381	9.402	9.398	9.394
Arable & Permanent Crops	10.020	9.960	9.941	9.926	9.907	9.882	9.898	9.843	9.845	9.908	9.921	9.899	9.909
NonArable&NonPermanent	12.926	12.986	13.005	13.025	13.042	13.070	13.055	13.116	13.115	13.063	13.050	13.088	13.067
All other Land	1.468	1.474	1.471	1.473	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 28.2: **Romania**: Cultivation area of agricultural crops

Cultivated land in ha											
Romania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	14.798.000	14.797.000	14.782.000	14.798.000	14.747.000	14.781.000	14.857.000	14.852.000	14.837.000		14.848.667
Cereals	6.557.936	6.444.820	5.842.833	6.319.786	5.842.302	5.344.132	5.643.520	6.288.925	5.881.219	5.108.896	5.730.640
Wheat	2.412.120	2.480.832	1.781.704	2.408.543	1.996.000	1.665.189	1.928.328	2.540.354	2.148.200	1.410.944	2.006.957
Rye	28.744	20.597	16.034	15.857	13.493	11.381	13.804	12.271	10.500	10.761	11.834
Barley	785.000	581.724	515.356	626.500	509.900	411.798	411.900	528.800	578.800	317.235	459.184
Oats	334.434	238.890	233.855	219.100	224.400	245.475	232.300	219.400	239.400	238.472	232.393
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	2.983.400	3.109.236	3.277.041	3.037.700	3.085.000	3.003.803	3.049.400	2.974.000	2.894.500	3.119.104	3.009.251
Rapeseed	342	303	1.719	7.200	26.036	82.009	68.400	82.400	74.600	12.744	59.536
Sunflower	582.192	714.490	916.784	780.700	948.460	1.033.055	876.800	800.300	906.200	1.153.341	934.160
Sugar beet	130.050	133.209	135.886	128.800	114.200	64.665	48.400	39.000	41.600	37.936	41.734
Forage total ¹⁾	6.063.100	6.040.300	6.069.000	5.939.300	5.990.400	6.051.900	5.990.500	5.911.200	6.114.836	6.182.012	6.049.637
Field forage ¹⁾	1.191.000	1.150.200	1.178.800	1.057.800	1.086.000	1.116.000	1.045.500	975.600	1.156.173	1.224.413	1.100.422
Green maize ¹⁾	134.800	113.700	137.800	71.600	86.900	57.600	50.100	35.400	48.052	38.508	43.015
Permanent grassland ¹⁾	4.872.100	4.890.100	4.890.200	4.881.500	4.904.400	4.935.900	4.945.000	4.935.600	4.958.663	4.957.599	4.949.216
Fallow land ^{1**)}	106.400	114.300	465.000	280.300	351.800	838.000	866.000	466.900	375.377	497.850	551.532

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

F 28.3: **Romania**: Yields of agricultural crops

Yield in dt/ha											
Romania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	27,73	30,85	24,30	34,98	26,45	31,88	18,57	30,01	24,39	25,36	24,32
Wheat	25,44	30,90	17,65	29,71	25,96	27,99	23,00	30,45	20,58	17,57	24,68
Rye	17,81	20,75	12,62	18,55	19,33	18,53	15,79	23,33	19,12	16,13	19,42
Barley	27,18	31,22	21,49	30,16	24,28	24,74	21,05	29,88	20,05	17,05	23,66
Oats	14,86	16,93	12,42	14,85	16,14	15,87	10,50	17,43	13,68	13,55	13,87
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	31,32	31,92	29,32	41,76	27,95	36,40	16,06	30,66	29,02	30,70	25,25
Rapeseed	9,42	11,78	10,86	16,18	11,04	13,20	11,13	12,35	4,81	6,34	9,43
Sunflower	13,12	13,06	11,95	10,99	11,32	12,59	8,22	10,29	11,07	13,06	9,86
Sugar beet	251,67	199,28	209,60	211,61	206,77	218,81	137,78	224,48	229,48	201,52	197,25
Forage total ¹⁾	98,35	91,96	87,63	98,12	93,81	94,76	70,37	91,99	85,65	80,09	82,67
Field forage ¹⁾	151,29	77,83	75,77	81,96	73,69	78,32	53,27	67,74	64,87	64,35	61,96
Green maize ¹⁾	162,72	155,83	143,60	214,37	126,05	169,13	88,62	153,16	107,69	141,72	116,49
Permanent grassland ¹⁾	85,40	95,28	90,49	101,62	98,26	98,48	73,98	96,78	90,50	83,98	87,09

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 28.4: **Romania**: Production of agricultural crops

Production in t											
Romania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	18.183.857	19.882.767	14.199.749	22.107.219	15.453.187	17.037.523	10.477.958	18.870.767	14.344.225	12.955.635	14.564.317
Wheat	6.135.299	7.666.538	3.143.818	7.156.188	5.181.812	4.661.439	4.434.400	7.735.136	4.420.995	2.479.052	5.530.177
Rye	51.201	42.728	20.240	29.413	26.088	21.092	21.800	28.631	20.079	17.358	23.503
Barley	2.133.600	1.816.267	1.107.547	1.889.343	1.238.000	1.018.600	867.000	1.580.048	1.160.387	540.849	1.202.478
Oats	497.000	404.428	290.505	325.389	362.137	389.600	244.000	382.354	327.444	323.060	317.933
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	9.343.000	9.923.132	9.607.944	12.686.700	8.623.370	10.934.800	4.898.000	9.119.194	8.399.799	9.576.985	7.472.331
Rapeseed	322	357	1.867	11.646	28.742	108.221	76.100	101.789	35.906	8.080	71.265
Sunflower	763.697	932.932	1.095.596	858.100	1.073.300	1.300.900	721.000	823.549	1.002.813	1.506.398	849.121
Sugar beet	3.272.900	2.654.610	2.848.169	2.725.512	2.361.360	1.414.900	666.870	875.485	954.630	764.475	832.328
Forage total ¹⁾	59.628.300	55.544.575	53.182.050	58.273.525	56.193.050	57.349.900	42.153.975	54.374.675	52.373.396	49.513.345	49.634.015
Field forage ¹⁾	18.018.800	8.951.675	8.931.250	8.669.425	8.002.150	8.740.200	5.569.375	6.609.075	7.499.757	7.878.766	6.559.402
Green maize ¹⁾	2.193.500	1.771.800	1.978.800	1.534.900	1.095.400	974.200	444.000	542.200	517.474	545.736	501.225
Permanent grassland ¹⁾	41.609.500	46.592.900	44.250.800	49.604.100	48.190.900	48.609.700	36.584.600	47.765.600	44.873.639	41.634.579	43.074.613

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 28.5: **Romania**: Livestock in 1,000 heads

Romania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	3.481,00	3.496,30	3.434,90	3.235,40	3.142,70	3.051,10	2.870,40	2.799,80	2.877,80	2.897,10	2.861,28
under 1 year	:	:	:	:	:	:	:	:	:	:	0
beef calf	:	:	:	:	:	:	:	:	:	:	0
other calves	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	:	:	:	:	:	:	:	:	:	0
between 1 and 2 years	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	:	:	:	:	:	:	:	:	:	0
animals for slaughter	:	:	:	:	:	:	:	:	:	:	0
others	:	:	:	:	:	:	:	:	:	:	0
at least 2 years	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	1.982,40	1.939,00	1.843,80	1.793,90	1.768,80	1.774,30	1.746,50	1.759,40	1.756,70	1.759,23
Heifers	179,00	184,00	175,00	146,00	138,00	136,00	125,00	127,00	132,00	134,00	129,50
heifers for slaughter	:	:	:	:	:	:	:	:	:	:	0
other heifers	:	:	:	:	:	:	:	:	:	:	0
Cows	1.784,00	1.798,40	1.764,00	1.697,80	1.655,90	1.632,80	1.649,30	1.619,50	1.627,40	1.756,70	1.663,23
milk cows	:	:	:	:	:	:	:	1.619,50	1.627,40	1.509,00	1.585,30
other cows	:	:	:	:	:	:	:	:	:	113,00	113,00
Pigs	7.758,00	7.960,00	8.235,00	7.097,00	7.194,00	5.848,00	4.797,00	4.446,80	5.058,00	5.145,00	4.861,70
piglets, live weight < 20 kg	:	:	:	:	:	:	:	:	:	:	:
Pigs, live weight from 20 to < 50 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 50 kg and more ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from at least 110 kg	:	:	:	:	:	:	:	:	:	:	:
breeding pigs, Lebend-live weight of 50 kg and more	:	:	:	:	:	:	:	:	:	:	:
boars	:	:	:	:	:	:	:	:	:	:	:
sows in total	576,00	590,00	584,00	506,00	515,00	405,00	323,00	517,00	579,00	335,00	438,50
Goats	745,00	705,00	654,00	610,00	585,00	558,00	538,00	525,00	633,00	678,00	593,50
Sheep	10.897,00	10.381,00	9.663,00	8.938,00	8.409,00	8.121,00	7.657,00	7.251,00	7.312,00	7.447,00	7.416,75
Laying hens	:	:	:	:	:	:	:	:	:	:	:

¹⁾ including retired boars and sows, : no data

F 28.6: **Romania**: Imports and Exports in t

Romania	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	4.370	3.663	4.371	2.813	3.804,25
Export	26	34	19	13	23,00
Differenz	4.344	3.629	4.352	2.800	3.781,25
Butter of Cow Milk					
Import	1.040	1.012	1.820	3.347	1.804,75
Export	81	34	1	4	30,00
Differenz	959	978	1.819	3.343	1.774,75
Cheese (Skim Cow Milk)					
Import	0	0	0	1	0,25
Export	0	0	0	0	0
Differenz	0	0	0	1	0,25
Cheese (Whole Cow Milk)					
Import	793	845	1.213	1.418	1.067,25
Export	2.075	2.201	2.767	2.569	2.403,00
Differenz	-1.282	-1.356	-1.554	-1.151	-1.335,75
Meat Bovine Fresh					
Import	1.392	11.502	7.448	3.451	5.948,25
Export	166	398	394	382	335,00
Differenz	1.226	11.104	7.054	3.069	5.613,25
Meat of Swine					
Import	22.392	46.556	80.787	101.753	62.872,00
Export	315	456	388	410	392,25
Differenz	22.077	46.100	80.399	101.343	62.479,75
Meat Poultry Fresh					
Import	24.435	64.191	88.487	84.036	65.287,25
Export	802	982	1.335	2.649	1.442,00
Differenz	23.633	63.209	87.152	81.387	63.845,25
Cereals					
Import	536.657	990.315	371.867	2.362.890	1.065.432,25
Export	351.445	682.715	818.917	134.966	497.010,75
Differenz	185.212	307.600	-447.050	2.227.924	568.421,50
Wheat					
Import	189.172	296.419	120.618	1.723.889	582.524,50
Export	111.502	405.005	264.748	12.544	198.449,75
Differenz	77.670	-108.586	-144.130	1.711.345	384.074,75
Rye					
Import	2	1.002	60	1.107	542,75
Export	0	0	0	0	0,00
Differenz	2	1.002	60	1.107	542,75
Barley					
Import	74.781	64.641	28.369	105.255	68.261,50
Export	92.565	244.222	364.583	15.872	179.310,50
Differenz	-17.784	-179.581	-336.214	89.383	-111.049,00
Oats					
Import	5	8	7	22	10,50
Export	1	352	0	0	88,25
Differenz	4	-344	7	22	-77,75
Triticale					
Import	0	200	0	0	50,00
Export	0	0	0	0	0
Differenz	0	200	0	0	50,00
Maize					
Import	34.825	407.062	25.402	274.127	185.354,00
Export	144.426	32.305	188.691	100.701	116.530,75
Differenz	-109.601	374.757	-163.289	173.426	68.823,25
Rapeseed					
Import	97	161	677	454	347,25
Export	73.783	9.336	10.329	2.732	24.045,00
Differenz	-73.686	-9.175	-9.652	-2.278	-23.697,75
Sunflower					
Import	48.623	15.664	18.257	23.311	26.463,75
Export	104.721	128.024	128.308	365.705	181.689,50
Differenz	-56.098	-112.360	-110.051	-342.394	-155.225,75
Sugar Total (Raw Equiv.)					
Import	511.619	571.505	456.036	539.353	519.628,25
Export	5.329	5.008	7.569	1.062	4.742,00
Differenz	506.290	566.497	448.467	538.291	514.886,25
Soybeans					
Import	12.197	95.864	141.703	54.391	76.038,75
Export	24.925	8.793	766	24.784	14.817,00
Differenz	-12.728	87.071	140.937	29.607	61.221,75

F 28.7: **Romania**: Milk and meat production in t

Romania	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	4.679.600	5.039.200	5.062.508	5.008.654	4.866.605	4.702.704	4.622.760	4.781.023	4.905.088	4.769.624
Beef	258.000	201.781	177.415	185.104	150.245	153.000	162.000	144.558	156.114	154.224
Mutton and goat meat	80.500	75.172	71.476	64.233	56.884	57.932	53.134	51.880	54.422	53.145
Pork	775.300	673.016	630.646	666.700	617.188	595.133	502.337	460.109	476.175	479.540
Poultry meat	260.000	286.110	292.558	254.253	267.034	268.501	259.414	283.898	339.920	294.411

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 28.8: **Romania**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	551.532	2,432	1.341.373
Export(+)/Import(-) surplus in crop production			
- Cereals	-233.718	2,432	-568.422
- Rapeseed	25.128	0,943	23.698
- Sunflowers	157.431	0,986	155.226
- Sugar beets	-182.724	19,725	-3.604.204 ¹⁾
Crop production balance	-233.882		-3.993.702

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	-3.781
- Butter ²⁾	-35.495
- Cheese ³⁾	13.358
Whole milk equivalent balance	-25.919
Total milk production	4.769.624
the above as %	-0,54

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	-5.613
Total production	154.224
the above as %	-3,51
- Pork	-62.480
Total production	479.540
the above as %	-11,53
- Poultry meat	-63.845
Total production	294.411
the above as %	-17,82

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 28.9: **Romania**: Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	0	0,25		0		0
Calves						
male	0	0,3		0		0
female	0	0,19	0			0
Cattle 1 - 2 Years						
male	0	0,7		0		0
female	0	0,65	0			0
Cattle > 2 Years						
male	0	1,2		0		0
Beef heifers	0	1,2		0		0
other heifers	0	1,2	0			0
Dairy cows	1.585.300	1,2	1.902.360			1.902.360
other cows	113.000	1,2		135.600		135.600
Goats	593.500	0,1			59.350	59.350
Sheep	7.416.750	0,1			741.675	741.675
Total			1.902.360	135.600	801.025	2.838.985
Share %			67,01	4,78	28,22	100,00
Roughage area ha						6.049.637
thereof...			4.053.768	288.952	1.706.917	

F 28.10: **Romania**: Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	551.532	3,71
Reduction of overproduction		
- Crop production	-233.882	-1,58
- Animal production		
- Milk	-22.029	-0,15
- Beef	-10.517	-0,07
- Pork	¹⁾ -96.337	-0,65
- Poultry meat	²⁾ -47.252	-0,32
Balance of potential area	³⁾ 285.104	
Agricultural land	14.848.667	
the above as %	1,92	1,92

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 28.11: **Romania:** Estimation of change of potentials for bioenergy sources until 2010 and 2020

	Basis 2000	2010	2020
Absolute population	22.117.000	21.287.000	20.396.000
- Change in % up to.....		-3,7528	-4,1857
Per capita consumption (grain equivalent)	811,7	867,5	928,2
- Change in % up to.....		6,87	7,00
Consumption change in % up to		2,8379	2,445
Abs. agricultural land in ha	14.848.667		
- Land redesignation in % up to ¹⁾		-0,286	-0,286
Yield increase in % up to ²⁾		-10,00	-15,00
Balance of all changes in % up to.....		-7,4484	-12,8416
Balance of agricultural land			
- Basis available ha	14.848.667		
- Increase(+) reduction(-) due to redesignation in ha		-42.517	-42.517
- Increased(+) decreased(-) demand for food		421.391	363.013
- Release due to yield increase in ha (-)		-1.484.867	-2.227.300
- Release due to improved feed conversion in ha (-)		-43.513	-83.243
- Potential for biomass in ha per year.....	-285.104	-1.149.507	-1.990.047
Accumulation of the above in ha		-1.434.611	-3.424.658
- the above as % of the basis available agricultural land	1,92	9,66	23,06
- quantity equivalents of the above			
- Cereals ³⁾	693.397	3.838.007	9.578.423
- Straw	554.718	3.070.405	7.662.738

