ISSN 1977-2262

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Agriculture and fishery statistics

Main results — 2009–10

2011 edition

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Luxembourg: Publications Office of the European Union, 2011

ISBN 978-92-79-20424-1
ISSN 1977-2262
doi:10.2785/15223
Cat. No KS-FK-11-001-EN-C

Theme: Agriculture and fisheries
Collection: Pocketbooks

Printed in Belgium

Printed on elemental chlorine-free bleached paper (ECF)

Acknowledgement

This publication has been produced by units E1 – Farms, agro-environment and rural development – E2 – Agricultural and fisheries statistics and E4 – Regional statistics and geographical information.

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Introduction

The pocketbook *Agriculture and fishery statistics* presents selected tables and graphs providing an overview on developments and the situation in the agricultural sector of the European Union. The most recent data are presented here (reference years 2009 and 2010, mostly) showing the situation in the 27 Member States and at the European level (EU-27 aggregates) as well as in Norway, Iceland, Liechtenstein and Switzerland when available.

This pocketbook, intended for both generalists and specialists, is divided into seven parts.

Chapter 1 presents the evolution of milk production in the European Union;

Chapter 2 covers the economy of the agricultural industry and presents data on output and input values, income indicators and main price trends;

Chapter 3 presents the most recent data on agricultural production i.e. meat and milk production, cereals, main crops, fruit and vegetable production and also some data on vineyards and olive trees;

Chapter 4 provides some important indicators related to the interaction between agriculture and the environment;

Chapter 5 gives an overview of the results of the Land Cover / Land Use 2009 Survey (LUCAS);

Chapter 6 presents data on the EU regional population according to the new urban-rural typology.

Finally, chapter 7 gives an overview on fishery catches, landings of fishery products, aquaculture production and fishing fleets.

More detailed data as well as methodological information can be found on the Eurostat website at:

http://epp.eurostat.ec.europa.eu/portal/page/portal/eurostat/home

This website offers free access to the Eurostat's dissemination database, predefined tables, methodological documents and other publications of Eurostat.

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Units, abbreviations and symbols

Units

kg ..... kilogram
KgOE ..... Kilograms of oil equivalent
KTOE ..... Thousand tonnes of oil equivalent
t ..... tonne
EUR ..... Euro

Abbreviations

AEI ..... Agri-environmental indicators
AWU ..... Annual work unit
EAA ..... Economic accounts for agriculture
ESA ..... European System of Accounts
FADN ..... Farm Accountancy Data Network
FAO .... Food and Agriculture Organization of the United Nations
FSS ..... Farm Structure Survey
GHG ..... Greenhouse Gas emissions
GIP ..... Gross indigenous production
GNB ..... Gross Nitrogen Balance
GVA ..... Gross value added
GWP ..... Global Warming Potential
Ha ..... Hectare
LD ..... Livestock density
LUCAS ..... Land Use/Cover Area frame Survey
LSU ..... Livestock unit
LFS ..... Labour Force Survey
NUTS ..... Nomenclature of territorial units for statistics
OECD ..... Organisation for Economic Co-operation and Development
OGA ..... Other gainful activity
SEI ..... Shannon Evenness Index
SGM ..... Standard Gross Margin
UAA ..... Utilised agricultural area

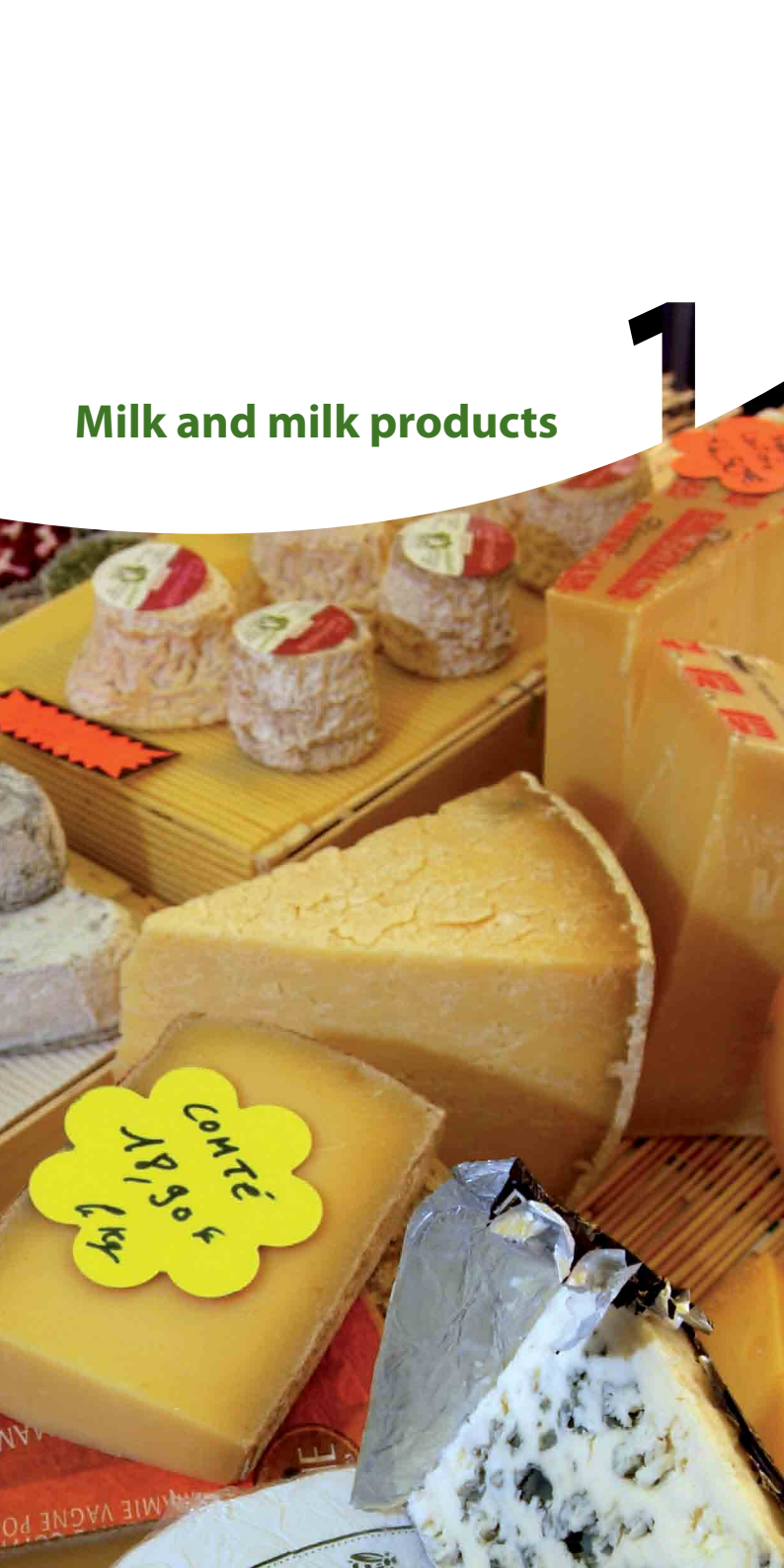
EU ..... European Union
EU-27 ..... European Union of 27 Member States
EU-23 ... European Union of 23 Member States (LUCAS Survey)
EU-15 ..... European Union of 15 Member States
BE ..... Belgium
BG ..... Bulgaria
CZ ..... Czech Republic
DK ..... Denmark
DE ..... Germany
EE ..... Estonia
IE ..... Ireland
EL ..... Greece
ES ..... Spain
FR ..... France
IT ..... Italy
CY ..... Cyprus
LV ..... Latvia
LT ..... Lithuania
LU ..... Luxembourg
HU ..... Hungary
MT ..... Malta
NL ..... Netherlands
AT ..... Austria
PL ..... Poland
RO ..... Romania
PT ..... Portugal
SI ..... Slovenia
SK ..... Slovak Republic
FI ..... Finland
SE ..... Sweden
UK ..... United Kingdom
IS ..... Iceland
LI ..... Liechtenstein
NO ..... Norway
CH ..... Switzerland

Symbols

– ..... Not applicable
0.0 ..... Less than half the unit used
: ..... Not available
( ) ..... Small sample size may affect the reliability of the data
Italic figures ..... Estimated values
c ..... Confidential

1

Milk and milk products



Introduction

This chapter presents information on milk production in the European Union (EU). The EU was composed of 15 Member States (EU-15) from 1995 to 2004, 25 Member States (EU-25) from 2004 to 2006, and 27 Member States (EU-27) from 2007 onwards.

Milk collection in the EU-27 rose in 2010, fuelled by favourable weather conditions, dynamic demand and attractive milk prices. The increased milk production was converted into yoghurts, cheese and other value-added dairy products which increased production in line with demand; the production levels of dairy commodities (butter and skimmed milk powder) were lower. The average milk price paid to producers in 2010 was well above that paid in 2009. The EU dairy market was therefore in much better health in 2010 than during the previous year. As a result of high global demand, EU milk prices reached a historically high level in late 2007, followed by a collapse in demand which was partly due to the global economic and financial crisis, which led in turn to historically low EU milk prices in 2009 and caused a crisis in the dairy sector.

Table 1.1: Dairy farm structure, 2007 ([1])

	All farms with dairy cows		Specialist dairying (41)				Large herds ([1])	
	Holdings	Dairy cows	Holdings	Dairy cows	Holdings	Dairy cows	Holdings	Dairy cows
	1 000	head/ farm	1 000	head/ farm	%	%	%	%
EU-27	2 486.7	9.8	656.6	24.5	26.4	66.1	1.3	1.3
BE	13.3	39.3	6.6	49.9	49.3	62.7	3.2	3.2
BG	120.8	2.9	42.6	4.5	35.2	54.3	0.1	0.1
CZ	5.6	74.1	1.8	41.2	31.5	17.5	18.5	18.5
DK	5.4	101.4	4.5	113.3	82.9	92.7	46.5	46.5
DE	101.1	40.3	74.3	41.4	73.5	75.4	5.1	5.1
EE	6.1	17.7	2.3	35.1	38.3	75.8	3.8	3.8
IE	21.3	49.6	19.3	52.1	90.5	95.1	6.3	6.3
GR	8.0	19.6	2.6	42.9	32.7	71.5	2.9	2.9
ES	37.3	26.1	26.6	32.3	71.4	88.1	3.9	3.9
FR	93.1	41.0	55.0	42.7	59.1	61.6	2.4	2.4
IT	62.8	30.1	26.1	43.5	41.5	59.9	7.0	7.0
CY	0.2	94.4	0.2	106.7	83.3	94.2	33.3	33.3
LV	43.7	4.2	22.1	5.5	50.5	66.1	0.3	0.3
LT	123.2	3.2	32.3	4.7	26.2	38.0	0.2	0.2
LU	1.1	36.7	0.6	44.9	58.7	71.7	1.8	1.8
HU	12.2	21.8	5.9	21.1	48.6	47.0	3.5	3.5
MT	0.2	42.5	0.1	67.1	52.6	83.0	10.5	10.5
NL	24.5	59.9	18.9	71.1	77.1	91.5	13.3	13.3
AT	49.5	10.5	31.7	13.4	64.2	81.3	0.1	0.1
PL	651.1	4.3	105.3	10.4	16.2	39.5	0.1	0.1
PT	13.5	20.2	9.6	26.9	71.0	94.8	2.4	2.4
RO	1 012.4	1.6	117.6	2.5	11.6	18.8	0.0	0.0
SI	19.2	6.5	7.4	10.9	38.5	64.7	0.1	0.1
SK	11.5	15.4	6.7	8.6	58.4	32.9	4.4	4.4
FI	14.4	20.6	12.3	22.3	85.1	92.1	0.4	0.4
SE	7.1	52.1	6.5	52.3	91.4	91.9	10.4	10.4
UK	28.1	69.4	17.8	99.4	63.4	90.8	27.3	27.3

([1]) Farms with at least 100 dairy cows.
Source: Eurostat (online data codes: ef_ov_lsft, ef_ov_kvage and ef_ls_gzdcow)

Two thirds of EU dairy cows are kept on specialist dairying farms, which derive at least two thirds of their added value (gross margin) from dairy activity. National diversity is important when it comes to the share of specialist dairying, but also in terms of the difference in size between specialised and other herds. In eight Member States, more than 90% of the dairy herd is in specialised dairy farms, dependent on the milk market conditions. In Czech Republic, Hungary and Slovakia, the specialised farms have smaller herds than the others on average and they therefore account for only a limited share of the dairy production. Here the large farms are not specialised, even

though they manage large herds. In rural countries such as Poland and Romania the dairy herd is spread across many small diversified farms. Large herds are also rare in other rural areas, such as in Austria, Slovenia and Finland.

Table 1.2: Cows' milk yield, national and regional, 2009

Country	Cows' milk production (On farms)	Number of dairy cows (December)	Apparent yield	Main milk producing region	Cows' milk production (On farms)	Number of dairy cows (December)	Apparent yield
	1 000 tonnes	1 000 heads	kg/head		1 000 tonnes	1 000 heads	kg/head
EU-27	*147 620*	*23 620*	*6 250*				
BE	2 996	518	5 787	BE25	712	89	7 963
BG	1 073	297	3 615	BG42	288 (2)	96 (2)	2 988 (2)
CZ	2 781	384	7 245	CZ06	635	86	7 405
DK	4 814	574	8 386	DK03	1 932	237	8 152
DE	29 199	4 169	7 003	DE2	7 561 (1)	1 267 (1)	5 967 (1)
EE	671	97	6 934	-			
IE	4 967	: c	: c	IE02	3 876	864	4 487
GR	753	145	5 192	GR12	378 (2)	68 (2)	5 583 (2)
ES	6 251	828	7 547	ES11	2 373	348	6 817
FR	23 341	3 673	6 355	FR52	4 813	701	6 866
IT	11 364	1 878	6 050	ITC4	4 227	589	7 183
CY	152	23	6 556	-			
LV	828	166	5 004	-			
LT	1 787	375	4 770	-			
LU	284	46	6 185	-			
HU	1 758	248	7 090	HU32	420	62	6 772
MT	: c	7	: c	-			
NL	11 791	1 562	7 549	NL12	2 060	278	7 412
AT	3 230	533	6 060	AT31	1 000	167	5 978
PL	12 447	2 585	4 816	PL12	2 527	521	4 851
PT	1 999	289	6 909	PT11	785	102	7 737
RO	4 654	1 419	3 280	RO21	1 095	343	3 193
SI	626	113	5 531	SI01	415	76	5 463
SK	957	163	5 891	SK02	498	72	6 965
FI	2 332	286	8 160	FI19	677	86	7 890
SE	2 933	354	8 280	SE21	844	101	8 390
UK	13 596	1 864	7 294	UKK	3 161	438	7 217

(1) 2008 data.
(2) 2007 data.
The selected regions are the NUTS2 regions (NUTS1 for Germany and United Kingdom) with the highest cows' milk production (milk collected and milk used on the farm) in the country. The apparent yield is the production for a calendar year divided by the number of dairy cows for the December livestock survey. The main 19 NUTS2 regions account for 29 % of the corresponding national production.
Source: Eurostat (online data codes: apro_mk_farm and apro_mt_lscatl)

In addition to the information provided at farm level, macro economic information provides information on the general results of the production sector. The production of cows' milk reflects how important the milk sector is and the apparent yield shows how efficient it is. A look at the main dairy regions illustrates the diversity in the development of the European milk farming sector.

Four Member States (Spain, France, Poland and United Kingdom) produce 53 % of the cows' milk in the EU. The average yield is over 8 000 kg per year in Denmark, Finland and Sweden, and less than 4 000 kg per year and per cow in Bulgaria and Romania, where there is a combination of limited development and numerous small herds.

Table 1.3: Collection of cows' milk and dairy products, 2010 (1 000 tonnes)

	Collection	Products obtained				
	Cows' milk collected	Drinking milk	Cream for direct consum.	Milk powder	Butter	Cheese
EU-27	*136 360*	*31 450*	2 392	1 970	1 700	8 670
BE	2 963	660	139	: c	22	72
BG	642	58	1	-	[1]	72
CZ	2 354	644	44	31	27	113
DK	4 734	482	63	133	36	321
DE	27 461	5 288	568	460	410	1 999
EE	612	89	28	13	7	37
IE	4 944	509	21	100 e	120	163
GR	1 369	467	17	: c	1	195
ES	6 458	3 566	133	22	34	306
FR	23 647	3 638	352	372	341	1 860
IT	11 138	2 690	130	: c	:	1 178
CY	190	76	4	:	0	14
LV	595	72	27	: c	4	29
LT	1 274	88	2	22	12	92
LU	271	: c	: c	: c	: c	: c
HU	1 408	387	6	0	5	75
NL	11 656	710	34	270	: c	714
AT	2 725	716	61	7	29	142
PL	9 142	1 461	240	135	120	634
PT	1 901	837	17	21	29	65
RO	1 011	222	47	4	10	69
SI	517	143	15	1	: c	18
SK	857	260	27	7	7	34
FI	2 281	734	54	24	48	105
SE	2 933	905	104	64	24	108
UK	13 237	6 713	254	106	: c	322

Source: Eurostat (online data code: apro_mk_pobta)

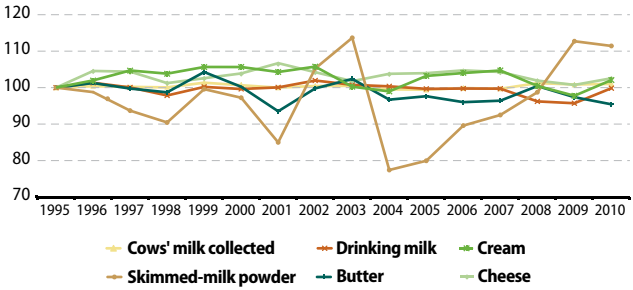
In terms of product weight, drinking milk is of course the most important commodity. But comparing a given weight of milk powder with a weight of drinking milk is of limited significance.

An index, expressing each annual weight relative to the figure for the previous year, can be chained over years. Such an index can display the values for comparable products and can withstand the changes of coverage (e.g. EU enlargement).

In order to compare the products on the basis of their milk content, the figures are also expressed relative to how much milk they use. This makes it possible also to assess the change in heterogeneous groups of products, such as cheeses.

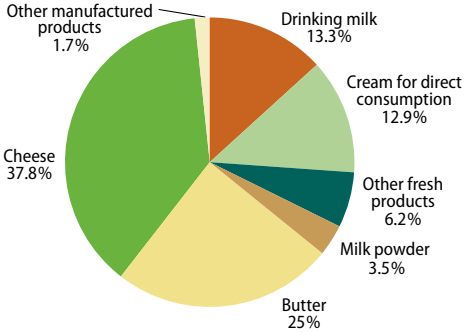
Over the past 15 years there has been remarkably little change in the quantity of cows' milk collected in the expanding EU, due to the milk quota system. As for the products obtained, there has been a notable increase since 1995 in cheese production (+18 %) and (to a lesser extent) in cream production for direct consumption (+7 %). The production of butter reflected with a smaller range the production of skimmed milk powder, the latter being a residual product.

Figure 1.1: Trend in collection of cows' milk and products obtained, EU-15
(1995 = 100)



Source: Eurostat (online data code: apro_mk_cola)

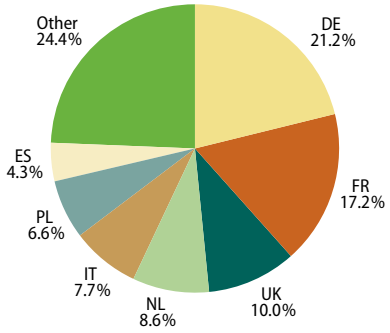
Figure 1.2: Utilisation of whole milk, EU-27, 2009
(%)



Source: Eurostat (online data code: apro_mk_pobta)

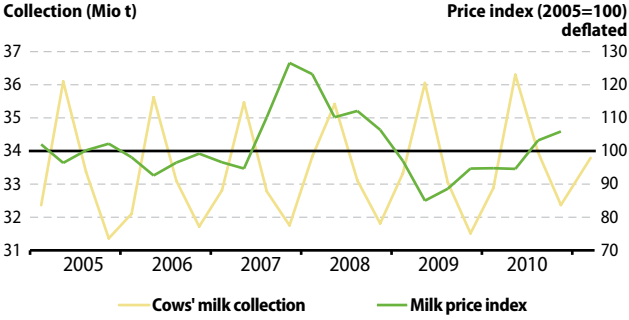
Of the whole milk collected (from cows, sheep, goats and buffalos) in 2009, almost 32 % was used to produce fresh products. Drinking milk and cream for direct consumption each accounted for about 13 % of the milk. Other fresh products, such as yoghurt and milk-based drinks, made up about 6 %. Over two thirds of the milk was used for manufactured products, mainly butter and cheese.

Figure 1.3: Cows' milk collected, EU-27, 2010
(%)



Source: Eurostat (online data code: apro_mk_pobta)

Figure 1.4: Producer milk price (index 2005 = 100) and milk collection, quarterly, EU-27



Source: Eurostat (online data codes: apri_pi05_outq and apro_mk_colm)

Although milk production has increased, the price has changed and the range has broadened, reflecting market stress on the additional quantities at the margin, either on supply (2009) or on demand (2008).

The structure of dairy enterprises that include collection centres is surveyed every three years. The results of detailed size classes for the largest enterprises are surveyed in certain countries (representing 87 % of milk collection) on a voluntary basis and extrapolated to EU 27. These size classes are shown in a lighter colour in the charts.

Figure 1.5: Structure of dairy enterprises, EU 27, 2009 (1)
(%)

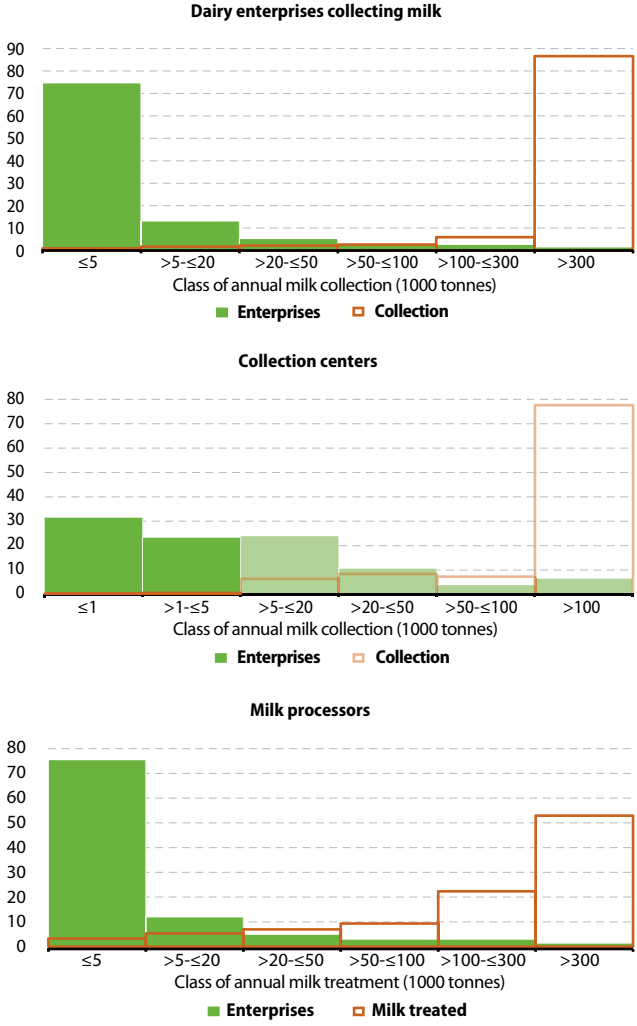
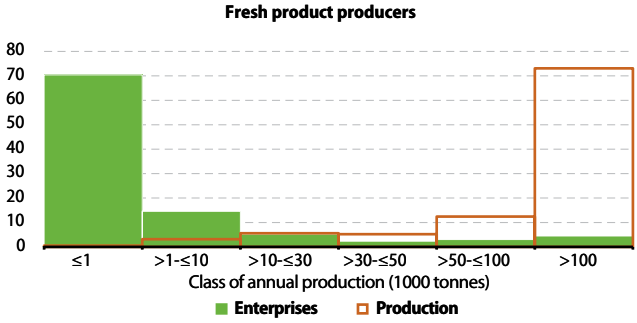
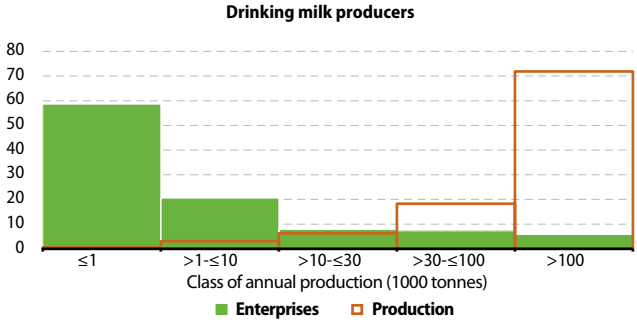


Figure 1.5: Continued





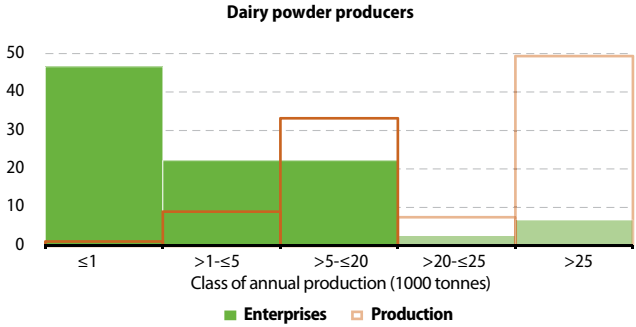
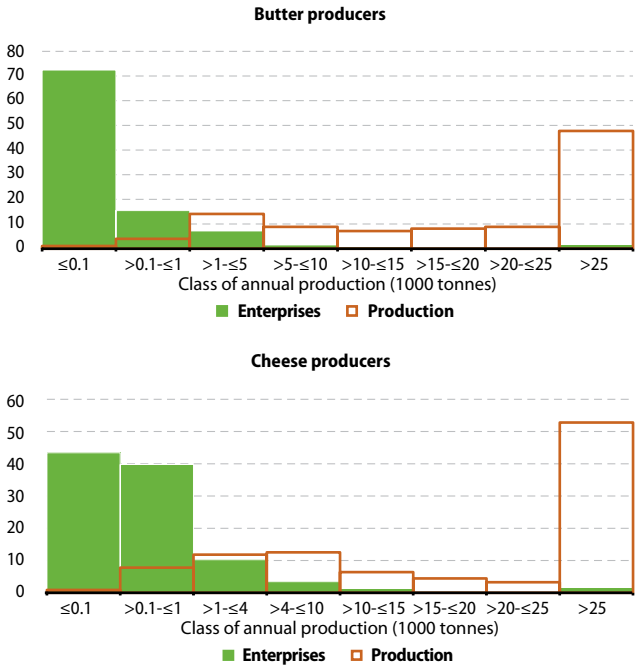


Figure 1.5: Continued



(1) Lighter colour = estimated data.

