

Agriculture

11





Introduction

Although the economic significance of agriculture within the economy has been in almost perpetual decline over the last 50 years, it remains a vital sector within the [European Union \(EU\)](#). Agricultural products form a major part of Europe's regional cultural identity. This is, at least in part, due to a diverse range of natural environments, climates and farming practices that feed through into a wide array of agricultural products: food and drink for human consumption; animal feed; and inputs used in a variety of non-food manufacturing processes.

This chapter presents regional agricultural statistics from across the EU. It provides a selection of [Eurostat's](#) statistics within this domain, including data on the structure of farming, [agricultural accounts](#), [livestock](#) numbers, as well as agricultural products.

The links between the richness of the natural environment and farming practices are complex. Many valuable habitats in Europe are maintained by extensive farming, and a wide range of wild species rely on this for their survival. By contrast, inappropriate agricultural practices and land use can also have an adverse impact on natural resources, for example, soil, water and air pollution, the fragmentation of natural habitats and the loss of wildlife. The [sustainable development](#) of rural areas is one of the key objectives of the EU's [common agricultural policy \(CAP\)](#).

Common agricultural policy (CAP)

Significant reforms of the CAP have taken place in recent years, most notably in 2003, 2008 and 2013. These have sought to make the EU's agricultural sector more market-oriented, ensure that safe and affordable food continues to be produced, while respecting environmental and sustainability concerns.

The reforms of 2003 introduced a new system of direct payments — income support farmers receive through the CAP — known as the single payment scheme. This aimed to guarantee farmers more stable incomes. In 2008 further changes were made, such that aid to the agricultural sector was decoupled from production by 2012.

In December 2013, the latest reform of the CAP was formally adopted by the European Parliament and the Council. It is based on four new legislative instruments that aim to simplify the rules of the CAP and which cover:

- [support for rural development](#), Regulation No 1305/2013;
- [financing, management and monitoring of the CAP](#), Regulation No 1306/2013;
- [direct payments](#), Regulation 1307/2013;
- [measures linked to agricultural products](#), Regulation 1308/2013.

The main elements of the CAP post-2013 concern: a fairer distribution of direct payments (with targeted support and convergence goals); strengthening the position of farmers within the food production chain (such as through: the promotion of professional and inter-professional organisations; changes to the organisation of the sugar and wine sectors; revisions to public intervention and private storage aid; and new crisis management tools); and continued support for rural development, safeguarding the environment and biodiversity.

The CAP is financed by two funds: on the one hand, the European Agricultural Guarantee Fund (EAGF) finances direct payments to farmers, as well as measures to respond to market disturbances; on the other, the European Agricultural Fund for Rural Development (EAFRD) finances the rural development programme (see below for more details).

Almost one third (30 %) of direct payments in the post-2013 CAP are linked to sustainable and environmentally-friendly practices, such as crop diversification, the maintenance of permanent grassland, or the protection of ecological areas on farms; there is also specific aid for organic farming. The CAP also helps farmers by aiming to stimulate employment, entrepreneurship and the diversification of farms beyond food production. Specific schemes are in place, for example, providing support to young farmers during their first five years in the sector.

Europe 2020

All of the above changes are designed to ensure that the CAP is more effective in delivering a competitive and sustainable agriculture sector, responding to the challenges of food safety, climate change, growth and jobs in rural areas. These reforms are made in relation to the goals of developing intelligent, sustainable and inclusive growth, in line with the [Europe 2020](#) strategy, while taking account of the wealth and diversity of the agricultural sector across European regions.

The Europe 2020 strategy has introduced seven flagship initiatives to act as new engines to boost growth and jobs. One of these initiatives is the [innovation union](#), which includes a set of European innovation partnerships (EIPs). EIPs act across the whole research and innovation chain, bringing together all relevant actors at EU, national and regional levels.

The agricultural EIP (EIP-AGRI) was launched in February 2012 by a European Commission communication, titled [European innovation partnership on agricultural sustainability and productivity](#) (COM(2012) 79 final). The main aim of the agricultural EIP is to speed up the transfer of R & D from the laboratory, focusing on partnerships to link farmers, researchers, advisors, businesses, non-governmental organisations, and other actors in operational groups.

Rural development

The European Agricultural Fund for Rural Development (EAFRD) was allocated a budget of EUR 96.3 billion for the period 2007–13, which equated to approximately one fifth of the total funds set aside for the CAP. Three long-term strategic objectives have been identified by the European Commission in relation to EU rural development policy during the period 2014–20, in line with Europe 2020 and CAP objectives: improving the competitiveness of agriculture; safeguarding the sustainable management of natural resources and climate action; and ensuring that the territorial development of rural areas is balanced.

As noted above, a new regulation for rural development policy post-2013 is the latest in a series of policy developments aimed at developing Europe's rural areas. This regulation provides the legal basis for rural development programmes from 2014 onwards and is designed to help: foster the competitiveness of agriculture, ensure the sustainable management of natural resources; support action over the climate; and achieve a balanced territorial development of rural economies and communities, including the creation and maintenance of employment. Policy will be implemented through national and/or regional rural development programmes (RDs), which should be constructed so as to: strengthen the content of rural development measures; simplify rules and/or reduce related administrative burdens; and link rural development policy more closely to other funds.



RURAL DEVELOPMENT — COHESION POLICY FUNDING

The diversification of rural economic activity and improvements to the quality of life in rural areas is a mission shared by the EU's rural development policy and its cohesion policy. The European Regional Development Fund (ERDF) and the European Social Fund (ESF) work to complement, under a strategic common framework, the European Agricultural Fund for Rural Development (EAFRD).

Structural funds operate simultaneously in rural and urban areas, so it is difficult to determine exactly what proportion of total expenditure goes to rural development. Nevertheless, an estimate for the distribution of cohesion policy funds during the period 2007–13 suggests that almost EUR 54 billion was programmed on expenditure for rural areas, which equates to some 16 % of the total funding available for cohesion policy.

For more information:

Cohesion policy and rural development: http://ec.europa.eu/regional_policy/activity/rural/index_en.cfm

Main statistical findings

Eurostat compiles and publishes agricultural statistics for EU regions, the individual EU Member States, as well as the EU-28 aggregate. Regional data are generally presented at the NUTS 2 level, although regional statistics on orchards are only available at the NUTS 1 level. Note that for the majority of the maps shown, the data for Germany are only available at the NUTS 1 level; this is also sometimes the case for the United Kingdom. While agriculture statistics are collected from the EFTA and candidate countries, this is rarely available for analysis at a regional level.

Structure of agricultural holdings

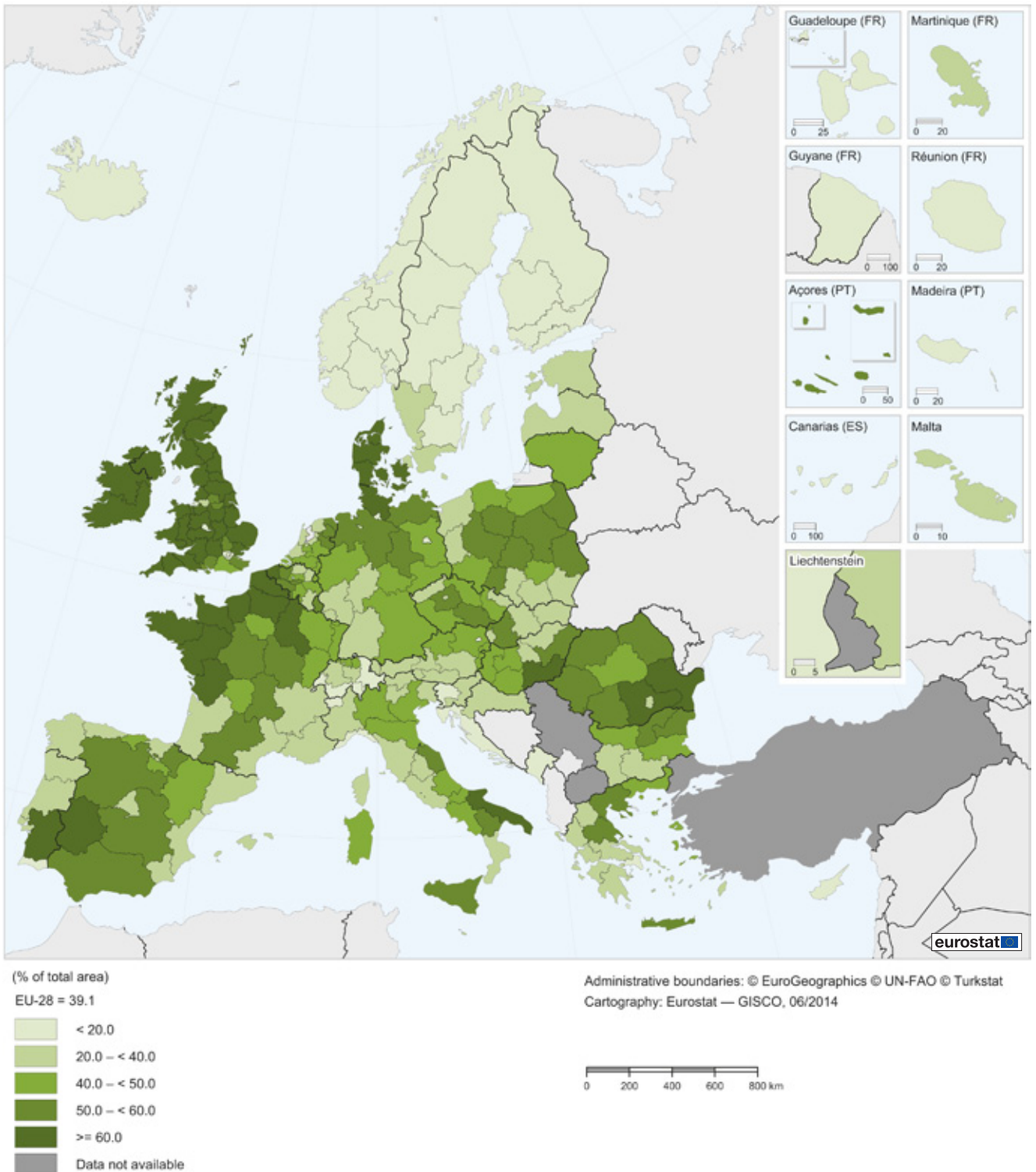
There were 12.2 million farms across the EU-28 in 2010, working 175.8 million hectares of land, otherwise referred to as the utilised agricultural area (UAA). This equated to almost two fifths (39.1 %) of the total area of the EU-28 and resulted in an average size for each agricultural holding of 14.4 hectares.

Utilised agricultural area

Climate and geography have a major influence on the agricultural use of the land. As a result, the choice of animal and plant production across Europe naturally varies from region to region. Some regions have terrain and land cover that permit almost all their land area to be used for agriculture, whereas in others only a fraction of the land can be used in this way, due to, for example, a harsh climate, dense forest cover, or altitude.