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 28.12 : **Romania:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	479.540		
- Feedgrain consumption t ¹⁾	1.798.276	-89.914 ³⁾	-179.828 ³⁾
Land equivalent ha cereals	739.397	-36.970	-73.940
- Poultry meat t	294.411		
- Feed grain consumption t ²⁾	529.939	-26.497 ³⁾	-52.994 ³⁾
Land equivalent ha cereals	217.895	-10.895	-21.789
Total land equivalent ha	957.292	-47.865	-95.729

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 28.13 : **Romania:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	4.949.216
Grassland for milk production	ha	3.316.393
Overproduction milk	%	-0,54
Released grassland due to abandonment of overproduction	ha	-18.022
Grassland for beef production	ha	236.392
Overproduction beef	%	-3,51
Released grassland due to abandonment of overproduction	ha	-8.604
Total grassland released	ha	-26.626
the above as % of total grassland		-0,54
the above as % of potential area for bioenergy sources		-9,34

F 28.14 : **Romania:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	-42.517	-42.517
Share of grassland of agricultural land	%	33,33	33,33
Redesignation of grassland	ha	-14.172	-14.172
Change to grassland due to change in consumption			
- Rate of change in population	%	-3,7528	-4,1857
- Rate of change in milk and beef consumption	%	0,0000	7,0000
Total change	%	-3,7528	2,8143
Grassland for milk and beef production	ha	3.552.785	3.552.785
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	-133.328	99.988
Release due to yield increase(-)	ha	-494.922	-742.382
Total change in grassland	ha	-642.421	-656.566
Accumulated grassland potential for bioenergy sources	ha	615.795	1.272.361
the above as % of total grassland		12,44	25,71
the above as % of potential area		42,92	37,15

F 29 Turkey**F 29.1: Turkey: Total land area and agricultural area**

in 1000 ha

Turkey	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 -2002
Total Area	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482	77.482
thereof													
Land Area	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963	76.963
thereof													
Agricultural Area	40.067	39.904	39.913	40.149	39.493	41.530	41.540	39.346	39.050	39.050	40.888	41.690	40.543
thereof													
Permanent Pasture	12.378	12.378	12.378	12.378	12.378	12.378	12.378	12.378	12.378	12.378	12.378	13.167	12.641
Permanent Crops	3.023	3.012	3.054	3.066	2.461	2.472	2.583	2.530	2.534	2.534	2.550	2.585	2.556
Arable Land	24.666	24.514	24.481	24.705	24.654	26.680	26.579	24.438	24.138	24.138	25.960	25.938	25.345
Arable & Permanent Crops	27.689	27.526	27.535	27.771	27.115	29.152	29.162	26.968	26.672	26.672	28.510	28.523	27.902
NonArable&NonPermanent	49.274	49.437	49.428	49.192	49.848	47.811	47.801	49.995	50.291	50.291	48.453	48.440	49.061
All other Land	16.697	16.860	16.851	16.615	0	0	0	0	0	0	0	0	0

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 29.2: **Turkey:** Cultivation area of agricultural crops

Cultivated land in ha											
Turkey	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2003
Agricultural land	40.149.000	39.493.000	41.530.000	41.540.000	39.346.000	39.050.000	39.050.000	40.888.000	41.690.000		40.542.667
Cereals	14.132.450	13.805.470	13.935.230	13.962.473	14.065.400	13.919.510	13.954.138	13.901.355	13.777.800	13.806.950	13.860.061
Wheat	9.800.000	9.400.000	9.350.000	9.340.000	9.400.000	9.380.000	9.400.000	9.350.000	9.300.000	9.400.000	9.362.500
Rye	146.000	146.000	148.000	147.000	133.000	140.000	147.000	140.500	150.000	147.000	146.125
Barley	3.500.000	3.525.000	3.650.000	3.700.000	3.750.000	3.650.000	3.629.000	3.640.000	3.600.000	3.450.000	3.579.750
Oats	140.000	148.000	161.500	158.000	158.500	154.000	153.600	150.000	155.000	154.000	153.150
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	485.000	515.000	550.000	545.000	550.000	518.000	555.000	550.000	500.000	575.000	545.000
Rapeseed	6	7	2	10	115	187	82	290	550	650	393
Sunflower	586.000	585.000	575.000	560.000	586.000	595.000	542.000	510.000	550.000	470.000	518.000
Sugar beet	412.018	312.251	422.486	472.689	504.493	423.234	410.023	358.763	372.468	314.000	363.814
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	0
Permanent grassland ¹⁾	:	:	12.377.000	12.377.000	12.377.000	12.377.000	12.377.000	12.377.000	12.377.000	:	12.377.000
Fallow land ^{1**)}	:	:	:	:	:	:	:	:	:	:	0

1) Source: EUROSTAT <http://epp.eurostat.ec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

*) complete and green fallow for which no subsidy has been granted

**) agricultural land (with crop rotation), which had not been harvested in the year of data collection

: no data

F 29.3: **Turkey:** Yields of agricultural crops

Yield in dt/ha											
Turkey	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2002
Agricultural land											
Cereals	19,12	20,38	21,06	21,32	23,60	20,75	23,11	21,27	22,37	22,31	22,25
Wheat	17,87	19,17	19,80	19,98	22,35	19,20	22,35	20,33	20,97	20,21	21,22
Rye	13,36	16,44	16,55	15,99	17,44	16,64	17,69	15,66	17,00	16,33	16,78
Barley	20,00	21,28	21,92	22,16	24,00	21,10	22,04	20,60	23,06	23,48	21,90
Oats	16,43	16,89	17,03	17,72	19,56	18,83	20,44	17,67	18,71	17,53	18,94
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	38,14	36,89	36,36	38,17	41,82	44,34	41,44	40,00	42,00	48,70	41,15
Rapeseed	16,67	12,86	25,00	10,00	26,09	17,65	22,80	22,41	27,27	15,38	24,16
Sunflower	12,63	15,39	13,57	16,07	14,68	15,97	14,76	12,75	15,45	17,02	14,32
Sugar beet	314,17	357,74	344,23	389,28	441,68	404,09	459,02	352,11	443,61	402,00	418,25
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Green maize ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

1) Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 29.4: **Turkey**: Production of agricultural crops

Production in t											
Turkey	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 - 2002
Agricultural land											
Cereals	27.014.400	28.133.560	29.344.100	29.760.575	33.186.972	28.885.720	32.248.694	29.570.560	30.822.380	30.798.180	30.880.545
Wheat	17.514.000	18.015.000	18.515.000	18.663.400	21.011.000	18.008.800	21.008.600	19.007.000	19.500.000	19.000.000	19.838.533
Rye	195.000	240.000	245.000	235.000	232.000	233.000	260.000	220.000	255.000	240.000	245.000
Barley	7.000.000	7.500.000	8.000.000	8.200.000	9.000.000	7.700.000	8.000.000	7.500.000	8.300.000	8.100.000	7.933.333
Oats	230.000	250.000	275.000	280.000	310.000	290.000	314.000	265.000	290.000	270.000	289.667
Triticale	0	0	0	0	0	0	0	0	0	0	0
Maize	1.850.000	1.900.000	2.000.000	2.080.000	2.300.000	2.297.000	2.300.000	2.200.000	2.100.000	2.800.000	2.200.000
Rapeseed	10	9	5	10	300	330	187	650	1.500	1.000	779
Sunflower	740.000	900.000	780.000	900.000	860.000	950.000	800.000	650.000	850.000	800.000	766.667
Sugar beet	12.944.200	11.170.600	14.543.277	18.400.734	22.282.500	17.102.300	18.821.000	12.632.520	16.523.166	12.622.900	15.992.229
Forage total ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Field forage ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Green maize ¹⁾	:	:	:	:	:	:	700.000	710.000	:	:	705.000
Permanent grassland ¹⁾	:	:	:	:	:	:	:	:	:	:	:

¹⁾ Source: EUROSTAT <http://epp.eurostat.cec.eu.int/portal>

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

: no data

F 29.5: Turkey: Livestock in 1,000 heads

Turkey	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2000 -2003
Cattle	:	:	:	:	:	:	:	10.600,00	9.924,58	9.788,10	10.104,23
under 1 year	:	:	:	:	:	:	:	:	:	:	0
beef calf	:	:	:	:	:	:	:	:	:	:	0
other calves	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	:	:	:	:	:	:	:	:	:	0
between 1 and 2 years	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	:	:	:	:	:	:	:	:	:	0
animals for slaughter	:	:	:	:	:	:	:	:	:	:	0
others	:	:	:	:	:	:	:	:	:	:	0
at least 2 years	:	:	:	:	:	:	:	:	:	:	0
male	:	:	:	:	:	:	:	:	:	:	0
female	:	:	:	:	:	:	:	:	:	:	0
Heifers	:	:	:	:	:	:	:	:	:	:	0
heifers for slaughter	:	:	:	:	:	:	:	:	:	:	0
other heifers	:	:	:	:	:	:	:	:	:	:	0
Cows	:	:	:	:	:	:	:	:	:	:	0
milk cows	:	:	:	:	:	:	:	:	:	:	0
other cows	:	:	:	:	:	:	:	:	:	:	0
Pigs	:	:	:	:	:	:	:	2,70	3,60	7,09	4,46
piglets, live weight < 20 kg	:	:	:	:	:	:	:	:	:	:	:
Pigs, live weight from 20 to < 50 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 50 kg and more ¹⁾	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 50 to < 80 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from 80 to < 110 kg	:	:	:	:	:	:	:	:	:	:	:
Fattening pigs from at least 110 kg	:	:	:	:	:	:	:	:	:	:	:
breeding pigs, Lebend- live weight of 50 kg and more	:	:	:	:	:	:	:	:	:	:	:
boars	:	:	:	:	:	:	:	:	:	:	:
sows in total	:	:	:	:	:	:	:	:	:	:	:
Goats	:	:	:	:	:	:	:	:	6.780,09	6.516,09	6.648,09
Sheep	:	:	:	:	:	:	:	:	25.173,71	25.431,54	25.302,62
Laying hens											

not listed

¹⁾ including retired boars and sows, : no data

F 29.6: Turkey: Imports and Exports in t

Turkey	2000	2001	2002	2003	2000-2003
Milk Fresh					
Import	19	29	94	102	61,00
Export	213	685	790	2.031	929,75
Differenz	-194	-656	-696	-1.929	-868,75
Butter of Cow Milk					
Import	3.865	1.683	3.306	5.176	3.507,50
Export	96	116	118	85	103,75
Differenz	3.769	1.567	3.188	5.091	3.403,75
Cheese (Skim Cow Milk)					
Import	212	0	0	0	53,00
Export	2	0	0	0	0,50
Differenz	210	0	0	0	52,50
Cheese (Whole Cow Milk)					
Import	2.987	3.540	4.313	2.993	3.458,25
Export	787	459	576	830	663,00
Differenz	2.200	3.081	3.737	2.163	2.795,25
Meat Bovine Fresh					
Import	5	0	3	0	2,00
Export	59	54	32	91	59,00
Differenz	-54	-54	-29	-91	-57,00
Meat of Swine					
Import	0	0	0	0	0
Export	0	4	0	1	1,25
Differenz	0	-4	0	-1	-1,25
Meat Poultry Fresh					
Import	1.446	211	38	62	439,25
Export	3.697	21.409	19.894	24.990	17.497,50
Differenz	-2.251	-21.198	-19.856	-24.928	-17.058,25
Cereals					
Import	2.681.679	1.151.854	2.645.500	4.176.930	2.663.990,75
Export	2.503.007	1.547.522	963.390	1.246.366	1.565.071,25
Differenz	178.672	-395.668	1.682.110	2.930.564	1.098.919,50
Wheat					
Import	963.668	346.827	1.097.766	1.838.739	1.061.750,00
Export	1.782.048	1.117.969	38.680	938	734.908,75
Differenz	-818.380	-771.142	1.059.086	1.837.801	326.841,25
Rye					
Import	42.867	0	18.279	42.475	25.905,25
Export	0	0	0	0	0,00
Differenz	42.867	0	18.279	42.475	25.905,25
Barley					
Import	40.217	38.967	16.756	89.428	46.342,00
Export	186.205	158.216	595.825	395.988	0,00
Differenz	-145.988	-119.249	-579.069	-306.560	-287.716,50
Oats					
Import	298	215	5.188	600	1.575,25
Export	47	76	0	0	30,75
Differenz	251	139	5.188	600	1.544,50
Triticale					
Import	0	0	0	0	0,00
Export	0	0	3	0	0,00
Differenz	0	0	-3	0	-0,75
Maize					
Import	1.286.190	537.481	1.177.659	1.818.132	1.204.865,50
Export	3.963	9.382	7.642	10.988	7.993,75
Differenz	1.282.227	528.099	1.170.017	1.807.144	1.196.871,75
Rapeseed					
Import	24.156	2.182	54	157	6.637,25
Export	0	0	1	0	0,25
Differenz	24.156	2.182	53	157	6.637,00
Sunflower					
Import	523.903	182.728	129.108	519.731	338.867,50
Export	2.121	2.199	2.214	3.649	2.545,75
Differenz	521.782	180.529	126.894	516.082	336.321,75
Sugar Total (Raw Equiv.)					
Import	2.558	640	1.331	769	1.324,50
Export	609.442	933.427	118.071	201.128	465.517,00
Differenz	-606.884	-932.787	-116.740	-200.359	-464.192,50
Soybeans					
Import	386.708	321.252	612.497	810.100	532.639,25
Export	101	0	166	0	66,75
Differenz	386.607	321.252	612.331	810.100	532.572,50

F 29.7: **Turkey** : Milk and meat production in t

Turkey	1994	1995	1996	1997	1998	1999	2000	2001	2002	2000 - 2002
Whole milk	10.560.915	10.601.550	10.760.915	10.076.526	9.971.000	10.082.000	9.793.962	9.495.550	8.408.559	9.232.690
Beef	324.735	298.545	304.980	385.182	363.762	354.877	358.683	333.884	329.260	340.609
Mutton and goat meat	372.000	372.000	366.000	378.000	374.000	368.000	374.000	351.000	332.500	352.500
Pork	80	445	1.425	53	314	240	274	86	37	132
Poultry meat	489.832	506.165	436.443	486.448	509.732	614.784	660.916	631.376	710.900	667.731

Source: FAOSTAT <http://faostat.fao.org/faostat/collections>

F 29.8: **Turkey**: Biomass potential in the basis

Potential from:	ha	Average yield t	Product quantity t
Fallow land	0	2,225	0
Export(+)/Import(-) surplus in crop production			
- Cereals	-493.872	2,225	-1.098.920
- Rapeseed	-2.747	2,416	-6.637
- Sunflowers	-234.863	1,432	-336.322
- Sugar beets	77.689	41,825	3.249.348 ¹⁾
Crop production balance	-653.793		1.807.469

Potential from:	Product-quantity t
Export(+)/Import(-) surplus in the animal production	
- Milk	869
- Butter	²⁾ -68.075
- Cheese	³⁾ -27.953
Whole milk equivalent balance	-95.159
Total milk production	9.232.690
the above as %	-1,02

	Product-quantity t
Export(+)/Import(-) surplus in meat production	
- Beef	57
Total production	340.609
the above as %	0,02
- Pork	1
Total production	132
the above as %	0,95
- Poultry meat	17.058
Total production	667.731
the above as %	2,62

1) 1 t sugar = 7 t sugar beets

2) whole milk equivalent 1 kg Butter = 20 kg whole milk

3) whole milk equivalent 1 kg cheese = 10 kg whole milk

F 29.9: **Turkey:** Livestock, Livestock unit factors and demand of roughage area

Animal numbers	Units	Livestock unit factors code	Livestock unit division			Total livestock units
			Milk	Beef	Other	
Beef calves	0	0,25			0	0
Calves						
male	0	0,3			0	0
female	0	0,19	0			0
Cattle 1 - 2 Years						
male	0	0,7			0	0
female	0	0,65	0			0
Cattle > 2 Years						
male	0	1,2			0	0
Beef heifers	0	1,2			0	0
other heifers	0	1,2	0			0
Dairy cows	0	1,2	0			0
other cows	0	1,2			0	0
Goats	6.648.091	0,1			664.809	664.809
Sheep	25.302.625	0,1			2.530.262	2.530.262
Total			0	0	3.195.072	3.195.072
Share %			70,00	12,00	100,00	182,00
Roughage area ha						12.377.000
thereof...			8.663.900	1.485.240	12.377.000	

F 29.10: **Turkey:** Overview of bioenergy sources in the basis

Resource	ha	% of agricultural land
Fallow land	0	0,00
Reduction of overproduction		
- Crop production	-653.793	-1,61
- Animal production		
- Milk	-89.296	-0,22
- Beef	249	0,00
- Pork	¹⁾	²⁾
- Poultry meat		
Balance of potential area	³⁾ -742.840	
Agricultural land	40.542.667	
the above as %	-1,83	-1,83