Source: Eurostat (online data codes: apro_mk_strmk, apro_mk_strcc, apro_mk_strmt, apro_mk_strfp, apro_mk_strdm, apro_mk_strpd, apro_mk_strbt and apro_mk_strch)

Milk collection and processing activities are more or less concentrated in the hands of a few large enterprises. This is evident in the most specialised activities, such as milk powder production, which require heavy investment.

For instance, 78 % of milk is collected by 6.6 % of collection centres and 81 % of butter is produced by 4.9 % of producers. The breakdown of cheese producers by size classes reveals a group of small-scale enterprises with significant levels of activity.

Agricultural accounts and prices

2

Introduction

This chapter gives an overview of indicators for agricultural output and income and for agricultural prices in the EU. The data are extracted from Eurostat collections of agricultural statistics: economic accounts for agriculture (EAA), agricultural price indices (API) and absolute agricultural prices.

The EAA is a satellite account of the European System of Accounts (ESA 1995). It covers agricultural products and services produced over the accounting period and sold by agricultural units, held in stocks on farms, or used for further processing by agricultural producers. The concepts of the EAA are adapted to the particular nature of the agricultural industry: for example, the EAA includes not only the production of grapes and olives but also the production of wine and olive oil by agricultural producers. It includes information on intra-unit consumption of crop products used in animal feed, as well as output accounted for by own-account production of fixed capital goods and own final consumption of agricultural units. EAA data can be used to calculate income indicators for the agricultural sector.

Agricultural price statistics provide information on the trend in producer prices of agricultural products and purchase prices of the goods and services consumed by agriculture in the production process. Data on prices are available for single commodities and for larger aggregates in the form of absolute prices and price indices. Both annual and quarterly time series are published in the free dissemination database on the Eurostat website.

2.1 Agricultural income

Introduction

Indicator A is the real net value added at factor cost of agriculture per annual work unit (AWU). The net value added at factor cost (factor income) is calculated by subtracting the consumption of fixed capital from gross value added at basic prices and adding the value of (other) subsidies less taxes on production. The AWU is defined as the work performed by one full-time worker.

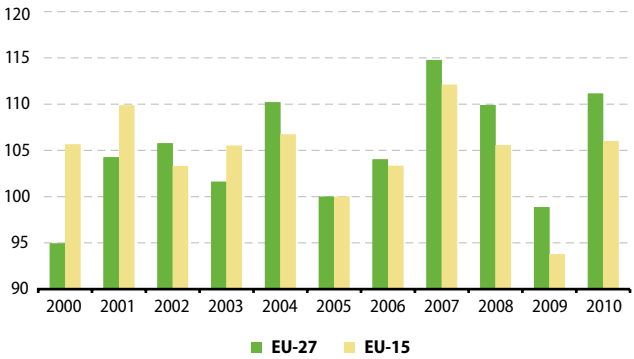
The output of the agricultural industry comprises output from agricultural production and output from non-agricultural secondary activities that are inseparable from the main agricultural activity.

The comparability of data over time is affected by types of subsidies, as product-related subsidies are included in the results for basic prices while general subsidies are only included in the income. The shift in types of subsidies from product to production was mainly implemented in 2005 and 2006.

The comparability of factor income and indicator A is not affected by these changes.

Long-term trends

Figure 2.1.1: Agricultural income indicator, 2000–10 (2005 = 100)



Source: Eurostat (online data code: aact_eaa05)

Agricultural income in the EU has seen both positive and negative developments in recent years. While 2007 and 2008 showed

a significantly higher indicator A than in 2005, the result for 2009 was around the same as in 2005. However, one trend can be deduced from the figures. The average increase in income per work unit has been greater in the new Member States than in the EU-15, also from 2000 to 2005.

For the EU-27, the recent increase brings indicator A to 111.2 (2005 = 100), after drops of 3.5 % in 2008 and 11.6 % in 2009. For the EU-15, indicator A was higher in 2010 than in 2005 (+6 %), after falling to 98.9 % the previous year.

Using indicator A, the results for the Member States in 2010 compared to 2005 can be divided into two groups.

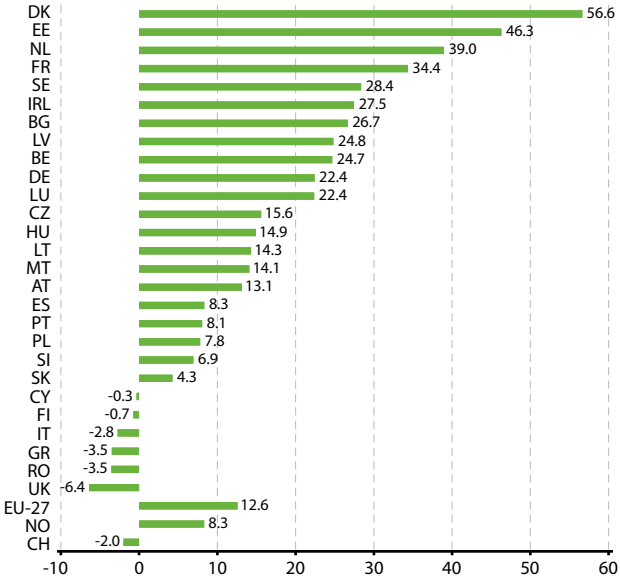
- The first group includes those countries for which agricultural income in 2010 is above the level recorded for 2005. This group comprises nineteen Member States. In eleven of these countries, the level of agricultural income attained in 2010 is more than 20 index points higher than in 2005. This group comprises Bulgaria, Poland, Estonia, Belgium, Latvia, Germany, Hungary, the Netherlands, Lithuania, Sweden and the United Kingdom.
- The second group includes the other eight Member States where agricultural income in 2010 is below the level recorded for 2000. Within this group of countries, the sharpest falls are recorded in Luxembourg and Denmark. The other countries are Italy, Ireland, Greece, Romania, Cyprus and Slovenia.

Recent trends

Indicator A is estimated to have increased by 12.6 % in the European Union (EU-27) in 2010, following a decrease of 11.6 % in 2009.

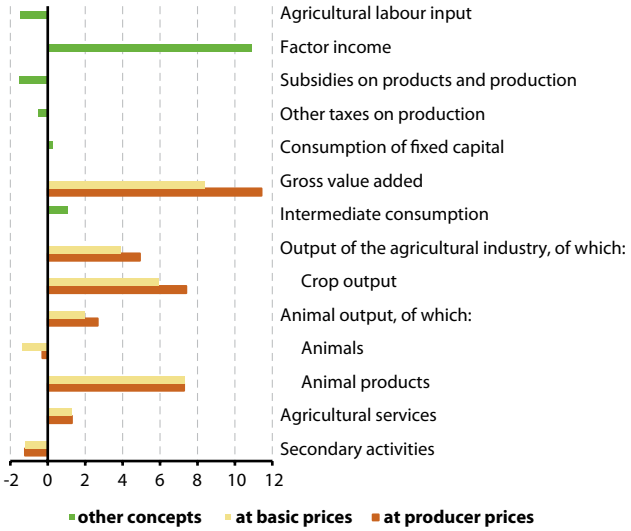
Agricultural income has been evolving differently across the Member States of the EU-27. In 2010, the largest increase was in Denmark (+56.6 %), followed by Estonia (+46.3 %), the Netherlands (+39 %), France (+34.4 %), Sweden (+28.4 %), Ireland (+27.5 %), and Bulgaria (+26.7 %). Only six countries showed a decrease in income: the United Kingdom (–6.4 %), Romania (–3.5 %), Greece (–3.5 %), Italy (–2.8 %), Finland (–0.7 %) and Cyprus (–0.3 %)

Figure 2.1.2: Agricultural income (indicator A) in the EU, 2010
(% change compared with the previous year)



Source: Eurostat (online data code: acct_eaa06)

Figure 2.1.3: Main components of agricultural income, EU-27, 2010
(% change compared with the previous year)



Source: Eurostat

The increase of 3.9 % in the value of agricultural output at basic prices is due to higher prices (5.4 %), while volume fell by 1.5 %. The value of agricultural output at producer prices increased by 4.9 % in real terms from 2009 to 2010. The value for crop output, which counts for slightly more than 50 % of total output, rose by 5.9 % in basic prices, while animal output, accounting for about 40 % of total output, grew by 2 %. The increase in the value of animal output at producer prices (2.7 %) was a consequence of higher producer prices (1.9 %), while volume went up by only 0.8 %.

The output value of agricultural services grew by 1.3 %, while the value of inseparable non-agricultural secondary activities decreased by 1.2 % compared to 2009.

The value of the intermediate consumption of goods and services increased by 1.1 % in 2010. This was the result of higher prices (1.2 %) and lower volume (– 0.1 %), according to second estimates. Higher prices were observed for feedstuffs (+ 2.7 %) and energy (+ 9.1 %).

The consumption of fixed capital ('depreciation') was slightly higher (+ 0.2 %) than in 2009. The value of overall subsidies (product-specific subsidies and other subsidies for production) decreased by 1.5 %, while taxes fell by 0.5 %.

As a consequence, real agricultural factor income, an indicator A component, increased by 12.1 % compared to the previous year. With the reduction in agricultural labour input (–1.5 %), indicator A rose by 12.6 %.

Table 2.1.1: Agricultural income indicator A
(2005 = 100)

	ø 2000–2004	ø 2006–2009	2010
EU-27	103.4	106.9	111.1
EU-15	106.2	103.7	106.0
BE	107.4	118.6	134.3
BG	98.2	120.7	158.7
CZ	74.5	111.2	113.9
DK	101.5	81.9	78.7
DE	94.1	118.6	124.6
EE	59.6	112.2	138.2
IE	84.4	83.1	85.4
EL	111.0	93.8	86.5
ES	112.4	98.5	101.7
FR	109.0	106.3	116.3
IT	115.0	92.6	83.6
CY	100.7	89.6	92.0
LV	60.1	122.3	127.8
LT	64.1	113.1	121.8
LU	109.0	88.5	70.2
HU	76.3	120.4	123.3
MT	85.8	95.8	114.4
NL	110.1	107.7	122.1
AT	99.1	111.7	106.2
PL	72.7	122.3	145.2
PT	100.2	102.3	109.3
RO	116.8	95.7	89.1
SI	75.9	98.2	92.8
SK	91.0	126.2	115.2
FI	93.6	103.0	107.8
SE	89.6	117.1	121.8
UK	94.2	121.9	121.3
NO	121.8	101.6	113.4
CH	100.3	103.0	103.0

Source: Eurostat (online data code: aact_eaa05)

Table 2.1.2: Agricultural gross value added at producer prices and subsidies
(million EUR)

	GVA at producer prices			Overall subsidies		
	2000	2005	2010	2000	2005	2010
EU-27	130 616.6	129 395.7	137 775.2	38 619.9	49 324.4	56 039.3
EU-15	116 370.1	111 941.6	118 867.0	37 441.1	43 797.5	46 577.3
BE	2 484.0	2 153.0	2 493.7	351.2	486.2	838.0
BG	1 634.1	1 544.3	1 403.6	5.4	86.7	581.2
CZ	831.4	969.5	960.4	170.1	669.5	1 107.8
DK	2 451.7	2 252.5	2 125.4	788.8	974.3	1 033.3
DE	13 577.1	12 919.7	15 043.3	5 600.7	6 093.0	6 696.8
EE	135.3	196.5	231.9	22.2	89.6	169.5
IE	1 934.2	1 622.8	1 512.1	1 284.0	2 225.0	1 746.0
EL	6 066.2	6 284.1	5 350.0	2 134.3	2 227.8	2 859.5
ES	19 225.1	20 344.7	21 347.5	4 895.3	6 550.5	6 851.9
FR	23 889.7	21 303.2	25 410.8	8 152.3	9 742.9	10 030.3
IT	24 526.0	24 410.2	22 587.5	4 794.1	4 315.1	5 408.8
CY	– 254.9	332.3	317.7	3.0	45.5	38.7
LV	182.4	221.9	230.1	15.1	175.1	247.9
LT	394.1	409.5	499.6	17.8	228.4	347.5
LU	102.9	106.7	94.9	48.4	62.5	65.4
HU	1 831.2	1 792.5	1 968.3	172.2	1 087.7	1 221.2
MT	63.9	44.7	55.5	1.0	19.4	29.7
NL	9 052.8	7 751.1	8 973.5	408.4	801.3	1 022.4
AT	2 167.4	2 178.9	2 538.6	1 387.8	1 700.9	1 674.5
PL	4 597.5	5 160.7	6 135.4	214.4	2 107.6	4 219.6
PT	2 159.9	1 926.7	1 863.8	663.7	1 071.8	1 061.4
RO	4 121.3	6 003.1	6 398.9	228.3	548.8	755.1
SI	399.4	397.4	390.5	93.9	232.2	253.1
SK	310.7	381.7	316.4	235.4	236.1	490.7
FI	834.1	718.3	864.5	1 967.3	2 095.3	2 167.0
SE	1 093.6	1 127.6	1 370.0	881.9	1 018.0	1 026.8
UK	6 805.5	6 842.0	7 291.6	4 083.0	4 433.1	4 095.2
NO	954.2	901.7	1 085.3	1 315.9	1 224.8	1 403.2
CH	3 052.8	2 582.6	2 742.0	1 497.0	1 717.9	2 187.1

Source: Eurostat (online data code: aact_eaa01)

In 2010, the gross value added (GVA) at producer prices amounted to more than EUR 137 billion in the EU-27. 86.3 % of this value is generated in the 15 old Member States (EU-15), although the share has declined slightly since 2000. 59 % of the GVA of agriculture in the EU-15 is produced by France, Italy and Spain.

The value of all agricultural subsidies (product subsidies and other production subsidies) recorded in 2010 amounted to EUR 56 billion in the EU-27. The share of new Member States

in the total value of subsidies paid to agricultural producers increased from 3 % to 16.9 % between 2000 and 2010.

The type of subsidies has changed over time from product subsidies to subsidies for production. In 2000, product subsidies accounted for EUR 26.6 billion, but in 2010 were only EUR 5.3 billion. Over the same period, production subsidies rose from EUR 12 billion to EUR 50.6 billion.

2.2 Final output

Table 2.2.1: Output value of the agricultural industry at producer price

	2000	2005	2010	2000	2010
	million EUR			% of EU-27	
EU-27	294 532.1	308 530.5	349 527.3	100.0	100.0
EU-15	258 666.6	263 241.2	294 756.5	87.8	84.3
BE	6 844.6	6 555.1	7 628.4	2.3	2.2
BG	3 389.3	3 356.0	3 778.3	1.2	1.1
CZ	2 819.1	3 424.2	3 956.5	1.0	1.1
DK	7 725.3	7 865.5	9 184.3	2.6	2.6
DE	39 203.4	38 946.0	45 116.8	13.3	12.9
EE	363.4	521.3	631.7	0.1	0.2
IE	5 141.7	5 296.8	5 616.7	1.7	1.6
EL	9 814.8	10 529.3	10 028.4	3.3	2.9
ES	32 693.5	35 406.9	38 364.2	11.1	11.0
FR	56 607.1	56 149.0	64 701.4	19.2	18.5
IT	40 995.9	42 169.6	43 929.9	13.9	12.6
CY	0.0	654.1	694.7	0.0	0.2
LV	459.8	693.1	900.7	0.2	0.3
LT	1 140.4	1 433.2	1 856.1	0.4	0.5
LU	237.9	272.9	297.8	0.1	0.1
HU	4 851.4	5 701.8	6 435.8	1.6	1.8
MT	130.4	109.7	122.8	0.0	0.0
NL	19 638.7	20 302.1	24 767.0	6.7	7.1
AT	5 225.7	5 342.6	6 383.7	1.8	1.8
PL	12 406.3	14 120.9	18 188.0	4.2	5.2
PT	5 996.8	6 110.6	6 770.4	2.0	1.9
RO	7 971.5	12 667.1	15 284.1	2.7	4.4
SI	952.4	982.9	1 080.3	0.3	0.3
SK	1 381.7	1 625.0	1 841.9	0.5	0.5
FI	3 059.9	3 190.6	3 669.6	1.0	1.0
SE	4 392.3	4 276.9	4 969.2	1.5	1.4
UK	21 088.9	20 827.3	23 328.6	7.2	6.7
NO	2 900.4	3 131.5	3 775.3	1.0	1.1
CH	7 067.1	6 627.9	7 425.9	2.4	2.1

Source: Eurostat (online data code: aact_eaa01)

Table 2.2.2: Main components of the output value of the agricultural industry at producer prices

	VOLUME (at producer prices)	VALUE (real, at producer prices)	VALUE (real, at basic prices)	Share in EU-27 overall output value (producer prices, 2009)
	% change 2009–10			%
Cereals	–4.3	27.0	21.6	10.1
Oilseeds	–3.5	29.0	24.5	2.3
Sugar beet	–6.7	–2.6	–9.2	1.0
Fresh vegetables	–1.8	8.6	6.6	8.7
Plants and flowers	0.1	0.4	0.5	5.9
Potatoes	–7.6	18.1	9.1	2.7
Fruits	–4.1	8.6	4.1	6.2
Wine	–4.6	0.7	–3.9	4.9
Olive oil	16.4	–1.3	14.9	1.1
Crop output	–2.6	10.3	7.4	51.7
Cattle	–0.3	–0.4	–0.8	8.1
Pigs	2.1	–2.8	–0.8	9.2
Sheep and goats	0.1	–0.7	–0.6	1.4
Poultry	3.1	–1.3	1.8	5.0
Milk	0.2	10.5	10.8	12.7
Eggs	–2.4	–7.1	–9.3	2.5
Animal output	+0.8	+1.9	+2.7	40.4
Agricultural services	+0.2	+1.1	+1.3	4.8
Secondary activities	–1.7	+0.4	–1.2	3.1

Source: Eurostat (online data code: aact-uv01)

According to the EAA, the output value of the agricultural industry at producer prices (less taxes on products and excluding subsidies) was EUR 349 billion in 2010 for the EU-27. The new Member States accounted for EUR 54.7 billion (15.7 %) of this figure. With an output value of more than EUR 64 billion, France is the largest agricultural producer in value terms in the EU-27, followed by Germany, Italy and Spain, each with an output value of between EUR 38 and EUR 45 billion.

The main agricultural output is crops, accounting for 51.7 % of the total, while the share for animal output was 40.4 % in 2009. The remainder is from agricultural services (4.8 %) and secondary activities (3.1 %). The main agricultural products are milk (12.7 %) and cereals (10.1 %).

The increase in the value of crop production in 2010 was due to the increase in producer prices (+ 10.3 %), offset by a reduction in volume (– 2.6 %). Output volumes went down for cere-

als (– 4.3 %), fresh vegetables (– 1.8 %) and fruits (– 4.1 %), the three main crop products. The largest increases in crop prices were recorded for cereals (+ 27 %), potatoes (+ 18.1 %) and industrial crops (+ 17.6 %). A decrease in producer prices was recorded for olive oil (– 1.3 %).

The increase in the value of animal output in 2010 was the result of both an increase in output volumes (+ 0.8 %) and a slight increase in producer prices (+ 1.9 %). The final result for the real value of milk production was driven by an increase in prices (+ 10.5 %), while volume remained almost stable (+ 0.2 %). The volume of pig production rose by 2.1 % while prices went down by 2.8 %. Cattle production volumes fell (– 0.3 %) and producer prices also decreased by 0.4 %.

Please note that producer prices in the EAA differ slightly in conceptual terms from agricultural price statistics (API). Price indices in the EAA relate to the previous year, while the API is based on the weighting structure of 2005. There are also differences in the values used in the weighting scheme and for the reference period.

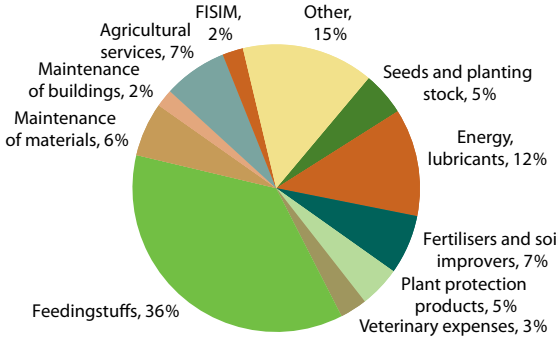
2.3 Inputs

Table 2.3.1: Intermediate consumption value by crop and animal production
(%)

	Share of product specific inputs in			
	crop production (1)		animal production (2)	
	2000	2010	2000	2010
EU-27	18.8	18.6	53.7	60.0
EU-15	19.0	18.2	52.5	59.2
BE	22.6	22.3	63.4	69.5
BG	:	19.5	:	72.4
CZ	18.8	23.7	82.7	77.8
DK	21.3	26.4	56.0	54.3
DE	21.7	17.2	59.4	62.0
EE	10.7	17.8	73.2	70.5
IE	37.9	38.1	42.9	54.7
EL	11.1	10.8	56.1	59.4
ES	14.6	11.8	54.5	66.5
FR	23.9	20.7	56.8	66.6
IT	9.9	13.4	51.2	57.4
CY	:	16.3	:	57.7
LV	20.0	24.0	54.3	72.3
LT	24.1	36.7	67.4	66.4
LU	26.0	30.7	38.3	55.5
HU	20.6	27.3	59.9	71.1
MT	10.1	13.9	51.2	47.4
NL	16.4	17.1	40.9	52.3
AT	16.1	13.9	50.1	58.0
PL	17.2	23.1	63.3	49.4
PT	10.2	12.3	70.6	82.0
RO	12.0	14.4	64.6	92.0
SI	17.1	15.8	67.4	80.6
SK	41.9	35.3	57.7	42.5
FI	33.3	36.6	46.0	44.9
SE	28.5	24.6	51.5	49.8
UK	37.3	40.2	36.5	40.9
NO	19.1	21.6	67.5	64.7
CH	12.7	15.6	58.0	58.5

(1) Inputs in crop production: seeds, fertilisers, plant protection products.
(2) Inputs in animal production: feedingstuffs and veterinary costs.
Source: Eurostat (online data code: aact_eaa01)

Figure 2.3.1: Composition of the value of intermediate inputs consumed by the agricultural industry in the EU-27, 2010
(%)



Source: Eurostat (online data code: aact_eaa01)

In the EU-27, intermediate consumption in 2010 accounted for 64 % of the output value of the agricultural industry at producer prices. In 2005, the percentage was 58 %. The main intermediate input to agriculture in value terms is animal feed, which accounts for 36 % of total intermediate consumption. Energy and lubricants make up 12 % of the value of intermediate inputs consumed by the agricultural industry, while the figure for fertilisers and soil improvers is 7 %. The main intermediate inputs for crop production are fertilisers, plant protection products and seeds and plantings, which together account for 17 % of total intermediate consumption in agriculture.

The margin between output and directly related input is different for crop and animal production. The costs for seeds and plantings, fertilisers and plant protection products were 18.6 % of crop output at producer prices in 2010, while feedingstuff and veterinary costs were 60.0 %. In 2000, the shares were 18.8 % and 53.7 %, respectively.

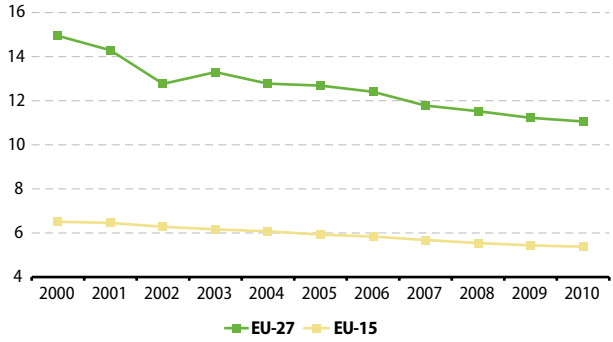
2.4 Agricultural labour input

Table 2.4.1: Agricultural labour input

	2000	2005	2010	2010/2009
		1 000 AWU		%
EU-27	14 946	12 685	11 058	98.5
EU-15	6 511	5 926	5 374	98.8
BE	75	70	63	96.5
BG	771	626	358	89.6
CZ	166	152	130	99.4
DK	76	63	60	99.4
DE	685	583	525	98.0
EE	65	38	29	98.1
IE	153	149	146	99.5
EL	586	607	569	99.7
ES	1 101	1 017	897	98.7
FR	1 028	936	856	98.2
IT	1 383	1 242	1 162	99.9
CY	31	29	25	100.4
LV	149	138	88	94.2
LT	187	174	143	97.5
LU	4	4	4	99.7
HU	676	522	414	97.6
MT	5	4	4	100.0
NL	220	194	180	98.9
AT	174	163	149	98.2
PL	2 495	2 292	2 087	94.3
PT	503	429	337	98.1
RO	3 645	2 596	2 241	104.1
SI	104	90	81	98.7
SK	143	99	83	96.8
FI	111	96	85	97.2
SE	80	76	61	95.9
UK	334	297	282	99.6
NO	72	66	56	97.4
CH	101	89	81	98.9

Source: Eurostat (online data code: aact_ali01)

Figure 2.4.1: Agricultural labour input, 2000–2010
(million AWU)



Source: Eurostat (online data code: acct_ali01)

Agricultural labour input (ALI) is the second component used in calculating indicator A after factor income. The data presented here are somewhat different from the FSS data in chapter I. The AWU figures from the ALI statistics are usually higher than the FSS figures, because they also cover the labour input of agricultural units below the FSS threshold and agricultural work devoted to agricultural services, inseparable secondary activities and hunting.

In total, agricultural labour input in the EU was 11.0 million AWU in 2010. Slightly less than the half of the labour input was in the EU-15, where about 85 % of the gross value added (GVA) is generated. Consequently, the relationship between GVA and labour input is very different in the new Member States.

Over the period 2000 to 2010, agricultural labour input fell by 26.0 % in the EU-27. The rate of change was slower in the EU-15 (– 17.5 %) than in other parts of the EU.

Total agricultural labour input continues to fall in all Member States, with the exception of Romania (+ 4.1 %) and Cyprus (+ 0.4 %). The strongest decreases are estimated for Bulgaria (– 10.4 %), Latvia (– 5.8 %), Poland (– 5.7 %), Sweden (– 4.1 %) and Belgium (– 3.5 %). Overall, EU agricultural labour input was down by 1.5 % in 2010.