Map 11.1: Utilised agricultural area, by NUTS 2 regions, 2010 ⁽¹⁾
(% of total area)



⁽¹⁾ Germany: by NUTS 1 regions. Croatia: share of total land area instead of share of total area.
Source: Eurostat (online data codes: [ef_kvaareg](#) and [demo_r_d3area](#))

A high proportion of Denmark, northern France, Ireland and most of the United Kingdom was given over to agricultural use ...

Map 11.1 shows the utilised agricultural area as a proportion of the total area in 2010, with the relative importance of agriculture particularly high in Denmark, northern France, Ireland and most of the United Kingdom. There were 48 NUTS 2 regions where at least 60.0 % of the total area was given over to agricultural use. The highest share (81.0 %) in the EU was recorded for North Yorkshire (the United Kingdom), which was the only region to report that its agricultural area accounted for more than four fifths of its total area. It was followed by three other regions from the United Kingdom, namely, East Wales (78.3 %), Cumbria (77.3 %) and Lincolnshire (76.5 %). Note that the statistics presented do not relate to the intensity of farming, but instead to the type of land use. Indeed, several of the regions at the top of the ranking could be characterised as upland areas where heathlands and moorlands are probably given over to relatively extensive animal grazing practices.

More than half (26) of the 48 regions which reported that their utilised agricultural area accounted for at least 60.0 % of their total area were from the United Kingdom. Both of the Irish regions reported that their utilised agricultural area accounted for upwards of 60.0 % of their total area, and this was also the case for all but one of five Danish regions (the capital region of Hovedstaden being the exception). The eight French regions that recorded shares of at least 60.0 % formed a ring around Paris, starting in the easterly region of Champagne-Ardenne, moving north to include all the regions along the coast of the English Channel, before descending into the Pays de la Loire and Poitou-Charentes.

... while this was also true in some southerly regions specialising in olive and wine production

There were also pockets of relatively high shares of utilised agricultural area in the neighbouring Portuguese and Spanish regions of Alentejo and Extremadura, where agricultural production is often based on olives or wine; this is also the case in the southern Italian region of Puglia. The only other regions where the share of utilised agricultural area was at least 60.0 % were the Belgian region of the Prov. West-Vlaanderen (which borders onto northern France), the Hungarian region of Dél-Alföld (where lots of **cereals** are grown on the plains) and two regions in Romania (Sud – Muntenia and Sud-Est); note that a relatively high proportion of agricultural land in Romania is not in use.



SPOTLIGHT ON THE REGIONS: SOUTHERN AND EASTERN (IE02), IRELAND



Plains of South Kildare, Ireland

Much of Ireland is relatively sparsely populated, lowland. It is ideally suited to agriculture and in the Southern and Eastern region of Ireland, the utilised agricultural area accounted for almost three quarters (73.7 %) of the total area in 2010.

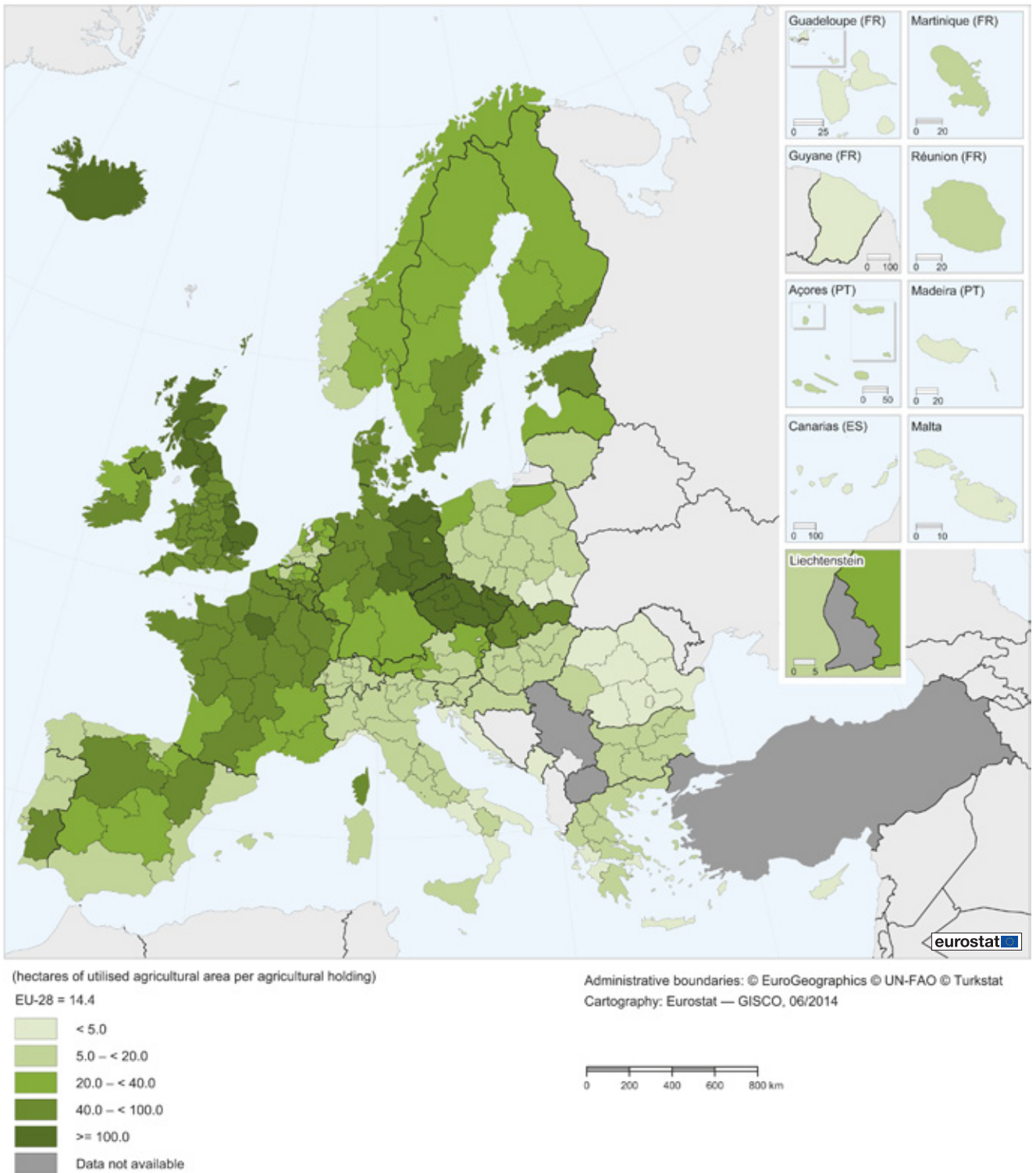
The relative importance of agricultural land was also high in the only other NUTS 2 region in Ireland, namely, the Border, Midland and Western region, where 69.1 % of the total area was accounted for by farming.

Photo: Sarah777

At the other end of the range, there were 33 regions which reported that their utilised agricultural area accounted for less than 20.0 % of their total area in 2010 (as shown by the lightest shade on **Map 11.1**). These regions can be split into two different groups. The first covers densely populated areas, such as capital regions, where it is clearly difficult for agriculture to compete as a land use. The second group is characterised as being sparsely populated, remote regions, for example, Alpine and **Nordic** regions or arid islands in the Mediterranean; in these regions the local terrain and climatic conditions limit the possibilities to use the land for agricultural purposes.



Map 11.2: Average size of farms, by NUTS 2 regions, 2010 ⁽¹⁾
 (hectares of utilised agricultural area per agricultural holding)



⁽¹⁾ Germany: by NUTS 1 regions.
 Source: Eurostat (online data code: [ef_kvaareg](#))



Average size of farms

Farm size can be measured in various ways: the most common are physical measures (such as the agricultural area per farm) or economic measures (such as the standard output per farm). Both of these indicators have increased in the EU during the last decade.

The average size of farms in the EU has gradually increased

As the number of farms in the EU-28 has steadily declined and there has been little change in the overall area that is used for agriculture, the average size of farms across the EU has become larger and stood at 14.4 hectares of utilised agricultural area per agricultural holding in 2010. The largest farms — by this measure — were concentrated in eastern Germany, the Czech Republic and Slovakia (as shown by the darkest shade on **Map 11.2**).

The largest average size of farms was in the northern German region of Mecklenburg-Vorpommern

The north-eastern German region of Mecklenburg-Vorpommern on the Baltic coast had the largest average size of farms in the EU, as each agricultural holding averaged 285.6 hectares of utilised agricultural area in 2010 (note that the German data are presented for NUTS 1 regions). As such, the average farm in this region was 20 times as large as the average for the EU as a whole. The three regions that followed in the ranking were also from eastern Germany, namely, Sachsen-Anhalt (278.0 hectares), Brandenburg (237.6 hectares) and Thüringen (215.0 hectares). The only other region to record farm size averaging at least 200.0 hectares was the Highlands and Islands in the north of the United Kingdom. Aside from those regions already mentioned, the average size of farms was relatively high — at least 40.0 hectares of utilised agricultural area per agricultural holding — across most of Denmark, France and the United Kingdom. Compared with any of the EU Member States, the average size of farms in Iceland was exceptionally high (616 hectares per agricultural holding); this may be due to Iceland having vast areas of land with very low yields.

Farms in southern and eastern Europe were generally much smaller

Average farm sizes have generally remained much smaller in some of the [Member States that joined the EU in 2004 or later](#) and across many southern regions of the EU. The smallest average farm sizes were concentrated across Romania, southern Poland, and coastal Croatia, as well as in parts of Greece, the south of Italy, and the islands of Cyprus and Malta (the latter two are each covered by a single region at this level of analysis). Average farm size was also low in the French overseas regions, the Spanish autonomous cities and the Portuguese autonomous islands.

Economic accounts for agriculture

There has been a gradual decline in the relative importance of the agricultural sector in the EU. An EU-28 time series is only available for a relatively short period (2000–12) including also the activities of forestry and fisheries: this shows that the relative weight of agriculture, forestry and fisheries in total economic activity fell from 2.2 % to 1.7 % over this period.

Agriculture accounted for 1.4 % of total economic activity in the EU-28 ...

[Economic accounts for agriculture \(EAA\)](#) provide a wide range of statistics and information on agricultural activity and the income generated by it. In 2011, the EU-28's agricultural industry generated EUR 157.4 billion of **value added**, equivalent to 1.4 % of total economic activity. The relative weight of agriculture is generally much higher in eastern and southern regions of Europe, especially in rural areas where the economy has not diversified. By contrast, the weight of agriculture in overall economic activity is much lower in western Germany and the south of the United Kingdom, as well as a number of capital regions, where regional economies are concentrated on other (non-farming) activities.