1) 3,75 t cereals per t pork

2) 1,8 t cereals per t poultry meat

3) without pork and poultry meat

F 29.11: **Turkey: Estimation of change of potentials for bioenergy sources until 2010 and 2020**

	Basis 2000	2010	2020
Absolute population	68.234.000	78.081.000	86.774.000
- Change in % up to.....		14,4312	11,1333
Per capita consumption (grain equivalent)	721,9	721,9	772,4
- Change in % up to.....		0,00	7,00
Consumption change in % up to		12,6023	15,764
Abs. agricultural land in ha	40.542.667		
- Land redesignation in % up to ¹⁾		-1,271	-1,271
Yield increase in % up to ²⁾		-14,51	-15,00
Balance of all changes in % up to.....		-3,1813	-0,5073
Balance of agricultural land			
- Basis available ha	40.542.667		
- Increase(+) reduction(-) due to redesignation in ha		-515.455	-515.455
- Increased(+) decreased(-) demand for food		5.109.326	6.391.195
- Release due to yield increase in ha (-)		-5.883.639	-6.081.400
- Release due to improved feed conversion in ha (-)		-23.595	-46.990
- Potential for biomass in ha per year.....	742.840	-1.313.363	-252.649
Accumulation of the above in ha		-570.522	-823.172
- the above as % of the basis available agricultural land	-1,83	1,41	2,03
- quantity equivalents of the above			
- Cereals ³⁾	-1.652.900	1.453.703	2.106.393
- Straw	-1.322.320	1.162.962	1.685.115

1) according to estimated trend

2) according to estimated trend from table REG or minimum yield extrapolation of 1% or 1,5% per year respectively, max. 3%, for land redesignation max. 1%

3) grain/straw ratio 1:0,8

F 29.12 : **Turkey:** Feeding grain reduction in pig and poultry production due to improvements in feed conversion

Production	Basis 2000	2010	2020
- Pork t	132		
- Feedgrain consumption t ¹⁾	496	-25 ³⁾	-50 ³⁾
Land equivalent ha cereals	223	-11	-22
- Poultry meat t	667.731		
- Feed grain consumption t ²⁾	1.201.915	-60.096 ³⁾	-120.192 ³⁾
Land equivalent ha cereals	540.160	-27.008	-54.016
Total land equivalent ha	540.383	-27.019	-54.038

¹⁾ 3,75 t cereal per 1 t pork

²⁾ 1,8 t cereal per 1 t poultry meat

³⁾ annual improvement of feed conversion 0,5 %

F 29.13 : **Turkey:** Estimation of potential area for bioenergy sources from grassland in the basis

Total grassland	ha	12.377.000
Grassland for milk production	ha	8.663.900
Overproduction milk	%	-1,02
Released grassland due to abandonment of overproduction	ha	-89.296
Grassland for beef production	ha	1.485.240
Overproduction beef	%	0,02
Released grassland due to abandonment of overproduction	ha	249
Total grassland released	ha	-89.048
the above as % of total grassland		-0,72
the above as % of potential area for bioenergy sources		11,99

F 29.14 : **Turkey:** Estimation of potential area for bioenergy sources from grassland 2010 and 2020

		2010	2020
Redesignation of agricultural land	ha	-515.455	-515.455
Share of grassland of agricultural land	%	30,53	30,53
Redesignation of grassland	ha	-157.360	-157.360
Change to grassland due to change in consumption			
- Rate of change in population	%	14,4312	11,1333
- Rate of change in milk and beef consumption	%	0,0000	7,0000
Total change	%	14,4312	18,1333
Grassland for milk and beef production	ha	10.149.140	10.149.140
Increased(+)/minimum demand(-) for consumption of milk and beef	ha	1.464.645	1.840.375
Release due to yield increase(-)	ha	-1.796.177	-1.856.550
Total change in grassland	ha	-488.892	-173.535
Accumulated grassland potential for bioenergy sources	ha	-488.892	-173.535
the above as % of total grassland		-3,95	-1,40
the above as % of potential area		-85,69	-21,08

Appendix G

Grassland made available for bioenergy sources

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**in grassland 50%, 2010 5%, 2020 10% redesignation of
agricultural land as nature conservation areas 503**

G 1 Land release for bioenergy sources from grassland and in total according to countries¹⁾; I 1: cereals, rapeseed, sunflower and beet need not be extended to the point of self-sufficiency

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.720.167	353.178	4.854.190	998.927	7.611.751	1.745.618
Great Britain	-1.686.468	-1.564.700	-2.548.402	-1.704.503	-1.413.021	-1.176.368
France	6.722.083	332.236	7.629.654	704.716	11.214.504	1.850.498
Italy	-1.036.971	-1.136.467	-664.610	-1.031.078	1.482.808	-465.587
Spain	3.336.434	18.032	10.829.700	1.764.751	20.048.120	3.879.522
Netherlands	490.093	311.124	599.776	343.867	868.963	424.691
Belgium/Lux	16.167	-8.330	329.441	110.958	691.534	231.060
Greece	340.991	-777.158	-237.179	-782.900	329.541	-674.569
Portugal	123.302	-311.703	1.323.717	116.567	2.771.611	587.219
Sweden	439.697	-23.192	397.137	-22.019	559.227	-4.483
Austria	386.316	168.773	447.845	268.641	855.521	484.123
Denmark	799.922	76.685	788.616	69.080	1.125.217	85.010
Finland	454.475	6.290	372.799	6.401	495.215	7.539
Ireland	1.575.332	1.543.352	1.830.374	1.666.733	2.336.386	2.022.054
EU 15²⁾	11.729.724	867.728	22.936.134	4.227.585	46.020.113	11.176.923
Cyprus	3.901	-129	-78.089	-742	-148.534	-1.333
Czech Republic	528.230	106.145	890.254	184.553	1.446.831	281.858
Estonia	72.359	12.104	238.250	43.697	399.760	67.034
Hungary	1.187.649	68.709	2.406.215	313.636	3.751.584	539.677
Latavia	289.691	15.897	882.180	193.791	1.474.264	332.127
Lithuania	703.491	281.743	1.614.814	550.245	2.621.052	826.796
Malta	-6.131	0	-9.569	0	-11.741	0
Poland	2.164.249	160.678	3.316.607	579.147	5.320.104	878.267
Slovakia	160.584	59.914	407.821	138.328	687.495	212.196
Slovenia	61.052	43.287	43.104	34.067	54.552	40.897
EU 25²⁾	15.119.556	747.682	30.683.567	5.009.717	59.923.636	13.159.127
Bulgaria	921.192	-14.418	1.407.326	224.099	2.223.419	476.137
Romania	701.546	-26.626	1.851.053	615.795	3.841.100	1.272.361
Turkey	-11.359	-89.048	1.302.004	-488.892	1.554.654	-173.535

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 2 Land release for bioenergy sources from grassland and in total according to countries¹⁾; I 2: as for 1; milk and beef need not be extended to the point of self-sufficiency

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.720.167	353.178	4.854.190	998.927	7.611.751	1.745.618
Great Britain	139.756	-1.564.700	-722.177	-1.704.503	413.203	-1.176.368
France	6.806.674	332.236	7.714.245	704.716	11.299.095	1.850.498
Italy	671.767	-1.136.467	1.044.128	-1.031.078	3.191.546	-465.587
Spain	3.571.965	18.032	11.065.231	1.764.751	20.283.651	3.879.522
Netherlands	490.093	311.124	599.776	343.867	868.963	424.691
Belgium/Lux	112.564	-8.330	425.838	110.958	787.931	231.060
Greece	471.313	-777.158	-106.856	-782.900	459.863	-674.569
Portugal	562.717	-311.703	1.763.132	116.567	3.211.026	587.219
Sweden	553.192	-23.192	510.631	-22.019	672.721	-4.483
Austria	386.316	168.773	447.845	268.641	855.521	484.123
Denmark	799.922	76.685	788.616	69.080	1.125.217	85.010
Finland	456.361	6.290	374.685	6.401	497.100	7.539
Ireland	1.575.332	1.543.352	1.830.374	1.666.733	2.336.386	2.022.054
EU 15²⁾	11.729.724	867.728	22.936.134	4.227.585	46.020.113	11.176.923
Cyprus	7.400	-129	-74.591	-742	-145.036	-1.333
Czech Republic	528.230	106.145	890.254	184.553	1.446.831	281.858
Estonia	76.695	12.104	242.587	43.697	404.097	67.034
Hungary	1.187.649	68.709	2.406.215	313.636	3.751.584	539.677
Latavia	401.536	15.897	994.026	193.791	1.586.110	332.127
Lithuania	703.491	281.743	1.614.814	550.245	2.621.052	826.796
Malta	249	0	-3.189	0	-5.361	0
Poland	2.164.249	160.678	3.316.607	579.147	5.320.104	878.267
Slovakia	163.589	59.914	410.826	138.328	690.500	212.196
Slovenia	61.052	43.287	43.104	34.067	54.552	40.897
EU 25²⁾	15.558.738	747.682	31.122.749	5.009.717	60.362.818	13.159.127
Bulgaria	978.729	-14.418	1.464.862	224.099	2.280.956	476.137
Romania	734.091	-26.626	1.883.598	615.795	3.873.645	1.272.361
Turkey	77.938	-89.048	1.391.301	-488.892	1.643.950	-173.535

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 3 Land release for bioenergy sources from grassland and in total according to countries¹⁾; I 3: as for I2; increased/decreased food production only applies to the share self-sufficiency in production

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.720.167	353.178	4.810.931	998.927	7.572.491	1.745.618
Great Britain	139.756	-1.564.700	-1.725.167	-1.704.503	-906.415	-1.176.368
France	6.806.674	332.236	7.906.406	704.716	11.522.811	1.850.498
Italy	671.767	-1.136.467	769.771	-1.031.078	2.950.785	-465.587
Spain	3.571.965	18.032	11.266.359	1.764.751	20.442.866	3.879.522
Netherlands	490.093	311.124	618.430	343.867	901.261	424.691
Belgium/Lux	112.564	-8.330	421.182	109.149	778.618	227.443
Greece	471.313	-777.158	-654.180	-782.900	-47.635	-674.569
Portugal	562.717	-311.703	1.456.361	116.567	2.833.538	587.219
Sweden	553.192	-23.192	511.199	-22.019	673.499	-4.483
Austria	386.316	168.773	448.255	268.641	856.004	484.123
Denmark	799.922	76.685	881.706	69.080	1.242.052	85.010
Finland	456.361	6.290	381.603	6.401	505.427	7.539
Ireland	1.575.332	1.543.352	1.981.083	1.666.733	2.548.873	2.022.054
EU 15²⁾	11.729.724	867.728	24.219.126	4.227.585	47.422.596	11.176.923
Cyprus	7.400	-129	-74.591	-742	-145.036	-1.333
Czech Republic	528.230	106.145	890.254	184.553	1.446.831	281.858
Estonia	76.695	12.104	242.587	43.697	404.097	67.034
Hungary	1.187.649	68.709	2.406.215	313.636	3.751.584	539.677
Latavia	401.536	15.897	994.026	193.791	1.586.110	332.127
Lithuania	703.491	281.743	1.614.814	550.245	2.621.052	826.796
Malta	249	0	-3.189	0	-5.361	0
Poland	2.164.249	160.678	3.316.607	579.147	5.320.104	878.267
Slovakia	163.589	59.914	410.826	138.328	690.500	212.196
Slovenia	61.052	43.287	43.104	34.067	54.552	40.897
EU 25²⁾	15.558.738	747.682	31.122.749	5.009.717	60.362.818	13.159.127
Bulgaria	978.729	-14.418	1.464.862	224.099	2.280.956	476.137
Romania	734.091	-26.626	1.883.598	615.795	3.873.645	1.272.361
Turkey	77.938	-89.048	1.391.301	-488.892	1.643.950	-173.535

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 4 Land release for bioenergy sources from grassland and in total according to countries¹⁾; II 1: potential release of fallow land reduced by 30%

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.150.805	353.178	4.284.828	998.927	7.042.389	1.745.618
Great Britain	-1.852.641	-1.564.700	-2.714.575	-1.704.503	-1.579.194	-1.176.368
France	6.333.756	332.236	7.241.328	704.716	10.826.178	1.850.498
Italy	-2.853.961	-1.136.467	-2.481.601	-1.031.078	-334.182	-465.587
Spain	-342.532	18.032	7.150.734	1.764.751	16.369.154	3.879.522
Netherlands	-316.680	311.124	-206.997	343.867	62.189	424.691
Belgium/Lux	-629.081	-8.330	-315.807	110.958	46.286	231.060
Greece	-167.520	-777.158	-745.689	-782.900	-178.970	-674.569
Portugal	-1.481.489	-311.703	-281.075	116.567	1.166.820	587.219
Sweden	309.629	-23.192	267.069	-22.019	429.159	-4.483
Austria	316.135	168.773	377.664	268.641	785.340	484.123
Denmark	680.755	76.685	669.449	69.080	1.006.050	85.010
Finland	327.301	6.290	245.626	6.401	368.041	7.539
Ireland	1.486.473	1.543.352	1.741.515	1.666.733	2.247.527	2.022.054
EU 15²⁾	8.305.273	867.728	19.511.682	4.227.585	42.595.662	11.176.923
Cyprus	-331.666	-129	-413.657	-742	-484.102	-1.333
Czech Republic	494.936	106.145	856.960	184.553	1.413.537	281.858
Estonia	-10.012	12.104	155.880	43.697	317.390	67.034
Hungary	1.095.457	68.709	2.314.022	313.636	3.659.392	539.677
Latavia	261.251	15.897	853.740	193.791	1.445.824	332.127
Lithuania	655.738	281.743	1.567.061	550.245	2.573.299	826.796
Malta	-46.665	0	-50.103	0	-52.275	0
Poland	1.331.628	160.678	2.483.985	579.147	4.487.482	878.267
Slovakia	129.703	59.914	376.939	138.328	656.613	212.196
Slovenia	-14.820	43.287	-32.768	34.067	-21.320	40.897
EU 25²⁾	11.271.064	747.682	26.835.074	5.009.717	56.075.143	13.159.127
Bulgaria	676.742	-14.418	1.162.875	224.099	1.978.969	476.137
Romania	119.644	-26.626	1.269.151	615.795	3.259.198	1.272.361
Turkey	-742.840	-89.048	570.522	-488.892	823.172	-173.535

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 5 Land release for bioenergy sources from grassland and in total according to countries¹⁾; II 2: as for II 1; yield increase only applies to agricultural land

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.150.805	353.178	3.493.643	241.157	5.460.020	230.080
Great Britain	-1.852.641	-1.564.700	-3.833.908	-2.503.205	-4.377.527	-3.173.125
France	6.333.756	332.236	6.002.246	-398.990	7.909.296	-747.701
Italy	-2.853.961	-1.136.467	-3.197.501	-1.467.907	-2.123.932	-1.557.661
Spain	-342.532	18.032	2.230.434	-375.588	6.528.554	-401.155
Netherlands	-316.680	311.124	-310.497	257.237	-196.561	208.115
Belgium/Lux	-629.081	-8.330	-452.827	-3.582	-227.755	1.980
Greece	-167.520	-777.158	-1.322.323	-961.800	-1.620.554	-1.121.819
Portugal	-1.481.489	-311.703	-926.675	-300.386	-124.380	-246.688
Sweden	309.629	-23.192	204.085	-81.858	298.675	-128.451
Austria	316.135	168.773	178.064	76.902	286.340	4.775
Denmark	680.755	76.685	631.449	50.686	911.050	39.025
Finland	327.301	6.290	242.692	3.841	360.708	1.139
Ireland	1.486.473	1.543.352	1.250.185	1.184.457	1.262.147	1.054.832
EU 15²⁾	8.305.273	867.728	8.780.235	-2.963.663	19.348.062	-4.401.522
Cyprus	-331.666	-129	-402.142	-501	-461.072	-850
Czech Republic	494.936	106.145	736.860	94.207	1.113.287	55.994
Estonia	-10.012	12.104	111.780	4.497	229.190	-11.366
Hungary	1.095.457	68.709	1.938.422	-4.258	2.908.192	-96.110
Latavia	261.251	15.897	683.278	31.377	1.104.900	7.300
Lithuania	655.738	281.743	1.400.061	258.120	2.239.299	242.546
Malta	-46.665	0	-50.203	0	-52.525	0
Poland	1.331.628	160.678	1.910.682	106.855	3.251.129	-140.252
Slovakia	129.703	59.914	277.239	57.527	407.363	10.195
Slovenia	-14.820	43.287	-79.276	-8.063	-118.779	-47.386
EU 25²⁾	11.271.064	747.682	14.284.488	-3.728.798	29.064.877	-5.647.135
Bulgaria	676.742	-14.418	960.975	46.185	1.474.219	31.353
Romania	119.644	-26.626	723.651	120.874	1.895.448	35.058
Turkey	-742.840	-89.048	-1.634.947	1.307.285	-3.661.898	1.683.015

