Agriculture and fisheries

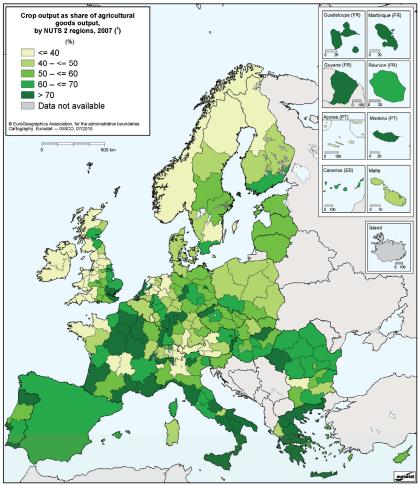
Author: Ole OLSEN

eurostat Statistics in focus 44/2010

# A regional picture of farming in Europe — what, where and how much?

The structure of agriculture varies not only from country to country but also from region to region. What is produced where may depend on local conditions such as the type of land, the climate and the markets for agricultural products. Using regional data from the Economic Accounts for Agriculture, this publication highlights the wide variety of farming in Europe. The shares in output values are taken as indicators of the relative importance of different types of farming in the EU.





(\*) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

The overall picture — crop production worth more than livestock production

In 2007, agricultural output in the 27 countries of the European Union (EU-27) was worth  $\in$  360 billion, measured in basic prices. This figure includes agricultural services and inseparable secondary activities. However, 93% of the total value,  $\in$  335 billion, was agricultural goods output, i.e. the value of the core farm products, including subsidies on those products.

Using the Economic Accounts for Agriculture (EAA), this overall figure for the EU-27 can be broken down by country and region to give a much more detailed picture.

The regional data for 2007 are the most recent final figures available. The few gaps in that data have been filled by inserting the previous year's regional figures or the national data for 2007. Details can be found in the methodological description.

A closer look at the EU's output of agricultural goods in 2007 (Table 1) shows that 57.5% of the value was from crop products and 42.5% from animal products, and that these proportions were roughly the same in the 15 'old' Member States (EU-15) as in the 12 'new' Member States (NMS-12) which joined the European Union in 2004 and 2007. In the EU as a whole, the value share from crops was highest in Greece (73%) and lowest in Ireland (28%).

Table 1 also shows that 84.3% of the EU's agricultural goods output in 2007 was generated in the EU-15, while the share for NMS-12 was 15.7%. However, as agricultural prices are somewhat higher in EU-15 than in NMS-12, the shares in values do not match the shares in volume. For the main agricultural products, national and regional volume statistics can be found on the Eurostat website.

# Table 1: Overall composition of agriculturaloutput in 2007 (%)

	EU15	NMS12	EU27
Crop output	57.4	58.5	57.5
Animal output	42.6	41.5	42.5
Agricultural goods output	100.0	100.0	100.0
As share of EU27	84.3	15.7	:

Source: Eurostat (aact eaa01)

An important factor affecting agricultural production is the market for agricultural products.

Consumer demand in the EU and EFTA countries plays an important role here, and it is important to mention that 79% of the EU's population lives in the EU-15 and 21% in the NMS-12. National and regional population figures can be found on the Eurostat website.

The main source of agricultural production is obviously agricultural land, of which there was 172 million hectares in the EU-27 in 2007. As shown in Table 2, about 72% of this agricultural land is situated in the EU-15. The proportion of arable land is relatively high in the NMS-12 (72.4%) compared to the share in the EU-15 (56.2%). On the other hand, permanent crops (fruit trees, vineyards, etc.) account for a significantly higher share in the EU-15 (7.9%) than in the NMS-12 (2.4%). National and regional figures on agricultural land can be found on the Eurostat website.

### Table 2: Distribution of agricultural land 2007 (%)

	EU15	NMS12	EU27
Arable land	56.2	72.4	60.7
Permanent grassland	35.9	25.2	32.9
Permanent crops	7.9	2.4	6.4
Utilized agricultural area	100.0	100.0	100.0
As share of EU27	72.2	27.8	:

Source: Eurostat (ef\_ov\_luft)

In Figure 1 is shown the value of *crop output* as a percentage of the total value of agricultural goods output in the region. Note that crop output includes animal feed produced and used on the same farm.