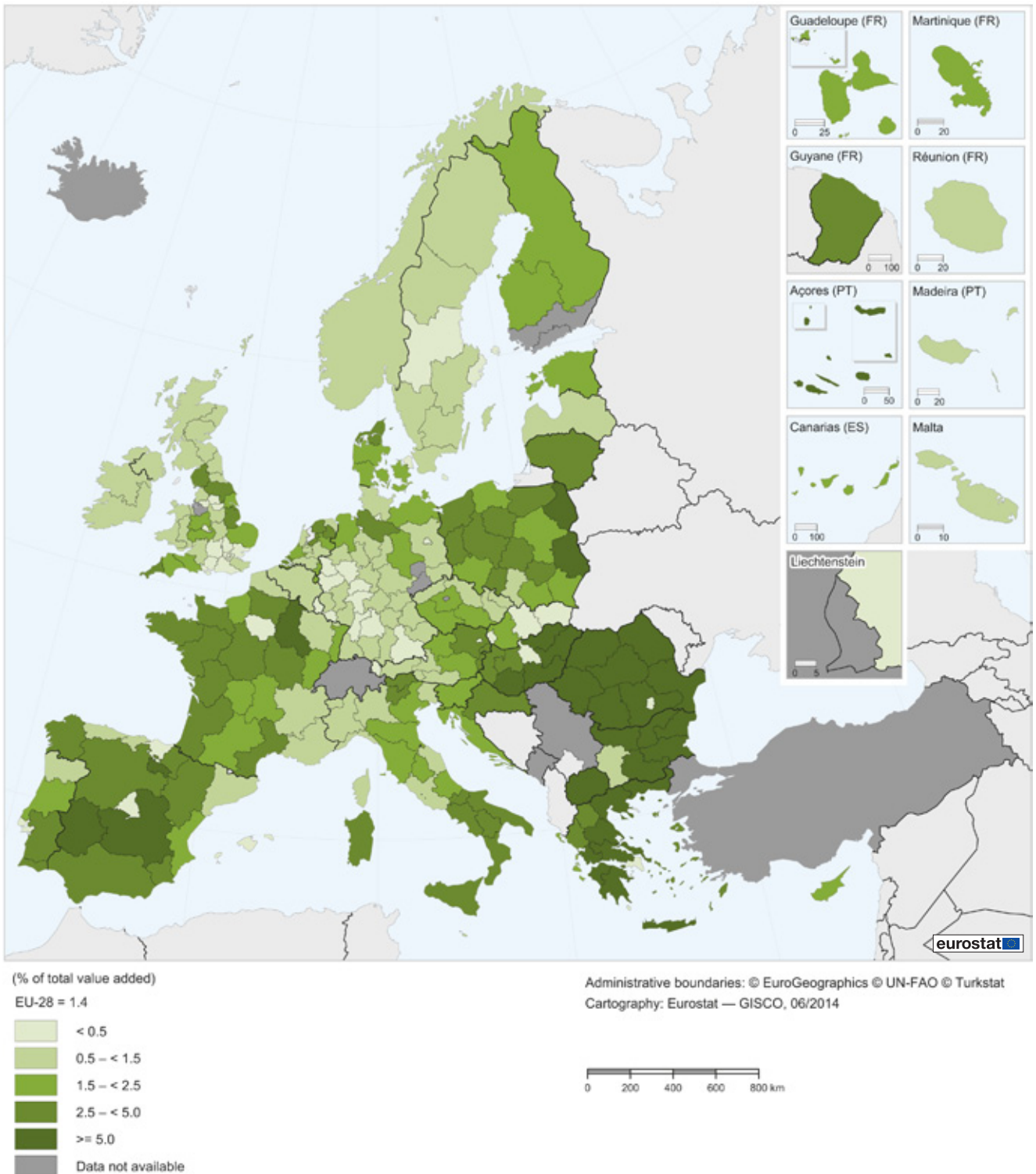
... but its share rose to at least 5.0 % in 30 regions across the EU

Agriculture's contribution to regional economic activity was at least 5.0 % in 30 regions across the EU (as shown by the darkest shade in **Map 11.3**). These included every region in Bulgaria and Romania (other than the capital regions), seven regions in Greece, four in Hungary, three in central Spain, two in eastern Poland, and one each from France and Portugal; agriculture also contributed at least 5.0 % to the total value added in the former Yugoslav Republic of Macedonia (one region at this level of analysis).

The relative importance of agriculture peaked at almost one fifth (18.8 %) of total value added in the Bulgarian region of Severozapaden in 2011. There were only six other EU regions where the relative share of agriculture in the regional economy was in double-digits: four of these were located in Romania, along with a single region from each of France (Champagne-Ardenne) and Hungary (Dél-Alföld). The French region of Champagne-Ardenne was of interest insofar as the weight of its agricultural sector was almost 2.5 times as high as in any other French region (the next highest share being recorded in Poitou-Charentes).



Map 11.3: Share of agriculture in the economy, gross value added at basic prices, by NUTS 2 regions, 2011 ⁽¹⁾
(% of total value added)



⁽¹⁾ The former Yugoslav Republic of Macedonia: 2010. Poland: 2009. Belgium, Slovenia and Norway: national level. Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): estimates. Portugal: provisional.

Source: Eurostat (online data codes: agr_r_accts, aact_eaa01, nama_r_e3vab95r2 and nama_gdp_c)

Agriculture accounted for less than 0.5 % of economic activity in many of the largely urban regions of Germany and the United Kingdom

There were 43 regions in 2011 where agriculture accounted for less than 0.5 % of total value added; these included 13 capital regions. Among the other regions where agriculture accounted for a low share of total value added there were: 11 regions from Germany (principally located across the urban centres of Nordrhein-Westfalen, Baden-Württemberg and Bayern, as well as Bremen and Hamburg) and 10 regions from the United Kingdom (principally around the major conurbations of London, Birmingham, Manchester and West Yorkshire).

The relative weight of agriculture in total economic activity rose in several Romanian regions ...

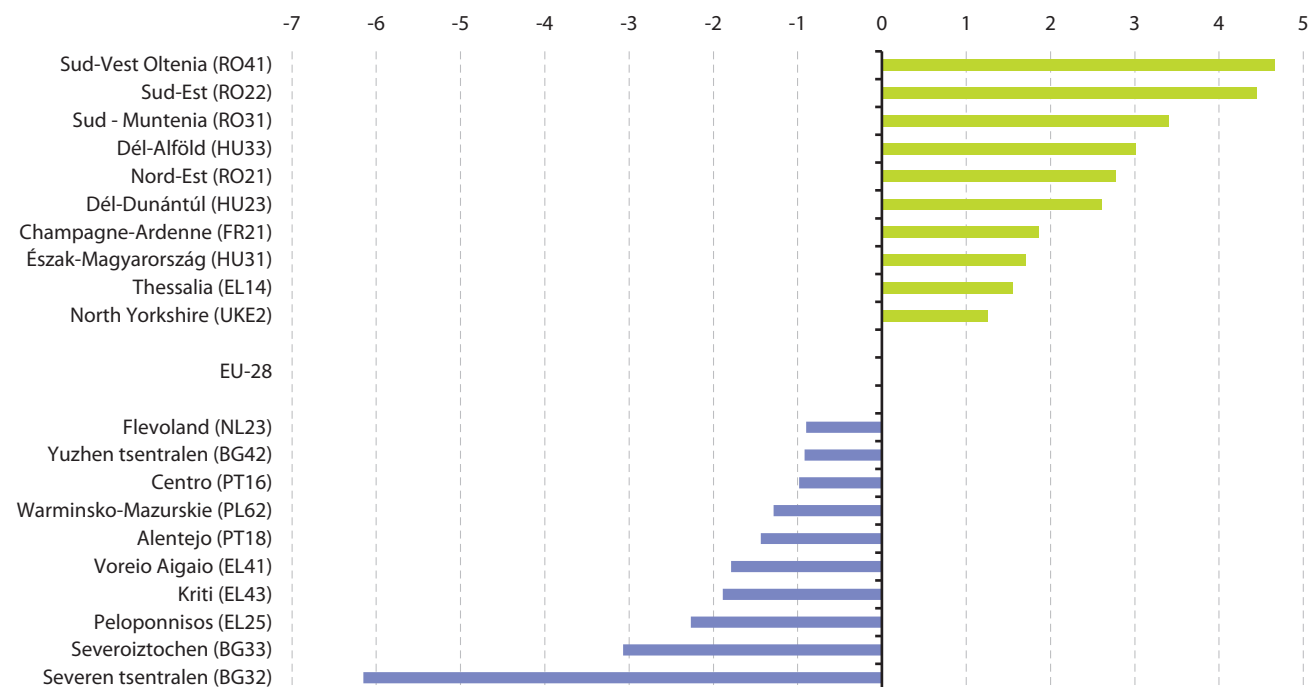
The Sud-Vest Oltenia region of Romania saw its share of agriculture in total value added increase from 6.8 % in 2007 to 11.5 % by 2011, the largest percentage point rise among the 235 regions for which data are available (see **Figure 11.1**). Three other Romanian regions, Sud-Est, Sud –

Muntenia and Nord-Est, also saw relatively large percentage point increases, despite already having shares of 6.4 % or higher in 2007. A similar pattern was observed in two of the three Hungarian regions shown in the figure, as the relative growth of the agricultural sector in Dél-Alföld and Dél-Dunántúl was also from a relatively high initial starting point.

... which could be contrasted with falling shares in Bulgaria, Greece and Portugal

The list of regions where the relative weight of agriculture in the whole economy fell at its most rapid pace — in percentage point terms — was principally divided between Bulgaria, Greece and Portugal. The biggest contraction was recorded for the Bulgarian regions of Severen tsentralen and Severoiztochen. Most of the regions where the relative share of agriculture fell by a considerable amount were characterised by agriculture accounting for a relatively high share of the regional economy. For example, agriculture had accounted for 15.0 % of the regional economy in Severen tsentralen in 2006, before declining by 6.2 percentage points to 8.9 % in 2011.