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 6 Land release for bioenergy sources from grassland and in total according to countries¹⁾; II 3: as for II 2; 2010 5%, 2020 10% redesignation of agricultural land as nature conservation areas

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.150.805	353.178	2.814.065	241.157	3.421.284	230.080
Great Britain	-1.852.641	-1.564.700	-4.150.726	-2.503.205	-5.356.784	-3.173.125
France	6.333.756	332.236	4.977.814	-398.990	4.763.650	-747.701
Italy	-2.853.961	-1.136.467	-3.657.759	-1.467.907	-3.546.549	-1.557.661
Spain	-342.532	18.032	1.352.110	-375.588	3.893.584	-401.155
Netherlands	-316.680	311.124	-360.566	257.237	-351.317	208.115
Belgium/Lux	-629.081	-8.330	-501.354	-3.582	-373.336	1.980
Greece	-167.520	-777.158	-1.472.253	-961.800	-2.083.974	-1.121.819
Portugal	-1.481.489	-311.703	-1.056.025	-300.386	-512.430	-246.688
Sweden	309.629	-23.192	50.588	-81.858	-164.517	-128.451
Austria	316.135	168.773	101.266	76.902	48.963	4.775
Denmark	680.755	76.685	505.884	50.686	522.940	39.025
Finland	327.301	6.290	122.224	3.841	-11.649	1.139
Ireland	1.486.473	1.543.352	1.186.042	1.184.457	1.069.626	1.054.832
EU 15²⁾	8.305.273	867.728	4.486.880	-2.963.663	6.270.761	-4.401.522
Cyprus	-331.666	-129	-405.188	-501	-470.210	-850
Czech Republic	494.936	106.145	567.698	94.207	590.424	55.994
Estonia	-10.012	12.104	65.565	4.497	90.545	-11.366
Hungary	1.095.457	68.709	1.638.772	-4.258	2.009.242	-96.110
Latavia	261.251	15.897	566.829	31.377	755.553	7.300
Lithuania	655.738	281.743	1.209.546	258.120	1.667.754	242.546
Malta	-46.665	0	-50.679	0	-53.998	0
Poland	1.331.628	160.678	1.121.984	106.855	856.686	-140.252
Slovakia	129.703	59.914	197.801	57.527	161.827	10.195
Slovenia	-14.820	43.287	-89.016	-8.063	-148.222	-47.386
EU 25²⁾	11.271.064	747.682	8.299.432	-3.728.798	10.853.282	-5.647.135
Bulgaria	676.742	-14.418	771.262	46.185	887.832	31.353
Romania	119.644	-26.626	207.000	120.874	298.525	35.058
Turkey	-742.840	-89.048	-3.086.123	1.307.285	-8.027.786	1.683.015

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

G 7 Land release for bioenergy sources from grassland and in total according to countries¹⁾; increased/decreased food production only applies to the share self-sufficiency in production ²⁾; potential release of fallow land reduced by 30%; yield increase in grassland 50%, 2010 5%, 2020 10% redesignation of agricultural land as nature conservation areas

Country	Land release and share of grassland for bioenergy sources					
	Basis		2010		2020	
	total ha	thereof grassland ha	total ha	thereof grassland ha	total ha	thereof grassland ha
Germany	2.150.805	353.178	3.489.480	620.042	5.159.161	987.849
Great Britain	-1.852.641	-1.564.700	-4.595.956	-2.103.854	-5.188.396	-2.174.746
France	6.333.756	332.236	6.234.044	152.863	7.859.289	551.399
Italy	-2.853.961	-1.136.467	-3.483.572	-1.249.493	-2.529.965	-1.011.624
Spain	-342.532	18.032	3.062.570	694.582	7.510.622	1.739.183
Netherlands	-316.680	311.124	-273.563	300.552	-133.353	316.403
Belgium/Lux	-629.081	-8.330	-414.636	53.688	-178.076	116.520
Greece	-167.520	-777.158	-1.855.162	-872.350	-2.136.137	-898.194
Portugal	-1.481.489	-311.703	-1.089.644	-91.909	-278.940	170.266
Sweden	309.629	-23.192	157.823	-51.938	129.841	-66.467
Austria	316.135	168.773	235.945	172.771	407.809	244.449
Denmark	680.755	76.685	670.954	59.883	856.823	62.018
Finland	327.301	6.290	190.656	5.121	186.056	4.339
Ireland	1.486.473	1.543.352	1.609.961	1.425.595	1.861.984	1.538.443
EU 15³⁾	8.305.273	867.728	11.512.174	631.961	22.001.116	3.387.700
Cyprus	-331.666	-129	-403.786	-622	-465.883	-1.091
Czech Republic	494.936	106.145	697.452	139.380	964.787	168.926
Estonia	-10.012	12.104	108.272	24.097	199.067	27.834
Hungary	1.095.457	68.709	1.947.544	154.689	2.776.610	221.784
Latavia	261.251	15.897	706.261	112.584	1.092.640	169.714
Lithuania	655.738	281.743	1.450.866	404.182	2.245.652	534.671
Malta	-46.665	0	-50.441	0	-53.261	0
Poland	1.331.628	160.678	1.752.479	343.001	2.563.167	369.007
Slovakia	129.703	59.914	277.921	97.927	385.596	111.196
Slovenia	-14.820	43.287	-63.081	13.002	-89.358	-3.245
EU 25³⁾	11.271.064	747.682	15.661.217	640.459	29.362.210	3.755.996
Bulgaria	676.742	-14.418	955.075	135.142	1.403.417	253.745
Romania	119.644	-26.626	712.786	368.335	1.715.639	653.710
Turkey	-742.840	-89.048	-1.462.446	409.197	-4.018.479	754.740

1) Positive number indicates release of land for bioenergy sources, negative number indicates additional land requirement for food production

2) not for the New Member States and EU-25

3) doesn't correspond to the balance from countries in all columns, due to different data sources, and inexactness of data

Appendix H

Potentials for product groups (energy crops)

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H 1 Potential agricultural area in the CP Scenario

in 1000 ha	2000	2010	2020
1 Belgium	0	0	0
2 Denmark	316	494	924
3 Germany	977	2.650	5.231
4 Finland	182	224	397
5 France	3.037	5.704	8.818
6 Greece	0	0	0
7 United Kingdom	0	0	0
8 Ireland	0	60	218
9 Italy	0	0	0
10 Luxembourg	0	0	0
11 The Netherlands	0	0	0
12 Austria	85	105	314
13 Portugal	0	0	705
14 Sweden	185	259	479
15 Spain	301	4.770	12.698
EU-15	5.083	14.266	29.784
16 Estonia	0	91	244
17 Latvia	130	515	1.076
18 Lithuania	200	796	1.690
19 Malta	0	0	0
20 Poland	826	1.848	3.933
21 Slovakia	35	181	422
22 Slovenia	0	0	0
23 Czech Republic	201	528	1.097
24 Hungary	532	1.564	3.025
25 Cyprus	0	0	0
EU-25	7.007	19.788	41.269
26 Bulgaria	389	807	1.548
27 Romania	136	612	2.027
28 Turkey	0	427	775
EU-28	7.531	21.634	45.620

H 2 Potential agricultural area in the E+ Szenario

in 1000 ha	2000	2010	2020
1 Belgium	0	0	0
2 Denmark	183	173	375
3 Germany	546	813	1.966
4 Finland	97	53	86
5 France	1.822	1.767	3.445
6 Greece	0	0	0
7 United Kingdom	0	0	0
8 Ireland	0	52	153
9 Italy	0	0	0
10 Luxembourg	0	0	0
11 The Netherlands	0	0	0
12 Austria	45	18	77
13 Portugal	0	0	0
14 Sweden	94	45	61
15 Spain	0	671	2.720
EU-15	2.788	3.592	8.882
16 Estonia	0	24	81
17 Latvia	74	168	435
18 Lithuania	114	297	806
19 Malta	0	0	0
20 Poland	356	400	1.034
21 Slovakia	21	51	129
22 Slovenia	0	0	0
23 Czech Republic	118	158	375
24 Hungary	312	508	1.204
25 Cyprus	0	0	0
EU-25	3.782	5.198	12.948
26 Bulgaria	205	232	542
27 Romania	36	98	501
28 Turkey	0	0	0
EU-28	4.024	5.528	13.990

H 3 Potential agricultural area for energy crops in the CP Scenario in the year 2000

	"wet" biomass			"dry" biomass						
	greenmais	alfalfa	sugar beet	sunflower	rape	wheat	triticale	rye	barley	grain maize
	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	18	1	11	0	18	113	7	12	136	0
3 Germany	116	3	47	3	111	307	51	85	218	39
4 Finland	0	0	7	0	12	33	0	7	123	0
5 France	330	74	96	171	278	1.229	58	8	374	421
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	0	0	0	0	0	0	0	0	0	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	6	1	4	2	5	26	3	5	20	14
13 Portugal	0	0	0	0	0	0	0	0	0	0
14 Sweden	1	1	10	0	7	74	8	6	79	0
15 Spain	3	10	5	33	2	97	1	4	127	18
EU-15	474	89	180	208	432	1.879	127	125	1.077	491
16 Estonia	0	0	0	0	0	0	0	0	0	0
17 Latvia	0	0	4	0	2	54	3	17	49	0
18 Lithuania	3	1	5	0	11	72	10	24	75	1
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	21	16	35	0	46	278	80	216	115	19
21 Slovakia	3	2	1	2	3	12	0	1	7	4
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	19	8	5	3	28	83	3	4	44	4
24 Hungary	19	24	9	46	18	157	17	8	55	180
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	538	139	240	259	540	2.534	240	396	1.422	699
26 Bulgaria	8	13	1	82	0	173	1	3	43	67
27 Romania	1	7	1	17	1	39	0	0	10	59
28 Turkey	0	0	0	0	0	0	0	0	0	0
EU-28	547	159	242	358	541	2.745	242	399	1.474	825

H 4 Potential agricultural area for energy crops in the CP Scenario in the year 2010

	"wet" biomass			"dry" biomass						
	greenmais 1000 ha	alfalfa 1000 ha	sugar beet 1000 ha	sunflower 1000 ha	rape 1000 ha	wheat 1000 ha	triticale 1000 ha	rye 1000 ha	barley 1000 ha	grain maize 1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	27	1	12	0	46	188	11	38	170	0
3 Germany	316	7	97	22	335	896	138	316	399	122
4 Finland	0	0	8	0	29	44	0	13	130	0
5 France	636	142	121	237	381	1.879	111	15	979	1.202
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	4	0	3	0	1	14	0	0	39	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	8	1	4	5	3	28	3	8	25	22
13 Portugal	0	0	0	0	0	0	0	0	0	0
14 Sweden	1	2	11	0	19	113	11	35	67	0
15 Spain	54	161	62	342	2	886	21	55	2.755	433
EU-15	1.046	314	318	605	816	4.047	296	480	4.565	1.779
16 Estonia	0	3	0	0	9	22	1	8	47	0
17 Latvia	2	0	17	0	9	212	12	69	194	0
18 Lithuania	11	3	21	0	43	284	38	96	297	2
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	46	36	79	0	103	622	178	483	258	42
21 Slovakia	16	10	5	11	14	63	2	5	34	21
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	49	20	14	7	73	218	8	11	117	11
24 Hungary	55	71	26	136	53	460	51	22	161	528
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	1.224	457	480	759	1.120	5.928	587	1.175	5.672	2.384
26 Bulgaria	16	27	1	170	0	359	2	6	89	138
27 Romania	4	31	4	78	6	174	0	1	44	268
28 Turkey	0	0	12	16	0	273	0	4	106	16
EU-28	1.245	515	498	1.023	1.126	6.735	589	1.186	5.911	2.806

H 5 Potential agricultural area for energy crops in the CP Scenario in the year 2020

	"wet" biomass			"dry" biomass						
	greenmais 1000 ha	alfalfa 1000 ha	sugar beet 1000 ha	sunflower 1000 ha	rape 1000 ha	wheat 1000 ha	triticale 1000 ha	rye 1000 ha	barley 1000 ha	grain maize 1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	51	2	21	0	88	356	21	73	312	0
3 Germany	626	14	168	36	611	1.842	274	647	760	253
4 Finland	0	0	12	0	52	80	0	23	230	0
5 France	983	220	164	347	634	2.926	172	24	1.460	1.889
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	13	0	9	0	2	52	0	0	142	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	24	3	10	13	8	86	9	25	70	66
13 Portugal	136	0	5	19	0	116	28	100	19	283
14 Sweden	2	3	16	0	35	212	20	64	126	1
15 Spain	144	428	147	856	5	2.383	56	146	7.384	1.151
EU-15	2.388	982	721	820	1.983	9.113	598	1.170	7.413	4.596
16 Estonia	0	9	0	0	24	58	4	22	127	0
17 Latvia	3	0	36	0	19	443	25	144	405	0
18 Lithuania	22	7	45	0	90	603	81	205	631	5
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	99	76	167	0	220	1.325	379	1.028	549	89
21 Slovakia	36	23	12	25	33	147	4	13	79	50
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	102	41	29	14	151	453	17	23	243	24
24 Hungary	107	138	51	263	102	890	98	43	311	1.022
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	2.875	1.312	1.084	1.097	2.715	12.996	1.251	2.753	9.473	5.714
26 Bulgaria	30	51	2	325	0	689	4	11	170	265
27 Romania	14	103	14	259	20	578	1	4	145	888
28 Turkey	0	0	22	29	0	496	0	7	193	28
EU-28	2.350	1.276	1.109	1.902	2.206	16.936	1.006	2.291	9.891	6.652

H 6 Potential agricultural area for energy crops in the E+ Scenario in the year 2000

	"wet" biomass			"dry" biomass						
	greenmais 1000 ha	alfalfa 1000 ha	sugar beet 1000 ha	sunflower 1000 ha	rape 1000 ha	wheat 1000 ha	triticale 1000 ha	rye 1000 ha	barley 1000 ha	grain maize 1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	10	0	6	0	11	66	4	7	79	0
3 Germany	65	1	26	1	62	171	28	47	122	22
4 Finland	0	0	4	0	6	18	0	4	66	0
5 France	198	44	58	102	167	737	35	5	224	252
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	0	0	0	0	0	0	0	0	0	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	3	0	2	1	2	14	1	2	11	7
13 Portugal	0	0	0	0	0	0	0	0	0	0
14 Sweden	0	1	5	0	3	38	4	3	40	0
15 Spain	0	0	0	0	0	0	0	0	0	0
EU-15	277	47	101	105	252	1.043	72	67	542	281
16 Estonia	0	0	0	0	0	0	0	0	0	0
17 Latvia	0	0	2	0	1	31	2	10	28	0
18 Lithuania	2	0	3	0	6	41	5	14	42	0
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	9	7	15	0	20	120	34	93	50	8
21 Slovakia	2	1	1	1	2	7	0	1	4	3
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	11	4	3	2	16	49	2	2	26	3
24 Hungary	11	14	5	27	11	92	10	4	32	105
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	311	74	130	135	307	1.382	126	192	724	400
26 Bulgaria	4	7	0	43	0	91	1	1	23	35
27 Romania	0	2	0	5	0	10	0	0	3	16
28 Turkey	0	0	0	0	0	0	0	0	0	0
EU-28	315	83	131	183	308	1.484	127	193	749	451

H 7 Potential agricultural area for energy crops in the E+ Scenario in the year 2010

	"wet" biomass			"dry" biomass						
	greenmais	alfalfa	sugar beet	sunflower	rape	wheat	triticale	rye	barley	grain maize
	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	10	0	4	0	16	66	4	13	60	0
3 Germany	97	2	30	7	103	275	42	97	122	37
4 Finland	0	0	2	0	7	10	0	3	31	0
5 France	197	44	37	73	118	582	34	5	303	372
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	3	0	3	0	0	12	0	0	34	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	1	0	1	1	0	5	1	1	4	4
13 Portugal	0	0	0	0	0	0	0	0	0	0
14 Sweden	0	0	2	0	3	20	2	6	12	0
15 Spain	8	23	9	48	0	125	3	8	388	61
EU-15	316	70	87	129	248	1.094	86	133	953	475
16 Estonia	0	1	0	0	2	6	0	2	12	0
17 Latvia	1	0	6	0	3	69	4	23	63	0
18 Lithuania	4	1	8	0	16	106	14	36	111	1
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	10	8	17	0	22	135	39	104	56	9
21 Slovakia	4	3	1	3	4	18	1	2	10	6
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	15	6	4	2	22	65	3	3	35	3
24 Hungary	18	23	9	44	17	150	16	7	52	172
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	367	111	132	178	335	1.643	163	310	1.293	665
26 Bulgaria	5	8	0	49	0	103	1	2	25	40
27 Romania	1	5	1	12	1	28	0	0	7	43
28 Turkey	0	0	0	0	0	0	0	0	0	0
EU-28	373	124	133	240	336	1.774	164	312	1.325	748