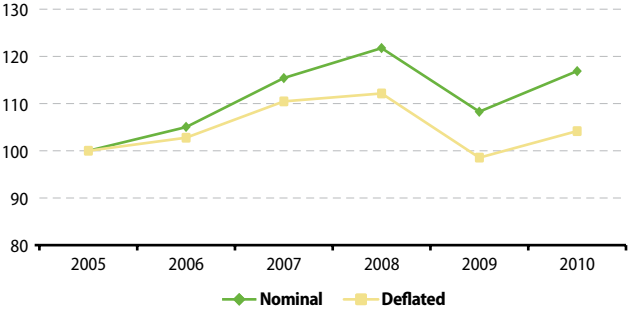
2.5 Price indices

Table 2.5.1: Deflated agricultural price indices, crop and animal output (2006, 2008, 2010)
(2005 = 100)

	Crop output(1)			Animal output		
	2006	2008	2010	2006	2008	2010
EU-27	105.1	116.9	108.5	100.5	107.3	99.7
BE	123.8	105.0	103.2	102.7	102.7	93.6
BG	104.8	126.3	104.1	93.3	101.0	87.2
CZ	105.1	137.9	101.0	94.2	92.2	80.4
DK	101.5	136.4	108.4	102.3	103.2	97.1
DE	112.7	126.5	113.4	100.9	109.9	100.1
EE	108.3	117.4	106.9	94.2	95.1	86.7
IE	110.5	127.5	116.6	99.8	109.4	104.3
EL	105.3	105.6	113.9	101.0	98.7	94.5
ES	90.4	94.9	87.9	101.7	99.2	91.9
FR	106.5	124.3	114.8	100.2	107.5	97.9
IT	103.2	115.9	102.4	102.4	105.3	99.2
CY	99.8	125.2	108.9	107.2	113.8	97.9
LV	116.0	118.0	113.4	98.2	93.3	82.0
LT	113.1	133.2	109.8	97.4	102.6	90.4
LU	104.8	104.0	105.0	98.1	108.1	90.1
HU	116.0	122.5	125.9	99.7	102.3	91.2
MT	97.9	104.5	100.1	97.6	102.8	102.4
NL	113.3	105.6	107.8	100.6	110.5	99.9
AT	107.9	107.2	116.6	103.4	113.1	98.8
PL	116.1	124.8	121.6	96.5	101.5	97.4
PT	100.4	101.9	103.1	103.8	104.8	99.8
RO	101.6	133.8	119.2	94.9	98.1	98.9
SI	111.1	138.6	112.4	99.3	106.3	92.4
SK	97.3	120.5	104.9	95.1	94.7	74.8
FI	105.5	123.9	104.7	102.7	107.4	104.0
SE	107.3	128.2	124.7	101.5	117.6	110.9
UK	107.0	141.7	127.3	98.8	125.4	123.0

(1) Crop output, including fruits and vegetables
Source: Eurostat (online data code: apri_pi05-outa)

Figure 2.5.1: EU-27 output price indices of agricultural goods, 2005–10
(2005 = 100)



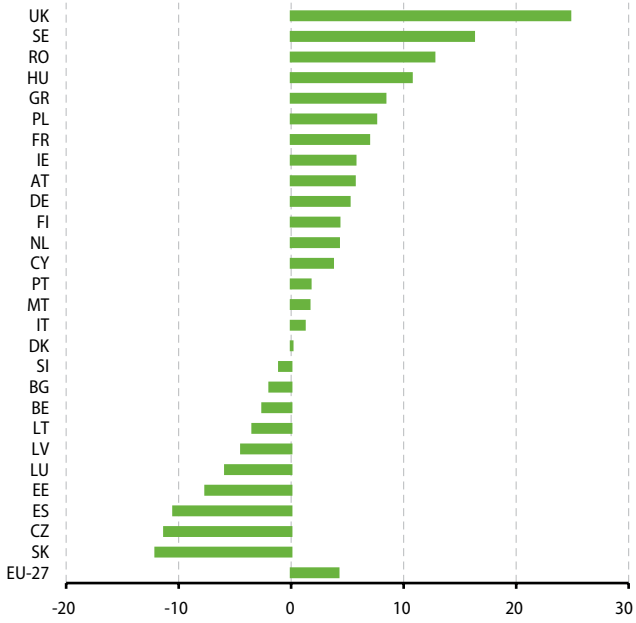
Source: Eurostat (online data code: apri_pi05_outa)

The final data for 2010 reveal that agricultural prices for crop output were 8.5 % higher in real terms than in 2005, while prices for animal output decreased slightly by 0.3 %.

Output price indices for agricultural goods in the EU-27 went up by 17 % in nominal terms compared to 2005. When adjusted for inflation (using the Harmonised Consumer Price Index, HCPI), this represents a real increase of only 4.2 %.

Among the 27 Member States, only Spain recorded a decrease, – 12.1 %, in the real price index for crop output. All other countries registered increases, the highest (more than 20 %) being observed in the United Kingdom 27.3 %, Hungary 25.9 %, Sweden 24.7 % and Poland 21.6 %. The real price index for animal output registered an increase in only six countries (UK, SE, IE, FI, MT and DE). The highest increases were observed in the United Kingdom 23.0 % and Sweden with 10.9 %, while for the other countries the increase was between 4.3 % in Ireland and 0.1 % in Germany. Among the 20 Member States registering a decrease in the animal output price index, the steepest falls were recorded for Slovakia (– 25.2 %), the Czech Republic (– 19.6 %), Latvia (– 18.0 %), Estonia (– 13.3 %) and Bulgaria (– 12.8 %)

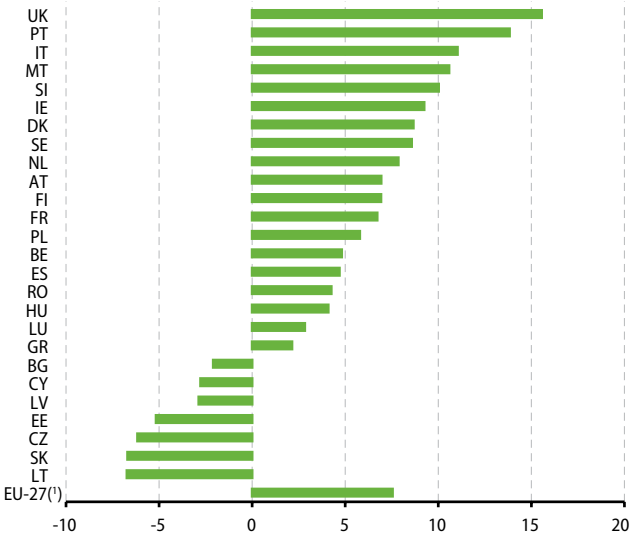
Figure 2.5.2: Deflated price indices of agricultural output, 2010
(% change compared to 2005)



Source: Eurostat (online data code: apri_pi05_outa)

The real price indices for agricultural output have developed differently across Member States. The available data show that ten countries registered a decrease in 2010 compared to 2005. The steepest decreases were recorded in Slovakia (– 12.0 %), the Czech Republic (– 11.3 %) and Spain (– 10.55 %) Among the other 17 Member States that registered increases, the highest were registered in the United Kingdom with 24.78 %, Sweden with 16.2 %, Romania with 12.7 % and Hungary with 10.7 %.

Figure 2.5.3: Deflated price indices of means of agricultural production, 2010
(% change compared to 2005)



(1) EU-27 does not indude DE.
Source: Eurostat (online data code: apri_pi05_ina)

Among the 26 Member States for which information on total inputs is available for 2010, only six recorded a negative change, ranging from – 6.7 % in Lithuania to – 2.1 % in Bulgaria, in comparison with 2005. In contrast, the other 20 countries recorded increases, ranging from 15.6 % in the United Kingdom to 2.14 % in Greece.

Table 2.5.2: Annual selling prices of agricultural products (absolute prices), 2010
(EUR)

	Crop products			Animal products		
	Soft wheat	Sunflower	Main crop potatoes	Cows	Pigs (light)	Raw cows' milk actual fat content
	prices/ 100 kg	prices/ 100 kg	prices/ 1 000 kg	prices/ 100 kg live weight	prices/ 100 kg live weight	prices per 100 l
BE	15.6	:	12.7	166.6	:	30.4
BG	12.5	27.5	22.2	65.4	110.5	:
CZ	13.4	28.3	16.8	102.4	107.6	:
DK	13.2		16.1	77.3	87.4	32.2
DE	15.0	:	15.8	:	:	31.2
EE	15.6	:	:	:	:	27.7
IE	:	:	:	:	:	28.2
EL	16.5	38.5	48.1	129.6	206.1	37.3
ES	17.3	36.5	25.3	99.1	112.5	29.6
FR	:	:	:	:	:	:
IT	18.2	:	38.2	:	180.6	37.5
CY	:	:	:	:	:	:
LV	16.3	:	14.8	76.5	108.0	:
LT	16.2		16.9	77.0	103.8	25.0
LU	15.9	:	40.4	162.8	:	29.7
HU	14.2	32.8	22.6	129.3	107.6	26.1
MT	:	:	27.2	:	:	41.3
NL	16.1	:	12.8	103.0	96.8	33.2
AT	13.1	27.8	17.3	102.0	112.4	29.0
PL	15.0	:	12.7	:	:	26.7
PT	14.9	28.4	25.0	149.5	:	29.0
RO	14.0	28.3	32.3	84.8	120.6	22.3
SI	13.6	25.0	15.7	83.0	165.4	27.3
SK	13.6	34.7	27.3	77.0	112.0	27.3
FI	14.7	:	11.9	:	:	39.4
SE	16.9	:	28.4	:	:	35.1
UK	15.3	:	15.7	:	120.9	27.9

Source: Eurostat (online data codes: apri_ap_crpouta and apri_ap_anouta)

Main agricultural products

3

3.1 Crop production

Statistical data on crop production (under agricultural products) in the Eurostat database refer to areas under cultivation (expressed in hectares), harvested production (expressed in tonnes) and yield per hectare (expressed in 100kg/hectare).

The data are obtained by sample surveys, supplemented by estimates based on expert observations and administrative data. The sources are not always the same for each Member State, but are adapted to national conditions and statistical practices. The final data sent to Eurostat should be harmonised.

In the EU-27, the main crops grown on arable land are cereals (including rice). After soaring cereal production in 2008, favoured by good weather conditions during the year and high cereal prices the previous year, production followed a downward trend in 2009 and 2010. This was due to a decrease in the total area under cereals and less favourable weather conditions.

Cereals are followed by forage plants, the volume of which varies considerably from country to country, due to different natural conditions, production and consumption behaviour, historical reasons, etc.

Vegetable and fruit crops are becoming increasingly important in terms of food consumption and value. Some of these crops (such as apples) are very widespread among the EU-27, while others (such as aubergines) are very specific to certain countries or regions. Most fruits and vegetables are relatively concentrated in the EU Mediterranean countries, as climate conditions in the south of Europe are in general more favourable to such production.

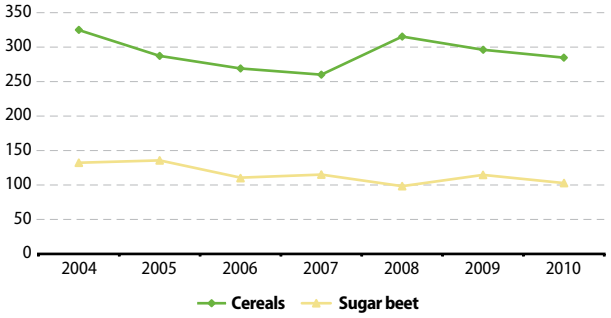
Main crops

Table 3.1.1: Harvested production of some of the main crops, 2010
(1 000 tonnes)

	Cereals total (including rice)	Field peas and others (1)	Sugar beet (2)	Rape (3)	Sunflower (4)
EU-27	284 718	1 994	102 806	19 821	6 956
BE	2 933	5	4 217	51	:
BG	7 036	8	0	545	1 506
CZ	6 878	48	3 065	1 042	57
DK	8 779	22	0	0	0
DE	44 293	177	23 858	5 749	54
EE	670	12	0	130	0
IE	1 996	:	45	22	:
EL	4 098	6	1 229	:	93
ES	19 642	169	3 399	36	887
FR	65 240	1 075	31 723	4 773	1 659
IT	20 960	29	3 472	51	213
CY	65	0	87	0	0
LV	1 417	3	0	225	0
LT	2 768	49	723	415	0
LU	166	1	0	16	0
HU	12 300	40	755	560	987
MT	-	0	0	0	0
NL	1 887	5	5 280	12	0
AT	4 818	33	3 132	171	67
PL	27 299	43	9 823	2 078	3
PT	1 092	:	7	:	13
RO	16 565	37	853	924	1 265
SI	555	1	262	15	1
SK	2 571	15	978	323	150
FI	2 972	12	542	179	0
SE	4 333	54	1 974	279	0
UK	23 387	151	7 384	2 230	2
IS	:	:	:	:	:
LI	:	:	:	:	:
NO	1 347	:	:	9.5	:
CH	1 007.9	16.2	1 508.4	59.5	11.1

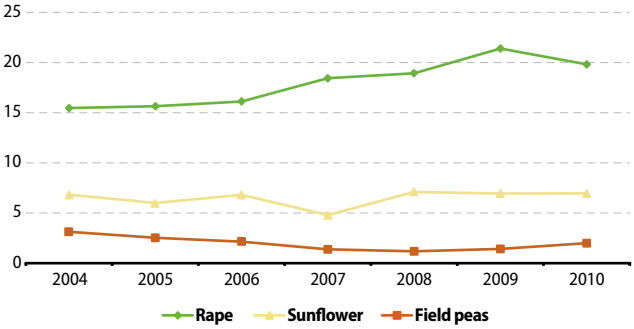
(1) 2008 data for CH; 2009 data for DE, EL, ES, IT, LV, UK.
(2) 2006 data for SI; 2008 data for CH; 2009 data for IE.
(3) 2008 data for NO, CH; 2009 data for IE.
(4) 2005 data for UK; 2008 data for CH.
Source: Eurostat (online data code: apro_cpp_crop)

Figure 3.1.1: Evolution of cereal and sugar beet production, EU-27, 2004–10
(million tonnes)



Source: Eurostat (online data code: apro_cpp_crop)

Figure 3.1.2: Evolution of rape, sunflower, and field peas production, EU-27, 2004–10
(million tonnes)



Source: Eurostat (online data code: apro_cpp_crop)

Cereal production has fluctuated considerably over time. After reaching a peak of 325 million tonnes in 2004, it fell sharply between 2004 and 2007 (– 20 %). As a reaction to the very high cereal prices in 2007, production in 2008 increased by 21 % compared to the previous year. Between 2008 and 2010, cereal production decreased again, by approximately 10 % compared to 2008. This was probably due to unfavourable weather, characterised by imbalances across the continent (spells of unusually high temperatures and water shortages in some areas, while persistent rains affected harvesting in other regions).

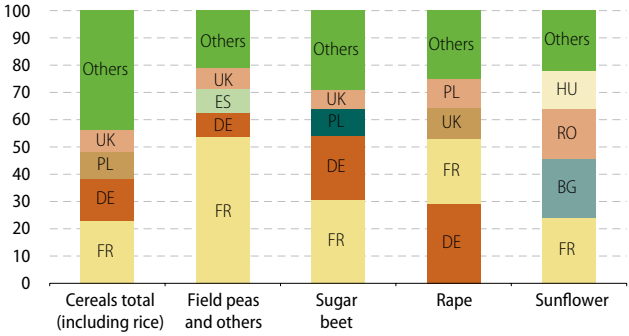
Sugar beet production rose slightly between 2004 and 2005, after which it dropped sharply (– 18) % in 2006. Since 2006, production has been more stable, fluctuating around the 100 million tonne level (103 million tonnes in 2009).

Rape production increased substantially (by 38 %) between 2004 and 2009. The sharpest increase occurred in 2007 (up 14 % compared to 2006). However, in 2010, rape production decreased slightly (– 7 % compared to the previous year).

Sunflower production fluctuated considerably. Output was roughly the same in 2004 and 2010, at around 7 million tonnes, but it fell sharply in 2007, due to very bad climate conditions in some producing countries. Production decreased by 30 % compared to 2006. In 2008, production picked up again (a 48 % increase relative to 2007). Since 2008, sunflower seed production has been broadly stable.

Field pea production followed a decreasing trend between 2004 and 2008 (38 % fall during the period). This was mainly due to the large decrease in production in France, which is the biggest producer of field peas in the EU. The largest fall in French production (41 %) occurred between 2006 and 2007. Since 2008, field pea production has staged a noticeable recovery (with increases of 20 % between 2008–2009 and 40 % between 2009–2010). This rise was mainly due to an increase in production in France.

Figure 3.1.3: Share of main crop production between Member States, 2010
(%)



Source: Eurostat (online data code: apro_cpp_crop)

The crops in the figure above are produced in almost all EU Member States. However, a small group of four countries (which vary from crop to crop) is responsible for most of the production.

France, Germany and Poland together produce almost half of the cereals in the EU-27.

In the case of field peas production, France accounts for 54 % of the EU-27, followed by Germany (9 %) and Spain (8 %).

For sugar beet and rape, France and Germany are the largest producers, together accounting for 54 % and 53 % of EU-27 production respectively. It is interesting to note that over the past few years, some formerly significant sugar beet producers have almost stopped growing the crop. For example, production in Ireland decreased by 95 % between 2005 and 2006 and by 40 % the following year. Production in Latvia fell by 97 % between 2006 and 2007, and the country has had no sugar beet production since 2008.

Most of the sunflower seed production is concentrated in central and eastern Europe. Even if the largest producer is France (24 % of the EU-27 production), Bulgaria (22 %), Romania (18 %) and Hungary (14 %) together account for more than half of the EU-27 production.

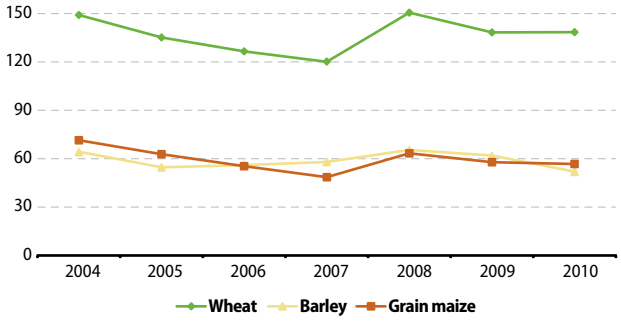
Cereals

Table 3.1.2: Harvested production of the most important cereals, 2010
(1 000 tonnes)

	Wheat (1)	Barley (2)	Grain maize (3)	Rye and maslin (4)	Rice (5)
EU-27	138 450	51 989	56 711	8 023	3 058
BE	1 832	359	667	2	-
BG	3 995	833	2 044	18	56
CZ	4 162	1 585	693	118	-
DK	5 940	2 989	-	260	-
DE	25 190	10 412	4 073	2 903	-
EE	324	253	0	25	-
IE	674	0	-	0	-
EL	1 830	318	2 352	42	230
ES	5 611	8 157	3 179	275	926
FR	38 195	10 100	13 562	151	119
IT	6 341	991	7 878	14	1 493
CY	19	45	-	0	-
LV	1 036	228	-	69	-
LT	2 100	548	37	87	-
LU	91	43	3	6	-
HU	4 419	966	7 410	75	8
MT	-	-	-	-	-
NL	1 442	204	235	10	-
AT	1 523	778	1 866	174	-
PL	9 488	3 533	1 716	3 466	-
PT	122	75	630	27	165
RO	5 588	1 322	9 101	34	62
SI	152	79	305	3	-
SK	1 228	361	952	36	-
FI	887	1 332	-	68	-
SE	2 184	1 228	8	123	-
UK	14 076	5 252	0	38	-
IS	:	:	:	:	:
LI	:	:	:	:	:
NO	460	530	:	47	:
CH	545.2	184.5	167.8	12.5	:

(1) 2008 data for NO, CH; 2009 data for DK, DE, IE, EL, IT, LV, LT, LU, HU, AT, FI, UK.
(2) 2008 data for NO; 2009 data for CH.
(3) 2009 data for EL, IT, SE, CH.
(4) 2008 data for NO, CH.
(5) 2007 data for IT.
Source: Eurostat (online data code: apro_cpp_crop)

Figure 3.1.4: Evolution of wheat, barley and grain maize production, EU-27, 2004–10
(million tonnes)



Source: Eurostat (online data code: apro_cpp_crop)

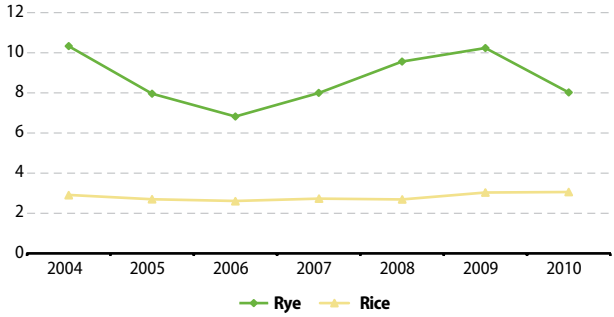
The most important cereal in European Union is wheat, with a production level of approximately 138 million tonnes, followed by grain maize and barley production, with 56 and 52 million tonnes respectively.

The production of all three cereals registered peaks in 2004 and 2008, which were exceptionally good years. In 2009, the production level of all these crops decreased compared to 2008 (8 % decrease for wheat, 5 % for barley and 9 % for grain maize). In 2010, production of wheat and grain maize was almost identical to that of the previous year, while barley production decreased by 16 % relative to 2009.

The above graph shows some instability in production for all three cereals. This instability was probably due to weather conditions (dry year in 2003 and excellent weather in 2004) but also to the imbalance of supply and demand in 2007, which resulted in very high prices for cereals. As a consequence, production increased sharply in 2008 (+ 25 % for wheat, + 30 % for grain maize and + 13 % for barley between 2007 and 2008). This was possibly due to shortages in world supply and the resulting high market prices, which led to the need to increase cereal production. Production decreased considerably in 2009, especially for wheat, and later stabilised for grain maize and wheat, but not for barley.

The graph also shows that wheat and grain maize production followed a parallel trend, while barley production followed a somewhat different pattern.

Figure 3.1.5: Evolution of rye and rice production, EU-27, 2004–10
(million tonnes)

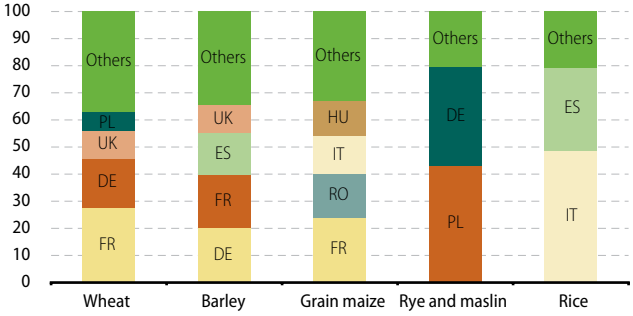


Source: Eurostat (online data code: apro_cpp_crop)

Rye and maslin production showed large fluctuations over time, decreasing by 34 % between 2004 and 2006, and then increasing steadily between 2006 and 2009 (+ 50 %). After the 2009 peak of 10 million tonnes, production decreased by 21 % in 2010.

2009 was very good year for rice, which saw an 13 % increase in production. In 2010, production remained at the 2009 level (approximately 3 million tonnes). In general, rice production fluctuates little, as this cereal needs specific growing conditions and cannot easily be replaced by other crops.

Figure 3.1.6: Share of cereal production between Member States, 2010
(%)



Source: Eurostat (online data code: apro_cpp_crop)

Cereal production is concentrated in a few Member States. For each cereal presented in the figure, the top four producing countries account for more than 60 % of the production. The share of rye and maslin, and rice, is 80 %.

France and Germany, the two main wheat producers, account for almost 46 % of EU-27 production.

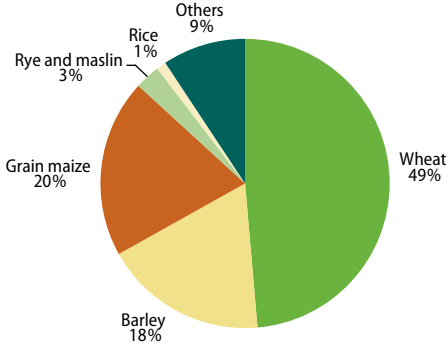
In 2010, Germany and France each produced around 20 % of EU-27 barley output, followed by Spain (16 %).

France is the leading EU-27 grain maize producer and accounts for 24 % of production. Romania, with 16 % of production, has been the second EU-27 producer since 2009, although in 2007 and 2008 it was producing less than Italy and Hungary. It more than doubled its production between 2007 and 2008.

Poland (43 %) and Germany (36 %) account for around 80 % of EU-27 rye and maslin production.

Only eight countries produce rice in the European Union, with Italy accounting for 48 % of EU-27 rice production, followed by Spain, with 30 %.

Figure 3.1.7: Harvested production of cereals by type of cereal, EU-27, 2010
(%)



Source: Eurostat (online data code: apro_cpp_crop)

Wheat, barley and grain maize are the main cereals grown in the European Union.

With around 284 million tonnes of cereals harvested, wheat accounts for 139 million tonnes, i.e. almost half of all cereals production (49 %). The share of wheat in total cereal production has been fairly stable since 2004.

Grain maize production totalled around 57 million tonnes, or 20 % of cereals harvested. Barley production totalled 52 million tonnes, accounting for 18 % of all cereal production. The share of barley has decreased slightly since 2007.

Rye and maslin production totalled approximately 8 million tonnes, which in 2010 accounted for 3 % of cereal production.

Rice accounted for 1 % of production at around 3 million tonnes. The production of rice tends to be fairly stable, due to the special growing conditions it requires.

Main fruit and vegetable production

Table 3.1.3: Harvested production of some fruit and vegetables, 2010
(1 000 tonnes)

	Tomatoes(1)	Carrots(2)	Onions(3)	Apples(4)	Peaches(5)	Oranges(6)
EU-27	16 793	5 296	5 420	10 529	2 855	6 299
BE	232	326	78	311	-	-
BG	112	10	13	36	17	:
CZ	7	19	35	100	2	-
DK	18	69	56	24	-	-
DE	73	554	387	835	-	-
EE	0	17	0	1	-	-
IE	8	23	8	15	-	-
EL	1 339	48	200	235	734	802
ES	4 313	424	1 107	596	760	2 780
FR	715	557	326	1 940	153	1
IT	6 383	624	385	2 176	1 035	2 478
CY	26	2	7	7	3	26
LV	5	17	8	10	-	-
LT	2	40	18	29	-	-
LU	0	1	0	3	-	-
HU	132	62	44	478	60	:
MT	12	1	9	0	1	1
NL	815	481	1 302	338	-	-
AT	44	86	154	332	4	-
PL	678	815	583	1 859	11	-
PT	1 347	54	39	225	49	211
RO	382	115	217	560	17	:
SI	4	4	5	119	8	:
SK	11	7	15	34	2	-
FI	39	68	20	4	-	-
SE	14	123	29	21	-	-
UK	86	752	376	243	-	-
IS	:	:	:	:	:	:
LI	:	:	:	:	:	:
NO	12	47.4	18.8	16.7	:	:
CH	:	:	:	:	:	:

(1) 2000 data for IE; 2006 data for DK; 2007 data for UK, NO; 2008 data for EL, FR; 2009 data for BE, IT, LT, MT, PT, SE.
(2) 2000 data for IE; 2003 data for PT; 2006 data for DK; 2007 data for UK; 2008 data for EL, FR; 2009 data for BE, IT, MT, SI, SE.
(3) 2000 data for IE; 2003 data for PT; 2005 data for SE; 2006 data for DK; 2007 data for UK, NO; 2008 data for EL, FR; 2009 data for BE, IT, MT.
(4) 2000 data for IE; 2006 data for DK; 2007 data for UK; 2008 data for EL, FR, NO; 2009 data for BE, BG, IT, MT, SE.
(5) 2008 data for EL, FR; 2009 data for BG, IT, MT.
(6) 2006 data for FR; 2008 data for EL; 2009 data for ES, MT.
Source: Eurostat (online data code: apro_cpp_fruveg)

In the European Union, the most important vegetables in terms of production are tomatoes (around 16.8 million tonnes), carrots (around 5.3 million tonnes) and onions (around 5.4 million tonnes). The main fruits are apples (around 10.5 million tonnes), oranges (around 6.3 million tonnes) and peaches (around 2.8 million tonnes).