Of the 235 regions and/or countries shown on the maps, there are 57 where the value of crop production exceeds 70% of total agricultural goods output. These regions are mainly found in southern Europe, but there are also a few in the Netherlands and in the United Kingdom.

'City-regions' (meaning that a city counts as a region for statistical purposes) such as Vienna and Berlin, also show a high share of crop production. However, in such regions the agricultural production is in most cases very low.

In 47 other regions, the share of animal production is greater than 60% (and thus crop output accounts for less than 40%). Several of these regions are located in the United Kingdom, but they are also found in France, the Netherlands, Ireland, the Nordic countries, and in mountainous regions of central parts of Europe. 48% in Switzerland. The EFTA figures may partly reflect the fact that farm subsidy schemes in these countries differ from those in the EU.

In the EFTA countries, the share of crop output is below the EU-average, with 33% in Norway and

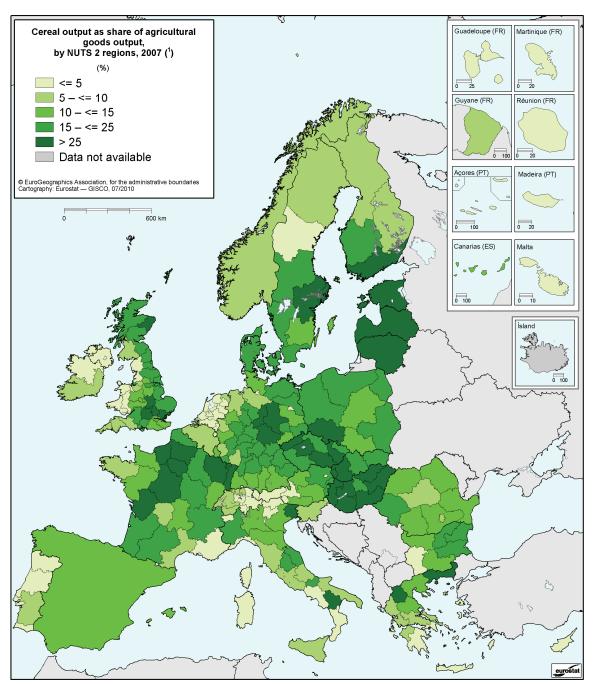


Figure 2: Cereal output as share of agricultural goods output, by NUTS 2 regions, 2007 (%)

(1) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

### Crop production — a varied regional landscape

Crop production generates more value than livestock farming in most parts of the European Union. However, it varies greatly from region to region, depending on - for example - the climate.

The different purposes for which crops are grown are also taken into account. Some, such as vegetables and fruit, are produced for direct human consumption. Others, such as forage plants, are grown mainly for animal feed, while cereals are grown partly for producing flour for human consumption, partly for feeding to livestock.

Furthermore, the type of land in each area helps determine what will be grown there. Land suitable for ploughing can be used for most kinds of production, while permanent grassland is — by definition — only for forage production. About one third of all agricultural land is permanent grassland.

Figure 2 shows the percentage of agricultural output made up by **cereals**. Together with vegetables and horticultural products, cereals are the most important crops in the EU-27, as shown in Table 3. On average 14.8% of the EU's agricultural goods output in 2007 was from cereals — a figure boosted by relatively high cereal prices at that time. The share in 2006 was 11%.

However, the 2007 data shows 38 regions where cereals accounted for more than a quarter of total agricultural goods output. In 54 other regions, the shares were less than 5%. Malta, Guadeloupe and Martinique produce no cereals at all. Regions where cereal production is very important are found in several countries, but most notably in the Czech Republic, Hungary, Slovakia and the Baltic countries.

The shares for regions in Poland are affected by the use of 2005 data (the most recent regional data). If regional data for 2007 had been available the shares in Poland would have been higher, as cereal prices increased significantly from 2005 to 2007.

The regions where cereal production is of least importance are located mainly in the Netherlands, Portugal, Switzerland and Cyprus.

Overall, cereals account for a higher share of agricultural goods output in the NMS-12 (20.9%) than in the EU-15 (13.6%), as also shown in Table 3.

Comparing the situation in different countries, the highest shares for cereals are found in Lithuania

(29.8%), Hungary (29.5%) and Latvia (27.0%). In five countries the shares are below five per cent.