H 8 Potential agricultural area for energy crops in the E+ Scenario in the year 2020

	"wet" biomass			"dry" biomass						
	greenmais	alfalfa	sugar beet	sunflower	rape	wheat	triticale	rye	barley	grain maize
	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha	1000 ha
1 Belgium	0	0	0	0	0	0	0	0	0	0
2 Denmark	21	1	9	0	36	144	9	29	126	0
3 Germany	235	5	63	14	230	692	103	243	286	95
4 Finland	0	0	3	0	11	17	0	5	50	0
5 France	384	86	64	136	248	1.143	67	9	570	738
6 Greece	0	0	0	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0	0	0	0
8 Ireland	9	0	6	0	2	36	0	0	100	0
9 Italy	0	0	0	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0	0	0	0
12 Austria	6	1	2	3	2	21	2	6	17	16
13 Portugal	0	0	0	0	0	0	0	0	0	0
14 Sweden	0	0	2	0	4	27	3	8	16	0
15 Spain	31	92	31	183	1	511	12	31	1.582	246
EU-15	712	293	215	244	591	2.718	178	349	2.211	1.371
16 Estonia	0	3	0	0	8	19	1	7	42	0
17 Latvia	1	0	14	0	8	179	10	58	164	0
18 Lithuania	11	3	22	0	43	288	39	98	301	2
19 Malta	0	0	0	0	0	0	0	0	0	0
20 Poland	26	20	44	0	58	348	100	270	144	23
21 Slovakia	11	7	4	8	10	45	1	4	24	15
22 Slovenia	0	0	0	0	0	0	0	0	0	0
23 Czech Republic	35	14	10	5	52	155	6	8	83	8
24 Hungary	42	55	20	105	41	354	39	17	124	407
25 Cyprus	0	0	0	0	0	0	0	0	0	0
EU-25	902	412	340	344	852	4.077	393	864	2.972	1.793
26 Bulgaria	11	18	1	114	0	241	1	4	59	93
27 Romania	4	25	4	64	5	143	0	1	36	219
28 Turkey	0	0	0	0	0	0	0	0	0	0
EU-28	721	391	340	583	677	5.194	309	703	3.033	2.040

H 9 Energy sources potential for „wet“ biomass in the CP scenario for the year 2000

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	0,0
2 Denmark	2,1	0,1	0,5	1,4	1,6
3 Germany	17,5	0,1	2,2	6,6	7,3
4 Finland	0,0	0,0	0,2	0,5	0,1
5 France	46,6	4,0	5,6	16,6	6,8
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,0	0,0	31,7
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	6,4
12 Austria	1,0	0,0	0,2	0,5	3,5
13 Portugal	0,0	0,0	0,0	0,0	0,0
14 Sweden	0,0	0,0	0,4	1,1	0,0
15 Spain	0,5	0,7	0,3	0,7	0,4
EU 15	46,8	4,9	9,2	27,5	57,8
16 Estonia	0,0	0,0	0,0	0,0	0,2
17 Latvia	0,0	0,0	0,1	0,3	0,3
18 Lithuania	0,2	0,1	0,1	0,4	5,8
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	3,0	0,5	1,1	3,2	3,3
21 Slovakia	0,2	0,1	0,0	0,1	1,2
22 Slovenia	0,0	0,0	0,0	0,0	0,9
23 Czech Republik	2,1	0,3	0,2	0,5	2,2
24 Hungary	1,5	0,6	0,2	0,7	1,4
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	45,7	6,6	11,0	32,7	73,2
26 Bulgaria	0,2	0,3	0,0	0,0	0,0
27 Romania	0,0	0,2	0,0	0,0	0,0
28 Turkey	0,0	0,0	0,0	0,0	0,0
EU 28	44,5	7,1	11,0	32,7	73,2

H 10 Energy sources potential for „wet“ biomass in the CP scenario for the year 2010

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	2,3
2 Denmark	3,8	0,1	0,6	1,7	1,4
3 Germany	58,2	0,4	5,1	15,2	20,5
4 Finland	0,0	0,0	0,2	0,6	0,1
5 France	104,3	7,7	8,0	23,9	14,5
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,1	0,4	34,3
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	7,1
12 Austria	1,5	0,0	0,2	0,6	5,5
13 Portugal	0,0	0,0	0,0	0,0	2,4
14 Sweden	0,0	0,0	0,4	1,2	0,0
15 Spain	10,3	12,0	3,2	9,6	36,3
EU 15	103,3	20,1	17,8	38,6	124,4
16 Estonia	0,0	0,0	0,0	0,0	0,9
17 Latvia	0,1	0,0	0,5	1,4	4,0
18 Lithuania	1,0	0,4	0,6	1,8	11,3
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	7,9	1,2	2,8	8,2	11,9
21 Slovakia	1,2	0,4	0,1	0,4	2,8
22 Slovenia	0,0	0,0	0,0	0,0	0,7
23 Czech Republik	6,4	0,9	0,6	1,7	3,8
24 Hungary	5,0	1,9	0,8	2,4	6,5
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	120,7	24,9	23,2	53,7	166,4
26 Bulgaria	0,6	0,6	0,0	0,1	4,6
27 Romania	0,2	0,9	0,1	0,2	12,7
28 Turkey	0,0	0,0	0,5	1,4	0,0
EU 28	117,7	26,4	23,7	53,2	183,6

H 11 Energy sources potential for „wet“ biomass in the CP scenario for the year 2020

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	4,8
2 Denmark	8,4	0,2	1,0	3,0	1,7
3 Germany	140,5	0,7	9,7	28,8	35,9
4 Finland	0,0	0,0	0,3	1,0	0,2
5 France	186,9	11,8	12,4	36,9	38,1
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,4	1,1	41,6
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	8,7
12 Austria	5,4	0,1	0,6	1,7	10,0
13 Portugal	0,0	0,0	0,3	0,8	12,1
14 Sweden	0,0	0,0	0,6	1,9	0,0
15 Spain	32,9	31,8	8,6	25,6	79,8
EU 15	235,6	44,7	33,8	87,4	232,8
16 Estonia	0,0	0,0	0,0	0,0	1,4
17 Latvia	0,4	0,0	1,2	3,5	6,8
18 Lithuania	2,6	0,9	1,5	4,4	17,0
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	19,5	2,6	6,8	20,3	18,1
21 Slovakia	3,4	0,9	0,4	1,1	4,4
22 Slovenia	0,0	0,0	0,0	0,0	0,8
23 Czech Republik	15,3	1,8	1,4	4,0	5,8
24 Hungary	11,3	3,7	1,8	5,4	11,1
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	328,7	54,5	46,8	140,5	298,2
26 Bulgaria	1,3	1,1	0,0	0,1	9,8
27 Romania	0,8	3,0	0,2	0,6	26,2
28 Turkey	0,0	0,0	1,0	3,1	0,0
EU 28	257,9	58,7	48,1	137,4	334,1

H 12 Energy sources potential for „wet“ biomass in the E+ scenario for the year 2000

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	0,0
2 Denmark	1,2	0,0	0,3	0,8	1,6
3 Germany	9,8	0,1	1,2	3,7	7,3
4 Finland	0,0	0,0	0,1	0,3	0,1
5 France	28,0	2,4	3,4	10,0	6,8
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,0	0,0	31,7
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	6,4
12 Austria	0,5	0,0	0,1	0,3	3,5
13 Portugal	0,0	0,0	0,0	0,0	0,0
14 Sweden	0,0	0,0	0,2	0,6	0,0
15 Spain	0,0	0,0	0,0	0,0	0,4
EU 15	27,3	2,5	5,2	15,6	57,8
16 Estonia	0,0	0,0	0,0	0,0	0,2
17 Latvia	0,0	0,0	0,1	0,2	0,3
18 Lithuania	0,1	0,1	0,1	0,2	5,8
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	1,3	0,2	0,5	1,4	3,3
21 Slovakia	0,1	0,0	0,0	0,0	1,2
22 Slovenia	0,0	0,0	0,0	0,0	0,9
23 Czech Republik	1,2	0,2	0,1	0,3	2,2
24 Hungary	0,9	0,4	0,1	0,4	1,4
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	26,4	3,4	6,1	18,1	73,2
26 Bulgaria	0,1	0,1	0,0	0,0	0,0
27 Romania	0,0	0,1	0,0	0,0	0,0
28 Turkey	0,0	0,0	0,0	0,0	0,0
EU 28	25,7	3,6	6,1	18,1	73,2

H 13 Energy sources potential for „wet“ biomass in the E+ scenario for the year 2010

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	1,1
2 Denmark	1,3	0,0	0,2	0,6	1,4
3 Germany	17,9	0,1	1,6	4,7	20,5
4 Finland	0,0	0,0	0,1	0,2	0,1
5 France	32,3	2,4	2,5	7,4	14,5
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,1	0,3	34,3
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	7,1
12 Austria	0,3	0,0	0,0	0,1	5,5
13 Portugal	0,0	0,0	0,0	0,0	2,4
14 Sweden	0,0	0,0	0,1	0,2	0,0
15 Spain	1,4	1,7	0,5	1,4	36,3
EU 15	31,2	4,2	5,0	10,6	123,3
16 Estonia	0,0	0,0	0,0	0,0	0,9
17 Latvia	0,0	0,0	0,2	0,5	4,0
18 Lithuania	0,4	0,2	0,2	0,7	11,3
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	1,7	0,3	0,6	1,8	11,9
21 Slovakia	0,3	0,1	0,0	0,1	2,8
22 Slovenia	0,0	0,0	0,0	0,0	0,7
23 Czech Republik	1,9	0,3	0,2	0,5	3,8
24 Hungary	1,6	0,6	0,3	0,8	6,5
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	36,2	5,6	6,4	14,7	165,2
26 Bulgaria	0,2	0,2	0,0	0,0	4,6
27 Romania	0,0	0,1	0,0	0,0	12,7
28 Turkey	0,0	0,0	0,0	0,0	0,0
EU 28	35,3	5,9	6,4	14,2	182,4

H 14 Energy sources potential for „wet“ biomass in the E+ scenario for the year 2020

	greenmaize	alfalfa	sugar beet		grassland
	biogas PJ/a	biogas PJ/a	biogas PJ/a	bioethanol PJ/a	biogas PJ/a
1 Belgium	0,0	0,0	0,0	0,0	2,4
2 Denmark	3,4	0,1	0,4	1,2	1,3
3 Germany	52,8	0,3	3,6	10,8	20,3
4 Finland	0,0	0,0	0,1	0,2	0,1
5 France	73,0	4,6	4,8	14,4	11,3
6 Greece	0,0	0,0	0,0	0,0	0,0
7 United Kingdom	0,0	0,0	0,0	0,0	0,0
8 Ireland	0,0	0,0	0,3	0,8	31,6
9 Italy	0,0	0,0	0,0	0,0	0,0
10 Luxembourg	0,0	0,0	0,0	0,0	0,0
11 The Netherlands	0,0	0,0	0,0	0,0	6,5
12 Austria	1,3	0,0	0,1	0,4	5,0
13 Portugal	0,0	0,0	0,0	0,0	3,5
14 Sweden	0,0	0,0	0,1	0,2	0,0
15 Spain	7,1	6,8	1,8	5,5	35,8
EU 15	70,3	11,8	11,3	26,1	117,9
16 Estonia	0,0	0,0	0,0	0,0	0,6
17 Latvia	0,1	0,0	0,5	1,4	3,5
18 Lithuania	1,2	0,4	0,7	2,1	11,0
19 Malta	0,0	0,0	0,0	0,0	0,0
20 Poland	5,1	0,7	1,8	5,3	7,6
21 Slovakia	1,0	0,3	0,1	0,3	2,3
22 Slovenia	0,0	0,0	0,0	0,0	0,0
23 Czech Republik	5,2	0,6	0,5	1,4	3,5
24 Hungary	4,5	1,5	0,7	2,1	4,6
25 Cyprus	0,0	0,0	0,0	0,0	0,0
EU 25	103,1	15,3	15,5	44,1	150,8
26 Bulgaria	0,4	0,4	0,0	0,0	5,2
27 Romania	0,2	0,8	0,1	0,1	13,4
28 Turkey	0,0	0,0	0,0	0,0	15,5
EU 28	79,1	16,4	15,6	42,1	185,0

H 15 Energy sources potential for „dry“ biomass in the CP scenario for the year 2000

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	2	22	1	2	20	0
3 Germany	0	13	58	9	13	37	13
4 Finland	0	1	3	0	0	11	0
5 France	26	28	229	9	1	68	145
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	0	0	0	0	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	0	0	3	0	1	3	5
13 Portugal	0	0	0	0	0	0	0
14 Sweden	0	1	12	1	1	9	0
15 Spain	2	0	5	0	0	10	7
EU 15	29	44	333	21	18	157	170
16 Estonia	0	0	0	0	0	0	0
17 Latvia	0	0	4	0	1	3	0
18 Lithuania	0	1	6	1	2	5	0
19 Malta	0	0	0	0	0	0	0
20 Poland	0	2	23	8	15	10	4
21 Slovakia	0	0	1	0	0	1	1
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	0	2	9	0	0	5	1
24 Hungary	5	1	15	2	0	5	39
25 Cyprus	0	0	0	0	0	0	0
EU 25	34	50	391	31	36	185	216
26 Bulgaria	5	0	13	0	0	3	8
27 Romania	1	0	2	0	0	1	7
28 Turkey	0	0	0	0	0	0	0
EU 28	39	50	406	31	36	189	231

H 16 Energy sources potential for „dry“ biomass in the CP scenario for the year 2010

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	5	39	2	8	24	0
3 Germany	1	41	195	29	69	74	51
4 Finland	0	1	5	0	1	11	0
5 France	16	42	385	19	3	189	480
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	3	0	0	7	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	0	0	4	1	1	3	10
13 Portugal	0	0	0	0	0	0	0
14 Sweden	0	2	20	2	7	7	0
15 Spain	6	0	56	2	4	243	194
EU 15							
	23	92	707	54	92	559	736
16 Estonia	0	0	1	0	1	3	0
17 Latvia	0	1	17	1	5	11	0
18 Lithuania	0	2	28	3	8	22	0
19 Malta	0	0	0	0	0	0	0
20 Poland	0	6	59	19	44	25	11
21 Slovakia	0	1	6	0	1	4	7
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	0	6	27	1	2	14	4
24 Hungary	6	3	49	5	2	16	134
25 Cyprus	0	0	0	0	0	0	0
EU 25	30	111	893	83	154	654	891
26 Bulgaria	4	0	30	0	0	8	19
27 Romania	2	0	12	0	0	3	34
28 Turkey	1	0	18	0	0	8	3
EU 28	37	111	952	83	154	673	948

H 17 Energy sources potential for „dry“ biomass in the CP scenario for the year 2020

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	11	79	4	16	42	0
3 Germany	5	83	458	69	163	150	131
4 Finland	0	3	10	0	2	18	0
5 France	53	79	658	35	5	290	876
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	13	0	0	23	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	2	1	12	2	4	8	36
13 Portugal	1	0	5	1	4	1	93
14 Sweden	0	4	41	4	15	13	0
15 Spain	33	0	172	5	10	713	621
EU 15							
	93	180	1.448	119	219	1.257	1.757
16 Estonia	0	1	4	0	2	8	0
17 Latvia	0	1	39	2	12	25	0
18 Lithuania	0	5	66	8	19	49	1
19 Malta	0	0	0	0	0	0	0
20 Poland	0	13	141	48	102	58	28
21 Slovakia	3	2	15	1	2	10	18
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	2	13	63	3	4	31	9
24 Hungary	29	7	106	12	4	34	301
25 Cyprus	0	0	0	0	0	0	0
EU 25	126	224	1.881	193	363	1.473	2.113
26 Bulgaria	21	0	64	0	1	17	43
27 Romania	14	1	43	0	0	12	131
28 Turkey	3	0	37	0	1	15	6
EU 28	165	224	2.024	194	365	1.517	2.293

H 18 Energy sources potential for „dry“ biomass in the E+ scenario for the year 2000