While apples are produced by almost all Member States, the production of oranges, other citrus fruits and peaches is more concentrated in the southern and Mediterranean countries.

Vineyards and olive trees

Table 3.1.4: Vineyard area in production, EU-27, 2010
(1 000 hectares)

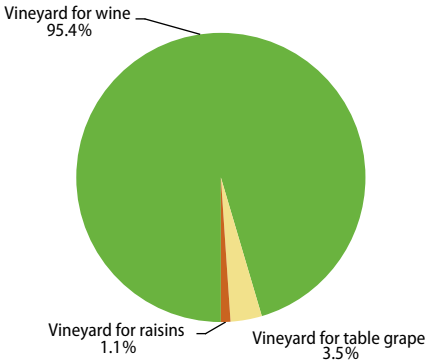
	Vineyard total	Vineyard for wine(1)	Vineyard for table grape(2)	Vineyard for raisins(3)
EU-27	3 463	3 304	121	37
BE	-	-	-	-
BG	101	98	4	:
CZ	16	:	:	:
DK	-	-	-	-
DE	100	100	0	:
EE	-	-	-	-
IE	-	-	-	-
EL	87	49	5	33
ES	977	959	16	2
FR	854	846	7	:
IT	785	715	70	:
CY	10	9	0	0
LV	-	-	-	-
LT	-	-	-	-
LU	1	1	0	:
HU	76	73	3	:
MT	-	-	-	-
NL	-	-	-	-
AT	44	44	:	:
PL	-	-	-	-
PT	218	210	6	3
RO	179	170	10	0
SI	17	17	:	:
SK	14	14	0	:
FI	-	-	-	-
SE	-	-	-	-
UK	0	0	:	:

(1) 2004 data for SI, 2007 data for UK; 2008 data for EL, FR, IT; 2009 data for BG.
(2) 2008 data for EL, FR; 2009 data for BG, IT.
(3) 2007 data for PT; 2008 data for EL.
Source: Eurostat (online data code: apro_cpp_crop)

The vineyard area in the EU-27 totalled 3.46 million hectares in 2010, of which 95 % is dedicated to wine production. The European Union is the largest wine production region in the world. Within the EU-27, Spain has the largest vineyard area (28 %), followed by France (25 %) and Italy (23 %).

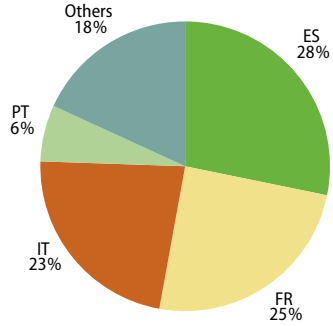
Italy and Greece are the main countries for vineyard area dedicated to the production of dessert grapes and raisins respectively.

Figure 3.1.8: Allocation of the EU-27 vineyard area, 2010 (%)



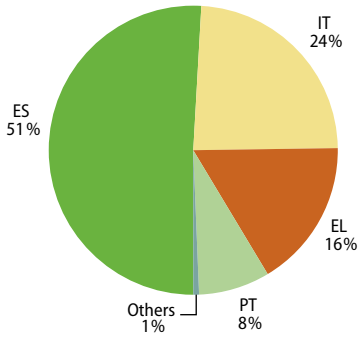
Source: Eurostat (online data code: apro_cpp_crop)

Figure 3.1.9: Share of vineyard area between Member States, 2010
(%)



Source: Eurostat (online data code: apro_cpp_crop)

Figure 3.1.10: Distribution of the EU-27 olive tree area, 2010
(%)



Source: Eurostat (online data code: apro_cpp_crop)

Olive oil is another key EU Mediterranean product. A total of 99 % of the area planted with olive trees is concentrated in four countries, namely Spain, Italy, Greece and Portugal, with Spain alone accounting for half the area.

Land Use

Table 3.1.5: Agricultural land use, 2010

	Area Total	UAA	Arable Land	Land under permanent crop	Land under permanent grassland
	1 000 ha	%			
EU-27	441 412	41.5	25.7	2.9	13.0
BE	3 053	44.7	27.5	0.7	16.3
BG	11 100	45.5	28.5	1.5	15.3
CZ	7 887	44.7	32.3	0.5	11.9
DK	4 310	61.2	55.8	0.2	5.2
DE	35 713	47.3	33.4	0.6	13.3
EE	4 523	9.3	9.3	11.3	4.3
IE	7 029	59.6	15.5	0.0	44.1
EL	13 198	28.9	18.3	8.5	2.1
ES	50 537	45.1	24.1	10.0	10.7
FR	63 795	55.1	37.7	1.7	15.6
IT	30 132	44.3	24.3	8.6	11.0
CY	925	13.4	9.1	3.8	0.4
LV	6 456	28.4	18.1	0.1	10.2
LT	6 530	41.2	31.4	0.4	9.3
LU	259	50.6	23.9	0.6	26.1
HU	9 303	62.2	48.2	2.1	10.8
MT	32	32.6	25.3	4.1	0.0
NL	3 736	50.1	27.1	1.0	21.6
AT	8 387	37.8	16.3	0.8	20.6
PL	31 268	50.5	38.8	1.2	10.3
PT	9 191	40.1	12.0	8.5	19.4
RO	23 839	59.8	38.4	1.5	19.1
SI	2 027	8.3	8.3	1.3	13.2
SK	4 904	39.2	27.6	0.5	10.5
FI	33 842	6.8	6.7	0.0	0.1
SE	45 030	6.8	5.8	0.0	1.0
UK	24 410	71.0	24.7	0.1	46.1
NO	:				
CH	4 128.5	36.8	9.7	1.4	26.1

Source: Eurostat (online data code: apro_cpp_luse)

Utilised Agricultural Area (UAA) accounts for 42 % of the whole EU-27 territorial area. The share of UAA in the total area varies considerably from country to country, from as low as 7 % in Finland and Sweden to 71 % in the United Kingdom.

As part of UAA, arable land represents around a quarter of the territory of the EU-27. Denmark has the highest share of arable land (56 %).

Permanent grassland accounts for 13 % of EU-27 territory, although there are significant differences between Member States. While permanent grassland accounts for 46 % and 44 % of the total area in the United Kingdom and Ireland respectively, in the extreme northern and southern countries (Finland and Cyprus) less than 1 % of their land is under permanent grassland.

Land under permanent crops represents around 3 % of the total EU-27 area. However, several southern European countries have a higher share of land under permanent crops (10 % in Spain, 9 % in Greece and Italy, 8 % in Portugal).

3.2 Animal production

This chapter presents information on livestock numbers and meat production in the European Union (EU). The EU consisted of 15 Member States (EU-15) from 1995 to 2004, 25 Member States (EU-25) from 2004 to 2006 and 27 Member States (EU-27) from 2007 onwards.

The data are obtained directly from the EU Member States in line with the requirements of EU legislation and specific agreements on animal production statistics. The data are then used not only by European and national institutions, but also by third country administrations, stakeholders, scientists and the general public for policy making, risk management, market analysis, production forecasts, research, information, etc. More detailed statistical data on animal production are available on Eurostat's website. The website also contains metadata describing the scope of statistical collections and brief descriptions of the methodology used.

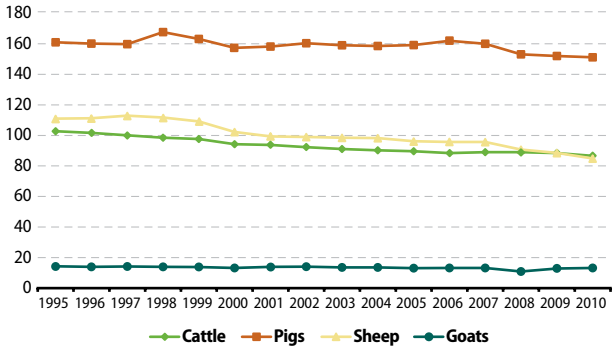
Serious outbreaks of animal diseases, such as the BSE crisis in 1996 and 2000, Foot-and-Mouth disease in 2001 or avian influenza in 2005, had disturbing effects not only on EU animal production, but also on society and the economy in general. Trade globalisation, consumer demands and EU enlargement also present new challenges to EU animal production. To face these challenges, the Common Agricultural Policy (CAP) aims to: (i) stabilise EU markets; (ii) ensure a fair standard of living for farmers; (iii) restore levels of consumption of animal products; and (iv) make EU animal products more competitive on the world market. The main existing market measures are direct payments to producers and public/private storage.

In November 2008, EU agriculture ministers reached a political agreement on the 'Health Check', the aim of which was to modernise, simplify and streamline the CAP, thereby removing production restrictions on farmers. The milk quota system was to be phased out. The year 2009 was especially marked by the milk market crisis.

All these economic, social, environmental, health and political variables are reflected in the EU's figures for animal production.

Livestock and meat

Figure 3.2.1: EU Livestock numbers, 1995-2010
(million heads)



Source: Eurostat (online data codes: apro_mt_lscatl, apro_mt_lspig, apro_mt_lssheep and apro_mt_lsgoat)

Cattle and sheep livestock numbers have fallen slightly over the past decade, while the numbers of pigs and goats have stabilised in the EU as a whole.

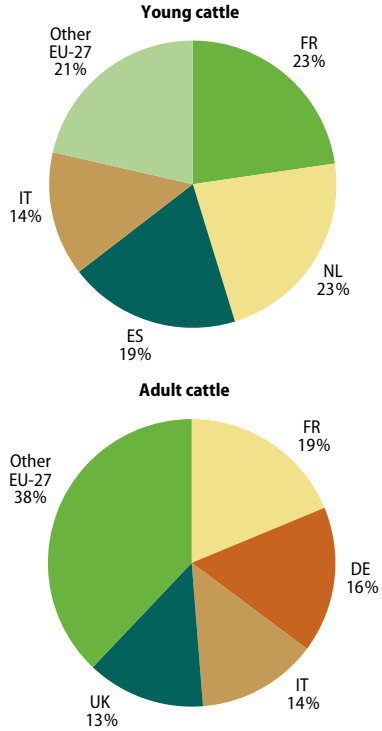
From 2009 to 2010 the number of cattle, pigs and sheep in the EU decreased by 2.1 %, 0.6 % and 4.2 % respectively, while the number of goats increased by 2.6 % in the Member States with a significant herd.

Table 3.2.1: Animal slaughtering by species, 2010
(1 000 tonnes)

	Cattle	Pigs	Sheep	Goats	Poultry
EU-27	7 902.2	22 046.5	716.7	59.1	11 639.7
BE	263.0	1 129.1	2.7	0.1	513.3
BG	4.5	37.3	4.4	0.0	96.0
CZ	74.3	275.9	0.1	0.0	188.2
DK	131.2	1 666.3	1.7	-	184.3
DE	1 186.7	5 443.2	19.8	0.4	1 379.6
EE	9.0	31.9	0.1	-	15.9
IE	559.0	214.1	47.8	-	123.6
GR	58.0	113.7	71.5	35.6	178.0
ES	597.7	3 400.9	124.8	9.2	1 345.4
FR	1 521.2	2 010.3	83.2	6.9	1 712.0
IT	1 075.4	1 632.7	36.1	1.2	1 179.9
CY	4.2	57.1	2.5	2.3	27.7
LV	17.6	23.3	0.2	-	23.4
LT	42.6	54.8	0.1	-	71.9
LU	9.6	9.5	0.0	0.0	-
HU	27.1	416.1	0.2	-	360.0
MT	1.4	7.0	0.1	0.0	4.4
NL	388.6	1 288.3	13.2	1.4	798.6
AT	221.0	542.1	7.2	0.8	112.7
PL	386.0	1 741.4	0.8	0.3	1 342.3
PT	93.7	384.2	10.3	0.9	296.3
RO	27.5	234.2	2.6	0.0	287.5
SI	35.8	24.9	0.1	0.0	61.4
SK	13.6	68.6	0.7	-	64.0
FI	82.1	203.1	0.7	-	96.3
SE	146.8	262.1	4.9	0.0	119.4
UK	924.7	774.5	280.9	0.2	1 570.9

Source: Eurostat (online data code: apro_mt_pann)

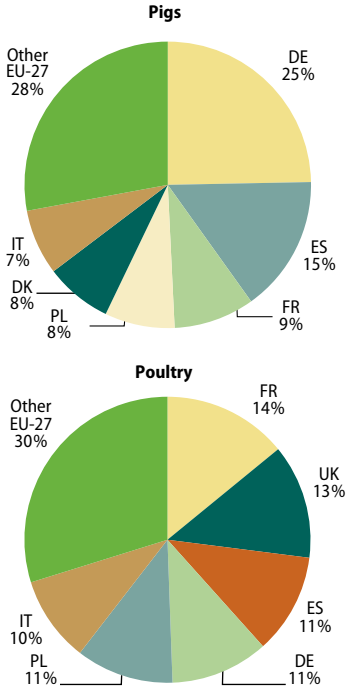
Figure 3.2.2: Slaughter by Member States, 2010
(% weight)



Source: Eurostat (online data code: apro_mt_pann)

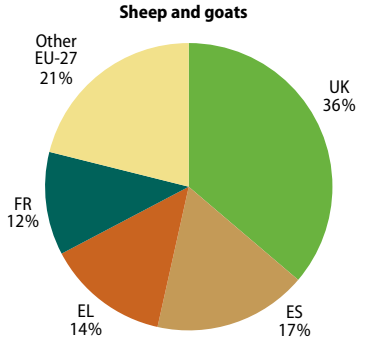
Cattle under one year are here called "young cattle" and the others "adult cattle". Their meat is respectively called veal and beef.

Spain, the Netherlands and France produce almost two thirds (65 %) of the veal produced in the EU. France, Germany and Italy produce under half (49 %) of beef meat.



Source: Eurostat (online data code: apro_mt_pann)

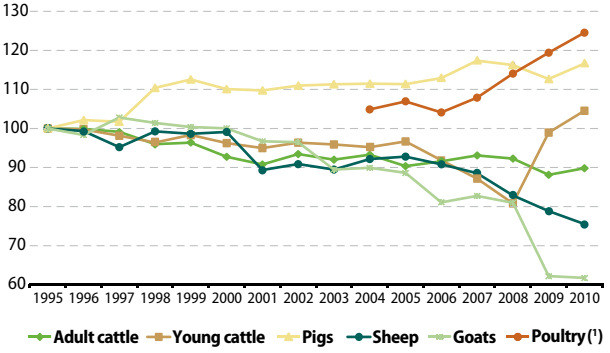
Germany, Spain and France supply almost half (49 %) of the EU production of pigmeat. Five Member States (France, the United Kingdom, Spain, Germany and Poland) account for 60 % of total EU production of poultry meat.



Source: Eurostat (online data code: apro_mt_pann)

The United Kingdom and Spain produce more than half (53 %) of the sheep or goat meat produced in the EU.

Figure 3.2.3: Slaughter index, EU
(weight by species)



(1) Starting index 2004 = 104.9.
Source: Eurostat (online data code: apro_mt_pann)

From 2009 to 2010, the meat production increased for beef and veal, although it continued to decrease for sheep and stabilised for goat. Since 1995, meat production in the EU-27 has fallen for adult cattle, sheep and goats, while production of pigmeat has increased.

The weight of pigmeat produced rose rapidly between 1997 and 1999, dropped slightly between 1999 and 2001, then slowly picked up again until 2007 when a new maximum was recorded. It increased by 3.5% in 2010 without reaching its previous level. Poultry slaughter increased regularly since 2006 and by 4.3% in 2010.

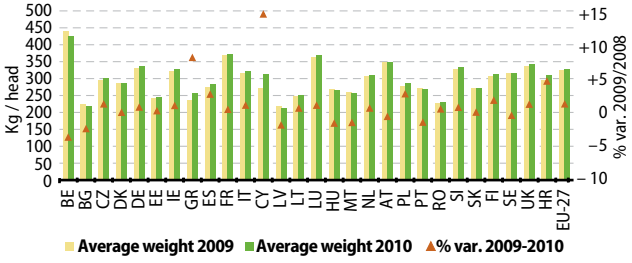
Production of meat from grazing livestock decreased between 1995 and 2005 with some fluctuation, and has fallen since then. The increase of calf meat in 2009 production is confirmed in 2010.

Some methodological changes may have impacted the statistics in 2009. Nevertheless the strongest trend displayed in sheep production is confirmed in the longer term.

In the EU the average carcass weight of adult cattle (at least one year old) increased slightly from 2009 to 2010 (+1.7%) up to around 328 kg. The most significant variations occurred in Cyprus and Greece (increase) and also in Belgium and Bulgaria (decrease), but relating to limited quantities.

The differences between national averages can be mainly explained by the proportion of bulls and bullocks in adult cattle slaughtered.

Figure 3.2.4: Average carcass weight for adult cattle, 2010



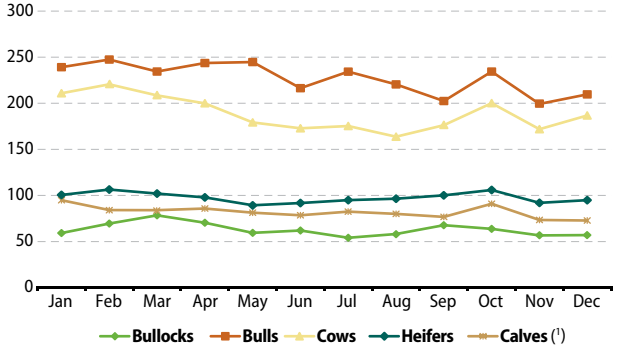
Source: Eurostat (online data code: apro_mt_pann)

Table 3.2.2: Cattle slaughter by animal category, 2010
(1 000 tonnes)

	All Cattle	Calves (1)	Heifers	Cows	Bullock	Bulls
EU-27	7 902.2	985.1	1 172.4	2 266.1	756.4	2 726.5
BE	263.0	55.8	3.9	120.1	0.2	83.0
BG	4.5	0.6	0.9	2.1	-	1.2
CZ	74.3	0.9	6.0	29.7	0.1	37.5
DK	131.2	27.6	11.9	60.1	3.3	28.2
DE	1 186.7	48.1	148.5	405.5	11.7	573.0
EE	9.0	0.3	0.8	5.3	0.1	2.5
IE	559.0	0.9	146.8	104.2	235.9	71.2
GR	58.0	9.4	7.8	6.6	-	34.3
ES	597.7	190.2	109.6	92.5	4.1	201.2
FR	1 521.2	223.6	159.8	642.6	96.4	398.7
IT	1 075.4	138.1	188.9	142.0	3.9	602.5
CY	4.2	1.3	0.4	1.5	-	1.3
LV	17.6	1.2	1.8	8.4	-	6.2
LT	42.6	0.6	6.3	17.8	-	18.0
LU	9.6	0.2	1.5	2.6	0.3	4.8
HU	27.1	0.8	2.8	17.3	0.0	6.2
MT	1.4	0.0	0.2	0.6	-	0.7
NL	388.6	222.2	3.1	140.5	-	22.8
AT	221.0	7.8	30.3	64.2	10.4	112.1
PL	386.0	11.1	47.8	121.6	0.1	205.4
PT	93.7	20.3	13.3	17.7	1.1	41.3
RO	27.5	4.3	2.6	15.0	1.2	4.3
SI	35.8	2.4	3.4	5.7	0.2	24.1
SK	13.6	0.1	1.0	6.3	-	6.2
FI	82.1	0.4	9.1	23.4	-	49.2
SE	146.8	14.7	14.9	44.7	12.9	59.5
UK	924.7	2.4	249.0	168.1	374.3	131.0

(1) Including other young cattle under one year.
Source: Eurostat (online data code: apro_mt_pann)

Figure 3.2.5: Cattle slaughtered monthly by category, 2010 (1 000 tonnes)



(1) Including other young cattle less than one year.

Source: Eurostat (online data code: apro_mt_pwgtm)

Overall, annual cattle production in 2010 visibly picked up in October, similar to the trend observed in previous years, while it remained relatively stable during the rest of the year. Meat production was the highest in February for cows and bulls, and in March for bullocks.

4

Agriculture and the environment

Introduction

Around 40 % of the EU-27's land area is farmed, highlighting the importance of farming for the EU's natural environment. The links between the natural environment and farming practices are complex. On the one hand, farming has contributed over the centuries to creating and maintaining a variety of valuable semi-natural habitats on which a wide range of species rely for their survival. On the other hand, inappropriate agricultural practices and land use can have an adverse effect on natural resources, through the pollution of soil, water and air, or the fragmentation of habitats and subsequent loss of wildlife.

The complex relationship between agriculture and the environment has resulted in environmental concerns and safeguards being integrated within the EU's common agricultural policy (CAP), with particular attention being paid to reducing the risks of environmental degradation through cross-compliance criteria (as a condition for benefiting from direct payments, farmers must comply with certain requirements, some of which are related to environmental protection), and targeted agri-environmental measures, in order to enhance the sustainability of agro-ecosystems.

The importance attached to assessing the interaction between agriculture and the environment is underlined by the Communication 'Development of agri-environmental indicators for monitoring the integration of environmental concerns into the common agricultural policy'([1]), containing a list of 28 agri-environmental indicators (AEI). This set of 28 AEI adopted by the EU portrays agricultural production systems, farm management practices, pressures and risks to the environment and the state of natural resources. At EU, national and regional level AEI's serve to:

- provide information on the farmed environment;
- track the impact of agriculture on the environment;
- assess the impact of agricultural and environmental policies on environmental management of farms;
- inform agricultural and environmental policy decisions;
- illustrate agri-environmental relationships to the broader public.

([1]) European Commission Communication COM(2006) 508 final.

This chapter will give a glimpse of the information provided by some AEI's on:

- Cropping and livestock patterns and stocking densities;
- Estimated consumption of manufactured fertilizers;
- Gross Nitrogen Balance;
- Greenhouse gas emissions from agriculture.

Most of the indicators combine different kinds of data with the utilised agricultural area (UAA), that is, the total area taken up by arable land (including temporary grassland and fallow land), permanent grassland, permanent crops and kitchen gardens. The basic data on agricultural areas and animal numbers used in this chapter come from the Farm Structure Survey (FSS) and thus relate to all agricultural holdings with:

- a utilised agricultural area of 1 ha or more,
- a utilised agricultural area of less than 1 ha if the holding markets produce on a certain scale or if its production units exceed certain natural thresholds.

For more information on the 28 indicators and for access to regional data, go to:

http://epp.eurostat.ec.europa.eu/portal/page/portal/agri_environmental_indicators/introduction

4.1 Cropping and livestock patterns and stocking densities

Cropping and livestock patterns provide an insight into the relationship between the environment and farming developments within the EU. Permanent grasslands (when extensively managed) are generally considered as the most important crop from a nature conservation perspective, providing habitats for many wild plants and animal species.

The grazing of animals on grassland, if not too heavy, can contribute to conservation in semi-natural habitats – as plants and animals benefit from lightly or moderately grazed pastures, whereas heavy grazing is likely to reduce biodiversity. The quality (or balance between intensive and extensive farming practices) of grasslands can be roughly assessed by studying livestock densities.

Livestock densities are used as a 'proxy' of agricultural intensification, a process that has characterised European agriculture for several decades. While intensification increases yields and input efficiency, it can nevertheless harm the environment if it is not properly managed. Intensive livestock rearing, especially in pig and poultry production, is a main source of farmyard manure and slurry, which can lead to nutrient surpluses that harm aquatic systems.

The *total* livestock density measures the stock of animals([2]) per hectare of utilized agricultural area. The *grazing* livestock density measures the stock of grazing animals (cattle, sheep, goats and equidae) per hectare of fodder area([3]).

Higher livestock densities (LD) are likely to contribute more greenhouse gas emissions, as a result of manure production and enteric fermentation, and may also result in nutrient leaching into the water and air. In contrast, a low level of LD may increase the need for industrial fertilisers to be used on agricultural land or lead to the risk of land abandonment, which may also result in the loss of environmental diversity.

Cropping patterns

In 2007 the total utilised agricultural area (UAA) covered 172 million hectares in the EU, with 30 % located in France and Spain (16 % and 14 % respectively). Compared to 2003, on aver-

([2]) Total population of animals as defined in Regulation (EC) No 1166/2008 on Farm Structure Surveys
([3]) Fodder area consists of fodder crops grown on arable land as well as permanent grassland

age in the EU, the UAA has decreased by 0.18 % (a loss of 309 thousand hectares). In general the cropping pattern has been fairly stable between 2003 and 2007 as shown in Figure 4.1.1.

Figure 4.1.1: Acreage of the main components of the UAA, EU-27, 2003–07

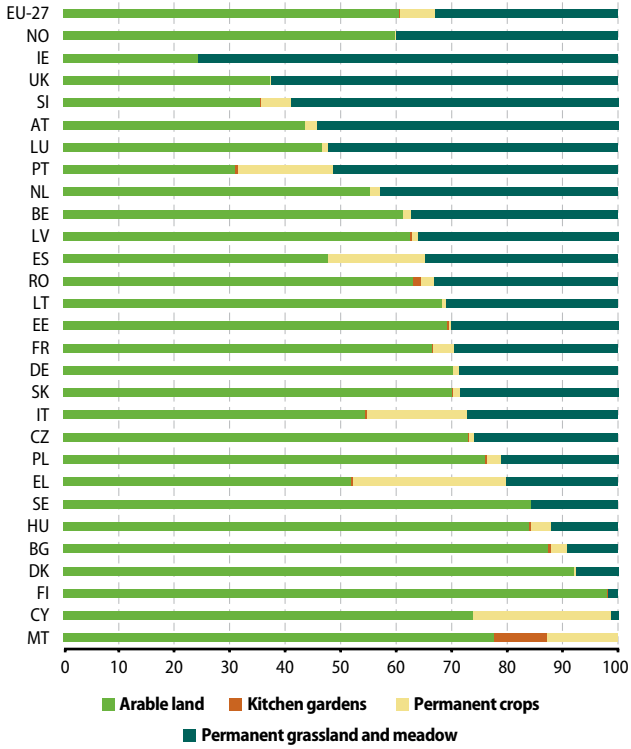
	2003	2005	2007	Δ 2007–03
	1 000 ha			%
Arable land	104 792	104 717	104 341	– 0.43
Permanent crops	11 210	10 872	10 963	– 2.20
Permanent grassland and meadow	56 433	55 984	56 791	0.63
Kitchen gardens	359	426	390	8.62

Source: Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

In the EU in 2007, arable land represented 104 million hectares (60 % of UAA), whereas permanent grassland represented 57 million hectares (33 %) and permanent crops only 11 millions (6 %). Compared to 2003, arable land and permanent crops have lost respectively 451 thousand hectares (– 0.43 %) and 247 thousand hectares (– 2.20 %), while permanent grassland and meadow have gained 358 thousand hectares (+ 0.63 %). Kitchen gardens amounted to less than half a million hectares, which was 31 thousand hectares more than in 2003.

The distribution of the main uses of agricultural land types varies widely from one Member State to another. Figure 4.1.2 shows the breakdown of the four components of the UAA in each Member State in 2007.

