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Report on legume markets in the EU

Deliverable D3.1 of the EU-project LegValue

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Project LegValue: Fostering sustainable legume-based farming systems and agri-feed and food chain in the EU (Juni 2017 - Mai 2021). Website: http://www.legvalue.eu. This project has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No 727672.

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Summary of the LegValue project: Fostering sustainable legume-based farming systems and agri-feed and food chain in the EU (June 2017 - May 2021). Website: http://www.legvalue.eu. This project has received funding from the European Union´s Horizon 2020 research and innovation programme under grant agreement No 727672.

The goal of LegValue is to pave the road to develop sustainable and competitive legume-based farming systems and agri-feed and food chains in the EU. To this end, the project will assess both the economic and environmental benefits for the EU agro industry to widely produce and use legumes in a sustainable manner. Using a list of 20 value chains reflecting the market diversity, and a list of 20 farm networks covering the diversity of grain legumes and fodder legumes species, LegValue will demonstrate the added value of various legumes value chains and will provide a range of solutions to improve the economic interest of each actor involved in the value chains to use legumes. The feature of LegValue is an approach to research that takes stakeholder-driven objectives. The gap between research and practice will be overcome with close collaboration between non-academic actors and scientists. LegValue will result in the first decision tool for farmers to choose the optimal legume species with their adapted crop management and to assess the economic and environmental benefits of legumes in the cropping and grassland systems.

LegValue will contribute to identify the supply chains that are the most competitive to foster legumes crops. This supports the EU to identify: i) the technological topics that must be supported in priority to enhance legumes development; ii) insights into how to support actors coordination for better added value sharing iii) the new standards that will help trading and processing of legumes. LegValue will provide recommendations for the development of legumes in the EU. By removing current market opacity and the design of transition pathways, LegValue will provide scientific support for EU and national policy-makers directed at increasing legume production, support technological innovation and organisational innovation in supply chains, meeting the EU parliament 2011 motion on increasing self-sufficiency on protein rich plant materials.

Summary of the report: Legume markets in the EU

This report presents a focus on the market analysis of legumes in the EU. In this report, current and historical data obtained from different statistical databases are used for a basic quantitative description of EU-legume markets. Indicators used include cultivated areas, yields, production volumes, domestic consumption, imports and exports. Expert knowledge is employed to qualify these data, in order to explain the differences in production volume, use of products and customer preference. Some Factors that influence the legume market are collected and some recommendations to ensure sustainable legume markets in the EU are made at the end of this report. All the collected non-classified market information is disseminated during the project through the LEGVALUE website.

Although gathered to the best of knowledge, we cannot guarantee the accuracy of all collected data in this report, as it is compiled from various sources and our own calculations.

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List of abbreviations

AMI	Agrarmarkt Information
BLE	Bundesanstalt für Landwirtschaft und Ernährung (Federal Agency for agriculture and food, Germany)
CAP	Common Agricultural policy
DemoNetErBo	Demonstrationsnetzwerk Erbse und Bohne (Engl. Pea and Bean Demonstration Network, in Germany)
DESTATIS	Statistisches Bundesamt
EC	European Commission
EFA	Ecological focus area
EU	European Union
Eurostat	Statistical office of the European Union
FAO	Food and Agricultural Organisation of the United Nations
FAOSTAT	Food and Agriculture Organisation Statistics - Corporate Statistical Database of the Food and Agriculture Organization
Fraunhofer IVV	Fraunhofer Institut für Verfahrenstechnik und Verpackung
FWS	Food and Wines from Spain
GMO	genetically modified organism
ISMEA	Instituto di Servizi per il Mercato Agricolo Alimentare (Engl. Institute of Services for the Agricultural Food Market, in Italy)
ISTAT	Instituto Nazionale di Statisca (Engl. National Institute of Statistics, in Italy)
ITC	International Trade Centre (Statistic)
LfL	Bayrische Landesanstalt für Landwirtschaft
LPI	Lupine protein isolate
MAPA	Ministerio de Agricultura, Pesca y Alimentació (Eng. Ministry of Agriculture, Fisheries and Food, in Spain)
OVID	Verband der Ölsaatenverarbeitenden Industrie in Deutschland (Engl. Association Oilseed Processing Industry in Germany)
PDO	Protected Designation of Origin

