The EU potato sector - statistics on production, prices and trade

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This article describes the potato sector in the European Union. A range of agricultural data from a number of Eurostat agricultural statistics (farm structure survey, annual crop production statistics, agricultural prices and economic accounts for agriculture) are used, as well as trade and industrial production statistics, to depict the various stages in the process of bringing potatoes from the field to the market.

Potato production in the EU is highly concentrated

Potato production is mainly concentrated in seven Member States; Belgium, Germany, France, the Netherlands, Poland, Romania and the United Kingdom accounted for about three-quarters of the area planted (76.9 % in 2018) and of production (79.5 % in 2018).

Production: area, harvest and farms

Cultivated area of potatoes in 2018 almost half of that in 2000

Potatoes were cultivated on 1.7 million hectares (ha) in the EU-28 in 2018 (see Table 1). This corresponded to 1.6 % of all arable land in the EU. This share was much higher in the Netherlands (15.8 % of all arable land), Belgium (11.1 %) and in Malta (7.1 %). About three-quarters (76.9 %) of the EU’s cultivated area of potatoes in 2018 was concentrated in just seven Member States: these were Poland (17.8 %), Germany (14.9 %), France (11.8 %), Romania (9.9 %), the Netherlands (9.7 %), the United Kingdom (7.2 %) and Belgium (5.5 %). The area of potatoes in the EU has been in long-term decline. The cultivated area almost halved between 2000 and 2018 with, among the principal producer countries, particularly sharp reductions in Poland (-76.0 %) and Romania (-37.1 %). Nevertheless there were some exceptions (see Figure 2), with increases in the area of potatoes planted in both France (particularly since 2015) and Belgium (particularly since 2009).

52 million tonnes of potatoes harvested across the EU in 2018, about one-third (37.3 %) less than in 2000

With a downward trend in the area of potatoes cultivated, harvested production in the EU has also been in decline, albeit with annual fluctuations that were also influenced by weather conditions. Between 2000 and 2018, the harvested production of potatoes in the EU declined by just over one-third (-37.3 %), with a particularly strong decline in Poland (see Figure 3). The harvested production of potatoes in the EU was 51.9 million tonnes in 2018. Germany was the largest producer of potatoes in the EU in 2018 (at 8.9 million tonnes, 17.2 % of the EU total), ahead of France (15.2 %), Poland (14.3 %) and the Netherlands (11.6 %).
Table 1: Production of potatoes, including seed, 2018

Source: Eurostat (apro_cpsh1)
Figure 1: Production of potatoes, including seed potatoes by main producing EU Member States, 2018 (% of EU-28’s total harvested production - tonnes) Source: Eurostat (apro_cpsh1)

Figure 2: Index of the area of potatoes, main producing EU Member States (2000=100, potato area - hectares) Source: Eurostat (apro_cpsh1)
Farms producing potatoes in EU are typically very small

Almost 1.5 million agricultural holdings in the EU grew potatoes in 2016, of which two-thirds were in Romania (40.4 %) and Poland (25.2 %). However, almost 90 % of farms growing potatoes in the EU did so on an area of less than 1 ha. Indeed, the average area of potatoes cultivated on farms in Poland was 0.8 ha and in Romania was 0.2 ha. So whilst numerous, these holdings with very small potato areas of less than 1 ha only accounted for 14.8 % of the overall cultivated area in the EU (see Figure 5). By contrast, there were some Member States where holdings growing potatoes did so on a relatively large scale: in Denmark the average area of potatoes was 26.1 ha in 2016, and in the Netherlands and the United Kingdom it was 16.5 ha. So whilst relatively few in number, these larger-scale potato farms accounted for a relatively high share of the EU’s potato production area. Only 2.2 % of EU farms growing potatoes did so on more than 10 ha in 2016, but these same farms accounted for a clear majority (60.5 %) of the EU’s total cultivated area of potatoes. Organic potato production remains a relatively small segment of the market in most Member States. Only 20 000 holdings produced potatoes under organic farming conditions, with just over one half of these located in either Poland (23.7 %), Austria (14.7 %) or Germany (14.0 %) (see Table 2). In Austria, however, farms producing organic potatoes accounted for one-fifth (20.4 %) of all farms producing potatoes.
Table 2: Holdings producing potatoes, 2016 (number) Source: Eurostat (ef_lac_rootcrop)