Figure 11.1: Top and bottom 10 EU-28 regions, change in the share of agriculture in the economy, gross value added at basic prices, by NUTS 2 regions, 2006–11 ⁽¹⁾ (percentage points difference between 2011 and 2006, based on % of total value added)

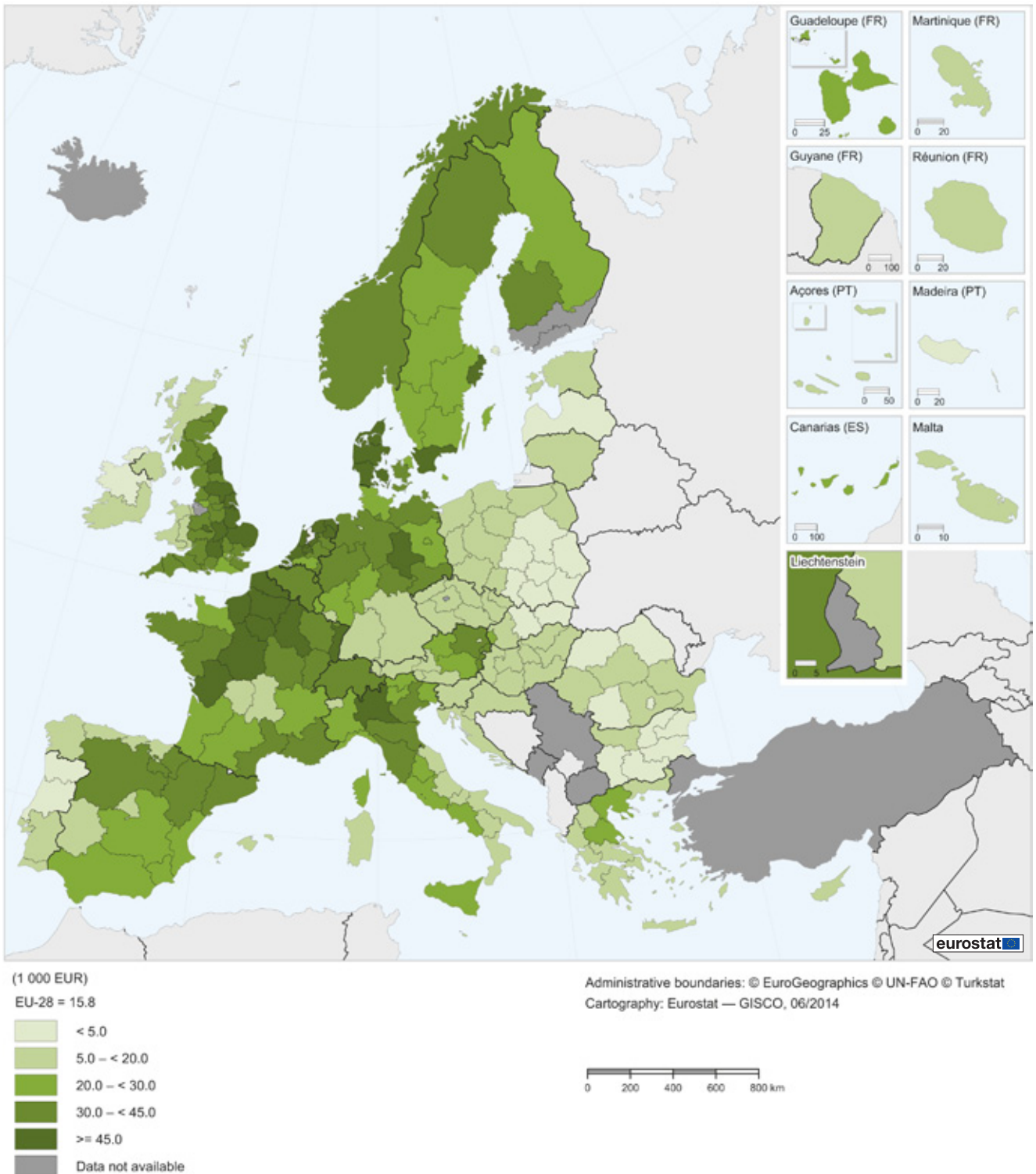


⁽¹⁾ There was no change in the share of agriculture in total value added between 2006 and 2011 in the EU-28. Denmark and Romania: 2007–11. Poland: 2006–09. Belgium and Slovenia: national level. Guadeloupe (FR91), Martinique (FR92), Guyane (FR93) and Réunion (FR94): estimates. Portugal: provisional. Praha (CZ01), Chemnitz (DED4), Leipzig (DED5), Spain, Helsinki-Uusimaa (FI1B), Etelä-Suomi (FI1C), Cheshire (UKD6) and Merseyside (UKD7): not available.

Source: Eurostat (online data codes: agr_r_accts, aact_eaa01, nama_r_e3vab95r2 and nama_gdp_c)



Map 11.4: Gross value added at basic prices in agriculture, per annual work unit, by NUTS 2 regions, 2011 ⁽¹⁾
(1 000 EUR)



⁽¹⁾ Labour force data for all regions: 2010. Poland: value added, 2009. Germany: by NUTS 1 regions. Belgium, Slovenia, Norway and Switzerland: national level.
Source: Eurostat (online data codes: [agr_r_accts](#), [aact_eaa01](#), [ef_olfreg](#) and [aact_ali01](#))



Agricultural labour productivity

Given there is little space to expand Europe's agricultural production area, the CAP seeks to encourage productivity growth through research and new technology, through funding that enables farms to modernise and become more efficient.

One measure that can be used to analyse productivity is the ratio of gross value added in agriculture per **annual work unit (AWU)**. To take account of part-time and seasonal work, both of which are widespread in agriculture, the measure of labour input is presented in AWUs: one such unit corresponds to the input, measured in working time, of one person engaged in agricultural activities on a full-time basis over an entire year. The structure of production may influence the comparability of productivity figures: for example, the production of fruit and vegetables requires more labour than the production of arable crops, while capital costs are generally lower. Agricultural labour productivity can be influenced by factors such as average farm sizes, the level of mechanisation, and the share of production for on-farm consumption. As such, it is important to note that this measure of labour productivity is only a partial productivity indicator, as it does not take account of all production factors.

East-west divide in relation to agricultural productivity

Map 11.4 shows that agricultural gross value added per annual work unit in the EU-28 was estimated at EUR 15 800 in 2011. There was a stark contrast between regions in western and eastern parts of the EU in terms of their productivity ratios by NUTS 2 regions, with higher ratios in the west of Europe. The main exceptions to this pattern were the Centro and Norte regions of Portugal, as well as the Border, Midland and Western region of Ireland; each of these three regions recorded relatively low levels of labour productivity.

Highest labour productivity was recorded in the Netherlands and across those regions of France and the United Kingdom that specialised in arable farming

There were 31 regions spread across the EU where gross value added per annual work unit was above EUR 45 000 in 2011 (as shown by the darkest shade in **Map 11.4**); note that the German regions are shown at the NUTS 1 level and that the data for Belgium, Slovenia, Norway and Switzerland are presented at a national level. The highest levels of productivity were recorded in the Dutch regions of Friesland, Zuid-Holland and Flevoland, the French region of Champagne-Ardenne, and the East Anglia region of the United Kingdom; each of these registered labour productivity ratios for the agricultural sector that were above EUR 70 000 per annual work unit.

By contrast, 25 regions within the EU recorded agricultural labour productivity of EUR 5 000 or less in 2011 (as shown by the lightest shade in **Map 11.4**). These regions were principally in south-east Poland (seven regions), Bulgaria (five regions), Romania (four regions), Portugal (three regions), Slovakia (two regions) and a single region from each of Ireland, Greece and Finland; Latvia also recorded a level of labour productivity below EUR 5 000 per AWU (although this Member State is covered by a single region at this level of detail).

Animals and animal products

Cows' milk production

The production of cows' milk on farms reflects, at least to some degree, the availability of large areas of **grassland**; these are often most prevalent in regions which have temperate weather, with a relatively high degree of rainfall. Although milk production takes place in every EU Member State, it was especially high (as measured by production per km²) in the Benelux countries, Denmark, Germany, Ireland, northern and western France, central Poland and the west of the United Kingdom. On the other hand, in those regions where grassland is rarer (for example, the far north of Europe or around the Mediterranean) cows' milk production tends to be relatively low. In Mediterranean regions with less favourable climatic conditions for grassland and relatively arid landscapes, cows' milk production may be substituted by milk produced from sheep (ewes) and/or goats.

The Netherlands had the highest intensity of cows' milk production

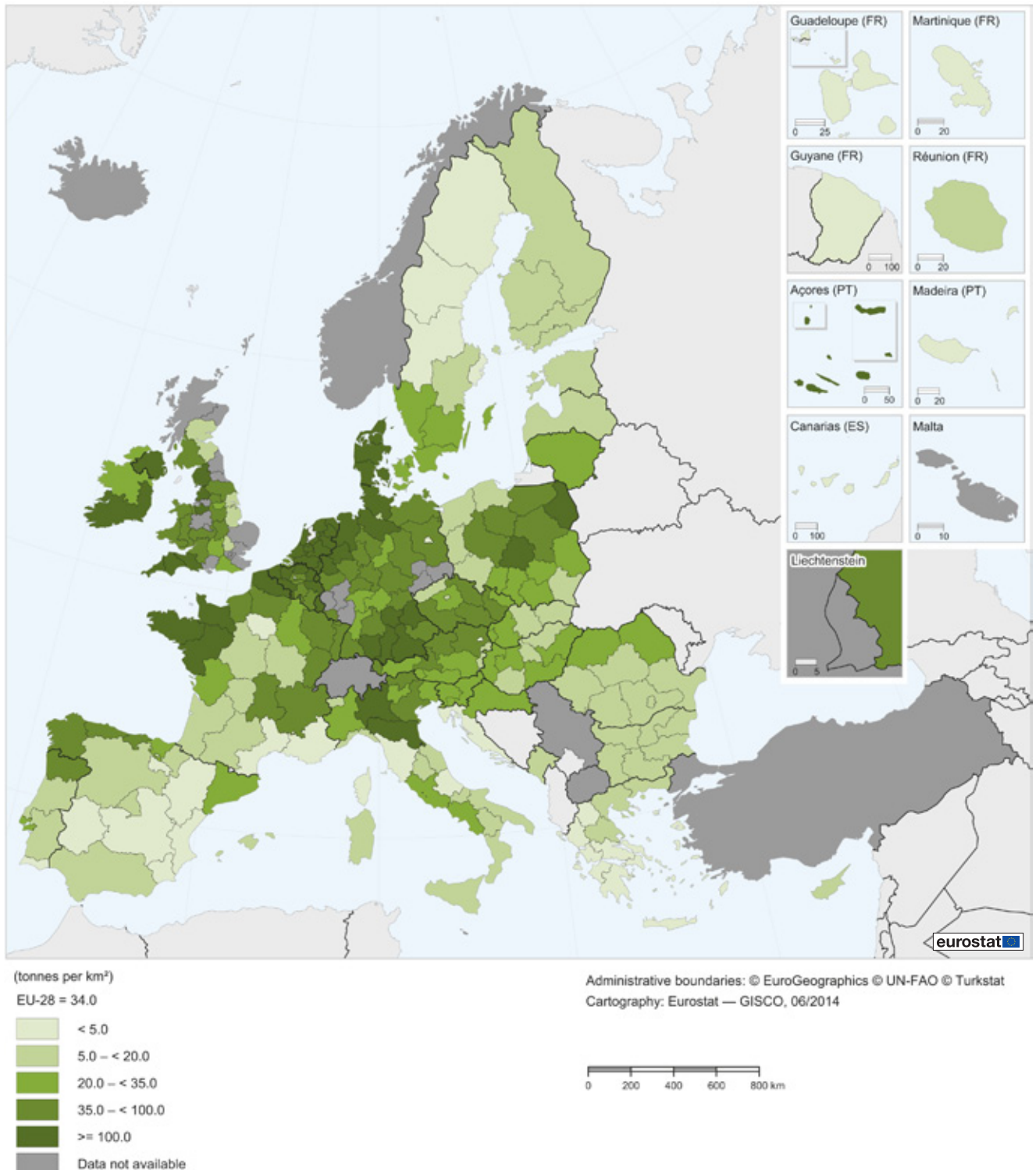
Cows' milk production in the EU-28 was estimated at 152.3 million tonnes in 2012. Regional statistics on the production of cows' milk on farms are presented at the NUTS 2 level in **Map 11.5**. There were 48 regions in the EU with the highest intensity of production (as shown by the darkest shade in the map). Five out of the top seven production regions, according to this intensity indicator, were in the Netherlands, while the other two were Łódzkie (in central Poland) and Cheshire (in the north-west of England). The map confirms a high concentration of dairy farming activities in the Netherlands.