Figure 4.1.2: Main agricultural land types, 2007
(%)



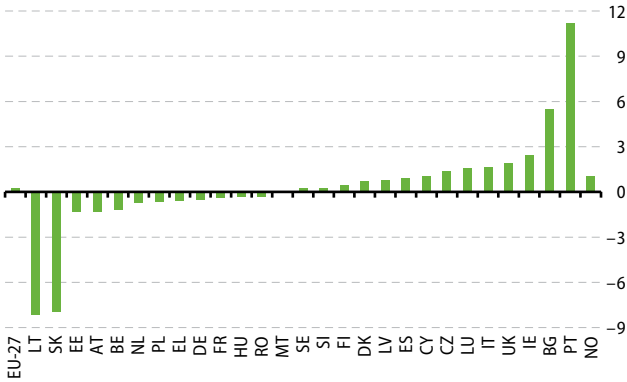
Source: Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

Several Member States (for example, Finland and Denmark) reported that almost the entirety of their UAA was devoted to arable land, while the relative share of arable land in total UAA was above 50 % in twenty of the Member States. Mediterranean countries (for example, Greece, Spain, Italy and Cyprus) tended to have a much higher proportion of permanent crops than the corresponding shares recorded in other Member States; this may be due to favourable climatic conditions and to the commercial importance of crops such as olive trees, vineyards or other fruit trees. In contrast, other Member States had considerable areas of permanent grassland (for example, Ireland and the United Kingdom), which may be associated with relatively high numbers of grazing animals.

In 2007, the fodder area (i.e. grasslands and fodder crops) covered 92 % of the UAA in Ireland, compared to 43 % on average in the EU. Malta was the only Member State to report a significant share of its UAA devoted to kitchen gardens, as well as the only one with no grassland at all (followed by Cyprus, where permanent grassland covered 1.3 % of the UAA).

There have been significant changes in cropping patterns within Member States between 2003 and 2007 for some countries. Figure 4.1.3 shows the difference in percentage points of the share of permanent grassland and meadow between 2003 and 2007 (as % of UAA).

Figure 4.1.3: Change in the share of grassland in total UAA, 2003–07
(Difference in points of percentage)



Source: Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

Slovakia and Lithuania experienced a significant decrease in the share of grassland (–8 points of percentage in both countries), while in Portugal the share of grassland increased by 11 percentage points, rising from 40 % to 51 %. The United Kingdom, where the share of grassland increased from 61 % to 63 %, posted the biggest entry of grassland in absolute terms (+316 thousand hectares), followed by Portugal (+286 thousand hectares). In contrast, the biggest losses of grassland were in Slovakia (–227 thousand hectares) and France (–201 thousand hectares).

Livestock patterns

In 2007, the total livestock population in the EU amounted to 136 million livestock units([4]) (LSU), which was a slight decrease of –3.6 % since 2003 (a loss of 5 million LSU). From 2003 to 2007, the biggest reduction in absolute terms was in the cattle population, which lost around 2 million LSU (–3.10 %), followed by poultry where the decrease was 1.7 million LSU (–8.14 %).

Figure 4.1.4: Size of the main livestock populations, EU-27, 2003–07

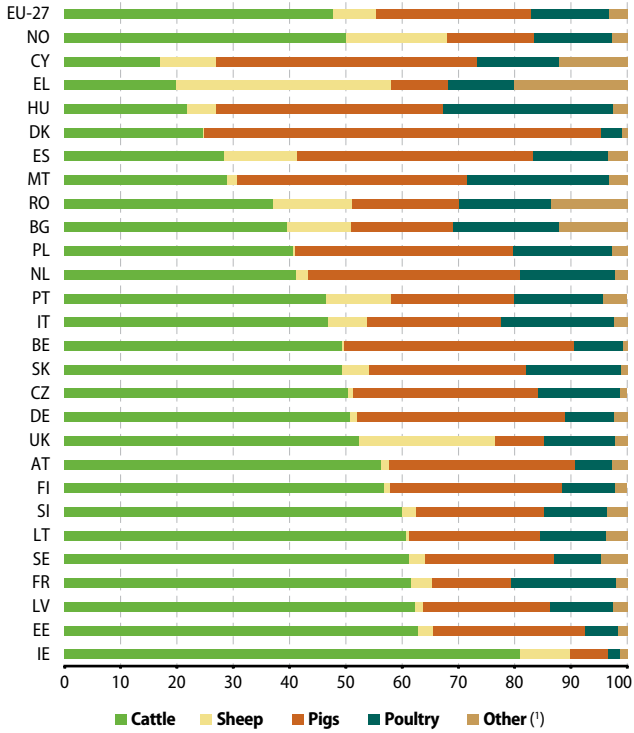
	2003	2005	2007	Δ 2007–03 (%)
	1 000 LSU			%
Cattle	67 010	65 439	64 929	–3.10
Sheep	10 818	10 562	10 324	–4.57
Pigs	38 220	37 359	37 494	–1.90
Poultry	20 420	19 326	18 759	–8.14
Other ([1])	4 595	4 455	4 476	–2.57

([1]) Goats, equidae and rabbits.
Source: Eurostat (online data codes: aei_ps_lsc and ef_ov_lssum)

In 2007 cattle alone represented 65 million LSU (i.e. 89 million heads of bovine animals) and made up 48 % of the total livestock units in the EU, followed by pigs (28 %), poultry (14 %) and sheep (8 %). The bulk of the cattle population was in France (22 %), Germany (14 %) and the United Kingdom (12 %). Figure 4.1.5 shows the share of different livestock categories in each Member State in 2007.

([4]) The LSU is a reference unit which allows livestock from various species and ages to be added together. The 'Eurofarm LSU coefficients', which are the basis of this indicator, are established by convention, although originally they were related to the animals' feed requirements, the reference being a dairy cow with an annual yield of 3 000 kg milk, without additional concentrated feeding stuffs.

Figure 4.1.5: Major livestock categories, 2007
(%)



(1) Goats, equidae and rabbits.
Source: Eurostat (online data codes: aei_ps_lsc and ef_ov_lssum)

Cattle were particularly dominant in Luxembourg (85%) and Ireland (81%), and in 13 of the Member States a majority of the livestock population (in LSU's) was composed of cattle. In Denmark, pigs represented 71% of the total livestock units: Denmark was the only Member State where pigs accounted for more than half of the livestock population, although pigs were the largest category of livestock in four other Member States (Cyprus, Hungary, Spain and Malta). More than one third (38%) of the livestock in Greece consisted of sheep (while goats accounted for a further 19%; goats are included within the residual category "other" in Figure 4.1.5). Greece was the only Member State where sheep were the largest category of livestock, the next highest share being recorded in the United Kingdom (24%).

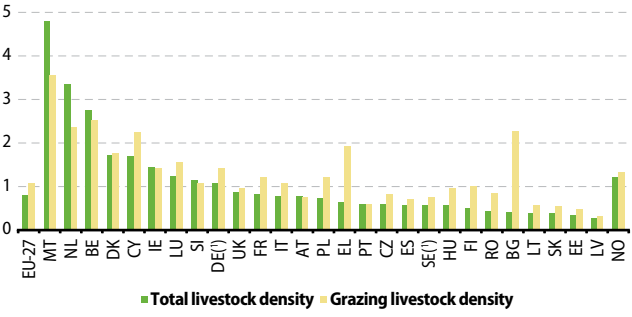
Stocking densities

High stocking densities generally involve a risk of nutrient pollution and overgrazing, and a need to import animal feedstuffs. In 2007 in the EU, the total number of LSU per hectare of UAA was 0.78, a slight decrease of 4.9 % compared to 2003 when this total livestock density (total LD) was 0.82.

Total LD aggregates all categories of animal, including battery (indoor) animals such as pigs and poultry and all types of agricultural land; it is a broad indicator of the pressure exerted by farming as a whole. However, limiting the scope to only grazing animals and fodder area gives a different picture, more specifically of grassland management. The grazing livestock density (grazing LD) was 1.07 LSU per hectare of fodder area in 2007 in the EU, down by 3.6 % compared to 2003 when the grazing LD was 1.11.

However, there are big differences across Member States, with the total LD ranging from 0.27 LSU/ha in Latvia to 4.80 LSU/ha in Malta and the grazing LD from 0.31 and 3.56 respectively in the same countries. Figure 4.1.6 shows the total LD and grazing LD in each country in 2007.

Figure 4.1.6: Stocking densities, 2007
(LSU/ha)



(1) Data on goats are not available (non-significant).
Source: Eurostat (online data codes: aei_ps_ld, ef_ov_lssum and ef_ls_gzforage)

The highest total LD were found in Malta, the Netherlands and Belgium, where the grazing LD was also much lower than the total LD. Such a difference usually reflects predominant pig and poultry production and a relatively large share of grassland and other fodder crops within the UAA. Indeed, in Malta the share of

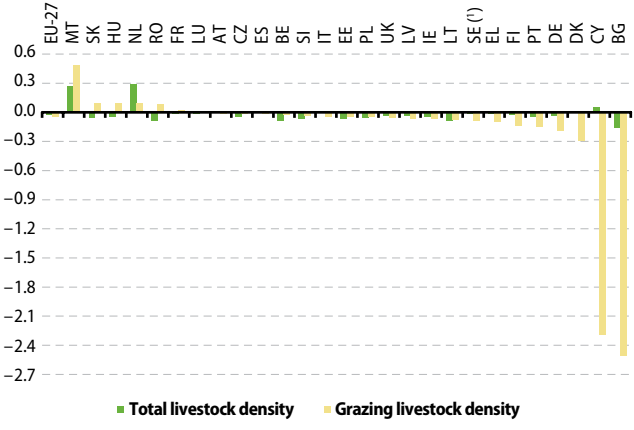
pigs and poultry together made up 66 % of the total LSU, while fodder crops covered 45 % of the UAA. In the Netherlands, two thirds of the UAA were devoted to grassland and fodder production, and more than half of the livestock consisted of pigs and poultry.

In Bulgaria, Greece and most of the other countries, on the other hand, the grazing LD was generally higher than the total LD. In Bulgaria the grazing LD was more than five times higher than the total LD: this can be explained by the small shares of pigs and poultry (37 % altogether) and of fodder area (11 % of the UAA). In Greece, where grazing LD was three times higher than the total LD, pigs and poultry accounted for only 22 % of the total livestock, while the fodder area was not very large (26 %).

In Ireland, where the share of pigs and poultry was the lowest (9 %) and the share of fodder area the highest (92 %), total LD and grazing LD were equally high.

As livestock numbers decreased significantly between 2003 and 2007 in the EU, stocking densities also followed a negative trend on average; at national level, however, the pattern was quite different. Figure 4.1.7 shows the change (difference) of total LD and grazing LD between 2003 and 2007.

Figure 4.1.7: Change in livestock densities, 2003–07
(Difference in LSU/ha)



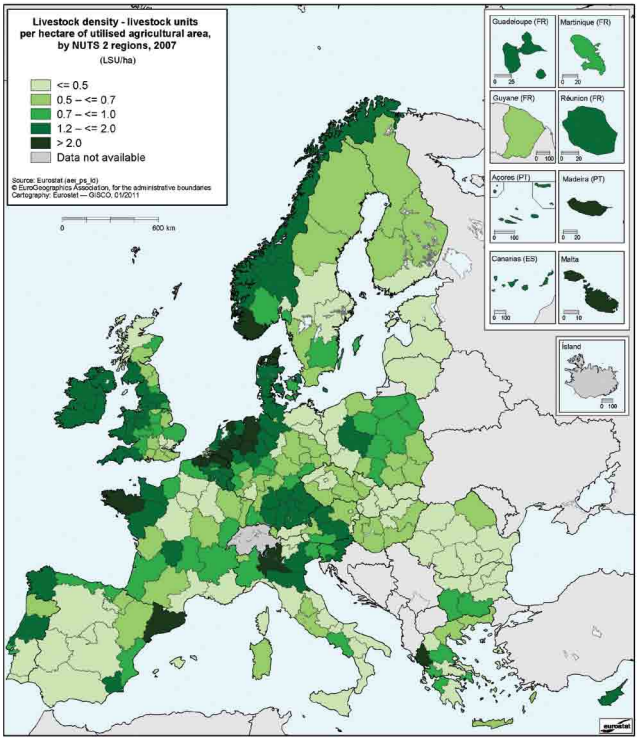
(1) Data on goats are not available (non-significant).
Source: Eurostat (online data codes: aei_ps_ld, ef_ov_lssum and ef_ls_gzforage)

On average in the EU total LD fell by – 0.03 LSU/ha between 2003 and 2007, and grazing LD by – 0.04 LSU/ha. The major drop in livestock densities in Bulgaria is mainly due to a decline of more than 20 % in livestock populations between 2003 and 2007, while at the same time the fodder area increased by almost 40 % and the UAA by almost 5 %. The major decrease in grazing livestock density in Cyprus is caused by a drop in grazing livestock populations (– 12 %) and a big increase in the fodder area (44 %).

Figure 4.1.8 shows the spatial distribution of total livestock densities at regional level in 2007. The highest livestock densities were recorded in a number of regions across the north of Belgium and the south of the Netherlands, as well as in Malta (which at the NUTS 2 level is a single region). Other regions with very high density can be found in Germany, western France (Brittany), north-eastern Spain (Catalonia), northern Italy (Lombardy), north-western Greece (Epirus), and Scandinavian countries such as Denmark and Norway.

At the other end of the range, the lowest livestock densities were registered in a number of disparate regions, such as regions with capital cities (for example, Paris and Vienna), tourist destinations (such as the Algarve), remote areas (like the Scottish Highlands), or more generally the south of Italy (for example, Puglia, Basilicata and Sicily), Estonia and Latvia.

Figure 4.1.8: Total livestock density at regional level, 2007 (LSU/ha)



Source: Eurostat (online data code: aei_ps_ld)

Table 4.1.1: Utilized Agricultural Area in the EU, 2007
(in hectares)

	UAA	Arable land	Perma-nent crops	Perma-nent grassland and meadow	Kitchen gardens
EU-27	172 485 050	104 341 220	10 962 680	56 790 720	390 430
BE	1 374 430	841 920	20 850	511 450	210
BG	3 050 740	2 663 640	89 770	279 580	17 750
CZ	3 518 070	2 570 880	37 220	909 180	800
DK	2 662 590	2 452 080	9 460	201 050	0
DE	16 931 900	11 890 450	198 450	4 838 570	4 430
EE	906 830	626 950	3 190	273 390	3 300
IE	4 139 240	1 007 580	1 240	3 130 280	130
EL	4 076 230	2 118 620	1 125 940	819 610	12 060
ES	24 892 520	11 882 970	4 355 270	8 649 790	4 490
FR	27 476 930	18 301 980	1 058 510	8 105 260	11 180
IT	12 744 200	6 938 830	2 323 180	3 451 760	30 430
CY	146 000	107 840	36 250	1 860	60
LV	1 773 840	1 110 530	17 660	639 520	6 130
LT	2 648 950	1 809 380	20 440	819 130	0
LU	130 880	61 070	1 510	68 290	10
HU	4 228 580	3 552 600	155 400	504 150	16 440
MT	10 330	8 020	1 320	0	990
NL	1 914 330	1 059 230	34 390	820 700	:
AT	3 189 110	1 388 640	66 200	1 730 260	4 000
PL	15 477 190	11 755 780	375 240	3 271 240	74 930
PT	3 472 940	1 077 700	596 250	1 780 580	18 410
RO	13 753 050	8 691 340	343 620	4 540 140	177 940
SL	488 770	172 950	25 840	288 220	1 770
SK	1 936 620	1 357 730	24 080	551 090	3 730
FI	2 292 290	2 248 060	4 520	38 470	1 240
SE	3 118 000	2 626 910	3 970	487 120	0
UK	16 130 490	6 017 540	32 910	10 080 030	0
NO	1 031 990	616 640	3 150	412 190	0

Source: Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

Table 4.1.2: Livestock population in the EU, 2007
(Livestock units)

	livestock	cattle	sheep	goats	pigs	poultry	equidae
EU-27	135 982 290	64 929 470	10 323 980	1 250 330	37 493 780	18 758 720	3 121 420
BE	3 787 770	1 871 090	15 050	2 890	1 543 020	326 990	28 300
BG	1 245 980	492 370	143 370	37 850	224 500	234 530	110 930
CZ	2 052 810	1 034 720	17 280	1 590	673 820	302 580	22 260
DK	4 582 160	1 126 050	15 650	1 440	3 233 070	163 780	42 160
DE	17 985 170	9 112 170	246 100	:	6 662 850	1 540 120	423 930
EE	313 200	197 030	8 320	440	84 230	18 280	4 780
IE	5 918 340	4 791 130	534 450	1 010	390 700	126 780	74 260
EL	2 626 560	518 800	1 007 990	498 710	263 450	307 680	25 590
ES	14 380 700	4 080 470	1 875 860	247 570	6 016 880	1 913 420	221 590
FR	22 543 650	13 909 020	844 660	130 820	3 127 760	4 198 790	315 200
IT	9 900 670	4 644 800	679 010	93 680	2 361 480	1 979 830	125 290
CY	246 660	42 080	24 420	28 110	114 530	35 570	1 380
LV	487 870	304 000	7 060	1 900	110 470	54 120	9 650
LT	1 030 890	625 970	5 250	2 890	239 520	120 420	35 890
LU	160 820	136 680	930	280	18 390	1 050	3 470
HU	2 409 330	526 520	123 190	6 730	973 410	727 030	49 650
MT	49 630	14 380	880	570	20 250	12 520	850
NL	6 415 200	2 647 200	136 930	32 400	2 407 160	1 083 700	106 820

Table 4.1.2: Livestock population in the EU, 2007 *(cont)*
(Livestock units)

	livestock	cattle	sheep	goats	pigs	poultry	equidae
AT	2 473 240	1 394 030	32 760	5 830	818 360	161 490	60 770
PL	11 117 920	4 524 370	33 640	14 390	4 310 660	1 950 020	263 330
PT	2 030 050	945 200	233 960	38 930	442 350	322 760	42 000
RO	6 041 720	2 239 280	853 190	87 400	1 149 520	983 890	724 140
SL	553 590	332 100	13 590	3 460	126 650	61 660	15 700
SK	747 210	369 630	34 780	1 400	208 750	126 250	5 870
FI	1 152 090	654 380	11 930	620	352 560	108 830	23 770
SE	1 784 810	1 093 150	50 910	:	407 790	148 730	84 240
UK	13 944 250	7 302 850	3 372 820	9 420	1 211 650	1 747 900	299 600
NO	1 267 600	635 580	226 710	7 200	196 670	175 050	26 360

Source: Eurostat (online data codes: aei_ps_lsc and ef_ov_lssum)

4.2 Estimated consumption of manufactured fertilizers

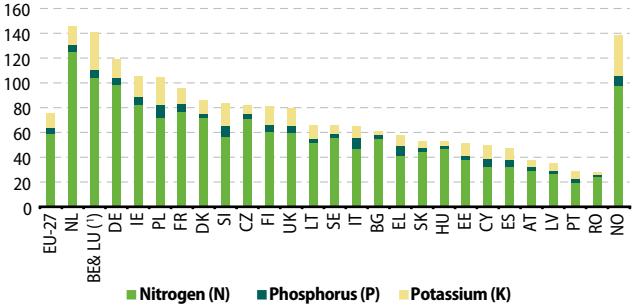
Fertilizers contain important nutrients, such as Nitrogen (N), Phosphorus (P) and Potassium (K), which plants absorb from the soil for their growth. Fertilizers are therefore an essential input in agricultural production. In addition to livestock manure used as an organic fertilizer, most farms — with the exception of organic farms — also apply large amounts of mineral fertilizers manufactured by the fertilizer industry.

When the amount of fertilizer applied exceeds the plants' nutritional requirements, there is a greater risk of nutrient losses from agricultural soils into ground and surface water. The resulting higher concentration of nutrients ('eutrophication') can cause serious degradation of ecosystems. Therefore, consumption of (mineral) fertilizers has a major influence through eutrophication and the associated environmental damage. In order to limit this phenomenon, a number of legislative measures have been taken, such as the adoption of the Nitrates Directive and the Water Framework Directive, covering the designation of nitrate-vulnerable zones where Member States have imposed regulatory limits on the load and timing of the spreading of fertilizer (and manure) on agricultural land.

In addition to the problems triggered by eutrophication, fertilizers also have adverse environmental effects resulting from their production processes. More specifically, nitrogenous fertilizers — which are the fertilizers most commonly consumed — require large amounts of energy and ultimately cause greenhouse gas emissions. In a completely different way, phosphorus and potash fertilizers also have an environmental impact, since the raw materials used to produce them are mined, therefore creating the damage typically associated with mining, e.g. landscape destruction, water contamination, excessive water consumption and air pollution.

Figure 4.2.1 shows the estimated consumption of manufactured fertilizers in kilograms of nutrients (expressed as N, P and K) per hectare of utilised agricultural area (UAA) in the EU (excluding Malta) in 2009.

Figure 4.2.1: Estimated consumption of manufactured fertilizers, 2009
(Kilograms of nutrient per hectare of UAA)

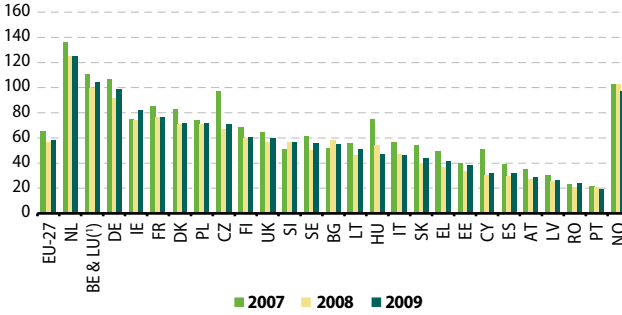


(1) BE & LU stands for the Belgium-Luxembourg Economic Union.
NB: Fertilizer data are not available in Malta. The UAA data are the 2007 FSS values.
Source: Fertilizers Europe (European Fertilizers Manufacturers Association) (Eurostat online data code: aei_fm_manfert) and Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

In 2009 the total estimated consumption of manufactured fertilizers in the EU (excluding Malta) averaged 76 kilograms of nutrients (N, P and K altogether) per hectare of UAA. Nitrogen accounted for the vast majority (78 %) of the nutrients consumed in manufactured fertilizers, with an estimated consumption of 59 kg/ha on average in the EU that ranged from 19 kg/ha in Portugal to 125 kg/ha in the Netherlands. In contrast, the average estimated consumption for Phosphorus was 6 kg/ha (from 2 to 10 kg/ha) and 11 kg/ha for Potassium (from 2 to 33 kg/ha). The countries with the highest consumption of nutrients (from manufactured fertilizers) per hectare were the Netherlands, Belgium and Luxembourg, and Norway, followed by Germany. By contrast, Portugal and Romania were the countries with the lowest consumption of nutrients.

Figure 4.2.2 shows the estimated consumption of Nitrogen from manufactured fertilizers, in kilograms per hectare of UAA, in the EU (excluding Malta) in 2007, 2008 and 2009.

Figure 4.2.2: Estimated consumption of Nitrogen (N) from manufactured fertilizers, 2007–09
(Kilograms per hectare of UAA)



(1) BE & LU stands for the Belgium-Luxembourg Economic Union.
NB: Fertilizer data are not available in Malta. The UAA data are the 2007 FSS values.
Source: Fertilizers Europe (European Fertilizers Manufacturers Association) (Eurostat online data code: aei_fm_manfert) and Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

Regarding Nitrogen alone, on average in the EU the estimated consumption has increased slightly (+4 %) in comparison to 2008 when it was 56 kg/ha, but has mostly decreased (– 10 %) in comparison to 2007 when it was 65 kg/ha. In general there was a drop in the consumption per hectare after 2007, especially in Hungary (– 37 % between 2007 and 2009), Cyprus (– 36 %) and Czech Republic (– 27 %). By contrast, the estimated consumption of Nitrogen in Slovenia and Ireland increased between 2007 and 2009 (+ 11 % and + 10 % respectively).

Estimated consumption in the Netherlands has decreased (– 9 %) since 2007 when it was 137 kg/ha, but the figure remained stable between 2008 and 2009 (125 kg/ha in both years).

In 2009, estimated consumption of manufactured Nitrogen was 105 kg/ha in Belgium and Luxembourg, 98 kg/ha in Germany and 97 kg/ha in Norway.

However, in order to estimate the risk of nutrient loss, consumption of manufactured fertilizers should be combined with other nutrient inputs, such as application of manure and slurry, nitrogen fixation and atmospheric nitrogen deposition, along with nutrient uptake by plants. In addition, the nutrient requirements (and hence consumption) of plants are influenced by previous land management, soil type and climatic factors, and they vary from one crop to another. Consequently, the dif-

ferentiation of consumption data by region, by crop, by farm types, and by type of nutrient (since these substances have different properties in terms of solubility and toxicity) would add considerable value to this kind of analysis.

Table 4.2.1: Estimated consumption of manufactured fertilizers (N, P and K), 2009, and utilised agricultural area (UAA), 2007

	Tonnes of nutrients (2009)			Hectares
	Nitrogen (N)	Phosphorus (P)	Potassium (K)	UAA 2007
EU-27	10 116 830	974 634	1 971 243	172 485 050
BE & LU(1)	157 312	9 947	45 082	1 505 310
BG	167 895	9 121	8 982	3 050 740
CZ	249 180	15 259	23 474	3 518 070
DK	191 860	7 302	28 897	2 662 590
DE	1 667 080	97 690	258 773	16 931 900
EE	34 655	2 826	9 065	906 830
IE	339 986	27 281	69 347	4 139 240
EL	169 515	30 372	35 885	4 076 230
ES	802 840	135 147	228 781	24 892 520
FR	2 112 618	176 132	341 593	27 476 930
IT	593 289	112 521	121 526	12 744 200
CY	4 742	983	1 534	146 000
LV	46 767	4 864	11 034	1 773 840
LT	135 657	10 716	28 747	2 648 950
HU	198 970	8 741	14 179	4 228 580
MT	:	:	:	10 330
NL	238 983	10 601	28 920	1 914 330
AT	93 229	8 910	16 298	3 189 110
PL	1 112 896	157 254	343 873	15 477 190
PT	67 475	11 909	20 023	3 472 940
RO	334 825	25 136	27 420	13 753 050
SI	27 770	3 975	8 933	488 770
SK	85 602	7 237	10 245	1 936 620
FI	139 376	12 655	34 426	2 292 290
SE	173 257	9 402	21 392	3 118 000
UK	971 051	78 654	232 815	16 130 490
NO	100 426	8 865	33 639	1 031 990

(1) BE & LU stands for the Belgium-Luxembourg Economic Union.
NB: Fertilizer data are not available in Malta.
Source: Fertilizers Europe (European Fertilizers Manufacturers Association) (Eurostat online data code: aei_fm_manfert) and Eurostat (online data codes: aei_ps_alt and ef_lu_ovcropaa)

4.3 Gross Nitrogen Balance

The Gross Nitrogen Balance (GNB) provides an insight into the links between agricultural nitrogen use, losses of nitrogen to the environment, and the sustainable use of soil nitrogen resources. A persistent surplus of Nitrogen (N) indicates potential environmental problems, such as ammonia emissions (contributing to acidification, eutrophication and atmospheric particulate pollution), nitrogen leaching (resulting in pollution of drinking water and eutrophication of surface waters) or emissions of nitrous oxide (a potent greenhouse gas). A persistent deficit in nitrogen indicates the risk of a decline in soil fertility. The Gross Nitrogen Balance shows the link between agricultural activities and the environmental impact, identifying the factors determining the N surplus and the trends over time.