<table>
<thead>
<tr>
<th>Country</th>
<th>Total potatoes</th>
<th>Organic potatoes</th>
</tr>
</thead>
<tbody>
<tr>
<td>Belgium</td>
<td>12,886</td>
<td>132</td>
</tr>
<tr>
<td>Bulgaria</td>
<td>34,805</td>
<td>7</td>
</tr>
<tr>
<td>Czech Republic</td>
<td>1,602</td>
<td>170</td>
</tr>
<tr>
<td>Germany</td>
<td>20,919</td>
<td>2,750</td>
</tr>
<tr>
<td>Ireland</td>
<td>3,427</td>
<td>1</td>
</tr>
<tr>
<td>Greece</td>
<td>20,870</td>
<td>25</td>
</tr>
<tr>
<td>Spain</td>
<td>47,245</td>
<td>64</td>
</tr>
<tr>
<td>France</td>
<td>26,765</td>
<td>2,150</td>
</tr>
<tr>
<td>Croatia</td>
<td>26,023</td>
<td>100</td>
</tr>
<tr>
<td>Italy</td>
<td>10,323</td>
<td>380</td>
</tr>
<tr>
<td>Cyprus</td>
<td>3,570</td>
<td>15</td>
</tr>
<tr>
<td>Latvia</td>
<td>38,705</td>
<td>2,090</td>
</tr>
<tr>
<td>Lithuania</td>
<td>79,500</td>
<td>530</td>
</tr>
<tr>
<td>Luxembourg</td>
<td>327</td>
<td>20</td>
</tr>
<tr>
<td>Hungary</td>
<td>24,785</td>
<td>10</td>
</tr>
<tr>
<td>Malta</td>
<td>1,660</td>
<td>5</td>
</tr>
<tr>
<td>Netherlands</td>
<td>9,570</td>
<td>200</td>
</tr>
<tr>
<td>Austria</td>
<td>14,260</td>
<td>3,810</td>
</tr>
<tr>
<td>Poland</td>
<td>376,290</td>
<td>4,740</td>
</tr>
<tr>
<td>Portugal</td>
<td>81,000</td>
<td>32</td>
</tr>
<tr>
<td>Romania</td>
<td>655,580</td>
<td>300</td>
</tr>
<tr>
<td>Slovenia</td>
<td>27,750</td>
<td>1,060</td>
</tr>
<tr>
<td>Slovak Republic</td>
<td>5,120</td>
<td>230</td>
</tr>
<tr>
<td>Finland</td>
<td>6,800</td>
<td>470</td>
</tr>
<tr>
<td>Sweden</td>
<td>3,270</td>
<td>420</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>5,352</td>
<td>50</td>
</tr>
</tbody>
</table>

Source: Eurostat (online data code: ef_lac_rootcrop)

Figure 4: Potato holdings by Member States, 2016 (% of EU-28’s potato holdings - number) Source: Eurostat (ef_lac_rootcrop)
Values and prices

Potatoes worth EUR 11 billion to EU farming

The value at basic prices (i.e. including subsidies, but excluding taxes on products) of the raw potatoes (including seed potatoes) produced across the EU in 2017 was EUR 11.3 billion (see Table 3 and Figure 6). This represented 2.7 % of the value of total EU agricultural output in 2017, a proportion that varied among Member States from 6.2 % in Belgium to 0.8 % in Hungary. Almost one half (48.1 %) of the value of potato production came from just three Member States: France (18.2 %), Germany (16.8 %) and the Netherlands (13.1 %).
Volatile prices, both on producer and consumer markets

Selling prices for potatoes fluctuated significantly over time and between countries, on both producer and consumer markets (see Table 4), in part reflecting the strong annual fluctuations in production (see Figure 3). There are also often differences in price development between the two markets for the same year and Member State.
Trade

Potatoes were traded mainly on the EU’s internal market: France, the Netherlands and Germany were the leading traders.