Some crops (known as **industrial crops**) are grown for their oil, sugar or other content. They account for a relatively high share of agricultural goods output in the NMS-12 (6.9%) compared to 3.9% in the EU-15, as also shown in Table 3. The higher shares in the NMS-12 are mainly accounted for by rapeseed and sunflower cultivation in those countries, while sugar beet has the same importance (around 1%) for agricultural goods output in both the EU-15 and the NMS-12. Detailed figures on industrial crops can be found on the Eurostat website.

### Table 3: Crop output as share of agriculturalgoods output 2007 (%)

	EU15	NMS12	EU27
Cereals	13.6	20.9	14.8
Industrial crops	3.9	6.9	4.4
Forage plants	6.2	8.3	6.5
Vegetables*	15.7	10.2	14.8
Potatoes	2.8	5.9	3.3
Fruits	7.2	4.8	6.8
Wine	5.4	1.0	4.8
Olive oil	1.7	0.0	1.4
Other crop products	0.9	0.5	0.8
Crop output, total	57.4	58.5	57.5

\* The full name is Vegetables and horticultural products, which includes plants and flowers

Source: Eurostat (aact eaa01)

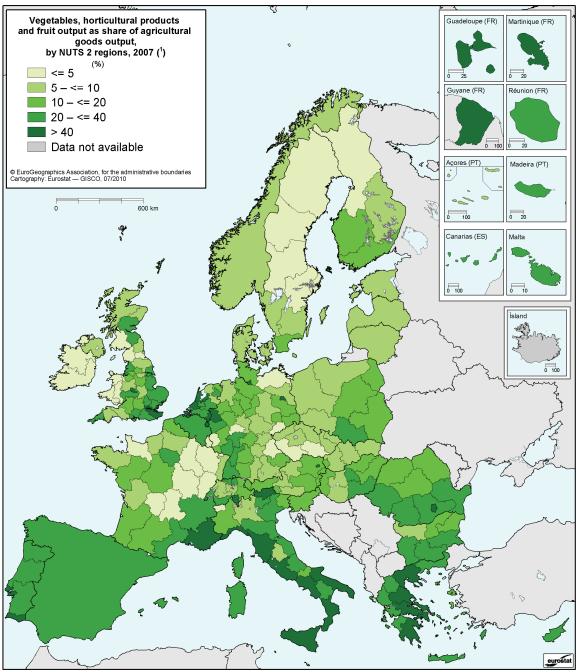
**Forage plants** are the fourth most important crop, as shown in Table 3. However, the production of forage is an integral part of animal production, which will be described later.

The importance of the core horticultural products is shown in Figure 3 and also in Table 3. The map shows the total share for **vegetables**, **horticultural products and fruits**, as these kinds of products tend to require similar climate conditions. In Table 3, figures are given for the EU-27, EU-15 and NMS-12.

The map shows that vegetable and fruit growing is a major agricultural activity in southern Europe. Of the 35 regions with a share higher than 40%, eight are in Italy. Other important regions are found in Greece and in Portugal. If regional data were compiled for Spain, very important vegetable- and fruit-growing regions would certainly be found there, as the share for the whole country is 36%. Vegetable and fruit growing is also very important in three of France's overseas departments.

Another interesting phenomenon is the importance of vegetable and fruit cultivation in 'city regions' such as Berlin, Hamburg, Vienna, London and Bucharest, and also in a densely-populated area like Düsseldorf. In these areas there is a significant consumer demand for fresh vegetables and fruits a demand which is met by (for example) local growers owning smallholdings and greenhouses.

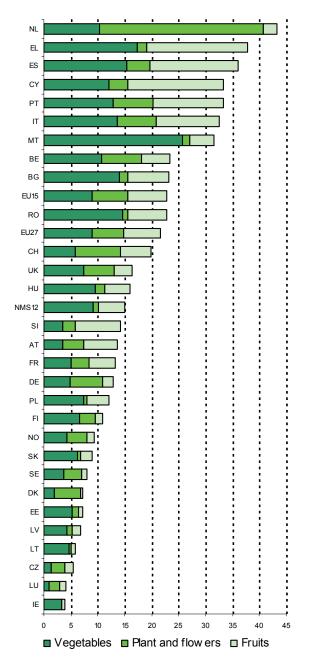
# Figure 3: Vegetables, horticultural products and fruit output as share of agricultural goods output, by NUTS 2 regions, 2007 (%)



(<sup>1</sup>) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

Low shares for horticulture are mainly found in northern Europe: in 10 out of 29 countries the share is less than 10 %. This can be seen clearly from the map on page 3 and also in Figure 4, where the countries are ranked in descending order according to the total share of vegetables, horticultural products and fruits in their agricultural output.