PGI	Protected Geographical Indication
RTBF	Radiotélévision Belge de la Communauté française (Engl. Belgian Radio and Television of the French Community)
SPS	Single payment schemes
TUN	Terres Univia
UK	United Kingdom
USA	United States of America
USDA	U.S. Department of Agriculture
WP3	Workpackage 3 of LegValue

1 Introduction

Legumes are beneficial in animal and human nutrition, in crop rotations and for the ecosystem in general (KOOTSTRA ET AL., 2017). Nevertheless, they do not play an important role today in the farming systems in the EU (EUROPEAN COMMISSION, 2019). Dry grain legumes represent only 2.1 % of arable land in the EU (EUROSTAT, 2015). Regarding nutrition, while grain legumes are mainly used for food in developing countries (AKIDODE & MAREDIA, 2011), developed countries mainly use grain legumes for feed. This mainly concerns the use of faba bean, dry pea, lupine and soybeans that are used for both food and feed. There is another category of legumes, food legumes like chickpeas, lentil, dry beans and fresh legumes (fresh peas and fresh beans) that are primarily used in human nutrition.

Regarding the farming system, legumes offer several advantages. Thanks to their rhizobia, legumes can fix nitrogen from the air (GAGE, 2004). They also have phytosanitary effects by breaking pest cycles of main crops. Legumes in crop rotations cut labour peaks by spreading crop cultivation work more evenly within the cropping season. The economic benefit of legume also derived from their lower variable production costs compared to those for cereals. Considering the entire crop rotation with legumes, the quantification of economic benefits of legumes is more attractive than crops rotation without legumes (GL-PRO, 2005).

Grain legumes have several agronomic and environmental advantages. Besides, they are traditional in human diets as well as in animal nutrition in many EU-countries (SCHNEIDER, 2002; KOOTSTRA ET AL., 2017; FWS, 2019). Yet, their production has decreased in the last decades. In the 1950s, soybean imports from overseas began to replace domestic legumes as a protein supplier in animal nutrition (BOCKHOLT, 2018; DE VISSER ET AL. 2014). Therefore, imported soybeans have gained market shares at the expense of domestic legumes. In human diets the consumption of animal products increased at the expense of plant-based proteins from legumes. Consequently, the cultivation of grain legumes was reduced in the EU (LEHMKUHL, 2018; ZANDER ET AL. 2016). Desired compound feed qualities like organic and non-GMO feed in the EU have started to reverse these trends, since legumes can be used as substitute for imported soybeans in animal nutrition. These developments combined with efforts to reduce animal products in human diets, could facilitate the production of domestic grain legumes. According to the EUROPEAN COMMISSION (2018) legumes could play a key role to reduce the EU dependency on protein imports.

The main goal of this report is to analyse the market of legumes in the EU. This analysis includes the flow of goods within and outside the EU. It will provide information for the different uses of legumes and for a more transparent legume market, thereby reducing transactions costs and therefore building the foundation for more efficient market outcomes. Furthermore, the identification of levers and barriers in these niches markets are elaborated. To reach this goal a mixed methodological investigation based on quantitative and qualitative analyses was undertaken. This market analysis shall contribute to help the stakeholders to trade more efficiently with legumes and to thus increase legume production in the EU. It is further the goal of this report to create a template for future regular EU-legume market reports.