Pigs

There were 147.0 million pigs in the EU-28 in December 2012. Regional data on livestock numbers provide information as to where the most concentrated regions for pig farming are located across the EU. The most important zone for pig production extends from Denmark through northern Germany and into the Netherlands and Belgium.

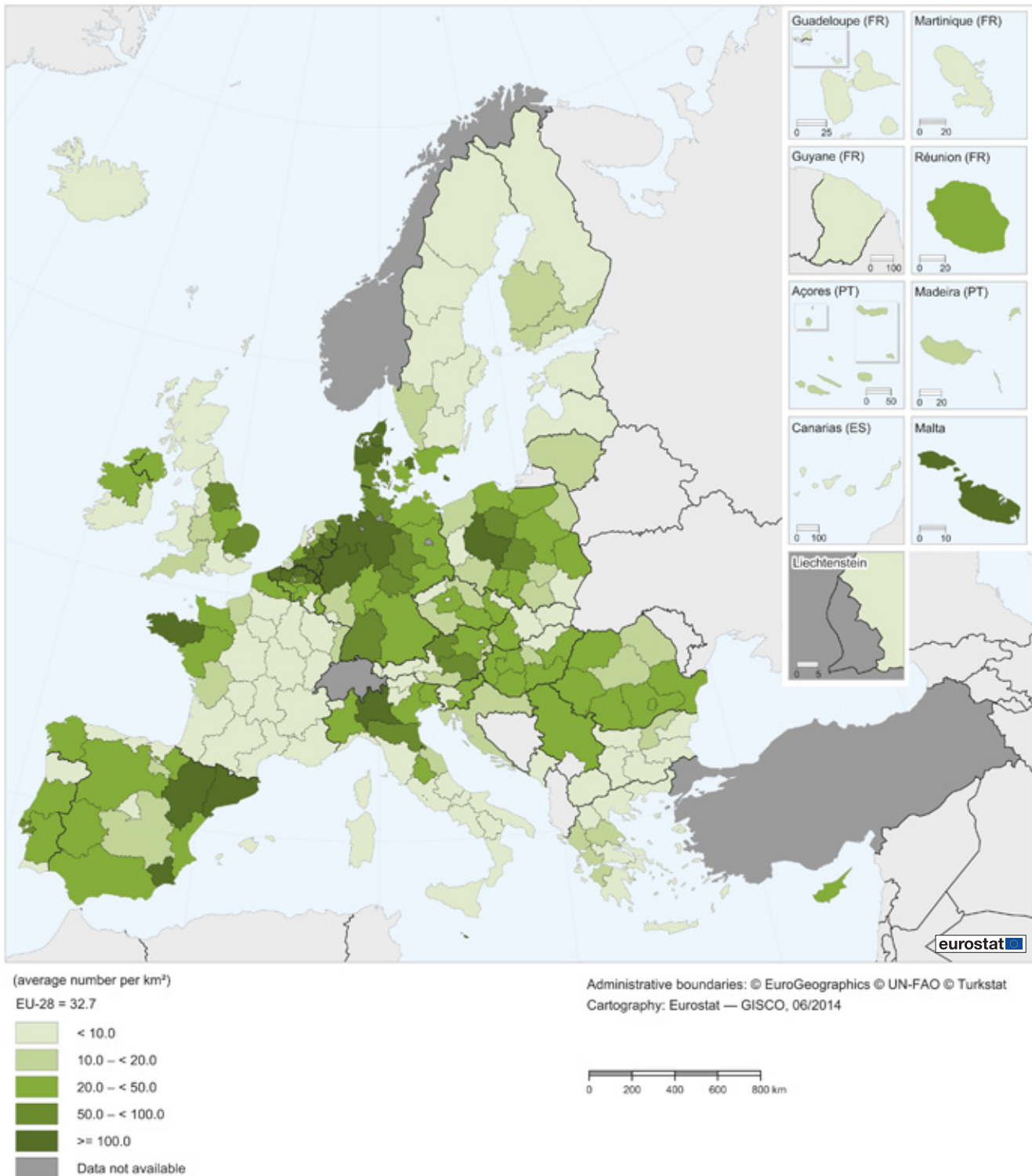


Map 11.5: Production of cows' milk on farms, by NUTS 2 regions, 2012 ⁽¹⁾
(tonnes per km²)



⁽¹⁾ EU-28: based on the latest available data for each Member State (excluding Malta). Croatia: share of total land area instead of share of total area.
Source: Eurostat (online data codes: [agr_r_milkpr](#) and [demo_r_d3area](#))

Map 11.6: Pigs (live swine, domestic species) on farms, by NUTS 2 regions, 2013 ⁽¹⁾
(average number per km²)



⁽¹⁾ EU-28, Belgium, Greece, Croatia, Észak-Magyarország (HU31), Gelderland (NL22), Noord-Brabant (NL41), Niederösterreich (AT12), Steiermark (AT21), Oberösterreich (AT31), Sweden, the United Kingdom, Montenegro and the former Yugoslav Republic of Macedonia: 2012. Germany and the United Kingdom: by NUTS 1 regions. Croatia and Serbia: national level. Bulgaria, Estonia, Île de France (FR10), Nord - Pas-de-Calais (FR30), Latvia, Lithuania, Poland, Portugal, Romania, Slovenia and Serbia: provisional.

Source: Eurostat (online data codes: [agr_r_animal](#) and [demo_r_d3area](#))



There were also other regional pockets where the density of pigs was relatively high: these included Cataluña, Aragón and Región de Murcia in Spain, Bretagne in north-west France, Lombardia in northern Italy, and Wielkopolskie in central Poland. There was also a high density of pigs in Malta (which is considered as a single region at this level of analysis).

Regional concentration of pig farming

Map 11.6 shows there were 21 regions across the EU-28 with the highest density of pigs (as shown by the darkest shade on the map). Pig farming was particularly concentrated — using this density measure — in the Danish capital region of Hovedstaden. Two other regions in Denmark, Midtjylland and Nordjylland, also had a high density of pigs, illustrating Denmark's position as one of the world's leading producers (and exporters) of pig meat. A particularly high concentration of pigs per km² could also be observed in the Dutch region of Noord-Brabant and the Belgian region of Prov. West-Vlaanderen.

The location of pig farming is, to some degree, reliant upon easy access to animal feed and, in particular, cereals. Some areas with a high concentration of pig farming are close to sea ports, which may be used to import feed. Otherwise, the distribution of pig farms across the EU can be linked to consumer preferences for different types of meat and to the complementary nature of different types of pig farming (breeders, fatteners, etc.). These are some of the varied factors which may explain why pig farming is particularly prevalent in the Benelux countries, northern Germany, Denmark and Poland.

By contrast, pig farming was relatively uncommon in the Nordic and [Baltic Member States](#), the north of the United Kingdom, as well as much of the Czech Republic, Greece, France, Italy and Romania, and most capital regions.

Agricultural products

Cereals

Cereals are used primarily for human consumption and animal feed; they are also used to produce drinks and for industrial products (for example, starch). Cereals are the largest group of crops in the world and are also one of the most important outputs of the EU's agricultural sector.

In 2012, the EU-28 produced 284.8 million tonnes of cereals (including rice); this was a reduction of 3.4 %

compared with the year before. **Map 11.7** shows [harvested production](#) of cereals across the EU regions, standardised by dividing production by the region's total area, to take account of the different size of regions and the availability of data at different levels of NUTS. It should be noted that this information is not equivalent to that for cereal yields, which are based on the weight of production divided by the cultivation area for a particular crop. Data for Germany and the United Kingdom are presented for NUTS 1 regions, while the information for Croatia, Norway and Switzerland is at a national level.

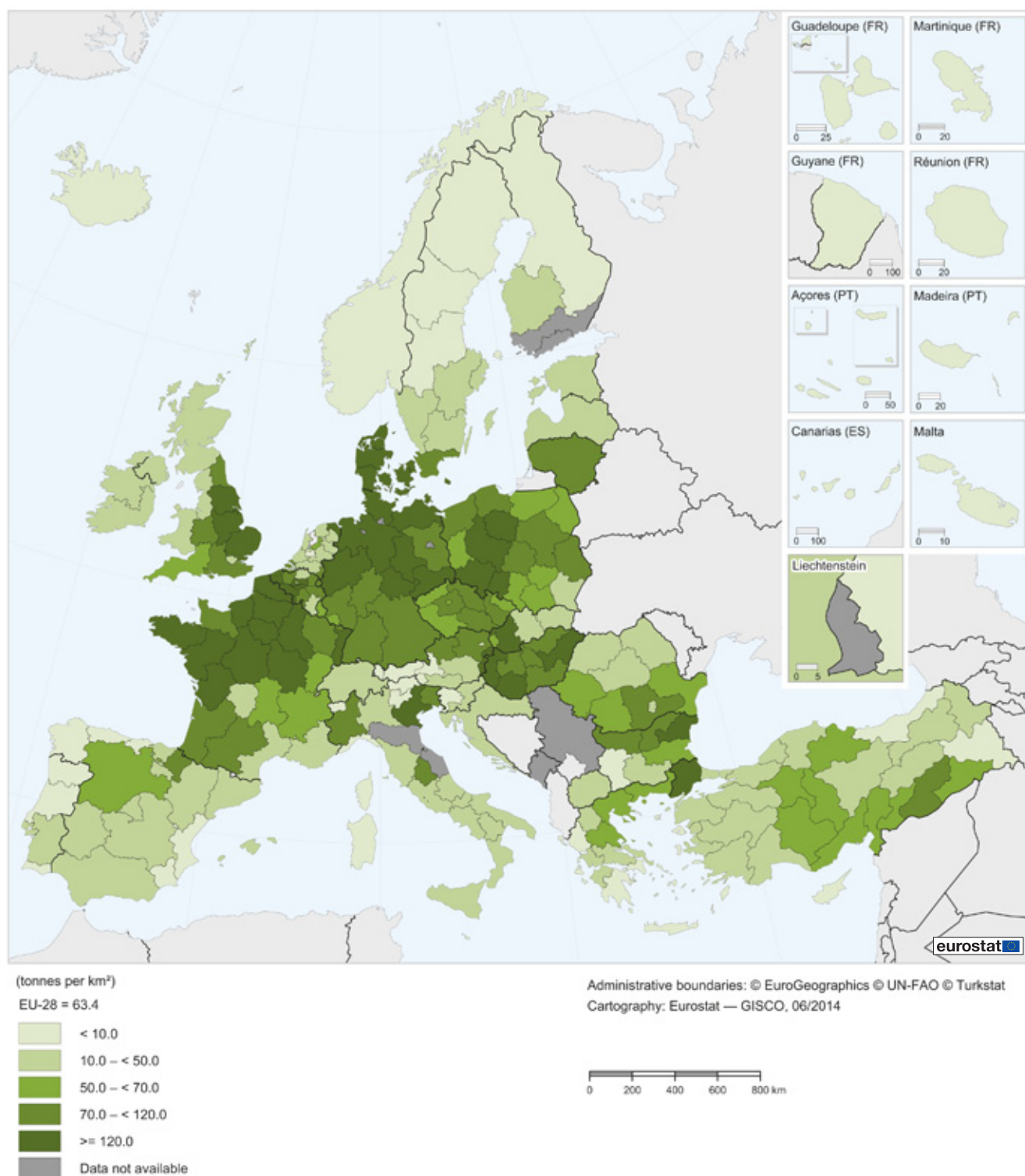
In 2012, an average of 63.4 tonnes of cereals was harvested per km² across the EU. Cereals production in Europe thrives in lowland regions that are characterised by large plains, with a temperate climate and relatively modest levels of rainfall. The most concentrated areas of cereals production included northern France, eastern England, Denmark, northern Germany, most of Hungary and south-west Poland — as shown by the darkest shade in **Map 11.7**. There were 42 regions across the EU which had a level of cereals production that was at least 120.0 tonnes per km².