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	1	13	1	1	12	0
3 Germany	0	7	33	5	7	21	7
4 Finland	0	0	2	0	0	6	0
5 France	16	17	137	5	1	41	87
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	0	0	0	0	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	0	0	2	0	0	1	3
13 Portugal	0	0	0	0	0	0	0
14 Sweden	0	0	6	1	0	5	0
15 Spain	0	0	0	0	0	0	0
EU 15							97
	16	25	192	12	10	85	
16 Estonia	0	0	0	0	0	0	0
17 Latvia	0	0	2	0	1	1	0
18 Lithuania	0	0	4	0	1	3	0
19 Malta	0	0	0	0	0	0	0
20 Poland	0	1	10	3	6	4	2
21 Slovakia	0	0	1	0	0	0	1
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	0	1	5	0	0	3	1
24 Hungary	3	1	9	1	0	3	23
25 Cyprus	0	0	0	0	0	0	0
EU 25	19	29	223	17	18	99	123
	3	0	7	0	0	2	4
26 Bulgaria	0	0	1	0	0	0	2
27 Romania	0	0	0	0	0	0	0
28 Turkey	0	0	0	0	0	0	0
EU 28	22	29	230	17	18	101	129

H 19 Energy sources potential for „dry“ biomass in the E+ scenario for the year 2010

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	2	14	1	3	9	0
3 Germany	0	13	60	9	21	23	16
4 Finland	0	0	1	0	0	3	0
5 France	5	13	119	6	1	58	149
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	3	0	0	6	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	0	0	1	0	0	1	2
13 Portugal	0	0	0	0	0	0	0
14 Sweden	0	0	3	0	1	1	0
15 Spain	1	0	8	0	0	34	27
EU 15							
	6	28	209	16	27	134	194
16 Estonia	0	0	0	0	0	1	0
17 Latvia	0	0	5	0	2	4	0
18 Lithuania	0	1	10	1	3	8	0
19 Malta	0	0	0	0	0	0	0
20 Poland	0	1	13	4	9	5	2
21 Slovakia	0	0	2	0	0	1	2
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	0	2	8	0	0	4	1
24 Hungary	2	1	16	2	1	5	44
25 Cyprus	0	0	0	0	0	0	0
EU 25	8	34	263	24	42	163	243
26 Bulgaria	1	0	9	0	0	2	6
27 Romania	0	0	2	0	0	1	5
28 Turkey	0	0	0	0	0	0	0
EU 28	10	34	274	24	43	166	254

H 20 Energy sources potential for „dry“ biomass in the E+ scenario for the year 2020

	sunflower PJ/a	rapeseed PJ/a	wheat PJ/a	titicale PJ/a	rye PJ/a	barley PJ/a	grain maize PJ/a
1 Belgium	0	0	0	0	0	0	0
2 Denmark	0	4	32	1	7	17	0
3 Germany	2	31	172	26	61	56	49
4 Finland	0	1	2	0	0	4	0
5 France	21	31	257	14	2	113	342
6 Greece	0	0	0	0	0	0	0
7 United Kingdom	0	0	0	0	0	0	0
8 Ireland	0	0	9	0	0	16	0
9 Italy	0	0	0	0	0	0	0
10 Luxembourg	0	0	0	0	0	0	0
11 The Netherlands	0	0	0	0	0	0	0
12 Austria	0	0	3	0	1	2	9
13 Portugal	0	0	0	0	0	0	0
14 Sweden	0	1	5	0	2	2	0
15 Spain	7	0	37	1	2	153	133
EU 15	30	68	517	43	75	363	533
16 Estonia	0	0	1	0	1	3	0
17 Latvia	0	0	16	1	5	10	0
18 Lithuania	0	3	32	4	9	24	0
19 Malta	0	0	0	0	0	0	0
20 Poland	0	3	37	13	27	15	7
21 Slovakia	1	1	5	0	0	3	5
22 Slovenia	0	0	0	0	0	0	0
23 Czech Republik	1	5	21	1	1	11	3
24 Hungary	11	3	42	5	2	14	120
25 Cyprus	0	0	0	0	0	0	0
EU 25	43	83	671	66	120	442	669
26 Bulgaria	7	0	22	0	0	6	15
27 Romania	4	0	11	0	0	3	32
28 Turkey	0	0	0	0	0	0	0
EU 28	54	83	704	66	120	451	717

Appendix I

Potential from residues

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I 1 Woody residues 2000

	Total	Wood processing industry by-products and residues				Black liquor	Waste wood	Pruning				
		Total	sawmill industry	wood material industry	wood pulp industry			Gesamt	Vineyards	Citrus	Olive	
all data in PJ/a	Thermo-chem.	Thermo-chem.				Thermo-chem.	Thermo-chem.	Thermo-chem.				
Belgium	23.9	6.5	1.7	3.8	1.0	7.6	9.7	0.0	0.0	0.0	0.0	
Denmark	6.2	1.1	0.6	0.5	0.0	0.0	5.1	0.0	0.0	0.0	0.0	
Germany	135.5	42.6	19.5	20.0	3.1	12.5	78.0	2.4	2.4	0.0	0.0	
Finland	239.7	93.3	68.5	0.9	23.9	141.5	4.9	0.0	0.0	0.0	0.0	
France	147.6	25.6	13.3	7.2	5.1	45.1	56.1	20.8	20.7	0.0	0.0	
Greece	16.8	1.1	0.2	1.0	0.0	0.0	10.0	5.7	2.9	0.6	2.1	
United Kingdom	65.4	8.5	3.1	4.9	0.5	0.0	56.9	0.0	0.0	0.0	0.0	
Ireland	7.2	3.5	2.1	1.4	0.0	0.0	3.7	0.0	0.0	0.0	0.0	
Italy	92.2	10.8	3.1	7.1	0.6	0.7	54.9	25.8	20.8	1.8	3.2	
Luxembourg	2.3	1.9	1.7	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0	
The Netherlands	16.0	0.8	0.6	0.1	0.1	0.0	15.2	0.0	0.0	0.0	0.0	
Austria	52.4	20.7	15.3	3.0	2.3	22.9	7.7	1.1	1.1	0.0	0.0	
Portugal	49.4	10.2	1.9	2.0	6.3	22.4	9.8	7.0	5.7	0.3	1.1	
Sweden	283.5	132.7	106.3	1.4	25.1	142.4	8.4	0.0	0.0	0.0	0.0	
Spain	114.1	16.7	4.8	6.5	5.3	22.5	38.2	36.8	27.4	3.0	6.3	
EU 15	1252.2	376.1	242.8	60.0	73.2	417.5	359.0	99.7	81.2	5.8	12.7	
Estonia	5.4	3.4	2.7	0.6	0.1	0.6	1.4	0.0	0.0	0.0	0.0	
Latvia	20.7	18.4	18.2	0.2	0.0	0.0	2.3	0.0	0.0	0.0	0.0	
Lithuania	9.4	5.8	5.5	0.4	0.0	0.0	3.5	0.0	0.0	0.0	0.0	
Malta	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0	
Poland	66.7	14.1	5.3	6.8	2.0	16.0	36.6	0.0	0.0	0.0	0.0	
Slovakia	18.6	3.5	1.6	0.1	1.7	10.0	5.1	0.0	0.0	0.0	0.0	
Slovenia	6.0	1.6	0.6	0.7	0.3	2.5	1.9	0.0	0.0	0.0	0.0	
Czech Republik	29.4	10.9	8.4	1.1	1.4	8.5	9.7	0.3	0.3	0.0	0.0	
Hungary	12.9	1.2	0.4	0.8	0.0	0.0	9.6	2.2	2.2	0.0	0.0	
Cyprus	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0	
EU 25	1422.4	435.1	285.5	70.7	78.8	455.1	430.2	102.1	83.7	5.8	12.7	
Bulgaria	13.2	1.3	0.4	0.8	0.2	0.9	7.8	3.2	3.2	0.0	0.0	
Romania	36.5	5.4	4.5	0.4	0.5	4.0	21.3	5.8	5.8	0.0	0.0	
Turkey	75.5	11.3	7.3	3.4	0.6	3.9	60.3	0.0	0.0	0.0	0.0	
EU 28	1547.6	453.1	297.7	75.2	80.2	463.8	519.5	111.2	92.7	5.8	12.7	

I 2 Woody residues 2010

all data in PJ/a	Total	Wood processing industry by-poducts and residues				Black liquor	Waste wood	Pruning			
	Thermo-chem.	Total Thermo-chem.	sawmill industry	wood material industry	wood pulp industry	Thermo-chem.	Thermo-chem.	Gesamt Thermo-chem.	Vineyards	Citrus	Olive
Belgium	27.9	8.4	2.2	4.9	1.3	9.8	9.7	0.0	0.0	0.0	0.0
Denmark	6.0	1.0	0.5	0.5	0.0	0.0	5.1	0.0	0.0	0.0	0.0
Germany	142.6	48.1	22.0	22.6	3.5	14.1	78.0	2.4	2.4	0.0	0.0
Finland	244.3	95.2	69.9	1.0	24.3	144.2	4.9	0.0	0.0	0.0	0.0
France	156.6	28.9	15.0	8.1	5.7	50.8	56.1	20.8	20.7	0.0	0.0
Greece	19.5	3.8	0.5	3.2	0.0	0.0	10.0	5.7	2.9	0.6	2.1
United Kingdom	66.8	9.9	3.6	5.7	0.6	0.0	56.9	0.0	0.0	0.0	0.0
Ireland	7.4	3.7	2.3	1.5	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Italy	112.1	29.5	8.6	19.3	1.5	2.0	54.9	25.8	20.8	1.8	3.2
Luxembourg	2.3	1.9	1.7	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0
The Netherlands	15.9	0.7	0.5	0.0	0.1	0.0	15.2	0.0	0.0	0.0	0.0
Austria	72.3	30.1	22.3	4.4	3.4	33.3	7.7	1.1	1.1	0.0	0.0
Portugal	48.1	9.8	1.8	1.9	6.0	21.5	9.8	7.0	5.7	0.3	1.1
Sweden	309.2	145.1	116.2	1.5	27.4	155.6	8.4	0.0	0.0	0.0	0.0
Spain	110.9	15.3	4.4	6.0	4.8	20.6	38.2	36.8	27.4	3.0	6.3
EU 15	1,341.8	431.2	271.6	80.8	78.8	451.9	359.0	99.7	81.2	5.8	12.7
Estonia	5.7	3.7	2.9	0.7	0.1	0.6	1.4	0.0	0.0	0.0	0.0
Latvia	19.4	17.1	16.9	0.2	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Lithuania	11.5	8.0	7.5	0.5	0.0	0.0	3.5	0.0	0.0	0.0	0.0
Malta	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Poland	68.3	14.9	5.6	7.2	2.1	16.9	36.6	0.0	0.0	0.0	0.0
Slovakia	20.1	3.9	1.8	0.2	1.9	11.1	5.1	0.0	0.0	0.0	0.0
Slovenia	8.3	2.5	1.0	1.1	0.5	3.9	1.9	0.0	0.0	0.0	0.0
Czech Republik	33.4	13.1	10.1	1.3	1.7	10.2	9.7	0.3	0.3	0.0	0.0
Hungary	13.7	1.9	0.7	1.2	0.0	0.0	9.6	2.2	2.2	0.0	0.0
Cyprus	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
EU 25	1,523.2	496.3	318.0	93.1	85.2	494.6	430.2	102.1	83.7	5.8	12.7
Bulgaria	14.3	2.0	0.6	1.1	0.3	1.3	7.8	3.2	3.2	0.0	0.0
Romania	39.8	7.3	6.0	0.5	0.7	5.4	21.3	5.8	5.8	0.0	0.0
Turkey	88.0	20.6	13.3	6.1	1.2	7.1	60.3	0.0	0.0	0.0	0.0
EU 28	1,665.2	526.1	338.0	100.8	87.3	508.4	519.5	111.2	92.7	5.8	12.7

I 3 Woody residues 2020

	Total	Wood processing industry by-poducts and residues				Black liquor	Waste wood	Pruning			
	Thermo-chem.	Total Thermo-chem.	sawmill industry	wood material industry	wood pulp industry	Thermo-chem.	Thermo-chem.	Gesamt Thermo-chem.	Vineyards	Citrus	Olive
all data in PJ/a											
Belgium	29.1	8.9	2.4	5.2	1.4	10.4	9.7	0.0	0.0	0.0	0.0
Denmark	6.0	1.0	0.5	0.5	0.0	0.0	5.1	0.0	0.0	0.0	0.0
Germany	147.5	51.9	23.8	24.4	3.8	15.2	78.0	2.4	2.4	0.0	0.0
Finland	264.1	103.0	75.6	1.0	26.3	156.2	4.9	0.0	0.0	0.0	0.0
France	160.5	30.3	15.8	8.6	6.0	53.3	56.1	20.8	20.7	0.0	0.0
Greece	19.7	4.0	0.6	3.4	0.0	0.0	10.0	5.7	2.9	0.6	2.1
United Kingdom	68.7	11.8	4.3	6.8	0.7	0.0	56.9	0.0	0.0	0.0	0.0
Ireland	8.1	4.4	2.7	1.8	0.0	0.0	3.7	0.0	0.0	0.0	0.0
Italy	115.5	32.7	9.5	21.4	1.7	2.2	54.9	25.8	20.8	1.8	3.2
Luxembourg	2.3	1.9	1.7	0.2	0.0	0.0	0.4	0.0	0.0	0.0	0.0
The Netherlands	15.9	0.7	0.5	0.0	0.1	0.0	15.2	0.0	0.0	0.0	0.0
Austria	85.3	36.3	26.9	5.3	4.1	40.2	7.7	1.1	1.1	0.0	0.0
Portugal	50.5	10.6	2.0	2.1	6.5	23.1	9.8	7.0	5.7	0.3	1.1
Sweden	331.2	155.8	124.7	1.6	29.5	167.1	8.4	0.0	0.0	0.0	0.0
Spain	113.8	16.5	4.8	6.5	5.2	22.3	38.2	36.8	27.4	3.0	6.3
EU 15	1,418.4	469.8	295.7	88.8	85.3	489.9	359.0	99.7	81.2	5.8	12.7
Estonia	5.8	3.8	3.0	0.7	0.2	0.6	1.4	0.0	0.0	0.0	0.0
Latvia	21.5	19.2	19.0	0.2	0.0	0.0	2.3	0.0	0.0	0.0	0.0
Lithuania	12.8	9.3	8.7	0.6	0.0	0.0	3.5	0.0	0.0	0.0	0.0
Malta	0.4	0.0	0.0	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.0
Poland	71.1	16.2	6.1	7.8	2.3	18.3	36.6	0.0	0.0	0.0	0.0
Slovakia	23.2	4.7	2.2	0.2	2.3	13.4	5.1	0.0	0.0	0.0	0.0
Slovenia	9.5	3.0	1.1	1.3	0.6	4.6	1.9	0.0	0.0	0.0	0.0
Czech Republik	36.5	14.8	11.4	1.5	1.9	11.6	9.7	0.3	0.3	0.0	0.0
Hungary	13.9	2.2	0.8	1.4	0.0	0.0	9.6	2.2	2.2	0.0	0.0
Cyprus	0.8	0.0	0.0	0.0	0.0	0.0	0.8	0.0	0.0	0.0	0.0
EU 25	1,613.8	543.0	348.0	102.4	92.6	538.5	430.2	102.1	83.7	5.8	12.7
Bulgaria	14.5	2.1	0.6	1.2	0.3	1.4	7.8	3.2	3.2	0.0	0.0
Romania	42.2	8.7	7.2	0.6	0.9	6.5	21.3	5.8	5.8	0.0	0.0
Turkey	94.1	25.2	16.3	7.5	1.4	8.7	60.3	0.0	0.0	0.0	0.0
EU 28	1,764.7	579.0	372.2	111.6	95.2	555.0	519.5	111.2	92.7	5.8	12.7