The GNB, i.e. the estimated N surplus, can only indicate the total potential risk to the environment (air, water and soil), as the actual risk depends on many factors including climate conditions, soil type and soil characteristics, soil saturation, and management practices such as drainage, tillage, irrigation, etc.

The input side of the balance includes all N supplied to the soil. The output side of the balance presents the nutrient uptake by harvested (and grazed) crops and fodder and crop residues removed from the field, i.e. the agricultural production from the soil. Sustainability could be defined as preserving and/or improving the level of production without degrading the natural resources. The harvest and grazing of crops and fodder means that N is removed from the soil. In order to sustain soil fertility, this removal of N in principle should be compensated by supplying the same amount of N. Fertilisers and manure are therefore necessary to supply the crops with the Nitrogen they need for growing.

However, there are certain complications. Not all of the N in fertilisers and manure reaches the plant; a part of the N in fertilisers and manure is lost due to volatilisation in animal housing, storage and with the application to the land. Organic N in manure needs to be mineralized first before it is available to the plant, which means that part of the N does not become available to the plant in the year when it is applied; yield and therefore the uptake of N by crops is determined not only by inputs but also by uncontrollable factors such as climate. Furthermore, the risk of N leaching and run-off depends not only on the excess N but also on the type of soil, precipitation rates, soil saturation, temperature, etc.

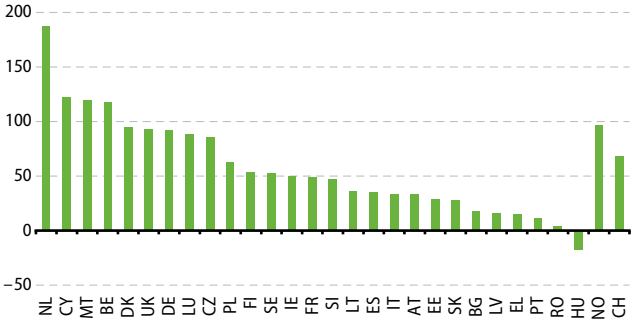
As the GNB roughly represents the difference between the nutrients applied to the soil and the nutrients removed with the crops, the

GNB reflects the risk of the remaining nutrients either leaching into the soil and water or being released into the atmosphere. Therefore abatement measures to reduce N emissions have a direct impact on the amount of N leaching to the soil from manure and fertilisers. Similarly, a higher emission rate means lower N leaching from manure and fertilisers applied to the soil, but a bigger impact in terms of environmental problems related to GHG and NH3 emissions.

Between 2005 and 2008, the Gross Nitrogen Balance for the EU-27 remained relatively stable, with an estimated average of 50 kilograms of N per hectare of agricultural area. In the EU-15 the GNB fell from an estimated average of 66 kg/ha over the period 2000–2004 to an estimated average of 58 kg/ha over the period 2005–2008. In the ten former Central and Eastern European Countries([5]) the GNB was much lower than in the EU-15, with an estimated average of 33 kg/ha over the period 2005–2008.

Figure 4.3.1 shows the Gross Nitrogen Balance per hectare of agricultural land (arable land, land under permanent crops and permanent grassland) in 2008.

Figure 4.3.1: Gross Nitrogen Balance, 2008
(Kilograms per hectare of agricultural land)



NB: Due to methodological issues or missing data, Eurostat has estimated the GNB for Malta, Belgium, Denmark, Cyprus, Italy, Spain, Luxembourg, France, Lithuania, Latvia, Bulgaria, Romania and Greece.

Source: Eurostat (online data code: aei_pr_gnb)

In 2008, the Nitrogen surplus was by far the highest in the Netherlands (188 kg/ha), followed by Cyprus (122 kg/ha), Malta (120 kg/ha) and Belgium (118 kg/ha). In contrast, the N surplus was the lowest in Romania (4 kg/ha) and Portugal (11 kg/ha). In Hungary, the GNB was actually negative, with an N deficit of – 18 kg/ha.

([5]) Czech Republic, Poland, Slovenia, Slovakia, Estonia, Latvia, Lithuania, Hungary, Bulgaria, Romania.

Table 4.3.1: Gross Nitrogen Balance, 2008

	Inputs (tonnes of N)			Outputs (tonnes of N)			Hectares
	Fertilizer consumption	Manure input	Other input	Harvested crops	Grazed and harvested fodder	Crop residues	Agricultural land
BE	*143 459*	*222 514*	*51 740*	*82 962*	*166 122*	*6 624*	*1 372*
BG	*167 895*	*102 775*	*66 908*	*211 850*	*33 112*	*:*	*5 073*
CZ	346 803	121 289	136 830	204 758	96 007	:	3 549
DK	*229 928*	*264 566*	*53 713*	*173 905*	*98 387*	*19 392*	*2 696*
DE	1 878 846	1 264 593	631 389	1 213 372	998 765	8 648	16 921
EE	35 416	12 839	14 102	23 770	15 235	:	802
IE	310 686	487 790	61 692	44 340	604 960	:	4 200
EL	*170 000*	*242 083*	*86 610*	*184 950*	*231 355*	*:*	*5 577*
ES	*1 024 130*	*781 426*	*379 827*	*646 825*	*549 163*	*126 618*	*24 548*
FR	*2 403 000*	*1 854 711*	*760 060*	*1 693 135*	*1 881 297*	*:*	*29 243*
IT	*723 995*	*669 092*	*398 445*	*730 138*	*625 078*	*:*	*13 270*
CY	*4 742*	*15 576*	*1 341*	*2 175*	*1 428*	*:*	*148*
LV	*48 001*	*30 280*	*44 568*	*40 101*	*38 701*	*14 168*	*1 825*
LT	*142 329*	*72 512*	*43 462*	*87 921*	*73 698*	*:*	*2 668*
LU	*13 334*	*12 934*	*2 588*	*4 466*	*12 786*	*:*	*131*
HU	295 670	107 274	132 705	559 251	56 515	24 273	5 692
MT	*339*	*2 167*	*130*	*481*	*1 041*	*:*	*9*
NL	245 126	445 256	44 860	82 178	288 149	3 425	1 919
AT	142 561	183 562	82 027	129 024	175 836	199	3 151

Table 4.3.1: Gross Nitrogen Balance, 2008 *(cont)*

	Inputs (tonnes of N)			Outputs (tonnes of N)			Hectares
	Fertilizer consumption	Manure input	Other input	Harvested crops	Grazed and harvested fodder	Crop residues	Agricultural land
PL	1 142 275	592 181	388 610	637 166	403 298	103 418	15 608
PT	96 343	163 573	29 919	48 168	200 560	:	3 713
RO	*279 886*	*523 720*	*241 018*	*458 195*	*533 526*	*:*	*13 536*
SI	25 039	38 673	10 834	11 226	40 053	:	492
SK	89 650	48 998	66 023	98 646	37 223	15 814	1 905
FI	163 043	106 484	19 583	84 420	79 911	:	2 294
SE	189 901	123 968	68 969	109 743	107 061	4 015	3 076
UK	1 133 083	1 013 310	305 481	570 391	749 458	11 667	12 106
NO	104 917	83 601	8 345	28 490	68 845	:	1 024
CH	57 500	133 608	68 385	24 991	132 265	:	1 496

Source: Eurostat (online data code: aei_pr_gnb)

4.4 Greenhouse gas emissions from agriculture

Greenhouse gas emissions contribute to climate change by trapping heat in the atmosphere.

Agriculture is highly exposed to climate change, which may have an impact on yields, location of production, costs of production, etc. with potential risks for food supply, agricultural product prices and farm income.

Some greenhouse gases, such as CO_2, occur naturally and are emitted to the atmosphere through natural processes and human activities. Others (e.g. fluorinated gases) are generated and emitted solely as a result of human activities (e.g. industrial processes).

The main agricultural sources of greenhouse gas emissions are:

- methane (CH_4) emissions through enteric fermentation([6]) in ruminant animals (i.e. cattle, sheep and goats);
- nitrous oxide (N_2O) emissions through soil denitrification([7]);
- CH_4 and N_2O emissions from manure decomposition.

These biochemical processes generally depend on climatic, soil, agronomic and technological conditions which can affect the anaerobic activity of microorganisms present in animals' rumen, agricultural soils and manure storage facilities. Methane and nitrous oxide emissions are therefore closely related to livestock production.

The indicator is expressed in CO_2-equivalents, as different greenhouse gases have different global warming potential. All greenhouse gases have what is called a Global Warming Potential (GWP). This value is used to compare the abilities of different greenhouse gases to trap heat in the atmosphere. GWPs are based on the heat-absorbing ability of each gas relative to that of carbon dioxide (CO_2), as well as the decay rate of each

([6]) Enteric fermentation is a natural part of the digestive process for many ruminant animals where anaerobic microbes, decompose and ferment food in the rumen (a special stomach), that are then absorbed by the ruminant. Because this digestion process is not 100 percent efficient, some of the food energy is lost in the form of methane. Measures to mitigate enteric fermentation would not only reduce emissions, they may also raise animal productivity by increasing digestive efficiency.

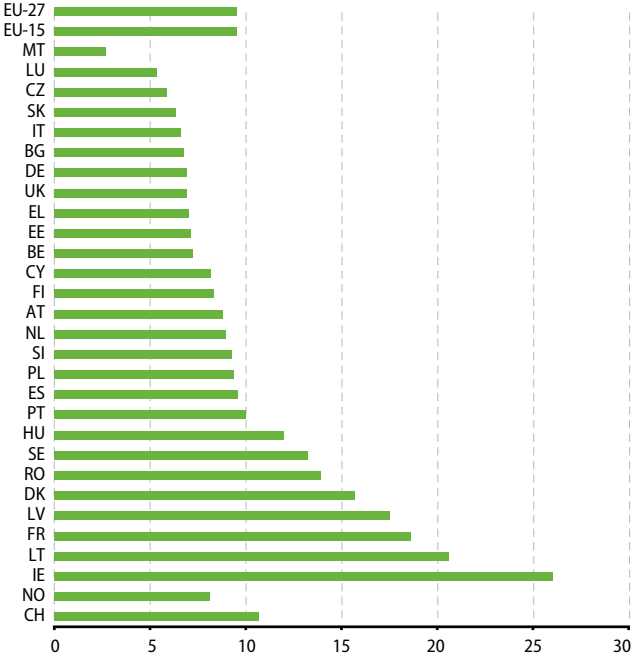
([7]) Nitrous oxide is produced in soils through the processes of nitrification and denitrification. Nitrification is the aerobic microbial oxidation of ammonium to nitrate, and denitrification is the anaerobic microbial reduction of nitrate to nitrogen gas (N2).

gas (the amount removed from the atmosphere during a given number of years). By assigning a GWP value it allows policy makers to compare the impacts of emissions and reductions of different gases. For instance, methane is a significant contributor to the greenhouse effect and has a GWP of 21. This means that methane is approximately 21 times more heat-absorptive than carbon dioxide per unit of weight. Nitrous oxide is even 310 times more heat-absorptive than carbon dioxide per unit of weight.

Greenhouse gas emissions from fuel combustion in agriculture (e.g. related to the use of farm machinery) and those attributed to land use, land use change and forestry are not included here.

Figure 4.4.1 shows the contribution of agriculture to the total emissions of greenhouse gas (compiled in CO_2-equivalent) across all sectors in 2008.

Figure 4.4.1: Share of agriculture in total greenhouse gas emissions, 2008
(%)

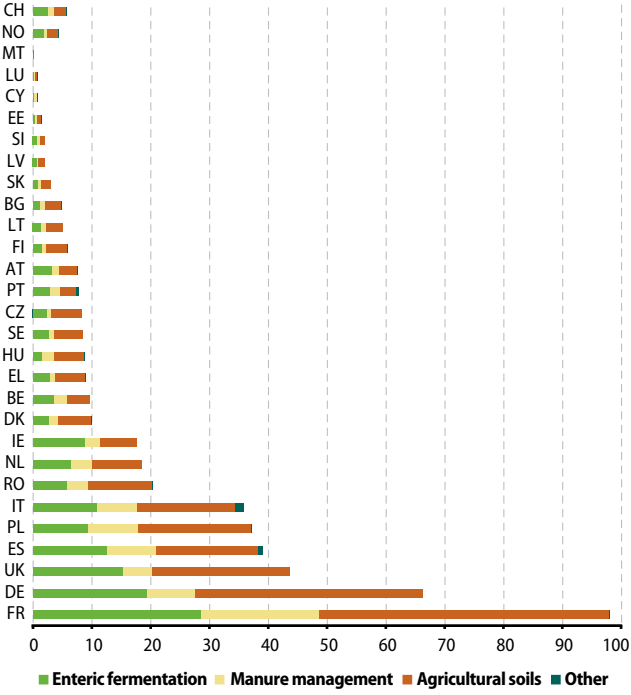


Source: European Environment Agency / European Topic Centre on Air and Climate Change (Eurostat online data code: aei_pr_ghg)

In 2008 the share of greenhouse gas emissions from agriculture ranged from 26.1 % in Ireland to 2.7 % in Malta. On average in the EU-27, agriculture made a significant contribution to total greenhouse gas emissions, with a share of 9.6 % (compared to 9.2 % in). These figures depend a lot on the level of emissions from other sectors, such as energy production, transport, etc.

Figure 4.4.2 shows the greenhouse gas emissions from the main agricultural sources in absolute terms in 2008.

Figure 4.4.2: Greenhouse gas emissions from agriculture, by source, 2008
(Million tonnes of CO_2-equivalent)



Source: European Environment Agency / European Topic Centre on Air and Climate Change (Eurostat online data code: aei_pr_ghg)

As greenhouse gas emissions are related to the size of the agricultural sector, it is not surprising that countries with large UAA and livestock populations, such as France and Germany, contribute the most to greenhouse gas emissions from agriculture. In 2008, agricultural soils emitted half of all agricultural

greenhouse gas emissions in the EU-27 (see Table 4.4.1), while enteric fermentation was responsible for nearly a third, and manure management for nearly a fifth of agricultural emissions; these figures are very stable compared to 2007. Field burning of agricultural residues and rice cultivation were only minor contributors to greenhouse gas emissions in EU-27, mainly in Mediterranean countries such as Italy.

Table 4.4.1 – Greenhouse gas emissions, 2008
(Million tonnes of CO_2-equivalent)

	Total [all sectors excluding LULUCF(1)]	Agriculture	Enteric fermentation	Manure management	Agricultural soils
EU-27	4 940	472	147	82	240
BE	133	10	4	2	4
BG	73	5	1	1	3
CZ	141	8	2	1	5
DK	64	10	3	2	6
DE	958	66	20	8	39
EE	20	1	0	0	1
IE	67	18	9	3	6
EL	127	9	3	1	5
ES	406	39	13	8	17
FR	527	98	29	20	49
IT	541	36	11	7	17
CY	10	1	0	0	0
LV	12	2	1	0	1
LT	24	5	1	1	3
LU	12	1	0	0	0
HU	73	9	2	2	5
MT	3	0	0	0	0
NL	207	19	6	4	8
AT	87	8	3	1	3
PL	396	37	9	9	19
PT	78	8	3	2	3
RO	146	20	6	4	11
SI	21	2	1	1	1
SK	49	3	1	1	2
FI	70	6	2	1	4
SE	64	8	3	1	5
UK	628	44	15	5	23
NO	54	4	2	0	2
CH	53	6	3	1	2

(1) Land use, land-use change and forestry (LULUCF) is defined by the UN Climate Change Secretariat as "A greenhouse gas inventory sector that covers emissions and removals of greenhouse gases resulting from direct human-induced land use, land-use change and forestry activities".

Source: European Environment Agency / European Topic Centre on Air and Climate Change (Eurostat online data code: aei_pr_ghg)

Land cover / land use statistics

5

Introduction

Most biological and human activities are land-based. Land is accounted for in two ways: as bio-geographical land cover and as socio-economic land use. Land cover indicates the visible surface of land (e.g. crops, grass, water, broad-leaved forest or built-up area). Land use indicates the socio-economic purpose for which the land is used (e.g. agriculture, forestry, recreation or residential use). Data on land cover and land use are essential for observing and managing a range of key environmental and socio-economic trends, many of which are linked to the sustainable use of resources and climate change.

In one of its land data collection systems, Eurostat collects land cover and land use data in the field through an area frame survey called LUCAS. It was launched in spring-autumn 2009 simultaneously in 23 EU countries. Bulgaria, Cyprus, Malta and Romania were not covered by the LUCAS 2009 survey. Field surveyors visited the identified points and collected information on land cover, land use and selected agro-environmental indicators for 234.700 points distributed among 23 Member States (EU-23). Landscape diversity was recorded along a 250 m long line eastwards from each point (the LUCAS transect). Each visit was documented by numerous photographs, which form an important part of the LUCAS dataset, especially in terms of landscape description.

Eurostat has drawn up land use and land cover statistics to NUTS level 2 on the basis of the data collected on these points. The LUCAS micro-data for each single point are freely available on the Eurostat website.

This chapter presents national and regional data on land cover and land use from the agriculture perspective. In addition to data on pure land cover and land use, there are maps that combine land cover and land use and depict landscape diversity analyses.

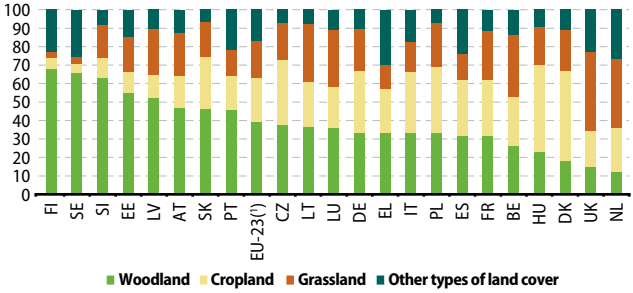
5.1. Land cover

Table 5.1.1: Land cover types, 2009
(% of total area)

	Forest and other wooded land(1)	Crop-land	Grass-land	Shrub-land	Water and wetland	Built-up and other artificial areas(2)	Bare Land
EU-23(3)	37.1	23.1	18.6	5.4	5.0	4.1	1.8
BE	25.8	26.4	33.0	0.7	1.5	10.1	1.1
CZ	37.1	34.9	19.4	0.5	1.5	4.2	0.7
DK	17.9	47.2	21.4	1.1	2.5	6.3	1.0
DE	33.0	32.4	22.3	0.6	2.2	6.7	0.7
EE	49.6	10.4	17.2	0.9	9.7	1.7	0.8
IE	10.8	4.6	59.1	5.5	7.8	3.7	0.7
EL	32.6	23.0	13.0	21.0	2.4	3.1	2.5
ES	31.6	30.1	13.7	14.0	1.0	3.5	5.0
FR	31.2	29.9	26.1	3.2	1.7	5.2	0.9
IT	32.3	32.5	15.9	5.1	2.6	7.1	2.0
LV	49.8	11.5	23.8	2.3	5.1	1.6	0.8
LT	35.4	23.5	30.1	0.8	3.6	2.5	0.6
LU	35.6	22.0	30.7	0.6	0.9	7.9	1.3
HU	22.3	45.9	19.7	1.7	3.1	3.7	0.5
NL	11.0	21.3	33.8	1.2	10.1	11.6	0.9
AT	45.8	16.9	22.6	1.7	2.5	5.0	2.9
PL	32.3	35.3	23.1	0.7	2.3	3.2	0.8
PT	45.1	18.2	13.5	10.4	1.9	5.2	3.9
SI	62.7	10.5	17.8	2.3	0.9	3.4	1.4
SK	45.9	28.0	18.4	2.3	1.2	2.6	0.4
FI	58.7	5.2	2.5	3.6	13.8	1.3	1.1
SE	57.1	3.9	3.6	5.1	13.5	1.3	2.0
UK	14.2	19.0	40.6	9.8	4.2	6.4	1.6

(1) The definition of 'other wooded areas' in the Land Use/Cover Area frame Survey (LUCAS) is broader than the definition of the Food and Agriculture Organisation of the United Nations (FAO).
(2) Built-up and other artificial areas include roofed constructions (buildings and greenhouses), non-built up areas (yards, parkings, cemeteries) and linear features (roads and rail networks).
(3) EU average based on available Member States - BG, RO, CY and MT not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lcv_ovw)

Figure 5.1.1 Share of land cover types in total country area, 2009



(1) BG, RO, CY and MT not included in the LUCAS 2009 survey
Source: Eurostat (online data code: lan_lcv_ovw)

5.1.1 Cropland

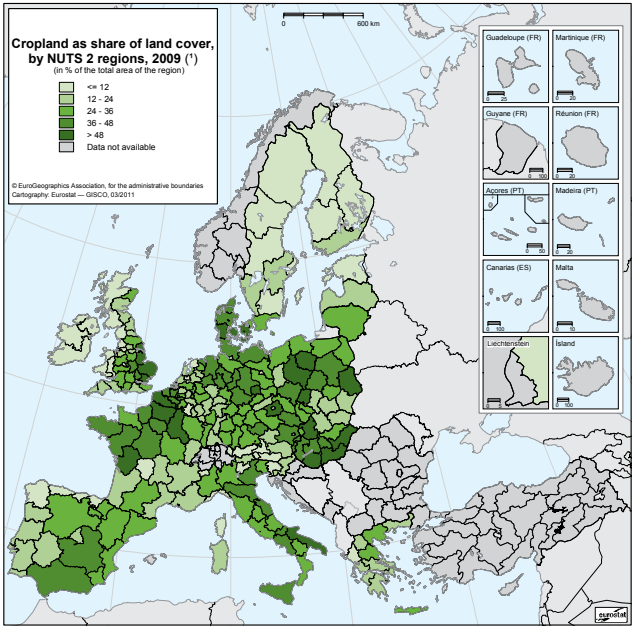
Nearly one quarter of the EU-23 land is covered by crops (table 5.1.1).

Map 5.1.1 shows the share of land covered by cultivated areas(1) in the EU-23 countries. Cropland represents more than 1/8 of the total area in most parts of Europe (although with different concentrations) with the only exception of very remote areas (northern regions in Finland, Sweden, United Kingdom and Ireland), large cities and mountainous areas.

The largest share of cultivated areas (between 45 % and 68 % of the NUTS 2 regions) is in regions of eastern and central European countries, such as Hungary, the Czech Republic and Poland, where very large collective farming is still practiced, in northern parts of France (Picardie, Nord — Pas-de-Calais, Haute- and Basse Normandie and Poitou-Charentes), eastern England, some regions of Germany (Leipzig, Sachsen-Anhalt, Hannover), Puglia and Sicilia in Italy and Denmark. All these regions have fertile lands and a long tradition of agriculture, which explains the significant share of croplands.

(1) Permanent grass is not included in this category, even when used for grazing, as it is classified as natural cover.

Map 5.1.1 cropland as share of land cover, by NUTS 2 regions, 2009
(% of the total area of the region)



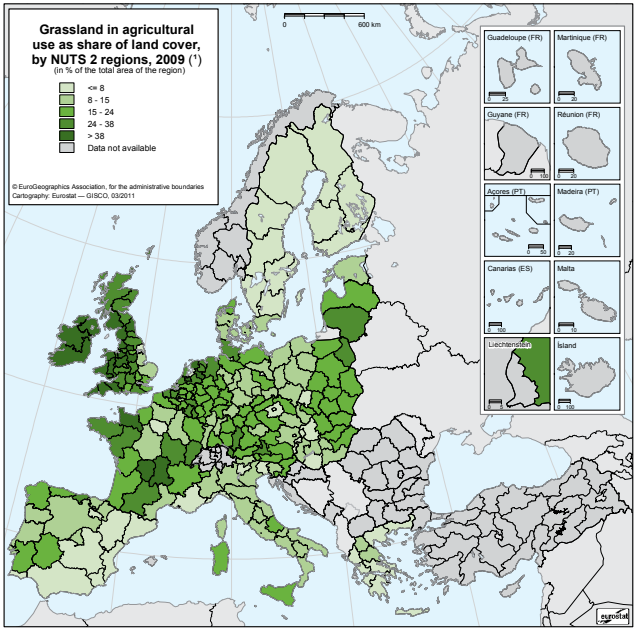
(1) Bulgaria, Cyprus, Malta and Romania were not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lcv_ovw)

5.1.2 Grasslands in agricultural use

Map 5.1.2 shows the grasslands used for agricultural purposes. They are mainly concentrated in regions with less fertile soils and where forests have been either cut during the past centuries to fuel economic growth or disappeared due to climate factors. This is the case in Ireland, most of the United Kingdom (except eastern parts) and the Netherlands. Grassland used for agricultural purposes directly reflects the intensity of livestock farming. In France, the cheese and meat producing regions of Auvergne and Limousin are very heavily dominated by grassland.

Areas with a relatively low share of grassland in agricultural use are located in harsher climate conditions, some in northern and others in southern Europe. In Greece and in eastern and southern Spain (Andalucía, Comunidad Valenciana, Cataluña and Région de Murcia), the climate is too arid for natural grasslands. The land is dominated more by shrubs. Finland and Sweden have very few agricultural grasslands.

Map 5.1.2 grassland in agricultural use as share of land cover, by NUTS 2 regions, 2009 (1)
(% of the total area of the region)



(1) Bulgaria, Cyprus, Malta and Romania were not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lcv_ovw)

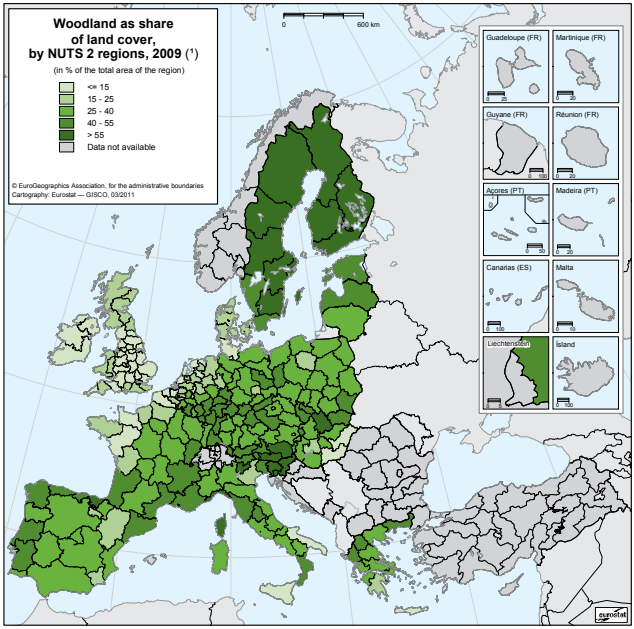
5.1.3 Forests and woodlands

Forests and woodland dominate the European landscape, with a 39 % share at EU-23 level (table 5.1 and figure 5.1). The highest shares are found in Finland (68 %), Sweden (66 %), Slovenia (63 %), Estonia (55 %) and Latvia (52 %) which have more than half of their land covered by forests and Woodland. On the other side, a few countries are covered by less than 20 % of forest: Ireland (12 %), the Netherlands (12 %), United Kingdom (15 %) and Denmark (18 %).