2 Methods

The European market of a broad range of different legume species is investigated in this report. As dry grain legumes for feed and food, dry pea (lat. *Pisum sativum*), faba bean (lat. *Vicia faba*), sweet lupine (lat. *Lupinus*) and soybean (lat. *Glycine Max*) were selected. As dried grain legumes for food, chickpea (lat. *Cicer arietinum*) and lentil (lat. *Lens culinaris*) are analysed. As fresh legumes for food, the market situation of fresh peas and fresh beans is also analysed. Furthermore, an overview on the legume crops for whole plant harvesting (fodder legumes) was compiled. A mixed methodological investigation, quantitative and qualitative analyses were undertaken in this study. International (Eurostat, ITC, and FAO), national data bases (Destatis, AMI, BLE, OVID, UKtradeinfo, Franceagrimer, ISTAT, ISMEA, MAPA), data from professional organizations like Terres Univia and national websites were explored and used for a basic quantitative description of the EU legume market. The investigated period was from 2014 to 2019. Many recent data for 2019 are preliminary data, and should help in this report to see the actual trends. Based on expert interviews a qualitative analysis was undertaken to get a complete picture of the legume market in the EU, referring in this report to the EU28, including the UK.

Five EU country specific market reports have been elaborated as a preparatory work. They serve as a basis for the compilation of this report. The countries examined were Germany, UK, France, Italy and Spain (KEZEYA SEPNGANG ET AL. 2018; 2019A; 2019B; 2019C; SIMMEN AND LACAMPAGNE, 2019). These countries were chosen because of their relatively high production and consumption in the EU. Data availability also played an important role. The country-specific reports contain more details for the concerned countries in comparison to this report. They were published on the LegValue homepage and as research reports. To get a more representative picture of the EU legume market, other important EU-countries were added to make up this report.

2.1 Quantitative analysis

The collected secondary data have been drafted in an integrated database structure using MS-Excel. These data are aggregated for the whole market in the different EU countries. The parameters “production” (mainly from Eurostat), “import and export” (mainly from ITC) and “national consumption” (calculated) were used as a basis in this report. Due to the lack of data, the “stock variation” was not considered in the calculation of the national consumption, neither was the seed production. Furthermore, parameters like “unit values”, “farm internal use” and “self-sufficiency rate” were used. In the Annex, tables on the production, foreign trade with the respective countries, the national consumption and self-sufficiency are drafted.

Definitions or formals:

National consumption = production + imports - exports.

As change in stock is not considered, negative consumption in one year has to be interpreted as a decrease in stock. The consumption in this report includes the stocks and the seeds. A seed level between 5 - 10 % of the production (depending of the legume specie) is devoted for the next sowing and is included in the consumption.

Self-sufficiency = production / consumption.

It is often used as an indicator to describe the market situation in a country. It can be given in percent (%) or as a constant, whereby "0" means total dependency, "100 %" or "1" means independent while a value of more than 100 % or higher than 1 means the corresponding country is a net exporter. The concept of "self-sufficiency" can help to have an overview of the self-sufficiency level for a single legume crop (for optional comparisons) in a country or a group of countries as within the EU. It does not consider substitutional effects with other protein sources. Self-sufficiency should not be understood normatively and cannot be a goal in itself.

Farm use = National production – sold quantity on the off-farm market.

If it is directly used by the produced farmer, it is an intra-farm-use. If it is a direct transaction between different farms, without the intervention of any other stakeholder, it is an inter-farm-use.

Unit value: foreign trade value / foreign trade quantity.

It is given in €/t and is used as price indicator.

EU-intra: trade from one EU country with another EU-country.

EU-extra: trade from one EU-country with countries outside the EU.

Net-importer: a country with national consumption exceeding its national production. In other words, a net importer is a country whose imports exceed its exports.

Net-exporter: a country with national production exceeding its national consumption. In other words, a net exporter is a country whose exports exceed its imports.

2.2 Qualitative analysis

The obtained secondary data were analysed to identify information gaps and to quantify the market of grain legumes in the EU. In order to close gaps, to qualify quantitative data and to highlight open questions, expert interviews were undertaken. The experts came from diverse activity areas, with a long experience about legumes in their respective fields of work.

In total, 30 experts were interviewed (17 (DE) + 6 (FR) + 2 (UK) + 1 (IT) + 2 (SP) + 2 (NL)). Furthermore, several e-mail exchanges with the different project partners and stakeholders, phone calls and notes during multiples legume conferences and workshops were used to reinforce the qualitative analyses of this report. Due to data protection, experts' names are not disclosed in this report. The interviews were semi-structured, meaning that a flexible sequence of questions was followed and the duration of each interview was adapted to the specific circumstances. As a consequence, each interview partner had a wide flexibility to interact. Most of the interviews were done by phone, the remaining ones face to face. The records were taken with audio tapes and in written.