I 4 Herbaceous residues 2000

all data in PJ/a	Total		Wheat		Barley		Rze		Oat		Maize		Rapseed		Sunflower		Green beans		Green peas	
	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.
Belgium	6.7	3.8	3.7	1.9	0.9	0.5	0.0	0.0	0.1	0.1	1.0	1.0	0.1	0.0	0.0	0.0	0.5	0.3	0.4	0.2
Denmark	24.4	12.1	10.5	5.3	10.0	5.1	1.3	0.7	0.8	0.4	0.0	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.4	0.2
Germany	129.3	64.6	48.4	24.5	32.3	16.3	17.8	9.0	4.1	2.1	7.0	6.8	18.3	5.5	0.8	0.2	0.3	0.1	0.3	0.1
Finland	10.4	5.1	1.0	0.5	4.4	2.2	0.3	0.1	4.3	2.2	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
France	187.5	101.3	85.1	43.0	26.2	13.2	0.6	0.3	2.2	1.1	33.4	32.6	16.9	5.1	19.6	4.2	0.6	0.3	2.9	1.4
Greece	11.0	7.4	4.7	2.4	0.8	0.4	0.1	0.1	0.3	0.1	4.2	4.1	0.0	0.0	0.4	0.1	0.4	0.2	0.0	0.0
United Kingdom	62.6	30.2	34.4	17.4	16.9	8.5	0.1	0.1	2.2	1.1	0.0	0.0	6.7	2.0	0.0	0.0	0.1	0.1	2.1	1.1
Ireland	5.3	2.6	1.7	0.8	3.1	1.5	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	49.8	33.7	17.3	8.8	3.3	1.6	0.0	0.0	1.2	0.6	21.2	20.8	0.2	0.1	4.9	1.1	1.1	0.6	0.5	0.2
Luxembourg	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
The Netherlands	4.4	2.4	2.4	1.2	0.8	0.4	0.1	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.3	0.1	0.4	0.2
Austria	12.4	7.7	3.2	1.6	2.6	1.3	0.8	0.4	0.5	0.2	3.7	3.7	0.7	0.2	0.7	0.1	0.0	0.0	0.1	0.0
Portugal	3.6	2.6	0.7	0.3	0.1	0.0	0.2	0.1	0.2	0.1	2.0	1.9	0.0	0.0	0.3	0.1	0.1	0.1	0.0	0.0
Sweden	14.7	7.3	5.0	2.5	4.5	2.3	0.6	0.3	3.8	1.9	0.0	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.2	0.1
Spain	60.8	32.0	13.6	6.9	22.8	11.5	0.7	0.4	2.6	1.3	9.0	8.8	0.2	0.1	9.9	2.1	1.5	0.8	0.3	0.2
EU 15	583.0	313.1	231.9	117.2	128.6	65.0	22.8	11.5	22.6	11.4	81.9	80.1	45.8	13.7	36.7	7.8	5.0	2.5	7.7	3.8
Estonia	1.7	0.8	0.3	0.1	0.7	0.3	0.2	0.1	0.3	0.2	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	2.4	1.2	1.0	0.5	0.7	0.3	0.4	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	6.5	3.2	2.5	1.3	2.2	1.1	1.1	0.5	0.3	0.2	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poland	60.5	30.6	21.0	10.6	8.6	4.3	19.0	9.6	4.7	2.4	2.2	2.2	5.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Slovakia	9.4	4.8	3.5	1.8	1.7	0.9	0.4	0.2	0.1	0.1	1.4	1.3	0.9	0.3	1.3	0.3	0.0	0.0	0.0	0.0
Slovenia	1.1	0.9	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republik	21.0	10.0	9.4	4.7	5.0	2.5	0.7	0.4	0.6	0.3	0.8	0.7	3.9	1.2	0.6	0.1	0.0	0.0	0.0	0.0
Hungary	36.8	22.5	9.4	4.7	2.9	1.5	0.4	0.2	0.5	0.2	13.5	13.2	0.9	0.3	7.8	1.7	0.2	0.1	1.2	0.6
Cyprus	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU 25	722.8	387.2	279.4	141.2	150.7	76.2	44.9	22.7	29.4	14.8	100.4	98.2	57.3	17.2	46.4	9.9	5.3	2.6	9.0	4.5
Bulgaria	19.2	9.2	8.0	4.1	2.1	1.1	0.1	0.1	0.3	0.1	2.5	2.5	0.1	0.0	6.0	1.3	0.1	0.0	0.0	0.0
Romania	46.0	28.2	12.2	6.2	2.8	1.4	0.1	0.0	1.2	0.6	17.7	17.3	0.4	0.1	11.3	2.4	0.3	0.1	0.1	0.1
Turkey	85.3	42.6	45.4	22.9	20.6	10.4	1.0	0.5	1.0	0.5	4.9	4.8	0.0	0.0	9.4	2.0	2.7	1.3	0.3	0.1
EU 28	873.3	467.2	345.0	174.3	176.2	89.0	46.1	23.3	31.8	16.1	125.4	122.7	57.7	17.3	73.2	15.7	8.3	4.1	9.5	4.7

Thermo-chemical or bio-chemical Usage (Potential is only once available!)

I 5 Herbaceous residues 2010

all data in PJ/a	Total		Wheat		Barley		Rze		Oat		Maize		Rapseed		Sunflower		Green beans		Green peas	
	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.
Belgium	6.5	3.7	3.6	1.8	0.9	0.4	0.0	0.0	0.1	0.1	0.9	0.9	0.1	0.0	0.0	0.0	0.5	0.3	0.4	0.2
Denmark	24.4	12.0	10.5	5.3	10.0	5.0	1.3	0.7	0.8	0.4	0.0	0.0	1.4	0.4	0.0	0.0	0.0	0.0	0.4	0.2
Germany	124.2	62.1	46.5	23.5	31.1	15.7	17.1	8.6	3.9	2.0	6.7	6.6	17.6	5.3	0.8	0.2	0.3	0.1	0.3	0.1
Finland	10.7	5.3	1.1	0.5	4.5	2.3	0.3	0.1	4.4	2.2	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
France	186.6	100.8	84.7	42.8	26.0	13.2	0.6	0.3	2.1	1.1	33.2	32.5	16.9	5.1	19.6	4.2	0.6	0.3	2.8	1.4
Greece	11.3	7.6	4.9	2.5	0.8	0.4	0.1	0.1	0.3	0.2	4.3	4.2	0.0	0.0	0.4	0.1	0.4	0.2	0.1	0.0
United Kingdom	65.4	31.6	35.9	18.2	17.7	8.9	0.2	0.1	2.3	1.1	0.0	0.0	7.0	2.1	0.0	0.0	0.1	0.1	2.2	1.1
Ireland	5.3	2.7	1.7	0.9	3.1	1.6	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	48.8	33.0	17.0	8.6	3.2	1.6	0.0	0.0	1.1	0.6	20.8	20.4	0.2	0.1	4.8	1.0	1.1	0.6	0.5	0.2
Luxembourg	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
The Netherlands	4.2	2.3	2.3	1.2	0.8	0.4	0.1	0.0	0.0	0.0	0.4	0.4	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.2
Austria	12.4	7.7	3.2	1.6	2.6	1.3	0.8	0.4	0.5	0.2	3.8	3.7	0.7	0.2	0.7	0.1	0.0	0.0	0.1	0.0
Portugal	3.6	2.7	0.7	0.3	0.1	0.0	0.2	0.1	0.2	0.1	2.0	2.0	0.0	0.0	0.3	0.1	0.1	0.1	0.0	0.0
Sweden	15.2	7.6	5.1	2.6	4.6	2.3	0.6	0.3	3.9	2.0	0.0	0.0	0.7	0.2	0.0	0.0	0.0	0.0	0.2	0.1
Spain	58.8	31.0	13.2	6.7	22.1	11.1	0.7	0.4	2.5	1.3	8.7	8.6	0.2	0.1	9.6	2.0	1.5	0.7	0.3	0.1
EU 15	577.8	310.2	230.5	116.5	127.5	64.4	22.1	11.2	22.7	11.5	80.9	79.1	45.3	13.6	36.1	7.7	4.9	2.4	7.8	3.9
Estonia	1.6	0.8	0.3	0.1	0.7	0.3	0.2	0.1	0.3	0.2	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	2.3	1.2	0.9	0.5	0.7	0.3	0.4	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	6.4	3.1	2.4	1.2	2.2	1.1	1.0	0.5	0.3	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poland	60.8	30.8	21.2	10.7	8.6	4.3	19.1	9.6	4.7	2.4	2.3	2.2	5.0	1.5	0.0	0.0	0.0	0.0	0.0	0.0
Slovakia	8.7	4.4	3.3	1.6	1.6	0.8	0.3	0.2	0.1	0.1	1.2	1.2	0.9	0.3	1.2	0.3	0.0	0.0	0.0	0.0
Slovenia	1.1	0.8	0.4	0.2	0.1	0.1	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republik	19.8	9.4	8.8	4.5	4.7	2.4	0.7	0.3	0.5	0.3	0.7	0.7	3.7	1.1	0.6	0.1	0.0	0.0	0.0	0.0
Hungary	35.7	21.8	9.1	4.6	2.8	1.4	0.4	0.2	0.5	0.2	13.1	12.9	0.9	0.3	7.6	1.6	0.2	0.1	1.1	0.6
Cyprus	0.3	0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU 25	714.6	382.8	276.9	139.9	149.0	75.3	44.2	22.3	29.4	14.8	98.8	96.7	56.5	16.9	45.6	9.7	5.2	2.6	9.0	4.5
Bulgaria	18.3	8.7	7.6	3.9	2.0	1.0	0.1	0.1	0.2	0.1	2.4	2.3	0.1	0.0	5.7	1.2	0.1	0.0	0.0	0.0
Romania	45.0	27.6	11.9	6.0	2.7	1.4	0.1	0.0	1.2	0.6	17.3	16.9	0.4	0.1	11.0	2.4	0.3	0.1	0.1	0.1
Turkey	89.8	44.9	47.8	24.2	21.7	10.9	1.0	0.5	1.1	0.5	5.1	5.0	0.0	0.0	9.9	2.1	2.8	1.4	0.3	0.2
EU 28	867.6	463.9	344.3	174.0	175.4	88.6	45.4	23.0	31.9	16.1	123.6	120.9	56.9	17.0	72.2	15.5	8.3	4.1	9.5	4.7

Thermo-chemical or bio-chemical Usage (Potential is only once available!)

I 6 Herbaceous residues 2020

all data in PJ/a	Total		Wheat		Barley		Rze		Oat		Maize		Rapseed		Sunflower		Green beans		Green peas	
	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.	Thermo-chem.	Bio-chem.
Belgium	6.1	3.5	3.4	1.7	0.8	0.4	0.0	0.0	0.1	0.1	0.9	0.9	0.1	0.0	0.0	0.0	0.5	0.2	0.3	0.2
Denmark	23.0	11.3	9.9	5.0	9.4	4.8	1.2	0.6	0.7	0.4	0.0	0.0	1.3	0.4	0.0	0.0	0.0	0.0	0.4	0.2
Germany	114.0	57.0	42.7	21.6	28.5	14.4	15.7	7.9	3.6	1.8	6.1	6.0	16.2	4.8	0.7	0.2	0.2	0.1	0.3	0.1
Finland	9.9	4.9	1.0	0.5	4.2	2.1	0.2	0.1	4.1	2.1	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
France	173.5	93.7	78.8	39.8	24.2	12.2	0.6	0.3	2.0	1.0	30.9	30.2	15.7	4.7	18.2	3.9	0.6	0.3	2.6	1.3
Greece	10.3	7.0	4.4	2.2	0.7	0.4	0.1	0.1	0.3	0.1	3.9	3.9	0.0	0.0	0.4	0.1	0.4	0.2	0.0	0.0
United Kingdom	62.3	30.1	34.2	17.3	16.8	8.5	0.1	0.1	2.2	1.1	0.0	0.0	6.7	2.0	0.0	0.0	0.1	0.1	2.1	1.1
Ireland	5.1	2.6	1.6	0.8	3.0	1.5	0.0	0.0	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Italy	44.5	30.1	15.5	7.8	2.9	1.5	0.0	0.0	1.0	0.5	19.0	18.6	0.2	0.1	4.4	0.9	1.0	0.5	0.4	0.2
Luxembourg	0.4	0.2	0.1	0.1	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
The Netherlands	4.0	2.2	2.2	1.1	0.8	0.4	0.1	0.0	0.0	0.0	0.3	0.3	0.0	0.0	0.0	0.0	0.2	0.1	0.4	0.2
Austria	11.5	7.2	3.0	1.5	2.5	1.2	0.8	0.4	0.4	0.2	3.5	3.4	0.7	0.2	0.6	0.1	0.0	0.0	0.1	0.0
Portugal	3.4	2.5	0.6	0.3	0.1	0.0	0.1	0.1	0.2	0.1	1.9	1.9	0.0	0.0	0.3	0.1	0.1	0.1	0.0	0.0
Sweden	14.5	7.2	4.9	2.5	4.4	2.2	0.6	0.3	3.7	1.9	0.0	0.0	0.6	0.2	0.0	0.0	0.0	0.0	0.2	0.1
Spain	53.4	28.2	12.0	6.0	20.1	10.1	0.7	0.3	2.3	1.2	8.0	7.8	0.2	0.1	8.7	1.9	1.3	0.7	0.3	0.1
EU 15	536.0	287.6	214.4	108.3	118.4	59.8	20.4	10.3	21.1	10.7	74.6	72.9	42.1	12.6	33.3	7.1	4.5	2.3	7.3	3.6
Estonia	1.5	0.7	0.3	0.1	0.6	0.3	0.2	0.1	0.3	0.1	0.0	0.0	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Latvia	2.1	1.1	0.9	0.4	0.6	0.3	0.4	0.2	0.3	0.1	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Lithuania	5.9	2.9	2.3	1.1	2.0	1.0	1.0	0.5	0.3	0.1	0.0	0.0	0.4	0.1	0.0	0.0	0.0	0.0	0.0	0.0
Malta	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Poland	57.8	29.2	20.1	10.2	8.2	4.1	18.1	9.2	4.5	2.3	2.1	2.1	4.8	1.4	0.0	0.0	0.0	0.0	0.0	0.0
Slovakia	8.3	4.2	3.1	1.6	1.5	0.8	0.3	0.2	0.1	0.1	1.2	1.2	0.8	0.2	1.2	0.3	0.0	0.0	0.0	0.0
Slovenia	1.1	0.8	0.3	0.2	0.1	0.0	0.0	0.0	0.0	0.0	0.6	0.6	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Czech Republik	18.7	8.9	8.4	4.2	4.5	2.2	0.6	0.3	0.5	0.2	0.7	0.7	3.5	1.1	0.6	0.1	0.0	0.0	0.0	0.0
Hungary	33.4	20.4	8.5	4.3	2.6	1.3	0.4	0.2	0.4	0.2	12.3	12.0	0.9	0.3	7.1	1.5	0.1	0.1	1.1	0.5
Cyprus	0.3	0.2	0.0	0.0	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
EU 25	665.3	356.1	258.2	130.5	138.7	70.1	41.3	20.9	27.5	13.9	91.4	89.4	52.7	15.8	42.2	9.0	4.8	2.4	8.5	4.2
Bulgaria	16.6	7.9	7.0	3.5	1.9	0.9	0.1	0.1	0.2	0.1	2.2	2.1	0.0	0.0	5.2	1.1	0.1	0.0	0.0	0.0
Romania	42.6	26.1	11.3	5.7	2.6	1.3	0.1	0.0	1.1	0.6	16.3	16.0	0.4	0.1	10.4	2.2	0.2	0.1	0.1	0.1
Turkey	97.5	48.7	51.9	26.2	23.5	11.9	1.1	0.6	1.2	0.6	5.6	5.5	0.0	0.0	10.8	2.3	3.1	1.5	0.3	0.2
EU 28	822.0	438.9	328.4	165.9	166.7	84.2	42.6	21.5	30.0	15.1	115.5	113.0	53.1	15.9	68.6	14.7	8.1	4.0	8.9	4.4

Thermo-chemical or bio.-chemical Usage (Potential is only once available!)