Member States traded about 7 million tonnes of potatoes between themselves (Intra EU trade) in 2018, the market value of which was EUR 1.7 billion (0.05 % of all intra-EU exports). Standard table (main crop) potatoes accounted for two-thirds (65.5 %) of total intra-EU potato exports in value terms; seed potatoes accounted for one quarter (25.2 %) of the total; early potatoes accounted for 7.6 %, with starch potatoes making up the remaining 1.8 %. Three Member States accounted for two-thirds of intra-EU exports of potatoes in value terms: France (28.0 %), the Netherlands (23.3 %) and Germany (16.8 %). Whereas France and Germany were the main export traders in main crop potatoes (36.8 % and 21.7 % respectively of the intra-EU total in value terms), the Netherlands was alone responsible for more than one half (58.2 %) of the value of all seed potatoes traded within the EU and Cyprus (24.9 %) was the principal intra-EU trader of early potatoes.
EU imports of potatoes tended to be "early potatoes"

Compared to the volume and value of intra-EU trade, the EU imported few potatoes from non-EU countries: the EU imported 355 800 tonnes from abroad, to a value of EUR 127.9 million. Slightly more than three-quarters (78.7 %) of these imports were early potatoes: 280 000 tonnes (worth EUR 99.7 million) entered the European market, mainly from Egypt (61.3 %) and Israel (37.2 %).

The EU is a net exporter of seed and main crop potatoes and the Netherlands was the lead-
The EU is a net exporter of potatoes. In 2018, it exported 1.1 million tonnes of potatoes with a value of EUR 495 million (0.03 % of the total value of extra-EU exports). These exports were mainly seed potatoes (71.6 % in terms of the total value of potato exports and 54.4 % in terms of volume) and crop potatoes (27.0 % in value and 44.0 % in volume). Exports of early and starch potatoes were almost negligible. Egypt and Algeria were the EU’s largest export markets for potatoes outside the EU (10.2 % and 10.0 % respectively of the volume and 13.9 % and 13.8 % respectively of the value), both exclusively for seed potatoes. Norway was the largest importer of main crop potatoes (10.1 % of the volume and 14.7 % of the value). Given the principal export markets, the vast majority of potato exports were transported by sea (78.7 % in quantity) rather than road (21.1 %). Among the Member States, the Netherlands was the leading exporter to countries outside the EU, accounting for more than half of all extra-EU exports of potatoes, both in terms of value (58.5 %) and volume (54.7 %). To put this in some context, the next largest exporter was France, accounting for a little more than one-seventh of extra-EU potato exports (13.7 % in value terms and 13.8 % in volume terms).

**Processing**

Processed potatoes (mainly as frozen chips and crisps) were worth EUR 10 billion in 2017, or 1.5 % of the overall value of EU food industry output.

Besides being consumed directly and traded as a raw commodity, potatoes are processed into four main types of product: frozen potatoes, dried potatoes, prepared or preserved potatoes, and potato starch (see Table 7). The overall value of EU processed potato production reached EUR 10.0 billion in 2017, or 1.5 % of the value of production of the whole European food industry. Frozen chips and crisps were the most significant products in terms of production value.

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**Table 7: EU-28’s sold production, exports and imports by groups of processed potatoes products, 2017 (1 000 tonnes, Million EUR)**