### Figure 4: Vegetables, horticultural products and fruit output as share of agricultural goods output 2007 (%)



#### Source: Eurostat (aact eaa01)

In five out of 12 regions of the Netherlands, the share accounted for by vegetables, plant and flowers and fruits is more than 40%. These large

shares reflect the massive production of ornamental plants and flowers in the Netherlands, accounting for some two thirds of the country's output of vegetables, horticultural products and fruits. In fact, roughly one third of the EU-27 total output of plants and flowers comes from the Netherlands.

As also shown in Table 3, growing of **potatoes** is an important activity in Europe, and it takes place in all EU countries. Its relative importance is much greater in the NMS-12 (5.9%) than in the EU-15 (2.8%).

As a percentage of agricultural goods output, the highest shares for potatoes are in Romania (10.7%), Cyprus (8.4%) and Latvia (7.4%), while in Austria — the country with the lowest share — it is only 1.3%. Looking at the regional data, the shares range from close to zero in some regions to around 25% in others.

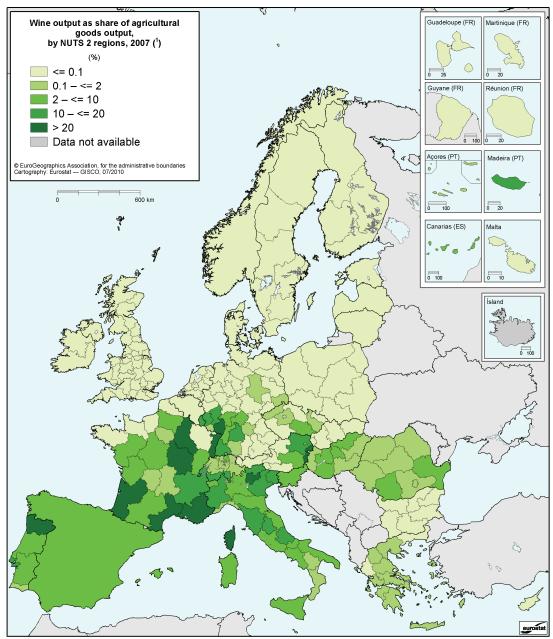
Wine is produced in the southern part of Europe and its contribution to agricultural output in the different regions is shown in Figure 5. Note that, in the Economic Accounts for Agriculture (EAA), wine production is considered as an agricultural activity if the wine production activity cannot be separated from the main agricultural activity of the unit. If, on the other hand, the grapes for wine are sold to processing firms, then the value of the *grapes* is recorded as output for fruits, and the output for wine is not recorded as agricultural output.

The wine map (Figure 5) shows 11 regions in which wine production is very important agricultural activity. Of these, 7 are in France (*Champagne-Ardennes* being the largest), while four countries — Germany, Italy, Austria and Portugal — each have one region where the wine production share is over 20%. Regions with shares ranging from 10% to 20% are found in Italy (7), Germany (4), Portugal and Switzerland (2) and Austria (1). Luxembourg is also in this range.

In some southern countries, the importance of wine production appears very low according to the map. However, in Greece 5% of the agricultural goods output comes from grapes, indicating that Greek wine is indeed an important product — even though the farmers themselves only produce the grapes. Similarly, in Bulgaria, wine production according to the map is below 0.1% of agricultural goods output, but the share for grapes was as high as 4.4% in 2007, thus indicating the importance of Bulgarian wine production. In 11 out of 29 countries (BE, DK, EE, IE, LV, LT, NL, PL, FI, SE, UK, NO) no wine or grape production is recorded in the agricultural accounts. Nevertheless, in some of these countries (for example Denmark and the United Kingdom), wine is indeed produced, though on a small scale.