Several regions across northern France and three Danish regions reported a high intensity of cereals production

Cereals production (relative to a region's area) peaked in Sjælland (Denmark), with an average of 312.3 tonnes per km²; this was almost five times as high as the EU average. Two other regions in Denmark, Syddanmark and Midtjylland, also recorded relatively high level of cereals production (above 200.0 tonnes per km²). Aside from these three Danish regions, there were 11 other regions in the EU where harvested production of cereals was above 200.0 tonnes per km². Eight of these were in northern France, where relatively large grain farms plant large swathes of land with cereals. The French regions with the highest production per km² included Picardie, Alsace, the capital region of Île de France, and the Nord - Pas-de-Calais. The three remaining regions included the East of England (a NUTS 1 region), the Belgian region of the Prov. Brabant Wallon, and the southern Polish region of Opolskie.

By contrast, the lightest shade in **Map 11.7** shows those regions where the harvested production of cereals fell below 10.0 tonnes per km²; this was the case in 43 different regions across the EU. Many of these were coastal regions (including several overseas regions and autonomous cities and islands), while production levels were also relatively low in mountainous regions and the remote regions of the extreme north, including Iceland.

Map 11.7: Harvested production of cereals (including rice), by NUTS 2 regions, 2012 ⁽¹⁾
(tonnes per km²)



⁽¹⁾ Germany and the United Kingdom: by NUTS 1 regions. Croatia, Norway and Switzerland: national level. Helsinki-Uusimaa (FI1B) and Etelä-Suomi (FI1C): information for these regions has been aggregated.

Source: Eurostat (online data codes: [agr_r_crops](#), [apro_cpp_crop](#) and [demo_r_d3area](#))



Rape, turnip rape and sunflower seeds

Rape, turnip rape and sunflower seeds are harvested mainly for animal feed and for their oil which is used for food, feed, industrial purposes and as biofuel. **Map 11.8** provides a similar analysis to that for cereals, but instead the information presented is for the harvested production of rape, turnip rape and sunflower seeds. As for cereals production, the data presented have been related to the total area, which adjusts to some extent for the use of different NUTS levels.

Production of rape, turnip rape and sunflower seeds was concentrated in a relatively small number of regions, many of which also had a relatively high level of production for cereals. This is perhaps not surprising given that arable farming tends to thrive in those regions where the summers are warm and relatively dry and the land is low, flat and fertile.

In 2012, EU-28 harvested production of rape, turnip rape and sunflower seeds was 26.3 million tonnes, which was equivalent to 5.9 tonnes per km². There was a zone of rape, turnip rape and sunflower seed production running from the south-west of France, up into the south-east of the United Kingdom, across parts of Germany (note that the data published for Germany excludes sunflower seeds, but this has only a minor impact) and Poland, before descending through the Czech Republic and Hungary and finishing in Bulgaria.



SPOTLIGHT ON THE REGIONS: SEVEREN TSENTRALEN (BG32), BULGARIA



A field of sunflowers, north-east Bulgaria

Agriculture accounts for a relatively large share of total economic activity in most Bulgarian regions. The main crops grown in Bulgaria tend to be cereals, with the highest levels of production recorded for wheat, maize and sunflower seeds.

Agriculture accounted for 8.9 % of total economic activity in the Severen tsentralen region in 2011. The average farm size in this region was 18.6 hectares of utilised agricultural area, which was the highest value among the six NUTS 2 regions in Bulgaria. This could be linked, at least in part, to a relative specialisation in arable farming within this region.

Photo: Svetoslav Nikolov

Rape, turnip rape and sunflower seed production was concentrated in northern France and Germany, the east of the United Kingdom and the north-east of Bulgaria

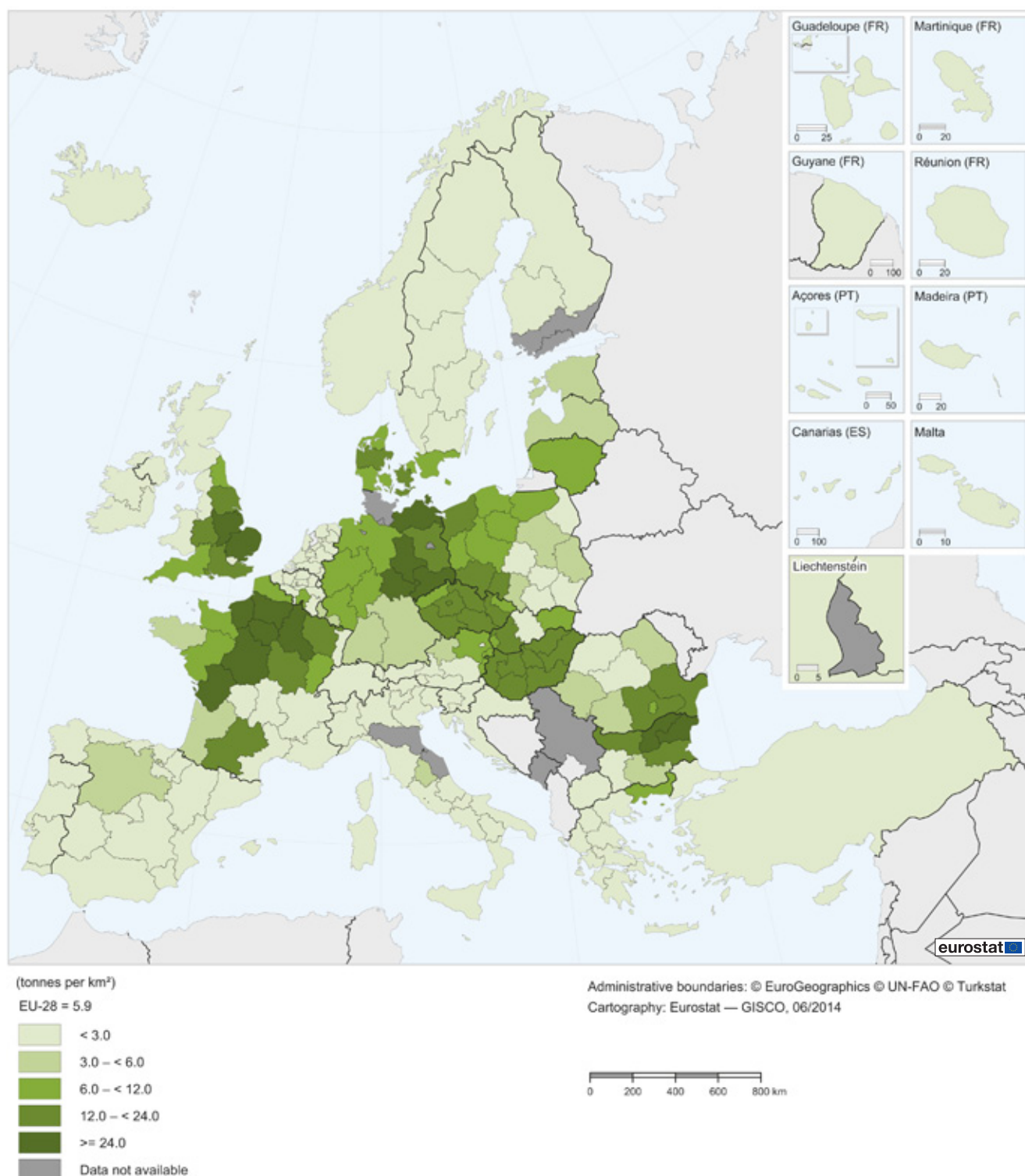
There were 14 regions in the EU where harvested production rose to at least 24.0 tonnes per km² — in other words, more than six times as high as the EU-28 average — these are shown as the darkest shade in **Map 11.8**. The highest level of production was recorded in the East Midlands region of the United Kingdom (38.9 tonnes per km²; note that the regions for the United Kingdom are presented at the NUTS 1 level), while the neighbouring region of the East of England was also present among the top 14 regions. However, the biggest concentrations of regions with high levels of oilseed production were in France (six regions in the top 14) and Germany (four regions in the top 14; data for Germany are also presented at the NUTS 1 level). The highest level of production in Germany was in Sachsen-Anhalt (which lies between Berlin, Leipzig and Hanover), at 34.8 tonnes per km², while that for France was recorded in the Centre (34.6 tonnes per km²). The two remaining regions that recorded harvested production of at least 24.0 tonnes per km² were in the north-east of Bulgaria, Severen tsentralen and Severoiztochen; both of these regions had a level of harvested production that was close to 29.0 tonnes per km².

The production of rape, turnip rape and sunflower seeds was very low in both northern and southern regions of Europe, with the vast majority of production running in a band between these two extremes. There were, however, exceptions in this central zone, as none of the regions in Belgium and the Netherlands reported any significant level of production. The production of rape, turnip rape and sunflower seeds was also non-existent in mountainous regions, for example, in the Alpine regions of western Austria. **Map 11.8** shows that almost 60 % of the regions within the EU (125 out of the 214 regions for which data are available) had a production level of less than 3.0 tonnes of rape, turnip rape and sunflower seeds per km². Of these, there were 59 regions where there was no significant production. They included both regions in Ireland, most of Greece, parts of Spain, the French overseas regions, most of Italy and the Netherlands, western Austria, most of Portugal and northern Sweden. There was also no significant production in Cyprus or Malta (both of these EU Member States are treated as a single region at this level of analysis), and this was also true for Iceland and Norway.