<table>
<thead>
<tr>
<th>Product Description</th>
<th>Sold production</th>
<th>Volume</th>
<th>Imports</th>
<th>Value</th>
<th>Exports</th>
<th>Imports</th>
</tr>
</thead>
<tbody>
<tr>
<td>Frozen potatoes, uncooked or cooked by steaming or boiling in water</td>
<td>244</td>
<td>258</td>
<td>210</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Frozen potatoes, prepared or preserved (including potatoes cooked or partly cooked in oil and then frozen excluding by vinegar or acetic acid)</td>
<td>5,383</td>
<td>5,401</td>
<td>2,902</td>
<td>2,616</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diced potatoes which are not cut or sliced but not further prepared</td>
<td>4</td>
<td>7</td>
<td>13</td>
<td>37</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Diced potatoes in the forms of flour, chips, flakes, granules and pellets</td>
<td>475</td>
<td>510</td>
<td>413</td>
<td>279</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes prepared or preserved in the form of flour, meal or flakes (excluding flour, crisps, by vinegar or acetic acid)</td>
<td>103</td>
<td>136</td>
<td>68</td>
<td>60</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potatoes prepared or preserved, including crisps (excluding frozen, dried, by vinegar or acetic acid, in the form of flour, meal or flakes)</td>
<td>2,200</td>
<td>4,006</td>
<td>1,203</td>
<td>1,022</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Potato starch</td>
<td>2,254</td>
<td>580</td>
<td>426</td>
<td>274</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: Eurostat (online data code: DS-066341)

The EU was a net exporter of processed potatoes; it exported processed potatoes to the value of EUR 6.2 billion in 2017 and imported processed potatoes to the value of EUR 4.5 billion. Within the EU, potato processing was mainly based in six Member States: the Netherlands, Belgium, the United Kingdom, France, Germany, and Italy. For reasons of data confidentiality, precise data cannot be published.

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The relatively high share for the Netherlands might, at least in part, be explained by the considerable amount of goods that flow into and out of the EU through Rotterdam, which is the EU’s leading sea port (the so-called Rotterdam-effect see also: [International trade statistics - background](https://ec.europa.eu/eurostat/web/international-trade)).
Source data for tables and graphs

The EU potato sector tables and figures

Data sources

The statistical information presented in this publication is drawn from the Eurostat database, available at the Eurostat website.

Statistics on crop production

Statistics on crop products are obtained by sample surveys, supplemented by administrative data and estimates based on expert observations. The sources vary from one EU Member State to another because of national conditions and statistical practices. National statistical institutes or Ministries of Agriculture are responsible for data collection in accordance with EC Regulations. The finalised data sent to Eurostat are as harmonised as possible. Eurostat is responsible for establishing EU aggregates. The statistics collected on agricultural products cover more than 100 individual crop products. Information is collected for the area under cultivation (expressed in 1 000 hectares), the quantity harvested (expressed in 1 000 tonnes) and the yield (expressed in 100 kg per hectare). For some products, data at a national level may be supplemented by regional statistics at NUTS level 1 or level 2.

Statistics on the structure of agricultural holdings (FSS)

A comprehensive Farm structure survey (FSS) is carried out by EU Member States every 10 years (the full scope being the agricultural census) and intermediate sample surveys are carried out twice between these basic surveys. The statistical unit is the agricultural holding; the EU Member States collect information from individual agricultural holdings, covering:

- land use;
- livestock numbers;
- rural development (for example, activities other than agriculture);
- management and farm labour input (including age, sex and relationship to the holder).

Survey data are aggregated to different geographic levels (countries, regions, and for basic surveys also districts) and arranged by size class, area status, legal status of holding, objective zone and farm type. In the FSS organic data has been collected since the 2000 Census.

Economic accounts for agriculture (EAA)

Data on EAA provide an insight into:

- the economic viability of agriculture;
- agriculture’s contribution to each EU Member State’s wealth;
- the structure and composition of agricultural production and inputs;
- the remuneration of factors of production;
- relationships between prices and quantities of both inputs and outputs.

The output of agricultural activity includes output sold (including trade in agricultural goods and services between agricultural units), changes in stocks, output for own final use (own final consumption and own-account gross fixed capital formation), output produced for further processing by agricultural producers, as well as intra-unit consumption of livestock feed products. The output of the agricultural sector is made up of the sum of the output of agricultural products and of the goods and services produced in inseparable non-agricultural secondary activities; animal and crop output are the main product categories of agricultural output.

Eurostat also collects annual agricultural prices (in principle net of VAT) to compare agricultural price levels between EU Member States and to study sales channels. Quarterly and annual price indices for agricultural
products and the means of agricultural production, on the other hand, are used principally to analyse price developments and their effect on agricultural income. Selling prices are recorded at the first marketing stage (excluding transport). Agricultural price indices are obtained by a base-weighted Laspeyres calculation (2010 = 100), and are expressed in nominal terms or as deflated indices based on the use of an implicit consumer prices (HICP) deflator.