The production of **olives** and **olive oil** is recorded in the EAA in a similar way to grapes and wine. Where the production of olive oil is in the hands of farmers and it is impossible to separate it from the main agricultural activity its value is recorded as olive oil output, while the olives sold to other industries (and for direct consumption) count as part of fruit output. Olive oil and olives are produced in seven EU countries. The highest output shares for olives and olive oil taken together are in Greece (11.0%), Spain (8.0%) and Italy (4.6%).

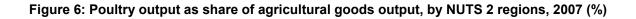
### Figure 5: Wine output as share of agricultural goods output, by NUTS 2 regions, 2007 (%)

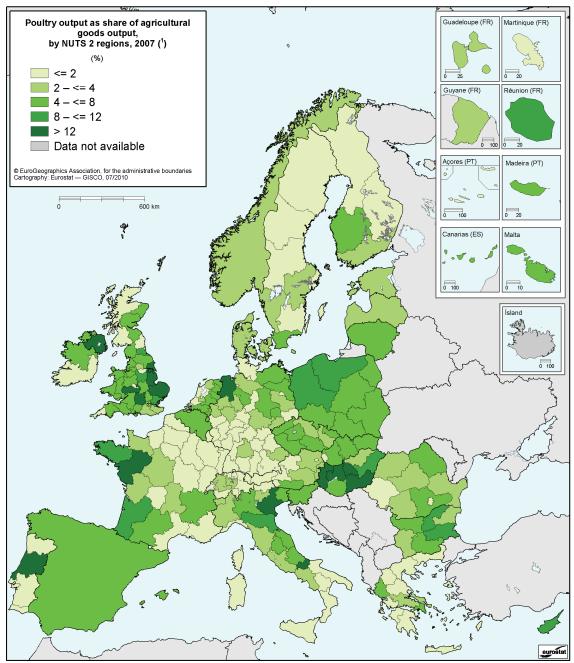


(1) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

### Animal production — focus on poultry and milk

The output from animal production makes up, on average, over 40% of agricultural goods output in both the older and the newer member states of the EU. Most of it comes from producing meat and livestock: the rest comes from animal products such as milk and eggs. As shown in Table 4, the most important product, in terms of its share of agricultural goods output in EU-27, is milk (14.5%), followed by cattle (9.0%) and pigs (8.9%).





(1) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

While milk accounts for almost the same share of output in the EU-15 (14.6%) as in the NMS-12 (14.4%), cattle are of much greater importance in EU-15 (9.8%) than in the NMS-12 (4.5%). Pigs, on the other hand, are more important in the 12 newer member states (10.2%) than in the EU-15 (8.6%), in terms of their share of agricultural goods output.

## Table 4: Animal output as share of agriculturalgoods output 2007 (%)

	EU15	NMS12	EU27
Cattle	9.8	4.5	9.0
Pigs	8.6	10.2	8.9
Equines	0.3	0.2	0.3
Sheep and goats	1.8	0.9	1.6
Poultry	4.4	6.6	4.8
Other animals	0.8	0.2	0.7
Animals, total	25.8	22.5	25.3
Milk	14.6	14.4	14.5
Eggs	1.8	3.8	2.1
Other animal products	0.5	0.8	0.5
Animal products, total	16.9	19.0	17.2
Animal output, total	42.6	41.5	42.5

Source: Eurostat (aact eaa01)

In Figure 6 is shown the importance of **poultry**, which basically means the production of chicken for meat. On average poultry's share of agricultural goods output is generally greater in the NMS-12 (6.6%) than in the EU-15 (4.4%). Nevertheless, of the 15 regions with output shares over 12%, 11 are in the EU-15 — 6 of them in the United Kingdom. The other four regions are in Hungary.

Bulgaria, France, Poland and the United Kingdom each have two or more regions with output shares in the 8 to 12 percent range. Cyprus, which is also a NUTS2-region, is in this group as well.

There are several regions of EU or EFTA countries where poultry has only a small output share. In fact, in 92 out of the 235 regions, poultry accounts for less than 2% of agricultural goods output. Nevertheless, poultry farming is a feature of all regions where there is agricultural production.