3 Results and discussion

Soybean, dry pea, faba bean and lupine are the mainly grown dry grain legumes in the EU. They have multifunctional uses, for feed that is dominating currently, for food with an increasing trend. Biofuel is also an important market thanks to the high oil content of soybean, and its cake or extracted meal returns to animal feed. While soybeans are mainly grown in the south of Europe (Italy, France, Romania, Croatia, Austria and Hungary), the other grain legumes are mainly grown in the north of the continent (UK, Germany, Poland and Lithuania). Beside this group of grain legumes, there is also the group of dry grain legumes with the use for food. This includes chickpea, lentil and common bean. These grain legumes are consumed in the EU, but the production remains low, leading to the EU demand being currently covered by imports. For this group of grain legumes, only the market of chickpea and lentil are analysed in this report. Fresh legumes are the last group of legumes in this report. Fresh pea and fresh bean belong to this group and are used for food. Fig. 1 presents the yearly average of production and consumption of grain legumes in the EU. Due to the differences in production and the differences in consumption within the EU-countries, legumes present an interesting foreign trade EU-intra and EU-extra. This will be developed in the specific legume chapters including those of fresh legumes like fresh peas and fresh beans.

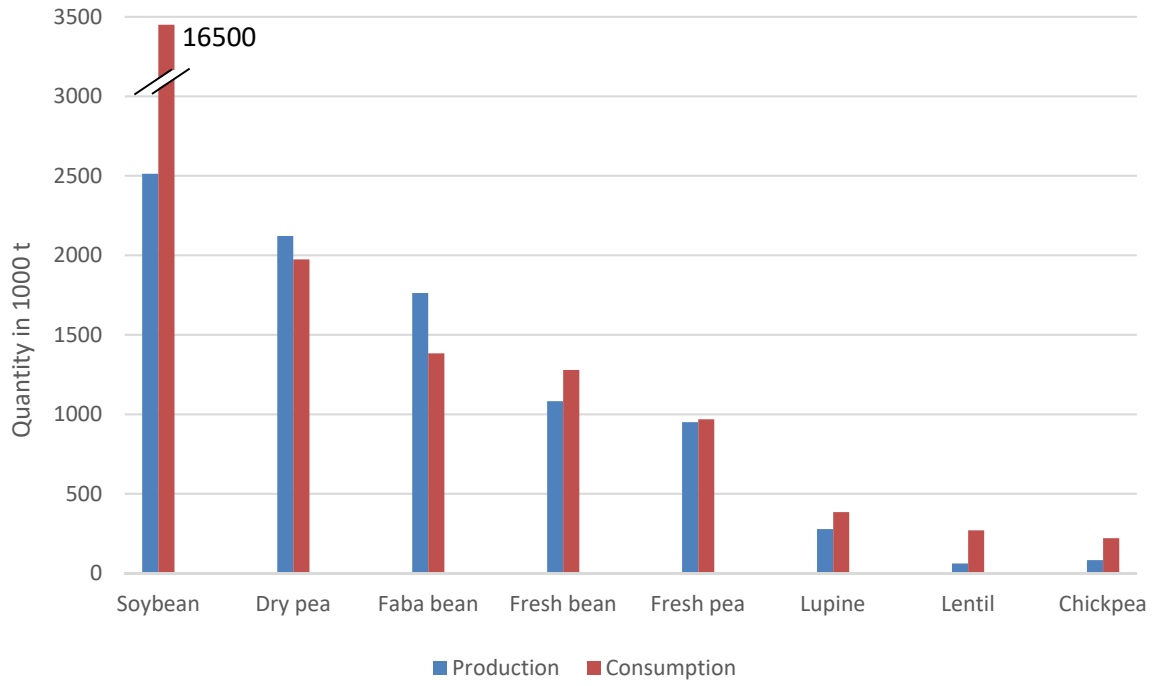


Fig. 1: Yearly average production and consumption of grain legumes in the EU from 2014 to 2018.