Fruit and berry plantations

There is a wide variety of fruit grown across the EU: as with many agricultural products, the distribution of production areas for fruit and berry plantations is closely linked to climatic conditions. Europe is a net importer of fruit: it imports, for example, tropical fruits which do not grow in most European regions year-round, and various types of fruit from the southern hemisphere when they are out of season in the EU.

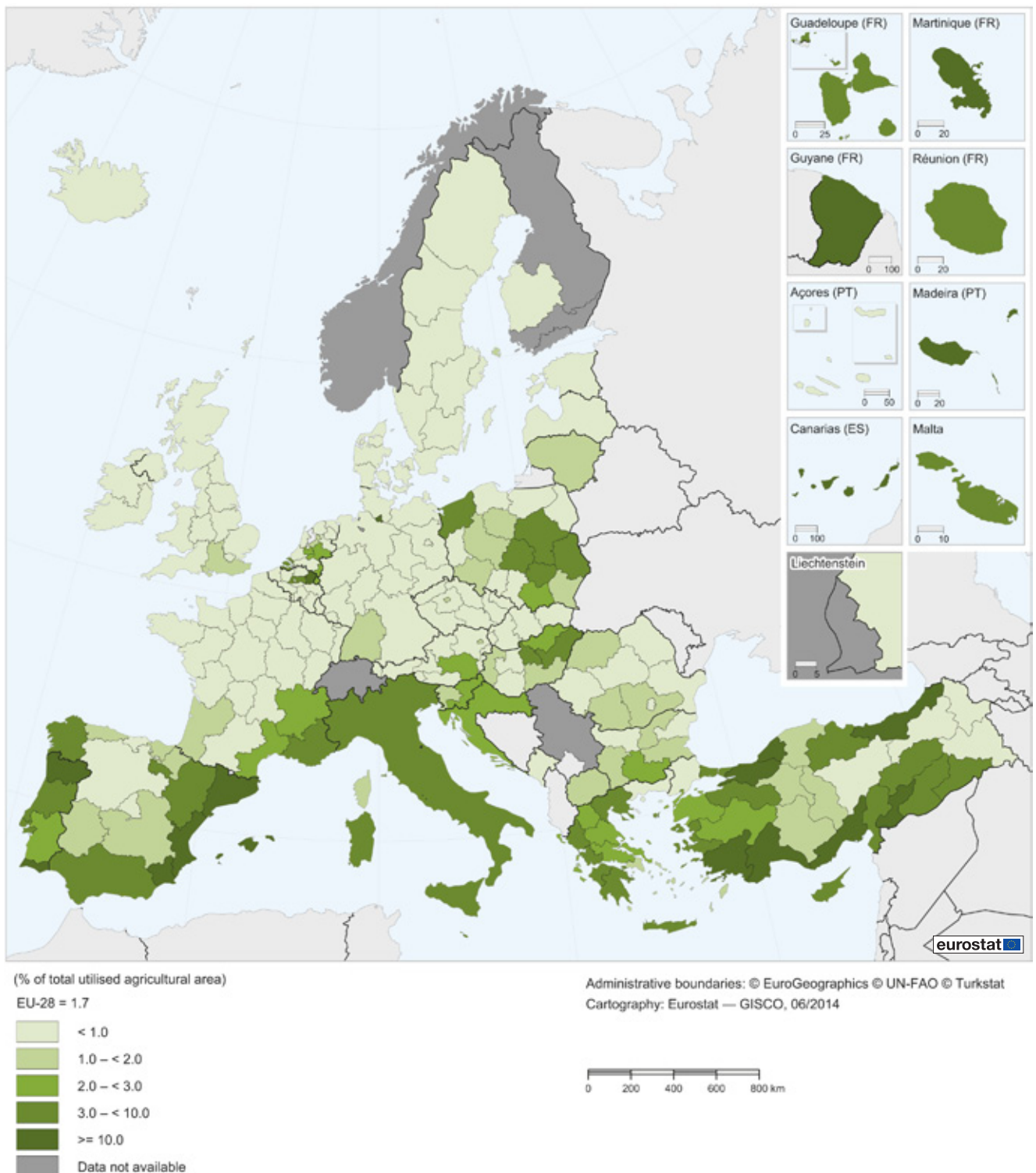
Map 11.8: Harvested production of rape, turnip rape and sunflower seeds, by NUTS 2 regions, 2012 ⁽¹⁾
(tonnes per km²)



⁽¹⁾ Germany: excluding sunflower seeds. Germany and the United Kingdom: by NUTS 1 regions. Croatia, Norway, Switzerland and Turkey: national level.
Source: Eurostat (online data codes: agr_r_crops, apro_cpp_crop and demo_r_d3area)



Map 11.9: Production area for fruit and berry plantations, by NUTS 2 regions, 2012 ⁽¹⁾
(% of total utilised agricultural area)



⁽¹⁾ The United Kingdom and Iceland: 2011. Italy: 2010. Germany and the United Kingdom: by NUTS 1 regions. Croatia and Italy: national level. Italy: estimate based on subtracting the production area for olives and for vineyards from the total for all permanent crops. Turkey: methodological differences may apply. EU-28: estimate.

Source: Eurostat (online data codes: [agr_r_landuse](#) and [ef_pofruit](#))



Fruit plantations cover, among others, trees bearing the following fruits: apples, oranges, other citrus varieties, pears, plums, peaches and nectarines, apricots, cherries and nuts. Berry plantations cover, among others: blueberries, currants (red and black), raspberries, blackberries and gooseberries; note that strawberries are excluded from these statistics, as are grapes and olives.

Almost one third of the EU's fruit and berry plantations were located in Spain

The total area covered by fruit and berry plantations in the EU-28 was an estimated 3.11 million hectares in 2012. More than one third (37.9 %) of the total area of fruit and berry plantations was located in Spain, while Italy (13.6 %, 2010 data from the [farm structure survey \(FSS\)](#) note that these figures are likely to under-report the area of fruit and berry plantations in Italy for methodological reasons) and Poland (11.7 %) were the only other EU Member States to record double-digit shares.

The regional distribution of fruit and berry plantations across the EU was highly concentrated in southern and eastern regions. The main areas for production were located in southern and eastern Spain along the Mediterranean coast, running from west to east they were: Andalucía, the Región de Murcia, the Comunidad Valenciana and Cataluña. The biggest production area, by far, was the Comunidad Valenciana (320 607 hectares in 2012), followed by Andalucía (284 224 hectares). Production areas in the other regions were much smaller: the Región de Murcia and Cataluña, together with another Spanish region, Aragón, and the Polish capital region of Mazowieckie were the only other regions across the EU to report a production area of at least 100 000 hectares of fruit and berry plantations (each of these four regions had a production area within the range of 105 000–139 000 hectares in 2012). Note that there is no regional information available for Italy, but that in 2010 the total area of fruit and berry plantations was 424 300 hectares.

While the Spanish regions were particularly specialised in the production of citrus fruits and early seasonal products, the Polish region of Mazowieckie mainly produced apples (as did several other Polish regions). The production areas used for berry plantations were generally much smaller than those for apples or oranges, with some of the largest production areas for blueberries, currants (red and black), raspberries and gooseberries located across Poland and Germany; there was also a relatively large area of blackberry production in Hungary.

The information shown in **Map 11.9** refers to the production area for fruit and berry plantations in 2012 and is presented in relation to the total utilised agricultural area. As such, the map shows the extent to which fruit and berry plantations cover the total agricultural area. The darkest shade shows the 12 regions in the EU where the production area for fruit and berry plantations accounted for at least one tenth of the

total utilised agricultural area in 2012. Note that the data for Germany and the United Kingdom are shown at the NUTS 1 level, while those for Croatia and Italy are at the national level.

Fruit and berry plantations accounted for almost half of the utilised agricultural area in the Comunidad Valenciana

The Comunidad Valenciana was the region where fruit and berry plantations accounted for the highest share of utilised agricultural area in 2012 (45.9 %). There were five other regions where the production area for fruit and berry plantations accounted for more than one fifth of the area used for farming: two of these were Spanish regions (the Región de Murcia and the Canarias), two were Portuguese (the Algarve and the Região Autónoma da Madeira) and one was a French overseas region (Martinique). It should be noted that the information presented does not necessarily indicate that these regions are large fruit and berry producers as, for example, the total agricultural area on the islands mentioned above was relatively small.

Apple orchards

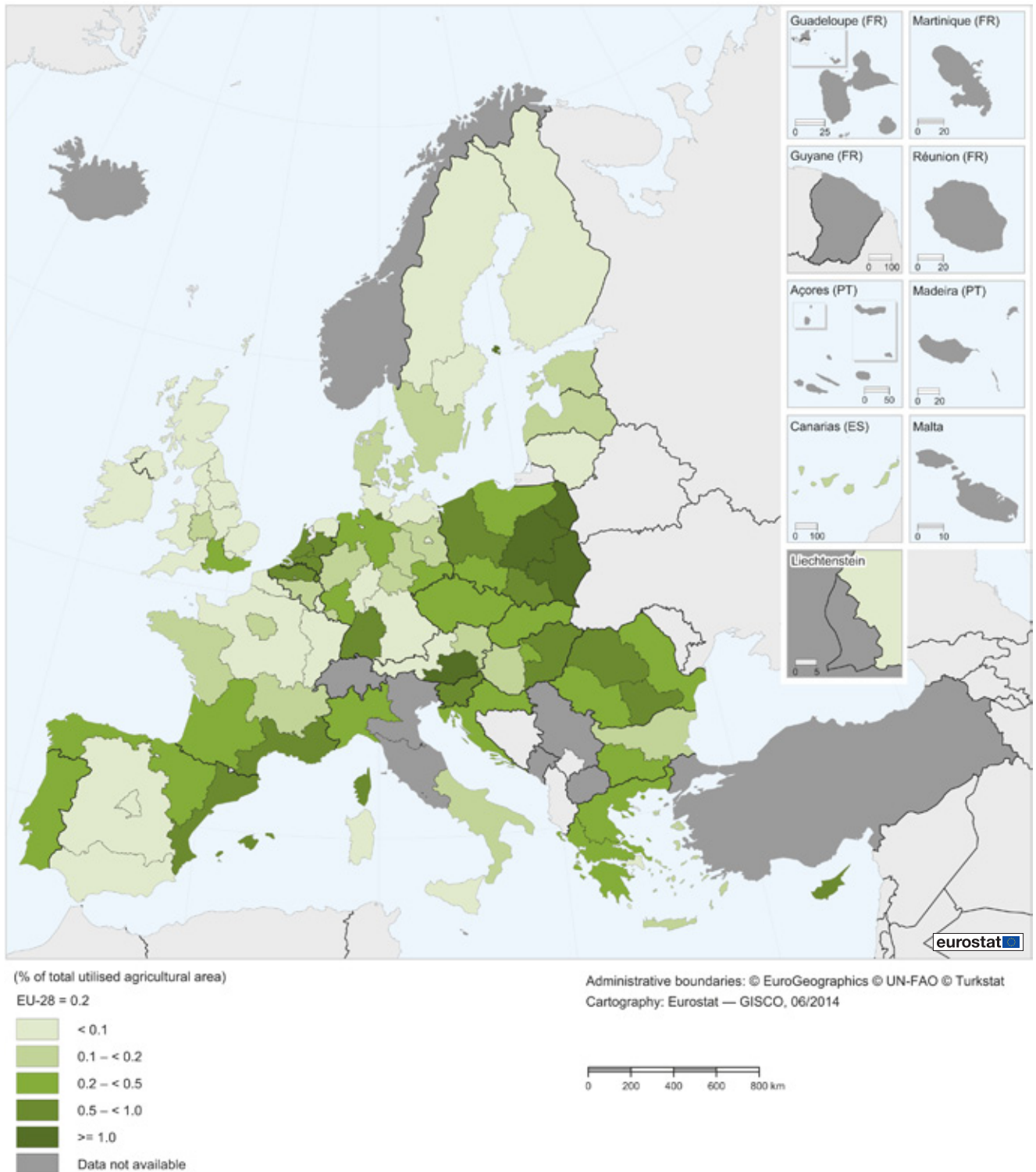
Across the EU-28, there were an estimated 439 511 hectares covered by dessert apples in 2012. Poland was the leading producer of dessert apples in the EU, and accounted for almost one third (32.6 %) of the total area devoted to their production in the EU. Italy (11.9 %) and Romania (11.7 %) were the only other EU Member States to account for more than one tenth of the total production area.