COMEXT database on EU trade

COMEXT is the Eurostat reference database for international trade. It provides access not only to both recent and historical data from the EU Member States but also to statistics of a significant number of third countries. International trade aggregated and detailed statistics disseminated from Eurostat website are compiled from COMEXT data according to a monthly process. Because COMEXT is updated on a daily basis, data published on the website may differ from data stored in COMEXT in case of recent revisions. EU data are compiled according to community guidelines and may, therefore, differ from national data published by Member States. Statistics on extra-EU trade are calculated as the sum of trade of each of the 28 Member States with countries outside the EU. In other words, the EU is considered as a single trading entity and trade flows are measured into and out of the area, but not within it. The importance of the EU’s internal market is underlined by the fact that the proportion of intra-EU trade in goods is higher than extra-EU trade in goods in most EU Member States with few exceptions. The variation in the proportion of total trade in goods accounted for by intra-EU trade reflects to some degree historical ties and geographical location.

PRODCOM, database on the production of manufactured goods

PRODCOM is the European Union (EU) survey providing statistics on the production of manufactured goods. The Prodcom survey covers the mining, quarrying and manufacturing sectors, in other words, NACE Rev. 2 Sections B and C. Prodcom statistics are based on a list of products called the Prodcom list which consists of more than 3 800 headings, and which is revised every year. In the list, products are detailed at an 8-digit level — only information at this detailed level can be found in the Prodcom database, as production data for different products cannot always be meaningfully aggregated. The purpose of Prodcom statistics is to report, for each product in the Prodcom list, how much production has been sold during the reference period. This means that Prodcom statistics relate to products (not to activities) and are therefore not strictly comparable with activity-based statistics such as structural business statistics. Sometimes the data for some products cannot be reported, for instance if an enterprise cannot report the volume in the required measurement unit. In these cases, either the national statistical office or Eurostat makes estimates so that complete EU totals can be published. In some cases the national statistical authority requests that the data for a particular product be kept confidential. This can happen, for instance, if there is only one producer in the country so that the published data refers directly to that producer. Eurostat is legally bound to respect such confidentiality, but may use the confidential amount in EU totals, as long as it is not revealed by doing so. If this is not possible, the EU total is rounded so that an approximate figure can be given without revealing the confidential data. The rounding base is also shown in order to indicate the range of possible true values of the total.

Context

This article describes the potato sector in the European Union. The overall aim is to offer readers a statistical overview on a single commodity, vertically linking all the steps from the field to the market. The food chain approach is indeed one of the key issues within the EU Commission both for its socio-economic importance and for the extensive legislative EU framework, which is one of the most EU-level harmonised (e.g. General Food law Regulation (EC) No 178/2002). In addition, it is of great relevance also within international organisations, such as, among others, OECD - see the OECD Meeting of Agricultural Ministers held in Paris on 7-8 April 2016 and FAQ.

See also

- Agricultural production - crops
• Industrial production statistics introduced - PRODCOM

Main tables
• Agriculture
• International trade

Database
• Agriculture
• Prodcom
• International trade

Dedicated section
• Agriculture
• Prodcom
• International trade

Publications
• Agriculture, forestry and fishery statistics — 2016 edition (Statistical book)
• Agriculture, forestry and fishery statistics — 2015 edition

Methodology
• Crops products: areas and production (ESMS metadata file — apro_acs_esms)
• Farm structure survey (ESMS metadata file — ef_esms)
• Absolute agricultural prices (ESMS metadata file — apri_ap_esms)
• Economic Accounts for Agriculture (ESMS metadata file — aact_esms)
• Price indices of agricultural products (ESMS metadata file — apri_pi_esms)
• International trade data (ESMS metadata file — ext_go_agg_esms)
• Prodcom - Statistics on the production of manufactured goods (Publication - Prodcom User Guide)
• Statistics on the production of manufactured goods (ESMS metadata file — prom_esms)

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