I 7 Other residues 2000

all data in PJ/a	Total		Ecrements and litter			Other agricultural harvest residues			Other agricultural residues		Abfälle aus Gewerbe und Industrie					Sewage sludge		Municipal waste		
	Thermo-chem.	Bio.-chem.	Bio-chem.	Ecrements	Litter	Bio-chem.	Sugar beet leaves	Potato leaves	Thermo-chem.	Bio.-chem.	Bio-chem.	Brewing residues	Residues from grape pressing	Residues from sugar production	Slaughterhouse bz/products	Waste water	Thermo-chem.	Bio.-chem.	Thermo-chem.	Bio.-chem.
Belgium	7.8	36.6	29.4	27.3	2.1	2.7	1.9	0.9	0.9	0.4	1.1	0.8	0.0	0.2	0.1	0.1	0.4	0.2	6.6	2.8
Denmark	10.0	37.7	31.1	28.9	2.2	1.5	1.0	0.5	4.0	1.9	0.5	0.1	0.0	0.1	0.2	0.1	0.5	0.3	5.5	2.3
Germany	104.0	184.8	123.0	114.2	8.8	11.9	8.2	3.8	19.3	9.0	4.5	2.2	0.3	0.8	0.6	0.6	5.3	2.5	79.4	33.9
Finland	9.6	12.6	7.8	7.2	0.6	0.5	0.3	0.2	1.5	0.7	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	7.9	3.4
France	102.9	197.7	137.4	127.5	9.9	11.5	9.5	2.0	22.8	10.7	3.8	0.4	1.4	1.0	0.6	0.5	3.3	1.5	76.9	32.8
Greece	13.4	12.8	5.5	5.1	0.4	1.1	0.8	0.3	1.0	0.5	0.4	0.1	0.1	0.1	0.1	0.0	0.2	0.1	12.2	5.2
United Kingdom	69.8	109.1	72.1	67.0	5.1	4.9	2.9	2.0	10.4	4.9	1.7	0.7	0.0	0.3	0.3	0.3	3.7	1.7	55.7	23.8
Ireland	7.2	40.9	36.4	33.8	2.6	0.6	0.5	0.2	0.9	0.4	0.7	0.4	0.0	0.0	0.1	0.1	0.1	0.1	6.2	2.7
Italy	83.9	98.6	55.1	51.1	4.0	4.5	3.9	0.6	3.9	1.9	2.8	0.5	1.3	0.4	0.4	0.2	3.7	1.7	76.3	32.6
Luxembourg	0.6	3.4	3.1	2.9	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2
The Netherlands	15.6	59.7	46.5	43.2	3.3	4.2	1.9	2.2	0.6	0.3	2.2	1.5	0.0	0.2	0.3	0.2	2.6	1.2	12.4	5.3
Austria	6.8	22.1	17.4	16.2	1.2	1.1	0.9	0.2	1.3	0.6	0.6	0.3	0.1	0.1	0.1	0.1	1.3	0.6	4.2	1.8
Portugal	13.6	19.5	12.8	11.8	0.9	0.5	0.1	0.4	0.2	0.1	0.4	0.1	0.2	0.0	0.1	0.0	0.0	0.0	13.4	5.7
Sweden	14.9	19.9	12.0	11.2	0.9	1.1	0.8	0.3	2.3	1.1	0.3	0.1	0.0	0.1	0.1	0.1	0.6	0.3	12.0	5.1
Spain	82.2	115.9	74.8	69.4	5.3	3.4	2.4	1.0	6.6	3.2	2.2	0.5	0.8	0.3	0.6	0.1	2.6	1.2	72.9	31.2
EU 15	542.4	971.3	664.4	616.8	47.6	49.6	35.1	14.5	75.6	35.5	21.4	7.7	4.0	3.6	3.5	2.5	24.6	11.5	442.1	188.9
Estonia	2.1	2.9	1.9	1.8	0.1	0.1	0.0	0.1	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.8
Latvia	1.3	3.7	2.7	2.5	0.2	0.4	0.2	0.2	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.4
Lithuania	4.5	9.2	6.4	5.9	0.5	0.8	0.3	0.5	1.0	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	1.5
Malta	0.6	0.5	0.3	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3
Poland	48.8	95.4	62.2	57.8	4.4	10.5	4.0	6.5	8.6	4.0	1.4	0.5	0.0	0.4	0.3	0.2	1.6	0.8	38.6	16.5
Slovakia	4.1	9.1	6.6	6.1	0.5	0.5	0.4	0.1	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	2.8	1.2
Slovenia	2.5	5.6	3.5	3.2	0.2	0.2	0.1	0.1	0.1	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0
Czech Republik	14.4	24.1	14.8	13.8	1.1	1.4	1.0	0.4	3.3	1.5	1.5	1.3	0.0	0.1	0.1	0.1	0.3	0.1	10.9	4.6
Hungary	15.7	22.8	14.6	13.5	1.1	1.1	0.8	0.3	2.4	1.2	0.3	0.0	0.1	0.1	0.1	0.0	0.3	0.1	12.9	5.5
Cyprus	1.5	1.8	1.1	1.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6
EU 25	637.8	1,146.3	778.5	722.8	55.8	64.5	41.8	22.7	92.8	43.6	25.8	10.3	4.2	4.3	4.1	2.8	27.1	12.6	517.9	221.3
Bulgaria	12.4	12.2	6.5	6.0	0.5	0.2	0.0	0.2	1.9	0.9	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	10.5	4.5
Romania	23.8	39.8	27.6	25.6	2.0	1.5	0.4	1.2	2.9	1.4	0.4	0.0	0.1	0.0	0.2	0.0	0.0	0.0	20.9	8.9
Turkey	90.7	109.4	62.3	57.9	4.4	7.0	5.3	1.7	11.9	5.7	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	78.8	33.7
EU 28	764.7	1,307.7	874.9	812.3	62.6	73.2	47.5	25.7	109.5	51.6	27.0	10.4	4.3	4.9	4.5	2.9	27.1	12.6	628.1	268.3

* average

Thermo-chemical or bio.-chemical Usage (Potential is only once available!)

I 8 Other residues 2010

all data in PJ/a	Total		Ecrements and litter			Other agricultural harvest residues			Other agricultural residues		Abfälle aus Gewerbe und Industrie					Sewage sludge		Municipal waste		
	Thermo-chem.	Bio.-chem.	Bio-chem.	Ecrements	Litter	Bio-chem.	Sugar beet leaves	Potato leaves	Thermo-chem.	Bio.-chem.	Bio-chem.	Brewing residues	Residues from grape pressing	Residues from sugar production	Slaughterhouse bz/products	Waste water	Thermo-chem.	Bio.-chem.	Thermo-chem.	Bio.-chem.
Belgium	7.9	38.1	29.7	27.6	2.1	3.8	2.0	1.8	0.9	0.4	1.1	0.8	0.0	0.2	0.1	0.1	0.4	0.2	6.6	2.8
Denmark	10.4	39.4	32.1	29.8	2.3	2.1	1.1	1.0	4.3	2.1	0.5	0.1	0.0	0.1	0.2	0.1	0.5	0.3	5.5	2.3
Germany	104.9	191.0	124.3	115.5	8.9	16.4	8.5	7.8	20.2	9.4	4.5	2.2	0.3	0.8	0.6	0.6	5.3	2.5	79.4	33.9
Finland	9.7	13.0	7.8	7.3	0.6	0.9	0.4	0.5	1.7	0.8	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	7.9	3.4
France	104.8	206.9	142.6	132.4	10.3	14.5	10.3	4.3	24.6	11.5	3.8	0.4	1.4	1.0	0.6	0.5	3.3	1.5	76.9	32.8
Greece	13.5	13.4	5.7	5.3	0.4	1.5	0.9	0.6	1.2	0.6	0.4	0.1	0.1	0.1	0.1	0.0	0.2	0.1	12.2	5.2
United Kingdom	71.2	117.2	76.5	71.0	5.4	7.9	3.3	4.6	11.8	5.5	1.7	0.7	0.0	0.3	0.3	0.3	3.7	1.7	55.7	23.8
Ireland	7.3	45.1	40.4	37.5	2.9	0.8	0.5	0.3	0.9	0.5	0.7	0.4	0.0	0.0	0.1	0.1	0.1	0.1	6.2	2.7
Italy	84.2	101.7	57.2	53.0	4.2	5.5	4.1	1.4	4.1	2.0	2.8	0.5	1.3	0.4	0.4	0.2	3.7	1.7	76.3	32.6
Luxembourg	0.6	3.4	3.1	2.9	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2
The Netherlands	15.7	63.2	47.4	44.0	3.4	6.7	2.0	4.7	0.6	0.3	2.2	1.5	0.0	0.2	0.3	0.2	2.6	1.2	12.4	5.3
Austria	6.9	22.8	17.7	16.5	1.3	1.5	1.0	0.5	1.4	0.7	0.6	0.3	0.1	0.1	0.1	0.1	1.3	0.6	4.2	1.8
Portugal	13.6	20.4	13.2	12.2	1.0	1.0	0.1	0.9	0.2	0.1	0.4	0.1	0.2	0.0	0.1	0.0	0.0	0.0	13.4	5.7
Sweden	15.2	21.1	12.6	11.7	0.9	1.6	0.9	0.7	2.6	1.2	0.3	0.1	0.0	0.1	0.1	0.1	0.6	0.3	12.0	5.1
Spain	82.5	119.4	76.9	71.4	5.5	4.6	2.6	2.0	7.0	3.3	2.2	0.5	0.8	0.3	0.6	0.1	2.6	1.2	72.9	31.2
EU 15	548.3	1,016.1	687.2	638.0	49.2	68.8	37.7	31.1	81.6	38.3	21.4	7.7	4.0	3.6	3.5	2.5	24.6	11.5	442.1	188.9
Estonia	2.1	3.0	1.9	1.7	0.1	0.2	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.8
Latvia	1.3	3.9	2.6	2.4	0.2	0.6	0.2	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.4
Lithuania	4.5	9.8	6.4	6.0	0.5	1.3	0.3	1.0	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	1.5
Malta	0.6	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3
Poland	49.6	103.5	62.0	57.6	4.4	18.5	4.4	14.1	9.4	4.4	1.4	0.5	0.0	0.4	0.3	0.2	1.6	0.8	38.6	16.5
Slovakia	4.1	9.2	6.6	6.1	0.5	0.6	0.4	0.2	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	2.8	1.2
Slovenia	2.5	5.7	3.6	3.3	0.3	0.2	0.1	0.1	0.1	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0
Czech Republik	14.5	24.7	14.9	13.9	1.1	1.9	1.0	0.8	3.4	1.5	1.5	1.3	0.0	0.1	0.1	0.1	0.3	0.1	10.9	4.6
Hungary	15.8	23.3	14.6	13.6	1.1	1.5	0.9	0.6	2.6	1.2	0.3	0.0	0.1	0.1	0.1	0.0	0.3	0.1	12.9	5.5
Cyprus	1.5	1.9	1.2	1.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6
EU 25	644.9	1,201.7	801.3	743.9	57.4	93.8	44.9	49.0	99.9	46.9	25.8	10.3	4.2	4.3	4.1	2.8	27.1	12.6	517.9	221.3
Bulgaria	12.4	12.1	6.3	5.8	0.4	0.3	0.0	0.3	1.9	0.9	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	10.5	4.5
Romania	24.0	40.6	27.0	25.1	1.9	2.9	0.4	2.5	3.1	1.5	0.4	0.0	0.1	0.0	0.2	0.0	0.0	0.0	20.9	8.9
Turkey	92.5	121.1	70.2	65.3	5.0	9.9	6.1	3.8	13.6	6.5	0.8	0.0	0.0	0.5	0.2	0.0	0.0	0.0	78.8	33.7
EU 28	773.8	1,375.5	904.8	840.1	64.7	106.9	51.4	55.5	118.6	55.9	27.0	10.4	4.3	4.9	4.5	2.9	27.1	12.6	628.1	268.3

* average

Thermo-chemical or bio.-chemical Usage (Potential is only once available!)

I 9 Other residues 2020

all data in PJ/a	Total		Ecrements and litter			Other agricultural harvest residues			Other agricultural residues		Abfälle aus Gewerbe und Industrie						Sewage sludge		Municipal waste	
	Thermo-chem.	Bio.-chem.	Bio-chem.	Ecrements	Litter	Bio-chem.	Sugar beet leaves	Potato leaves	Thermo-chem.	Bio.-chem.	Bio-chem.	Brewing residues	Residues from grape pressing	Residues from sugar production	Slaughterhouse bz/products	Waste water	Thermo-chem.	Bio.-chem.	Thermo-chem.	Bio.-chem.
Belgium	7.9	38.5	30.1	27.9	2.1	3.9	2.0	1.9	0.9	0.4	1.1	0.8	0.0	0.2	0.1	0.1	0.4	0.2	6.6	2.8
Denmark	10.5	39.8	32.3	30.0	2.3	2.2	1.1	1.0	4.5	2.1	0.5	0.1	0.0	0.1	0.2	0.1	0.5	0.3	5.5	2.3
Germany	104.8	190.7	124.1	115.3	8.9	16.3	8.5	7.8	20.1	9.3	4.5	2.2	0.3	0.8	0.6	0.6	5.3	2.5	79.4	33.9
Finland	9.8	13.1	7.9	7.3	0.6	0.9	0.4	0.5	1.7	0.8	0.1	0.0	0.0	0.0	0.0	0.1	0.1	0.1	7.9	3.4
France	105.1	208.4	143.8	133.5	10.4	14.7	10.4	4.3	24.9	11.7	3.8	0.4	1.4	1.0	0.6	0.5	3.3	1.5	76.9	32.8
Greece	13.5	13.4	5.7	5.3	0.4	1.5	0.9	0.6	1.2	0.6	0.4	0.1	0.1	0.1	0.1	0.0	0.2	0.1	12.2	5.2
United Kingdom	71.6	119.7	78.6	73.0	5.6	8.2	3.4	4.8	12.2	5.7	1.7	0.7	0.0	0.3	0.3	0.3	3.7	1.7	55.7	23.8
Ireland	7.3	46.8	42.0	39.0	3.0	0.9	0.5	0.4	1.0	0.5	0.7	0.4	0.0	0.0	0.1	0.1	0.1	0.1	6.2	2.7
Italy	84.2	101.4	56.9	52.7	4.1	5.4	4.1	1.4	4.1	2.0	2.8	0.5	1.3	0.4	0.4	0.2	3.7	1.7	76.3	32.6
Luxembourg	0.6	3.4	3.1	2.9	0.2	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.2
The Netherlands	15.7	64.2	48.2	44.8	3.4	7.0	2.1	4.9	0.6	0.3	2.2	1.5	0.0	0.2	0.3	0.2	2.6	1.2	12.4	5.3
Austria	6.9	22.9	17.9	16.6	1.3	1.5	1.0	0.5	1.4	0.7	0.6	0.3	0.1	0.1	0.1	0.1	1.3	0.6	4.2	1.8
Portugal	13.6	20.6	13.4	12.4	1.0	1.0	0.1	0.9	0.2	0.1	0.4	0.1	0.2	0.0	0.1	0.0	0.0	0.0	13.4	5.7
Sweden	15.3	21.5	12.9	12.0	0.9	1.7	0.9	0.7	2.6	1.3	0.3	0.1	0.0	0.1	0.1	0.1	0.6	0.3	12.0	5.1
Spain	82.4	118.9	76.5	71.0	5.5	4.5	2.5	2.0	6.9	3.3	2.2	0.5	0.8	0.3	0.6	0.1	2.6	1.2	72.9	31.2
EU 15	549.2	1,023.4	693.2	643.6	49.6	69.6	38.0	31.6	82.4	38.7	21.4	7.7	4.0	3.6	3.5	2.5	24.6	11.5	442.1	188.9
Estonia	2.1	3.0	1.9	1.7	0.1	0.2	0.0	0.2	0.3	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.8	0.8
Latvia	1.3	3.9	2.7	2.5	0.2	0.6	0.2	0.5	0.4	0.2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.9	0.4
Lithuania	4.5	9.9	6.5	6.0	0.5	1.3	0.3	1.0	1.1	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	3.4	1.5
Malta	0.6	0.6	0.3	0.3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.3
Poland	49.9	105.7	63.4	58.9	4.5	19.1	4.5	14.6	9.7	4.6	1.4	0.5	0.0	0.4	0.3	0.2	1.6	0.8	38.6	16.5
Slovakia	4.1	9.4	6.8	6.3	0.5	0.7	0.4	0.3	1.2	0.5	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.1	2.8	1.2
Slovenia	2.5	5.8	3.6	3.3	0.3	0.2	0.1	0.1	0.1	0.0	0.8	0.8	0.0	0.0	0.0	0.0	0.0	0.0	2.4	1.0
Czech Republik	14.6	25.1	15.3	14.2	1.1	1.9	1.1	0.9	3.4	1.6	1.5	1.3	0.0	0.1	0.1	0.1	0.3	0.1	10.9	4.6
Hungary	15.8	23.4	14.7	13.7	1.1	1.5	0.9	0.6	2.6	1.2	0.3	0.0	0.1	0.1	0.1	0.0	0.3	0.1	12.9	5.5
Cyprus	1.5	2.0	1.2	1.1	0.1	0.1	0.0	0.1	0.1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	1.5	0.6
EU 25	646.2	1,212.1	809.5	751.6	57.9	95.4	45.4	50.0	101.2	47.6	25.8	10.3	4.2	4.3	4.1	2.8	27.1	12.6	517.9	221.3
Bulgaria	12.4	12.1	6.2	5.8	0.4	0.3	0.0	0.3	1.9	0.9	0.1	0.0	0.0	0.0	0.1	0.0	0.0	0.0	10.5	4.5
Romania	24.1	41.2	27.4	25.4	1.9	2.9	0.4	2.5	3.2	1.5	0.4	0.0	0.1	0.0	0.2		0.0	0.0	20.9	8.9
Turkey	94.9	135.6	81.7	75.9	5.8	11.7	7.2	4.5	16.1	7.7	0.8	0.0	0.0	0.5	0.2		0.0	0.0	78.8	33.7
EU 28	777.6	1,400.9	924.9	858.8	66.1	110.3	53.1	57.3	122.4	57.7	27.0	10.4	4.3	4.9	4.5	2.9	27.1	12.6	628.1	268.3

* average

Thermo-chemical or bio.-chemical Usage (Potential is only once available!)