Woodlands are covering over 15 % of the land in most regions of Europe (Map 12.5). The few exceptions (less than 1/7 woodland) include Ireland, most parts of England, coastal areas of Holland and Belgium, Puglia and Sicilia in Italy, the island of Kriti in Greece, the north-west costal regions of France (Pays de la Loire, Basse-Normandie and Nord — Pas-de-Calais), Hamburg and Schleswig-Holstein regions in northern Germany.

In most regions in Finland, Sweden and Slovenia, more than 50 % of land is covered by woodland. The Baltic States are also dominated by forests. Large forest areas are a typical landscape feature in Northern Europe and mountainous regions are usually covered by woodland. Typical examples are all regions in the Alps (France, Germany, Austria and Slovenia), the mountains in Greece, Apennines (Italy), Pyrenees (Spain and France) and Ardennes (Belgium). Central and south-western parts of Germany and most of Portugal are also rich in woodland.

Map 5.1.3 Woodlands as share of land cover, by NUTS 2 regions, 2009
(% of the total area of the region)



(1) Bulgaria, Cyprus, Malta and Romania were not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lcv_woo)

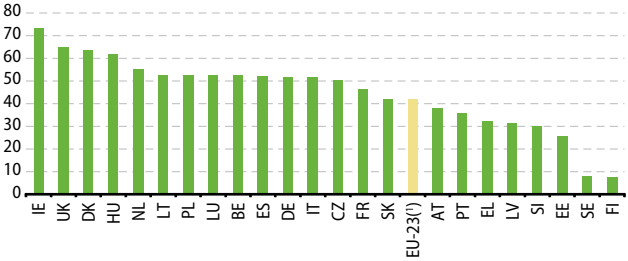
5.2 Land use

Table 5.2.1 : Land use, 2009
(% of total area)

	Agriculture	Forestry	Hunting and fishing	Industry, energy, transport and mining (1)	Commerce, services and residential areas (2)	No visible use
EU-23(3)	41.9	29.0	2.2	3.3	10.0	10.6
BE	52.5	17.8	0.1	6.4	19.4	3.7
CZ	50.4	33.5	0.9	3.3	7.1	4.8
DK	63.5	12.0	1.0	3.5	12.3	6.7
DE	51.7	28.7	0.7	5.1	9.8	3.9
EE	25.7	47.9	1.5	2.5	12.8	5.5
IE	73.2	8.9	0.4	5.9	8.2	3.5
EL	32.3	24.8	1.8	2.6	6.5	23.2
ES	51.9	13.5	9.1	2.8	7.1	13.1
FR	46.6	19.6	0.9	3.3	7.8	7.9
IT	51.4	16.7	0.5	4.6	11.1	15.8
LV	31.6	48.2	2.4	2.2	6.3	9.5
LT	52.7	33.7	2.9	2.1	4.8	3.6
LU	52.6	33.3	0.0	5.9	6.2	2.0
HU	61.6	21.6	1.3	3.2	8.0	4.2
NL	55.1	2.9	1.4	11.8	25.5	3.3
AT	38.2	45.7	0.5	4.0	7.2	4.4
PL	52.6	26.7	0.8	2.7	7.2	10.0
PT	35.8	36.3	0.2	3.4	7.7	13.2
SI	30.0	50.7	1.7	2.9	6.4	8.3
SK	42.0	39.6	1.0	2.3	9.7	5.4
FI	7.4	61.3	2.9	2.1	15.2	10.8
SE	8.1	54.4	1.6	2.1	14.6	19.3
UK	65.1	8.5	1.7	3.3	13.5	7.9

(1) Also including water and waste treatment and construction
(2) Also including recreation and sport areas
(3) EU-23: EU average based on available Member States - BG, RO, CY and MT not included in the LUCAS 2009 survey
Source: Eurostat (online data code: lan_lu_ovw)

Figure 5.2.1 – Share of agriculture in total land use, 2009
(%)

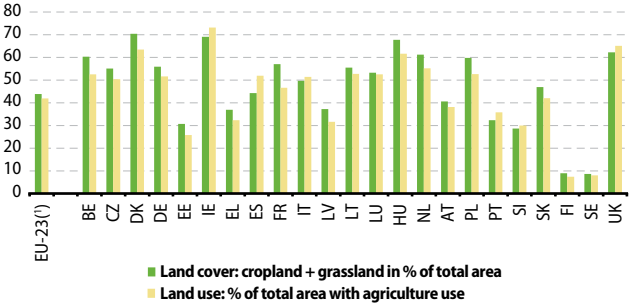


(1) BG, RO, CY and MT not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lu_ovw)

Table 5.2.1 shows the distribution of the socio-economic use of land. At EU-23 level, agriculture represents nearly half (41.9) of the total land use (figure 5.2.1). However, this figure at national level shows great differences between countries. 14 countries have more than half of their land used by Agriculture, the highest share being Ireland (73.2 %) and 9 countries with less than half of their land used by Agriculture, the smallest shares being Sweden and Finland (8.1 and 7.4 %.).

Figure 5.2.2 shows that the agricultural socio-economic use of land reflects to a large extent the physical land cover (cropland and grassland). However, in 6 countries (Ireland, Spain, Italy, Portugal, Slovenia and the United Kingdom) the share of land used for agriculture is higher than the share of land covered by grassland and cropland. This difference may be explained by the fact that in those countries, shrubland is also used for grazing.

Figure 5.2.2 Agriculture: land cover (cropland + grassland) and land use, 2009
(%)



(1) BG, RO, CY and MT not included in the LUCAS 2009 survey.
Source: Eurostat (online data codes: lan_lu_ovw and lan_lcv_ovw)

5.3 Landscape indicators

5.3.1 Landscape diversity

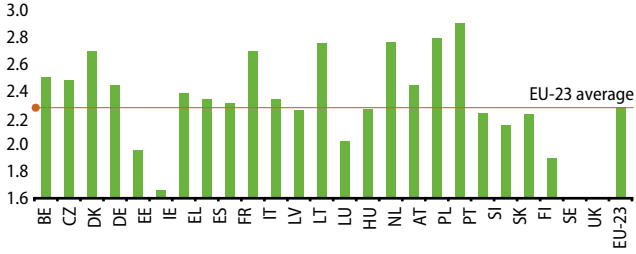
Landscape is composed of the terrain, the land cover texture and visible features, such as trees and buildings. Giving a definition of landscape that describes its status and changes is a challenging task. Landscape is not only a mixture of the above elements but it stems from perceptions and is scale dependent.

A direct measure of the degree of homogeneity or heterogeneity in terms of the physical coverage of the land can be drawn by the number of different land cover types observed in each of the transects([2]) surveyed. This index of "richness" is portrayed in Figure 5.3.1 for the 23 EU countries covered by the LUCAS survey in 2009. A certain degree of complexity in the landscape structure can be observed as, on average, 2.3 different types of land cover are detected along the transect. The range of the average number of different types of land cover spans from more than 2.5 in Slovenia, Portugal, Austria, Luxembourg, Denmark and Italy, to less than 2.0 in Ireland, the United Kingdom and Estonia.

About 30 % of the surveyed transects in the EU present a single type of land cover, while in 17 % of cases there are 4 or more different types of cover (Figure 5.3.2). A more detailed analysis shows that average values can result from quite different combinations of land cover patterns. Countries with high and low average numbers of landscape types are still the same as in figure 5.3.1, but metrics and rankings differ. Shares of single types of land cover vary from less than 20 % to more than 50 %, while the transects with four or more types of land cover occur from 3 % to 31 %. In some countries, such as Greece or Slovakia, a relatively high share of transects with a single land cover type can be observed with a similarly high share of transects with four or more different types of cover. In other cases, such as Belgium, or Luxembourg, relatively low shares of single cover are observed with relatively low shares of highly varied land cover.

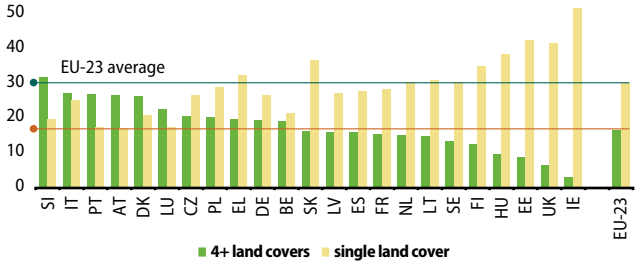
([2]) Transect: The LUCAS 2009 transect is a 250 m straight line going East and stemming from one LUCAS point. Data collected along the transect include the occurrence of land cover types and of linear features recorded in the order in which they are encountered.

Figure 5.3.1: Land cover richness indicator, 2009
(average number of different land cover types in a 250 m transect)



Source: Eurostat (online data code: lan_lcs_ric)

Figure 5.3.2: Transects with single land cover and with 4 or more land cover types, 2009
(% shares)



Source: Eurostat (online data code: lan_lcs_ric)

5.3.2 Shannon Evenness Index (3)

The information on different types of land cover and their relative abundance (i.e. whether the same type of land cover recurs in a transect) can be summarised using the Shannon Evenness Index (SEI).

As map 5.3.1 shows, areas with high diversity are generally found in countries with mountainous or hilly areas. Slovenia, Portugal, Austria, Italy, Luxembourg score high on land cover

(3) Shannon Evenness index: The Shannon Evenness Index provides information on area composition and richness. It covers the number of different land cover types (m) observed along the straight line and their relative abundances (). It is calculated by dividing the Shannon Diversity Index by its maximum (). Therefore it varies between 0 and 1 and is relatively easy to interpret.

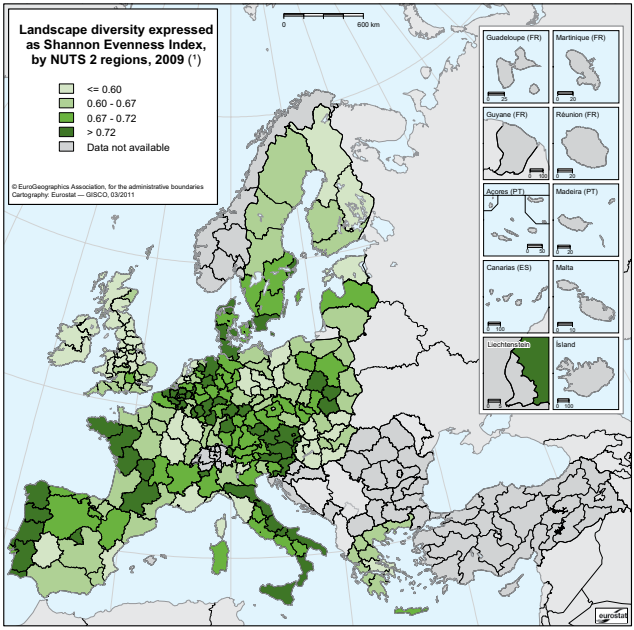
$$SEI = SDI / \max(SDI) = -\sum_{i}^{m}(P_i * \ln(P_i)) / \ln(m)$$

variance measured by the SEI. Relatively homogeneous countries, which have a strong dominance of one land cover type have typically a low SEI value in landscape diversity. Examples are the United Kingdom and Ireland, which are dominated by grasslands, and Finland and Estonia covered largely by woodlands. Countries close to the EU average value of SEI (Germany, Spain, France and Poland) have a balanced mixture of land cover types with no clear dominant land cover type.

The SEI computed at NUTS level 2 shows that 4 out of 5 regions in Portugal rank amongst the top 25 %, as do 3 out of 5 Danish regions, 6 out of 9 Austrian regions and 8 out of the 11 Belgian regions. In Denmark and Belgium, land cover patches (particularly cropland) seem to be smaller than the European average and they often alternate with other types of land cover. This gives high landscape diversity in these regions. Italy and France are crossed from North to South by a strip of regions with a highly diverse landscape. In Italy, the line mainly follows the Apennine Mountains. In France, a combination of reasons seems to underpin landscape diversity in western regions. In the North (Bretagne), rather diverse land use leads to analogous diversity in the landscape. In the South (Midi-Pyrénées), diversity is more directly linked to the orography of the land.

At the lower (25 %) end of the distribution of the SEI are the Irish regions and 24 of the 37 regions of the United Kingdom, 6 of which are among the 10 EU regions with the lowest SEI value.

Map 5.3.1 Shannon Evenness Index, by NUTS 2 regions, 2009 (1)



(1) Bulgaria, Cyprus, Malta and Romania were not included in the LUCAS 2009 survey.
Source: Eurostat (online data code: lan_lcs_sei)

Population of the EU predominantly rural regions

6

Introduction

This chapter presents data on the EU's regional population according to the new urban-rural typology. It will focus on the predominantly rural regions and will also take a special look at women and young people living in these regions.

The new urban-rural typology

The classification is completed in three steps: identify rural area population, classify NUTS 3 regions and adjust classification based on the presence of cities.

Population in rural areas

This typology uses a simple two-step approach to identify population in rural areas:

(1) Rural areas are all areas outside urban clusters

(2) Urban clusters are clusters of contiguous [1] grid cells of 1 km² with a density of at least 300 inhabitants per km² and a minimum population of 5 000

Regional classification

NUTS 3 regions are classified on the basis of the share of population in rural areas:

- Predominantly Rural if the share of population living in rural areas is higher than 50 %;
- Intermediate, if the share of population living in rural areas is between 20 % and 50 %;
- Predominantly Urban, if the share of population living in rural areas is below 20 %.

To resolve the distortion created by extremely small NUTS 3 regions, regions smaller than 500 km² are combined for classification purposes with one or more of their neighbours.

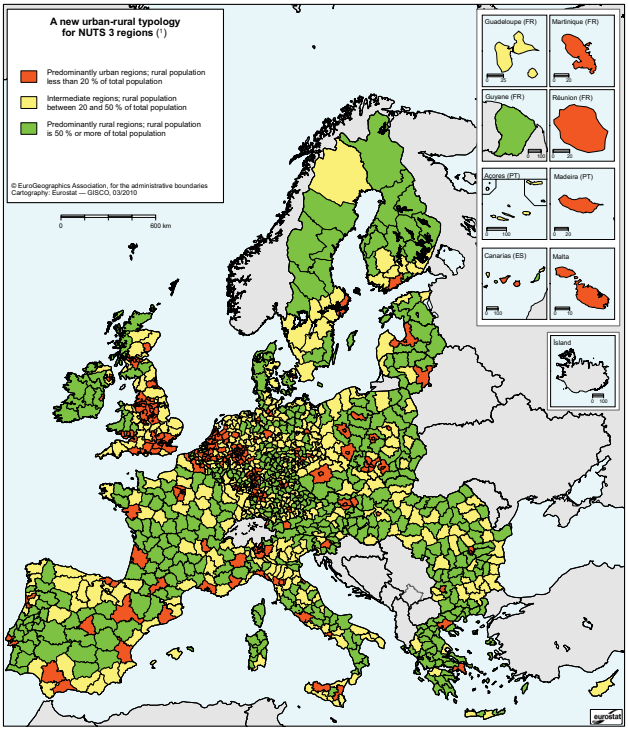
[1] Contiguity for urban clusters includes the diagonals (i.e. cells with only the corners touching). Gaps in the urban cluster are not filled (i.e. cells surrounded by urban cells).

Presence of cities

In a third step, the size of the urban centres in the region is considered:

- A predominantly rural region which contains an urban centre of more than 200 000 inhabitants representing at least 25 % of the regional population it becomes intermediate.
- An intermediate region which contains an urban centre of more than 500 000 inhabitants representing at least 25 % of the regional population becomes predominantly urban.

Map 6.0: A new urban-rural typology for NUTS 3 regions ([1])

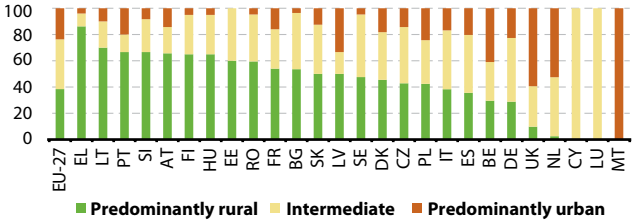


([1]) This typology is based on a definition of urban and rural 1 km² grid cells. Urban grid cells fulfil two conditions: 1) a population density of at least 300 inhabitants per km² and 2) a minimum population of 5 000 inhabitants in contiguous cells above the density threshold. The other cells are consired rural. Thresholds for the typology: 50 % and 20 % of the regional population in rural grid cells.
For Madeira, Açores and the French outermost regions, the population grid is not available. As a result, this typology uses the OECD classification for these regions.

Source: Eurostat, JRC, EFGS, REGIO-GIS

The EU has 1 303 regions (NUTS 3), of which 38 % are predominantly rural. As shown in Figure 6.0, Luxembourg, Cyprus and Malta do not have any predominantly rural regions. Currently, Luxembourg and Cyprus have one NUTS 3 region classified as intermediate; and the two Maltese NUTS 3 regions are classed as predominantly urban.

Figure 6.0: Urban-rural type of EU regions by country
(%)



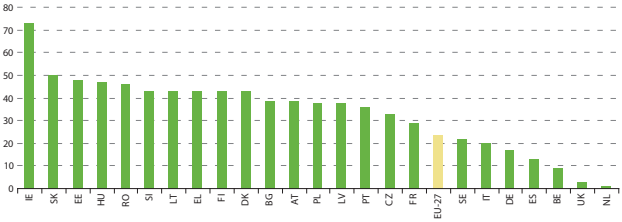
Source: Eurostat, JRC, EFGS, REGIO-GIS

6.1 Population of the EU's predominantly rural regions

In 2009, the predominantly rural regions were home to 117.7 million people, i.e. 24 % of the EU population. As can be seen from Figure 6.1.1, there were significant disparities between the Member States. At one extreme, 73 % of the Irish population lived in predominantly rural regions. At the other end of the scale, only 1 % of the Dutch population lived in these regions.

According to the definition, regions classified as predominantly urban and intermediate also have some rural inhabitants. However, the rural population is mainly represented in predominantly rural regions.

Figure 6.1.1: Share of the national population living in predominantly rural regions, 2009
(%)



Source: Eurostat (online data codes: demo_pjangroup and demo_r_pjanaggr3)

6.2 Population change in the EU's predominantly rural regions

Between 2006 and 2009, the population of the predominantly rural regions remained stable on average per year and that of the EU as a whole by 0.4 %. Population growth was mainly lower in predominantly rural regions as compared with the national level. However, there were disparities. As shown in Table 6.2.1, between 2006 and 2009, the Dutch population as a whole grew by 0.3 % on average per year while the population of predominantly rural regions decreased by 0.1 %. During the same period, in France the population as a whole and the population of these regions both increased by 0.6 %. However, in Latvia, the national population declined by 0.5 % while the population of predominantly rural regions decreased by 1.1 %.

Table 6.2.1: Population change in predominantly rural regions, 2006–2009

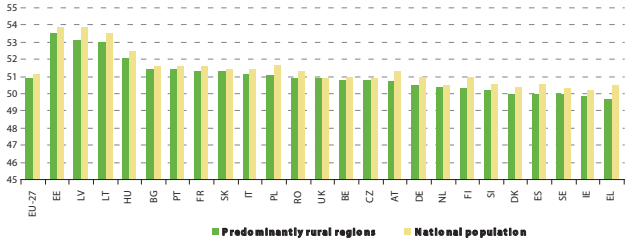
	Population of predominatly rural regions, 2009 (million)	Predominantly rural regions, annual average change 2006–2009 (%)	National annual average change, 2006–2009 (%)
EU-27	117.7	0.0	0.4
BE	0.9	0.8	0.8
BG	2.9	–1.0	–0.5
CZ	3.5	0.4	0.7
DK	2.4	–4.6	0.5
DE	14.1	–0.6	–0.2
EE	0.6	–0.2	–0.1
IE	3.2	2.0	1.9
EL	4.8	0.0	0.4
ES	6.1	1.2	1.6
FR	18.5	0.6	0.6
IT	12.3	0.5	0.7
LV	0.9	–1.1	–0.5
LT	1.5	–1.0	–0.5
HU	4.7	–0.6	–0.2
NL	0.1	–0.1	0.3
AT	3.3	0.1	0.4
PL	14.4	–0.1	0.0
PT	3.8	–0.1	0.2
RO	9.8	–0.4	–0.2
SI	0.9	–0.1	0.5
SK	2.7	0.1	0.1
FI	2.3	0.0	0.4
SE	2.1	0.1	0.8
UK	1.8	0.6	0.6

Source: Eurostat (online data codes: demo_pjangroup and demo_r_pjanaggr3)

6.3 Share of women in the EU's predominantly rural regions

In 2009, women made up 50.9 % of the population of the predominantly rural regions, 0.3 of a percentage points less than the EU figure. Mostly, there were fewer women in the predominantly rural regions than in the country as a whole. In particular, as can be seen in Figure 6.3.1, women accounted for 50 % of the population of the predominantly rural regions in Spain, 0.6 percentage points less than the national figure.

Figure 6.3.1: Share of women in the population of predominantly rural regions, 2009
(%)



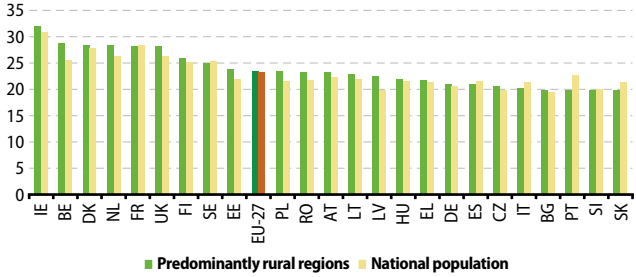
Source: Eurostat (online data codes: demo_pjangroup and demo_r_pjanaggr3)

6.4 Young age dependency ratio in the EU's predominantly rural regions

In 2009 the young age dependency ratio was 23.5 in the predominantly rural regions and 23.3 in the EU as a whole. This indicator is the ratio between the population less than 15 years old and the population aged between 15 and 64, i.e. the ratio between people who are too young to take part in the production of goods and services and people of working age. The young age dependency ratio also highlights the level of fertility.

In 2009, as shown in Figure 6.4.1, this indicator varied on average from 19.8 in Slovakia and Slovenia to 32.1 in Ireland in the predominantly rural regions. There were also disparities between the levels of these indicators in the predominantly rural regions and the national levels. In 2009, the young age dependency ratio was 28.7 on average in Belgium's predominantly rural regions, i.e. 3.1 points higher than the national level. In contrast, in Portugal's predominantly rural regions the young age ratio was 19.9, i.e. 2.9 points lower than the national level.

Figure 6.4.1: Young age dependency ratio, 2009



Source: Eurostat (online data codes: demo_r_pjanaggr3 and demo_pjanind)

6.5 Young people and children in the EU's predominantly rural regions

In 2009, young people under 15 years of age accounted for 16.8 % of the population of the predominantly rural regions, i.e. 0.1 of a percentage point more than that of the EU as a whole. In most Member States young people under 15 were in fact over-represented in predominantly rural regions as compared with the national level. As can be seen from Table 6.5.1, in Belgium young people under 15 accounted for 18.6 % of the population of the predominantly rural regions, i.e. 1.7 percentage points more than the national level. However, there were disparities between countries and between predominantly rural regions. In Portugal, for instance, young people under 15 accounted for 12.7 % of the population in predominantly rural regions and for 15.3 % on average in the country.

In contrast, children less than 5 years old were usually underrepresented in predominantly rural regions. They accounted for 4.3 % of the population in the predominantly rural regions and 5.2 % in the EU as a whole. As shown in Table 6.5.1, in Denmark, children under 5 accounted for 3.1 % of the population in predominantly rural areas and 5.9 % in the country as a whole, despite the fact that young people under 15 were rather over-represented in the predominantly rural regions as compared with the national level. However, there were also disparities.

Table 6.5.1: Share of young people and children in 2009 (1) (%)

	Share of people aged less than 15 years		Share of the population aged less than 5 years	
	Predominantly rural regions	National level	Predominantly rural regions	National level
EU-27	16.1	15.6	4.3	5.2
BE	18.6	16.9	5.8	5.7
BG	13.4	13.4	4.4	4.7
CZ	14.5	14.1	5.0	5.2
DK	18.4	18.3	3.1	5.9
DE	13.8	13.6	3.9	4.2
EE	16.1	14.9	3.9	5.6
IE	22.9	20.9	7.3	7.6
EL	14.0	14.3	:	4.9
ES	15.8	14.8	2.8	5.3
FR	17.6	18.5	5.7	6.2
IT	13.3	14.0	4.3	4.7
LV	14.6	13.7	5.1	5.0
LT	15.4	15.1	4.4	4.7
HU	15.0	14.9	4.7	4.9
NL	18.4	17.7	5.5	5.7
AT	15.5	15.1	4.7	4.7
PL	16.6	15.3	5.3	5.0
PT	12.7	15.3	3.9	5.0
RO	16.0	15.2	5.1	5.0
SI	13.8	14.0	4.6	4.8
SK	14.4	15.4	4.6	5.0
FI	16.8	16.7	5.4	5.5
SE	16.1	16.7	5.4	5.8
UK	17.9	17.5	:	6.1

(1) Eurostat estimation.
Source: Eurostat (online data codes: demo_pjangroup)

6.6 Age pyramid in rural areas as compared with the national level

The structure by age and gender of the population in the predominantly rural regions shows quite different profiles according to the country. Figure 6.6.1 gives examples of age pyramids for those living in the predominantly rural regions as compared with the national population.

For example, in Austria's predominantly rural regions people aged between 20 and 40 were under-represented in 2009; in Belgium, young people under 15 were over-represented; in Bulgaria, men over 40 and women over 55 were over-represented in the predominantly rural regions as compared with the national level.