Comparing countries, those with the largest shares for poultry are Cyprus (10.6%), Hungary (10.1%), the United Kingdom (8.8%) and Poland (8.1%). The smallest shares are in Luxembourg (0.2%) and Greece (1.4%), while Denmark and Switzerland both have 2.1%. Meat from **cattle** is a very important product. The amount produced is to some extent linked to cow milk production, but in some countries specialist beef farming is very important. The highest shares for cattle are found in Ireland (26.3%), Luxembourg (19.0%) and Belgium (16.2%). The lowest shares are in Cyprus (1.7%), Hungary (1.9%) and Greece (2.1%).

One product whose shares vary greatly between countries is (meat from) **sheep** and **goats**. In four countries, the share is more than five per cent: Greece (7.6%), Bulgaria and the United Kingdom (both 5.6%) and Norway (5.5%). In 19 of the 29 countries the share is less than one per cent.

The picture for **milk**, which includes milk from cows, sheep and goats, also shows big differences at both regional and national levels. Almost all the regions with output shares of over 35% are located in northern Europe (see Figure 7): there are seven in the United Kingdom, three each in Germany, the Netherlands and Sweden, and two in Finland. Also in this range are Luxembourg and two regions of Austria— together with the Azores (Portuguese islands).

The regions where milk production accounts for less than five per cent of agricultural goods output are mainly found in France, Italy and the United Kingdom. 'City-regions' like Île de France (which includes Paris), Berlin, London and Vienna also have low shares, for obvious reasons.

In eastern parts of Europe, most regions have close to average output shares for milk, and the differences within each country seem relatively small. In Hungary and Romania, for example, all regions are in the same range (5 - 15%). In Bulgaria, on the other hand, the six regions cover three different ranges.

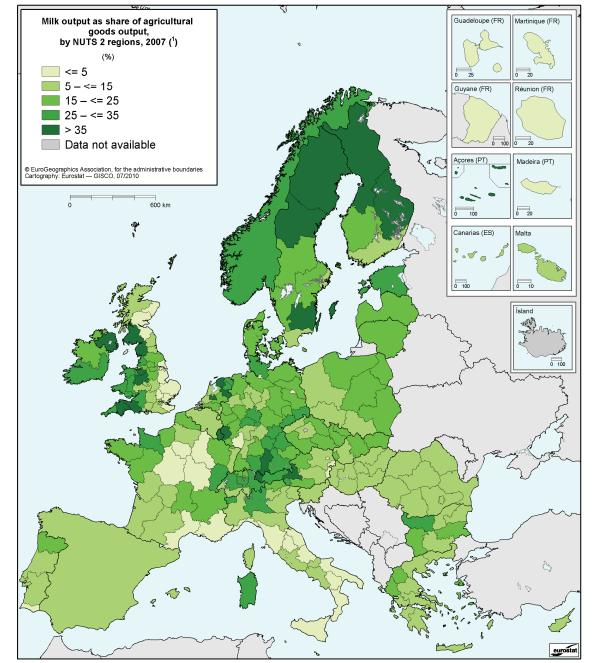
In western parts of Europe, the milk shares in several countries are very diverse. In fact, regions in all five ranges are found in Germany and the United Kingdom, while France, Italy, The Netherlands and Portugal also show high degree of diversity.

Looking at the national data, the highest production shares are found in Luxembourg (35.4%), Ireland (29.1%), Norway (28.6%), Finland (26.3%) and Estonia (26.2%), while the lowest are in Spain (6.8%), Hungary (8.3%), Greece (10.3) and Italy (10.7%).

**Egg** production is more dominant in the NMS-12 (3.8%) than in the EU-15 (1.8%). The largest shares are found in Malta (6.7%), Romania (5.2%) and Slovakia (4.9%), while the lowest are in

Ireland (0.7%). The share is 1% in both Denmark and Luxembourg.

**Pig farming** is also important in Europe. It is described in *Statistics in Focus 8/2010: Pig farming in the EU, a changing sector.* 





(<sup>1</sup>) Belgium, Denmark, Spain, Slovenia, Norway: national data; Poland: NUTS 1 regions, 2005 data; Portugal: 2006 data

### **ESSENTIAL INFORMATION — METHODOLOGICAL NOTES**

### Symbols & country abbreviations

':' not available

'-' not applicable, real zero or zero by default

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, PT: Portugal, RO: Romania, SI: Slovenia, SK: Slovakia, FI: Finland, SE: Sweden, UK: United Kingdom; CH: Switzerland LI: Liechtenstein; NO: Norway.