Organic production of grain legume in the EU:

Grain legumes are mainly cultivated in conventional farming in the wolrd. Only 0.8 % of the global dry legumes´ areas was under organic management in 2018 (WILLER ET AL., 2020). Worldwide, Europe with 500,000 ha (440,000 ha in the EU) was the major producer of dry legumes under organic management in 2018. This represented 70 % of the world production of organic cultivated dry legumes. France (116,000 ha), Italy (50,000 ha), Germany (49,000 ha) and Poland (42,000 ha) were the countries with the larges areas.

According to EUROSTAT (2018), 5 % of the total production in tons of all dry grain legumes (including seed and mixtures of legumes and cereals with the exception of soybeans) in the EU was produced in organic farming system in 2018. Compared to 4 % in 2014, this shows a slow increase of organically produced legumes in the EU. For fresh produced grain legumes, 2.5 % of the total production in tons in the EU was produced in organic farming system in 2018. Compared to ~4 % in 2016 and 2017, this shows a decrease of organically produced legumes in the EU in the last years. Tab. 1 presents the proportion of organically cultivated area of dry grain legumes in some EU-countries. These results show that dry pea has the lowest proportion of organically cultivated area. The relatively long break in cultivation due to the self-incompatibility and the fact that the biggest pea processors like the companies Emsland Group (Germany) and Roquette (France) deal only with conventional products could explain this discrepancy. Lentil and chickpea show the highest proportion of organic production as it is the case in Germany. In general, the share in organically cultivated areas is higher than the share of production because the yield in organic farming is lower than in conventional farming.

Tab. 1: Proportion of organically cultivated area of grain legumes in the EU in %

	Dry pea	Faba bean	Lupin	Soybean	Lentil	Chickpea	Source
France	7	30	30	17	34	25	TUN (2018)
Germany	7	31	33	22	80 - 90*	80 - 90*	AMI (2016); *= Expert assessment
UK	1	2 - 5					Expert assessment
Lithuania	16	16					Eurostat (2014-2018)

By conducting an aggregated market analysis at EU level, the present report is complementary to the LegValue report on legume-based value chains analysis (SMADJA ET AL., 2019). The latter highlighted the diversity of these value chains in the EU nowadays and contributed to the identification of actions and policies to be set up for the development of these value chains. About 30 case studies were investigated, each corresponding to a legume-based value chain in one of the 10 participating countries of the project. This may help in understanding some of the market development that will be discussed in the present report on legume markets in the EU.

3.1 Faba bean (*Vicia faba*)

3.1.1 Development of production

Faba bean also known as fava bean and “broad or horse bean” was the favourite feed for horses in the Northern part of Europe (hence the colloquial name Horse Beans) before animal muscle power was replaced by combustion engines. They belong to the fresh broad beans largely cultivated and still cultivated as vegetable in the Southern part of Europe and the Mediterranean basin for food. Today the main markets for faba bean is processed animal feed and in food for export to the Middle East and North Africa where it is used for a staple element of the populations’ diet.

The average of the grain legume production from 2014 to 2018 in the EU (Fig. 1) shows that **faba bean** production with ~1.8 Mio t is **the third most produced** grain legume in the EU after soybeans (~2.5 Mio. t) and dry pea (2.1 Mio. t). Faba bean is mainly used for feed in the EU. Exports outside the EU focus mainly on two markets: food for Egypt and fish feed for Norway.

The **UK** with an average production of 600,000 t per year from 2014 to 2018 is still by far the largest producer of faba bean in the EU. France (~215,000 t/year), Lithuania (~170,000 t/year), Germany

(~145,000 t/year) and Italy (~100,000 t/year) follow. These five countries represent 70 % of the total production in the EU. They are located in the North West of Europe where the climatic conditions are suitable to spring faba bean. Faba bean production in the South of the EU is mostly winter faba bean.