Figure 6.6.1: Age pyramids in predominantly rural regions as compared with national level, 2009 (1)

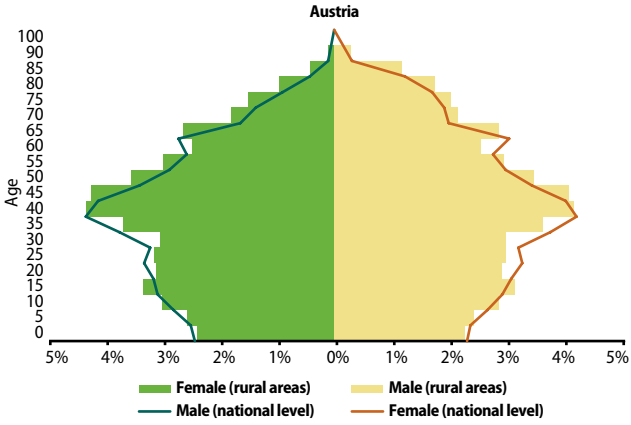
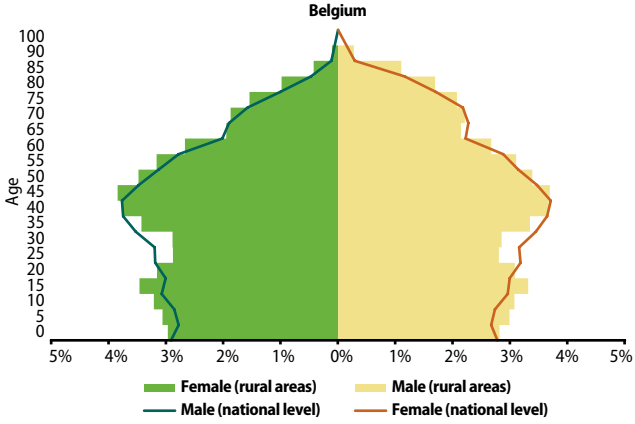


Figure 6.6.1: Age pyramids in predominantly rural regions as compared with national level, 2009 (1) *(cont)*



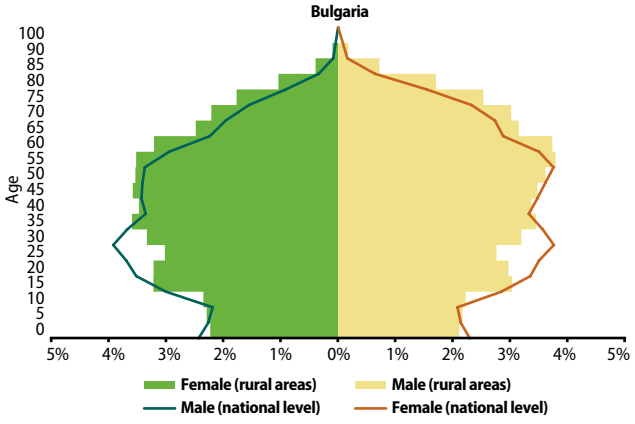
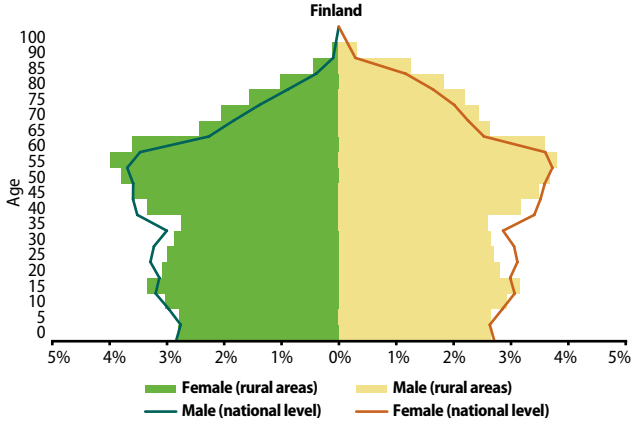
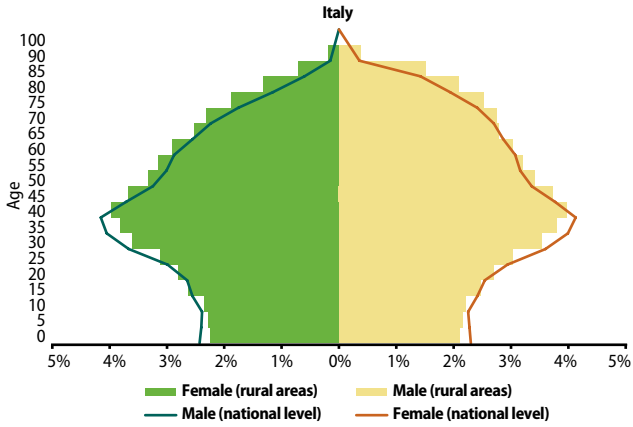


Figure 6.6.1: Age pyramids in predominantly rural regions as compared with national level, 2009 (1) *(cont)*





(1) Eurostat estimation.
Source: Eurostat (online data code: demo_pjangroup)

Fishery statistics

Introduction

Fish are a natural, biological, mobile (sometimes over wide distances) and renewable resource. Aside from fish farming, fish cannot be owned until they have been caught. For this reason, fish stocks continue to be regarded as a common resource, which needs to be managed collectively. This has led to a range of policies that regulate the amount of fishing, as well as the types of fishing techniques and gear used in fish capture.

Eurostat's data-base) on fishery statistics contains data on fishery catches, landings of fishery products, aquaculture production and fishing fleets. Eurostat's programme of fishery statistics includes collaboration with other international organisations with responsibilities for fishery statistics. This collaboration is co-ordinated through the Co-ordinating Working Party on Fishery Statistics (CWP).

7.1 Total production

Total production is the sum of the total catches and aquaculture production. Total production is recorded in the live weight equivalent of the production.

Four Member States (Denmark 13%, Spain 16%, France 12%, and the United Kingdom 12%) accounted for 51% of the EU-27 total fisheries production in 2009. Between 2008 and 2009, EU-27 production in fell again, continuing the decline seen since 1995. In 2009 total production was 31% lower than in 1995.

Table 7.1: Total production – all fishery products
(tonnes live weight)

	1995	2000	2005	2008	2009
EU-27	9 253 885	8 187 779	6 902 605	6 427 842	6 362 979
BE	36 474	31 673	25 002	22 735	22 295
BG	12 627	10 652	8 578	14 022	16 891
CZ	22 608	24 129	24 697	24 559	24 183
DK	2 043 638	1 577 683	949 646	727 837	811 877
DE	302 925	271 585	330 368	324 087	289 254
EE	132 345	113 384	100 138	101 519	98 076
IE	419 110	329 228	327 660	250 217	316 292
EL	184 361	194 762	198 461	203 769	204 735
ES	1 392 876	1 375 722	988 019	1 171 192	1 031 375
FR	956 367	969 097	839 994	737 743	668 623
IT	611 522	518 680	479 000	393 623	415 326
CY	9 772	69 360	4 267	5 788	4 767
LV	149 719	136 728	151 160	158 518	163 728
LT	59 082	80 985	141 726	185 766	176 117
LU	-	-	-	-	-
HU	16 674	19 987	21 270	22 394	20 537
MT	5 539	2 820	2 072	8 009	6 776
NL	502 596	571 005	620 578	463 369	437 655
AT	3 322	3 286	2 790	2 440	2 492
PL	454 483	253 481	193 167	179 684	260 552
PT	274 509	196 694	225 967	230 648	205 554
RO	69 105	17 099	13 337	17 906	17 151
SI	2 956	3 037	2 573	2 190	2 716
SK	3 567	2 255	2 648	2 733	2 584
FI	171 774	170 935	145 642	164 596	168 223
SE	412 145	343 374	262 240	238 935	211 953
UK	1 003 788	900 136	841 605	773 566	783 248
IS	1 627 585	2 003 603	1 669 470	1 311 680	:
NO	2 801 970	3 190 879	3 054 338	3 280 211	3 491 096

Source: Eurostat (online data code: fish_pr)

7.2 Aquaculture production

Aquaculture is the farming of aquatic organisms including fish, molluscs, crustaceans, aquatic plants and other aquatic organisms. It includes capture-based aquaculture and the production of aquatic organisms which are harvested by an individual or corporate body which has owned them throughout their rearing period. It excludes aquatic organisms which are exploited by the public as a common property resource: these are the harvest of fisheries.

Farming means some form of intervention in the rearing process to enhance production, such as regular stocking, feeding and protection from predators and involves individual or corporate ownership of the stock being cultivated. Capture-based aquaculture is the practice of collecting "seed" material, from early life stages to adults, from the wild and subsequent on-growing to marketable size using aquaculture techniques

The level of aquaculture production in the EU-27 remained relatively stable between 1.2 million tonnes and 1.3 million tonnes during the period 1995 to 2009, whilst increasing by around 10% overall between these years. The four largest aquaculture producers among the EU Member States were Spain (21%), France (18%), Italy (13%) and the United Kingdom 15), which together accounted for around two thirds of total aquaculture production in 2009.

Among EFTA countries aquaculture production was extremely large in Norway, higher than the combined output of the three largest EU Member States. Norwegian production showed an increase of over 246% from 1995 to 2009. The development of aquaculture production between in this period followed different patterns across the EU Member States. There were large percentage reductions in aquaculture output in Germany and Denmark and the Netherlands, whereas among the other larger producers aquaculture output decreased significantly, falling by around 24% in Denmark and 17% in France.

Table 7.2: Total aquaculture production (1)
(tonnes live weight)

	1995	2000	2005	2008	2009
EU-27	1 183 643	1 398 507	1 260 590	1 252 402	1 298 326
BE	846	1 871	414	126	576
BG	4 615	3 654	3 145	5 159	7 912
CZ	18 679	19 475	20 455	20 395	20 071
DK	44 730	43 609	39 012	37 216	34 131
DE	64 096	65 891	44 685	44 008	38 907
EE	315	225	555	481	654
IE	27 366	51 247	60 050	44 871	47 212
EL	32 644	95 418	106 268	114 888	121 971
ES	223 965	309 035	219 367	252 286	268 565
FR	280 786	266 802	245 160	238 249	234 000
IT	214 725	216 525	181 101	157 865	162 325
CY	452	1 878	2 387	3 776	3 356
LV	525	325	542	583	517
LT	1 714	1 996	2 013	3 008	3 428
LU	-	-	-	-	-
HU	9 360	12 886	13 661	15 000	14 171
MT	904	1 746	736	6 727	5 189
NL	83 938	75 231	71 370	46 621	55 561
AT	2 918	2 847	2 420	2 090	2 142
PL	25 111	35 795	37 920	36 829	36 503
PT	4 981	7 537	6 696	6 458	6 727
RO	19 830	9 727	7 284	12 496	13 131
SI	789	1 181	1 346	1 314	1 685
SK	1 617	887	955	1 078	823
FI	17 345	15 400	14 355	13 439	13 627
SE	7 554	4 834	5 880	7 596	8 540
UK	93 838	152 485	172 813	179 843	196 603
IS	3 485	3 623	8 325	5 088	:
NO	277 615	491 329	661 811	843 730	961 840

(1) The national authorities of EEA countries submit aquaculture production data to Eurostat under the terms of:
- Regulation (EC) no. 762/2008 of 9 July 2008 on the submission by Member States of statistics on aquaculture and repealing Council Regulation (EC) 788/96 (OJ L218 of 13.08.2008).
- Regulation (EC) no. 788/96 of 22 April 1996 on the submission by Member States of statistics on aquaculture production (OJ L108 of 01.05.1996).

Source: Eurostat (online data code: fish_aq)

FAO receives aquaculture production data from national authorities on the FISHSTAT AQ questionnaire. This questionnaire uses the same concepts and definitions as the EU legislation and the data from the two sources are comparable. The FAO Fisheries Department performs a check on the quality of the data and makes the results available to Eurostat for inclusion in its data-base.

7.3 Catches

The flag of the fishing vessels is used as the primary indication of the nationality of the catch, though this concept may be varied in certain circumstances (for example, in the case of joint ventures and chartering of vessels).

The fishing areas most important for the EU are Area 27 (Northeast Atlantic), 34 (Eastern and Central Atlantic) and 37 (Mediterranean and Black Sea). Around 70% of the catches made by the EU-27 in 2009 were in the north east Atlantic and 10% and 9% respectively in the other two areas.

Four Member States (Denmark 15%, Spain 15%, France 9% and the United Kingdom 12%) accounted for 51% of the EU-27 catch in 2009. This share has declined in recent years from nearly 60% in 1995.

Between 1995 and 2009 the EU-27 catch decreased by 37% mainly as a result of the sharp reduction in the share of the Danish catch, as well as the catches of the other largest producers, France and Spain and the UK. Since 1995, the total EU-27 catch has fallen year-on-year with the exceptions of 2001 and 2008.

Table 7.3.1: Catches – all fishing areas (1)
(tonnes live weight)

	1995	2000	2005	2008	2009
EU-27	8 070 242	6 789 271	5 642 015	5 175 441	5 064 653
BE	35 628	29 802	24 588	22 609	21 719
BG	8 012	6 998	5 433	8 863	8 979
CZ	3 929	4 654	4 242	4 164	4 112
DK	1 998 908	1 534 074	910 634	690 621	777 747
DE	238 829	205 694	285 683	280 079	250 347
EE	132 030	113 159	99 583	101 038	97 423
IE	391 744	277 981	267 610	205 346	269 080
EL	151 717	99 344	92 193	88 881	82 764
ES	1 168 911	1 066 687	768 652	918 906	762 810
FR	675 581	702 295	594 834	499 494	434 623
IT	396 797	302 155	297 899	235 758	253 001
CY	9 320	67 482	1 880	2 012	1 411
LV	149 194	136 403	150 618	157 935	163 211
LT	57 368	78 989	139 713	182 758	172 689
LU	-	-	-	-	-
HU	7 314	7 101	7 609	7 394	6 366
MT	4 635	1 074	1 336	1 282	1 587
NL	418 658	495 774	549 208	416 748	382 094
AT	404	439	370	350	350
PL	429 372	217 686	155 247	142 854	224 049
PT	269 528	189 157	219 271	224 190	198 827
RO	49 275	7 372	6 053	5 410	4 020
SI	2 167	1 856	1 227	876	1 031
SK	1 950	1 368	1 693	1 655	1 761
FI	154 429	155 535	131 287	151 157	154 596
SE	404 591	338 540	256 360	231 339	203 413
UK	909 950	747 651	668 792	593 723	586 645
IS	1 624 100	1 999 980	1 661 145	1 306 592	1 164 432
NO	2 524 355	2 699 550	2 392 527	2 436 481	2 529 256

(1) Catch statistics are submitted to Eurostat by EEA member countries in compliance with the following EU legislation:
- Regulation (EC) No 218/2009 of 11 March 2009 on the submission of nominal catch statistics by Member States fishing in the North-East Atlantic (OJ L87 of 31.03.2009);
- Regulation (EC) No 217/2009 of 11 March 2009 on the submission of catch and activity statistics by Member States fishing in the North-West Atlantic (OJ L87 of 31.03.2009);
- Regulation (EC) No 216/2009 of 11 March 2009 on the submission of nominal catch statistics by Member States fishing in certain areas other than those of the North Atlantic (OJ L87 of 31.03.2009, p.1).

Source: Eurostat (online data code: fish_ca)

Regional fisheries organisations and FAO make the data for non-EEA countries available to Eurostat.

The national authorities are requested to submit catch statistics for all commercial, subsistence and recreational fisheries. However the reporting of data for recreational fisheries is known to be incomplete.

The data are reported as the live weight equivalent of the landings (i.e. the landed weight of a product to which an appropriate conversion factor has been applied). The data therefore exclude quantities of fishery products which are caught but not landed. For example, fish caught but rejected at sea (a non-commercial species, under-sized fish, etc) or fish consumed on board the vessel.

Table 7.3.2: Catches 2009 by fishing area
(1 000 tonnes live weight)

	FAO Major Area								
	All	**21**	**27**	**34**	**37**	**41**	**47**	**51**	**Other**
EU-27	5 065	46	3 545	490	456	91	21	95	321
BE	22	-	21	-	-	-	-	-	1
BG	9	-	-	-	7	-	-	-	2
CZ	4	-	-	-	-	-	-	-	4
DK	778	5	773	-	-	-	-	-	0
DE	250	2	193	-	-	-	-	-	55
EE	97	6	89	-	-	-	-	-	3
IE	269	-	257	12	-	-	-	-	0
EL	83	-	-	2	80	-	-	-	1
ES	763	15	329	105	106	83	19	29	77
FR	435	-	316	27	19	4	-	58	10
IT	253	-	-	3	240	-	-	5	5
CY	1	-	-	-	1	-	-	-	0
LV	163	2	80	81	-	-	-	-	0
LT	173	-	39	111	-	-	-	-	23
LU	0	-	-	-	-	-	-	-	0
HU	6	-	-	-	-	-	-	-	6
MT	2	-	-	-	2	-	-	-	-
NL	382	-	261	80	-	-	-	-	41
AT	0	-	-	-	-	-	-	-	0
PL	224	-	134	41	-	-	-	-	49
PT	199	15	163	13	0	4	2	1	0
RO	4	-	-	-	0	-	-	-	4
SI	1	-	-	-	1	-	-	-	0
SK	2	-	-	-	-	-	-	-	2
FI	155	-	125	-	-	-	-	-	29
SE	203	-	202	-	-	-	-	-	2
UK	587	1	564	14	-	-	0	2	6
IS	1 164	-	1 164	-	-	-	-	-	0
NO	2 529	3	2 477	-	-	-	-	-	50

(1) FAO Major Area:
21 Northwest Atlantic
27 Northeast Atlantic
34 Eastern Central Atlantic
37 Mediterranean and Black Sea
41 Southwest Atlantic
47 Southeast Atlantic
51 Western Indian Ocean

Source: Eurostat (online data code: fish_ca)

7.4 Landings

Landings data relate to fishery products (product weight) landed into EEA countries regardless of the nationality of the vessel making the landings. The figures exclude landings by vessels of the reporting country into foreign ports.

Spain and Italy have the highest value landings in the EU, comprising 27% and 18% of the total value of EU landings. However Danish (23%) and Spanish landings (16%) are the highest by volume.

The volume of Norway's landings in 2009 was equivalent to around 54% of total EU landings and was greater than for any single EU country. The value of Norway's landings in this period was higher than that of all EU countries except Spain.

Table 7.4.1: Landings – total quantity (1)
(tonnes product weight)

	1995	2000	2005	2008	2009
EU-27	:	:	:	4 614 285	4 505 647
BE	21 137	17 987	19 601	17 349	16 016
BG	ND	ND	3 408	7 652	7 393
CZ	-	-	-	-	-
DK	2 303 109	1 144 088	1 090 673	984 766	1 054 957
DE	141 674	89 193	140 420	225 246	245 186
EE	:	:	69 406	83 143	88 843
IE	342 217	202 909	198 958	209 667	247 050
EL	133 120	90 381	89 903	87 461	81 822
ES	1 080 748	983 806	703 249	891 284	703 945
FR	:	371 264	294 990	285 861	319 603
IT	359 304	295 096	281 987	227 160	242 581
CY	:	:	1 329	1 868	1 309
LV	:	:	90 598	85 767	71 531
LT	:	:	6 875		9 128
LU	-	-	-	-	-
HU	-	-	-	-	-
MT	:	:	1 332	1 298	1 607
NL	533 691	508 971	621 101	464 260	436 114
AT	-	-	-	-	-
PL	:	:	81 688	65 790	80 147
PT	235 645	163 949	105 910	185 209	164 552
RO	:	:	:	444	332
SI	:	:	1 011	687	867
SK	-	-	-	-	-
FI	:	96 418	84 098	90 686	84 400
SE	216 678	314 329	268 799	226 982	216 591
UK	740 006	419 988	485 889	464 174	431 675
IS	:	1 947 010	1 680 246	1 257 896	1 004 665
NO	2 352 184	2 792 387	2 077 930	2 216 894	2 411 640

(1) Each EEA member country reports annual data on the quantities and values of fishery products landed in its ports under the terms of:
- Regulation (EC) 1921/2006 of 18 December 2006, on the submission of statistical data on landings of fishery products in Member States and repealing Council Regulation (EEC) 1382/91 (OJ L403 of 30.12.2006)

Source: Eurostat (online data code: fish_la)

The data are the landings (expressed as the product weight) of all fishery products in the reporting country, regardless of the nationality of the vessel making the landings. Landings by vessels of the reporting country in foreign ports are excluded.

Table 7.4.2: Landings – total value
(million ECU/EUR)

	1995	2000	2005	2008	2009
EU-27	:	:	:	6 878	6 620
BE	57	64	80	67	60
BG	:	:	2	3	3
CZ	-	-	-	-	-
DK	499	423	442	433	360
DE	118	95	122	127	90
EE	:	:	10	19	18
IE	140	184	149	250	236
EL	270	236	308	487	459
ES	1 895	1 751	1 513	1 916	1 793
FR	:	845	775	706	785
IT	882	823	1 413	1 107	1 210
CY	:	:	6	13	9
LV	:	:	16	20	14
LT	:	:	5	6	7
LU	-	-	-	-	-
HU	-	-	-	-	-
MT	:	:	6	8	9
NL	325	357	310	560	535
AT	-	-	-	-	-
PL	:	:	32	34	38
PT	280	272	127	257	224
RO	:	:	:	1	1
SI	:	:	0	1	2
SK	-	-	-	-	-
FI	:	20	15	19	18
SE	77	112	106	105	90
UK	630	693	537	740	660
IS	:	829	940	751	715
NO	1 105	1 540	1 607	1 663	1 453

Source: Eurostat (online data code: fish_la)

7.5 Fishing Fleet

In 2009 the EU fishing fleet comprised over 84.5 thousand vessels with a combined gross tonnage of 1.8 million tonnes and engine power of 6.7 million Kilowatts. Greece had the largest number of fishing vessels (20%). However on average these vessels are small compared with the vessels from most of the other countries. Along with Greece, the fleets of other southern European states: Italy (16%), Spain (13%) and Portugal (10%), comprised 60% of the EU fleet by number.

The fleets of four countries, Spain, UK, Italy and France, comprise around 56% of the EU fleet in terms of Gross Tonnage (GT) and 59% by total engine power. In terms of tonnage however, the Spanish fishing fleet was by far the largest, being more than twice the size of the fleets in the UK, Italy or France.

The total size of the EU fleet fell between 2008 and 2009: in number by 2.4%; tonnage by 2.7% and engine power by 2.9%. This continues the decline seen over recent years.

Table 7.5.1 Fishing fleet (1)
(Number of Vessels)

	1995	2000	2005	2008	2009
EU-27	:	:	:	86 587	84 502
BE	154	127	120	100	89
BG	:	:	:	2 852	2 206
CZ	-	-	-	-	-
DK	5 180	4 139	3 268	2 895	2 832
DE	-	-	2 117	1 828	1 769
EE	:	:	1 047	966	945
IE	2 044	1 615	1 419	2 023	2 109
EL	20 718	19 962	18 269	17 353	17 291
ES	18 385	16 678	13 700	11 420	11 119
FR	6 598	8 181	7 857	7 941	7 284
IT	19 359	17 369	14 401	13 683	13 587
CY	:	:	883	1 169	1 162
LV	:	:	928	841	794
LT	:	:	268	221	193
LU	-	-	-	-	-
HU	-	-	-	-	-
MT	:	:	1 424	1 152	1 112
NL	1 023	1 101	829	825	838
AT	-	-	-	-	-
PL	:	:	974	833	807
PT	11 746	10 692	9 155	8 585	8 556
RO	:	:	:	438	444
SI	:	:	171	181	185
SK	-	-	-	-	-
FI	4 106	3 663	3 266	3 240	3 271
SE	2 508	2 016	1 603	1 486	1 418
UK	9 655	7 643	6 768	6 555	6 491
IS	:	1 997	1 756	1 533	1 585
NO	:	13 017	7 723	6 790	6 506

(1) From 1997 the French data (and hence EU totals) include vessels of the French Overseas Departments.
Source: Eurostat (online data code: fish_fleet)

The data for EU Member States are derived from the Community Fishing Fleet Register maintained by the European Commission's Directorate-General for Fisheries and Maritime Affairs (DG MARE).Data for Iceland and Norway are compiled from fleet files submitted by the national authorities. Gross Tonnage (GT) under the London Convention (1969) was adopted as the unit of tonnage measurement in the 1990s. This was a change from the previously used Gross Registered Tonnage (GRT) under the Oslo Convention (1946). Implementation of the change involved re-measurement of vessels over time. This was carried out at different rates in different coun-

tries and was largely complete by 2003. However care should be taken when comparing data between countries and over time since the GT of a vessel is generally significantly greater than the GRT.

Table 7.5.2: Fishing fleet (1)
(total gross tonnage (GT))

	1995	2000	2005	2008	2009
EU-27	:	:	:	1 869 329	1 819 736
BE	22 870	23 054	22 584	19 007	16 048
BG	:	:	:	9 047	7 702
CZ	-	-	-	-	-
DK	107 124	107 471	91 469	73 040	67 761
DE	-	-	64 049	69 135	68 161
EE	:	:	24 219	17 808	14 274
IE	60 717	68 282	87 801	69 867	68 692
EL	110 224	107 407	93 515	88 805	88 209
ES	607 493	521 838	487 556	461 071	439 374
FR	179 207	224 077	215 052	199 269	185 433
IT	258 540	232 467	212 929	196 313	193 672
CY	:	:	9 044	5 383	5 280
LV	:	:	38 549	38 228	41 229
LT	:	:	64 399	50 478	49 289
LU	-	-	-	-	-
HU	-	-	-	-	-
MT	:	:	15 321	10 961	12 006
NL	180 205	212 466	171 672	146 925	154 369
AT	-	-	-	-	-
PL	:	:	30 260	40 971	38 244
PT	127 880	117 313	107 566	106 516	104 048
RO	:	:	:	1 670	1 816
SI	:	:	1 065	983	1 004
SK	-	-	-	-	-
FI	24 668	20 819	17 171	16 046	16 376
SE	58 220	51 394	44 222	41 807	38 635
UK	270 586	265 145	218 532	206 000	208 111
IS	:	180 203	181 390	160 246	157 132
NO	:	392 316	373 282	363 169	367 688

(1) From 1997 the French data (and hence EU totals) include vessels of the French Overseas Departments.
Source: Eurostat (online data code: fish_fleet)

Table 7.5.3: Fishing fleet (1)
(total engine power (Kw))

	1995	2000	2005	2008	2009
EU-27	:	:	:	6 878 037	6 678 342
BE	65 817	63 502	65 422	60 620	51 590
BG	:	:	:	70 512	60 380
CZ	-	-	-	-	-
DK	423 564	393 373	324 865	263 914	245 793
DE	-	-	159 214	161 248	161 507
EE	:	:	62 039	45 974	39 840
IE	212 680	211 894	216 435	193 409	193 928
EL	669 956	623 043	537 181	510 993	507 835
ES	1 631 154	1 332 708	1 124 363	1 029 530	979 852
FR	990 784	1 108 229	1 069 764	1 082 260	1 007 735
IT	1 495 689	1 394 483	1 223 721	1 149 081	1 136 723
CY	:	:	46 707	49 023	48 461
LV	:	:	64 486	61 080	62 458
LT	:	:	70 608	59 794	56 386
LU	-	-	-	-	-
HU	-	-	-	-	-
MT	:	:	99 273	86 161	87 071
NL	516 630	522 305	401 270	344 073	348 382
AT	-	-	-	-	-
PL	:	:	105 410	98 958	90 749
PT	395 846	397 326	380 521	383 099	379 825
RO	:	:	:	6 241	7 199
SI	:	:	11 119	10 653	10 953
SK	-	-	-	-	-
FI	224 802	197 703	171 589	169 707	171 176
SE	268 888	244 610	218 728	208 913	196 670
UK	1 122 119	974 901	881 298	832 794	833 827
IS	:	528 711	526 057	477 014	474 917
NO	:	1 321 060	1 272 375	1 240 252	1 252 621

(1) From 1997 the French data (and hence EU totals) include vessels of the French Overseas Departments.

Source: Eurostat (online data code: fish_fleet)

European Commission

Agriculture and fishery statistics — Main results — 2009–10

Luxembourg: Publications Office of the European Union

2011 — 152 pp. — 10.5 x 21 cm

Theme: Agriculture and fisheries
Collection: Pocketbooks

ISBN 978-92-79-20424-1
ISSN 1977-2262
doi:10.2785/15223
Cat. No KS-FK-11-001-EN-C

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KS-FK-11-001-EN-C

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ISBN 978-92-79-20424-1

Publications Office