EU-15: Belgium, Denmark, Germany, Ireland, Greece, Spain, France, Italy, Luxembourg, Netherlands, Austria, Portugal, Finland, Sweden and United Kingdom.

NMS-12: Bulgaria, Czech Republic, Estonia, Cyprus, Latvia, Lithuania, Hungary, Malta, Poland, Romania, Slovenia and Slovakia.

### Concepts and definitions

The Regional Economic Accounts for Agriculture (REAA) is a breakdown of the Economic Accounts for Agriculture (EAA) at national level. The regional data (for some countries similar to national data) used in this Statistics in Focus are (mainly) 2007 data which are considered to be final.

The results have been compiled by the national authorities in the Member States of the European Union and in Norway and Switzerland, in accordance with the methodology of the EAA. (This is close to the methodology for the national accounts, ESA95, but incorporates a number of changes to take account of the special features of the agricultural economy). More information can be found in the metadata for the EAA, available on the Eurostat website.

### **Regions:**

The regions are defined by the NUTS system of classification, and the breakdown for the regional EAA is the NUTS2-level. This means basically 271 regions in the EU plus 16 in EFTA. The use of national data (or data at NUTS1-level) means that 238 regions/areas are shown in the maps. For three of these regions there are no agricultural data: in Prague and in Lichtenstein there is no agricultural production, and Iceland has not yet provided data. The list of regions can be found on the Eurostat website.

For six Member States (Cyprus, Estonia, Latvia, Lithuania, Luxembourg and Malta), the country is also a region at NUTS2-level.

The data for the Regional Economic Accounts for Agriculture is not complete. Belgium, Denmark, Slovenia and Norway are not yet providing data and Spain has not provided any for some time. For these countries, the national results for 2007 are used.

The most recent regional data from Poland are at NUTS1-level and relate to 2005. For this country, therefore, 2005 data are used instead of 2007 data. For Portugal, the latest regional data are for 2006 and are used as proxy for 2007.

National data including provisional results for 2009 are available for all EU countries plus Norway and Switzerland.

### Technical notes:

The output data used are in basic prices, as these regional figures are more complete than the data in producer prices. In 2007, the difference between output in producer prices and in basic prices was about 2%, deriving from product-related subsidies and taxes. In the EFTA countries the corresponding difference is higher.

The regional results are compiled by the responsible institutions in the EU and EFTA countries. Not all of these countries follow exactly the same strategy in compiling their regional data. However, the key for the breakdown of output is generally speaking - production results measured at regional level, meaning a bottom-up approach for volumes. In most cases, prices are compiled only at national level. Consequently, regional price differences are, in general, not reflected in the regional EAA figures.

National documentation on the methods used for compiling the national data and for breaking them down into regional data is available at <a href="http://circa.europa.eu/Public/irc/dsis/Home/main">http://circa.europa.eu/Public/irc/dsis/Home/main</a>

All EAA data can be found on the Eurostat website. Regional EAA data are available only in current prices, while the data a national level is available in both current prices, constant prices and real prices.

### Further reading

Regulation (EC) No 138/2004 of the European Parliament and of the Council on the Economic Accounts for Agriculture in the Community (OJ L33, 5.2.2004)

### **Further information**

Eurostat Website: http://ec.europa.eu/eurostat

Data on 'Agriculture statistics' <u>http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/data/database</u> Select 'Economic accounts for agriculture'

More information about 'Agriculture statistics' <u>http://epp.eurostat.ec.europa.eu/portal/page/portal/agriculture/introduction</u>

#### Journalists can contact the media support service:

Bech Building Office A4/125 L — 2920 Luxembourg Tel. (352) 4301 33408 Fax (352) 4301 35349 E-mail: <u>eurostat-mediasupport@ec.europa.eu</u>

#### **European Statistical Data Support:**

With the members of the 'European statistical system', Eurostat has set up a network of support centres in nearly all Member States and in some EFTA countries.

Their mission is to provide help and guidance to Internet users of European statistical data.

Contact details for this support network can be found on our Internet site: <u>http://ec.europa.eu/eurostat/</u>

All Eurostat publications can be ordered via EU–Bookshop: http://bookshop.europa.eu/