Region Centralny (Poland) was Europe's leading region for the production of dessert apples

In absolute terms, the largest production area (at the NUTS 1 level) for dessert apples was in the Polish region of Region Centralny (78 132 hectares or nearly one fifth of the EU-28 total). The next largest areas were the Nord-Est region of Italy (39 830 hectares) and another Polish region, namely, the Region Wschodni (34 772 hectares). **Map 11.10** presents the production area for dessert apples in relation to the total utilised agricultural area. It confirms that the Polish regions of the Region Centralny and the Region Wschodni were highly specialised in the production of dessert apples, as both of these regions were among a group of five that reported that at least 1.0 % of their utilised agricultural area was given over to the production of these fruit. The highest proportion (7.6 %) was recorded in the German region of Hamburg; however, the production area for dessert apples in the Region Centralny was around 70 times higher than that for Hamburg. The two other regions where the production area for dessert apples accounted for at least 1.0 % of the total land area for farming were Südösterreich (Austria) and Åland (Finland). The production area for dessert apples in Südösterreich was relatively large (6 225 hectares), while that in Åland was even smaller than in Hamburg, at just 270 hectares.



Map 11.10: Production area for dessert apples, by NUTS 1 regions, 2012 ⁽¹⁾
(% of total utilised agricultural area)



⁽¹⁾ EU-28: includes data for Estonia for 2007 and excludes Malta, Estonia: 2007.
Source: Eurostat (online data codes: [orch_apples1](#) and [agr_r_landuse](#))



Data sources and availability

For variables such as livestock numbers and the harvested production of cereals, Eurostat traditionally relies on additive variables showing absolute values. For illustration purposes in this publication, some indicators have been normalised, dividing the regional values by the region's area (in km²) or its utilised agricultural area. For animals and animal products this method was used for **Map 11.5** concerning the production of cows' milk (in tonnes per km²) and for **Map 11.6** which shows the number of pigs (in heads per km²). For [crop production](#) the resulting indicators (see **Map 11.7** and **Map 11.8**) should not be confused with [crop yields](#), which are based not on the region's total area but the harvested area used for each crop. The information presented in **Map 11.9** and **Map 11.10** pertains to the production area for fruit and berries and for apples, which is shown in relation to the total utilised agricultural area. This normalisation by surface size only shows rough spatial distributions across the regions of Europe. For further analyses, it is recommended to make use of the indicators available on [Eurostat's website](#).

Farm structure survey

The farm structure survey (FSS) is a major source of agricultural statistics. A comprehensive survey is carried out by EU Member States every 10 years and is referred to as the [agricultural census](#). This is complemented by intermediate sample surveys which are carried out three times between each census.

Under the guidance of the [Food and Agriculture Organisation \(FAO\)](#) the ninth round of the world agricultural census took place in 2010. Eurostat has followed the FAO's recommendation on the worldwide decennial agricultural census since the 1970 round. The census collects information about all agricultural holdings in order to present an updated picture of the structure of agricultural activities, from an economic, social and environmental point of view. The information covers: land use; livestock numbers; rural development (for example, activities other than agriculture); irrigable and irrigated areas; farm management and farm labour input.

A new legal basis was developed for the FSS in relation to the 2010 data collection exercise, namely a regulation of the European Parliament and of the Council on [farm structure surveys and the survey on agricultural production methods](#) ((EC) No 1166/2008).

The basic statistical unit underlying the FSS is the agricultural holding. Until 2007 the FSS covered all agricultural holdings with a utilised agricultural area (UAA) of at least one hectare and those holdings with a UAA of less than

one hectare if their market production exceeded certain thresholds. For the FSS in 2010, the minimum threshold for agricultural holdings changed from one hectare of UAA to five hectares of UAA. This threshold of five hectares was adopted in the Czech Republic (moving from one hectare in 2007 to five hectares in 2010), Germany (from two hectares to five hectares), Sweden (from two hectares of arable land to two hectares of arable land or five hectares of UAA) and the United Kingdom (from active farms to five hectares), while the threshold in Denmark remained unchanged when compared with 2007 at five hectares. The threshold in Luxembourg was changed from one hectare to three hectares, that in Poland from 0.1 hectares to one hectare, and that in Slovakia from 0.5 hectares to one hectare. More information in relation to changes in the thresholds employed for the FSS may be found on [Statistics Explained](#).

[Common land](#) (shared area mainly for grazing) is excluded from the FSS data in Greece and the United Kingdom. This has an impact on the data in the sense that the UAA per holding does not take common land into account. As such, derived indicators which use the UAA as a denominator may be overestimated. More background information in relation to common land may be found on [Statistics Explained](#).

FSS data are used to collect information on agricultural holdings at different geographic levels and over different periods; they provide a basis for decision-making in the common agricultural policy (CAP). Although not shown in this chapter, sub-national FSS data are available at a more disaggregated level, namely for NUTS 3 regions and for districts.

Economic accounts for agriculture

Economic accounts for agriculture (EAA) provide data at a regional level for the value of output, intermediate consumption and income. The EAA are a satellite account of the [European System of Accounts \(ESA95\)](#).

Eurostat has been collecting, processing and publishing data on the EAA in the form of a regional analysis for more than 15 years. The legal basis for EAA is a regulation on [economic accounts for agriculture in the Community](#) (EC) No 138/2004, which has been subsequently amended on five separate occasions, the last of which was [Regulation \(EU\) No 1350/2013](#) in December 2013.

The purpose of EAA is to analyse the production process of the agricultural industry and the primary income generated by this production. Information pertaining to the agricultural industry in the EAA corresponds to [NACE Rev. 2 Division 01: crop and animal production, hunting and related service activities](#).



Regional agricultural accounts for output items are often used as building blocks for results at the national level, while regional data for intermediate consumption (direct input of goods and services in production) are often compiled by analysis of national figures using other information (a top-down approach). Regional EAA may, therefore, be less accurate than data presented at the national level. The compilation of regional accounts generally takes place at the NUTS 2 level. Data are only collected in current prices, and there is no regional analysis for labour input data or unit values.

Livestock

Milk statistics

Animal production statistics are based on legislation and related gentlemen's agreements. Milk and milk product statistics are collected under [Decision 97/80/EC](#) implementing [Directive 96/16/EC](#) on statistical surveys of milk and milk products. Regional milk statistics are compiled for NUTS 1 and NUTS 2 regions.

The data presented in this chapter cover the farm production of milk from cows. A distinction is made between milk collected by dairies and milk production on the farm: milk collection is only a part of the total use of milk production on the farm, the remainder generally includes own consumption, direct sale and cattle feed. Eurostat also collects milk and milk product statistics relating to milk from sheep, goats and buffaloes, the utilisation of milk (products obtained), as well as the collection and production activities of dairies.

Statistics on pigs

The purpose of [Regulation \(EC\) No 1165/2008 concerning livestock and meat statistics](#) is to establish a common legal framework for the systematic production of Community statistics on livestock and meat production in the EU Member States, in particular: statistics on the numbers of animals, slaughtering statistics in relation to the production of various types of meat, and production forecasts for these meat markets.

Pigs are defined as domestic animals of the species *Sus scrofa domestica*. The information shown in this chapter concentrates on livestock numbers, namely the number of pigs on farms. Eurostat collects data that allow a more profound analysis of these totals, as the information may be analysed, among others, for piglets, by weight, for fattening pigs, breeding pigs, boars and sows. The minimal coverage for livestock surveys is of at least 95 % of the national population with reference to the last survey on the structure of agricultural holdings (FSS).

Regional pig livestock statistics are produced in November/December of each year. They are available for NUTS 1 and NUTS 2 regions, although Germany and the United Kingdom have an exception to provide regional data at the NUTS 1 level.

Agricultural products

The legal basis for the collection of crop statistics is provided by [Regulation \(EC\) No 543/2009](#); it refers to cereals, other field crops, fruits and vegetables and land use statistics. Since 2010, this legal basis has provided annual statistics for a wide range of crops; prior to this date some statistics, for example those relating to fresh fruit and vegetables, were collected on the basis of informal agreements.

Agricultural production of crops is synonymous with harvested production and includes marketed quantities, as well as quantities consumed directly on the farm, losses and waste on the holding, as well as losses during transport, storage and packaging. Crop statistics refer to the following types of annual data: area, production harvested, yield and agricultural land use. The statistics provide, for a given product, the area, the yield and the production harvested during the crop year. For some products regional figures (NUTS 1 or NUTS 2) are also available.

The main cereals harvested within the EU include wheat, barley, grain maize, rye and maslin; in this chapter the production of cereals also includes rice. The data are obtained from sample surveys supplemented by estimates based on expert observations and administrative data.

Orchards

Eurostat collects data in relation to orchards through surveys conducted in the EU Member States relating to the production areas under certain species of fruit trees (for example, trees bearing apples, pears, peaches, apricots, oranges, lemons, and other citrus fruits).

[Commission Decision \(EC\) No 38/2002](#) provides information in relation to survey parameters for the data to be collected when surveying plantations of certain species of fruit trees. It provides information in relation to the production areas to be surveyed, as well as the statistical classes to be used for the age of the trees planted, species and varieties, net area planted, number of trees and the density of plantations. These surveys are carried out every five years, with the aim of determining the production potential by species. The information presented for dessert apples is only available for NUTS 1 regions.