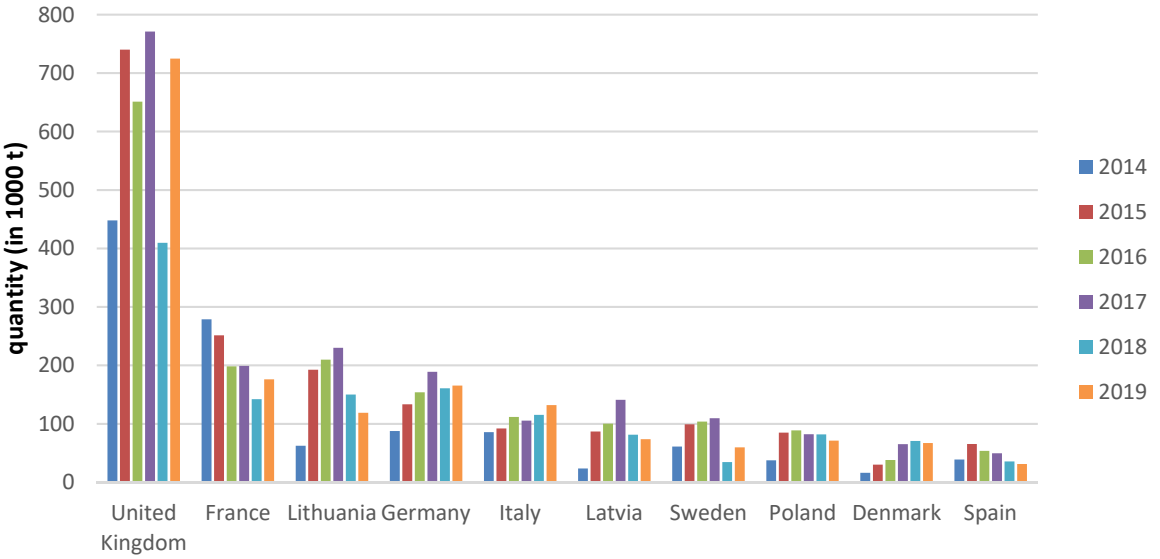


Fig. 2: The main producers of faba bean in the EU

The production of faba bean in the EU is increasing. Especially in 2015, the production in the EU was 54 % higher than the year before, ~1.3 Mio.t in 2014 to ~2 Mio.t in 2015. UK, Lithuania, Latvia, Poland, Germany and Sweden clearly show this increase in 2015 (see Fig. 2). This was mainly due to the new greening requirements of the common agricultural policy (**CAP**) that was implemented in 2015. The CAP continued to use direct payments to farmers but on condition that ecological focus areas (EFA) were implemented. Legume cultivation areas are (among others) considered as ecological focus areas (EFA). Since 2018, the new regulation does not allow plant protection products any longer on these EFA (WOBSER, 2018; DE CICCO, 2016). Furthermore, support programs offered by national governments within the second pillar of the CAP like "the three crop rule" in the UK (KEZEYA SEPNGANG ET AL., 2019A) and "the diverse crop rotation (German: Anbau vielfältiger Kulturen im Ackerbau)" in Germany (KEZEYA SEPNGANG ET AL., 2018), are also impulses that have facilitated the increase of cultivation of legumes in the EU in the last years. Second pillar measures supporting legumes are not necessarily affected by the ban of pesticides as for EFA in 2018, indicating that pesticides may and are still being used in the cultivation of legumes.

Concerning the hindrances of the legume production, the crop protection products ban on EFA implemented in 2018 should have had a negative impact on cultivated area of faba bean production in the EU. In contrast to many EU-countries, the production in France is decreasing continuously (see Fig. 2). This is due to the bruchid beetle that damaged the visual appearance of the beans preventing their sales as food, e.g. on the Egyptian market. Another important point in human nutrition is that non-hatched beetles (living pests) can be present in the beans. This pest damages probably affected the production in the UK, too. However, the year 2017 shows a high production in the UK that was mainly sold to Spain and Italy for feed, instead to the Egyptian food market. When used as animal feed, the holes in the beans do not initially represent any restrictions. Nevertheless, Compound feed processors reject heavily infested lots. An important reason for this is that beetles living with the faba beans are brought into the warehouse (STUTE, 2020). Live pests are undesirable in warehouse.

Except for Italy, Poland and Denmark, the production decreased from 2017 to 2018 due to the severe drought in 2018, which contributed to the reduction of yields.

3.1.2 Consumption of faba bean in the EU

UK is the main consumer of faba bean in the EU. The added national consumption of faba bean in Germany, France and Italy is comparable (see Fig. 3), whereby Italy is a net importer from other EU producers. The main use is for **animal feeding**. Nevertheless, the share of faba bean use as raw material in compound feed is very small, but with an increasing trend. It is currently estimated to 0.2 % only of the total compound feed in France and Germany. The market price of faba bean in the use as compound feed is less profitable for the farmers. Therefore, many farmers use it in their own compound feed: we call this "**Intra-farm-use"**. Alternatively, the farmers directly sell it to their neighbouring farmer, leading to "**Inter-farm-use"**. These intra- and inter-farm-uses can be summarised as "internal used" or "farm-use" and it represents the part of the production that is not traded on the national market. Such internal use is estimated to reach 70 % of the total production in Germany, 25 % in France and only 15-20 % in the UK and in Spain. In Lithuania, it is less than 10 %, since 70 % of the production is exported.

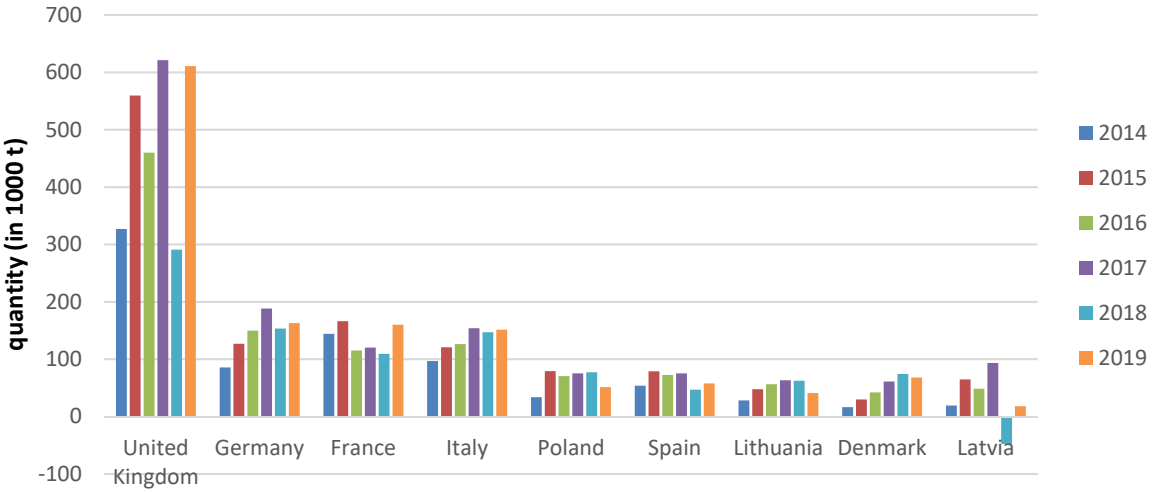


Fig. 3: The main consumers of faba bean in the EU. This is a calculation based on the production, imports and exports

The use of faba bean in the human nutrition in the EU is an option, but not common with only a small share of the total production. Thanks to the increasing trend of **meatless nutrition habits**, their share in **human nutrition** is expected to rise. In some countries like Spain, faba bean is harvested fresh and canned for human consumption. Faba bean can also be used as a component in bread with a share of up to 40 %. Falafel and Hummus are further examples of the use of food based on faba bean.

Latvia had negative consumption in 2018 due to the higher export compared to the production. This indicates a change in stock that is not addressed in our methodology.

3.1.3 Foreign trade

A relatively small portion foreign trade characterizes the EU faba bean market. The imports represent less than 10 % of the production and are mainly from EU-intra. The exports are more noticeable and represent ~30 % of the EU production. Around 80 % of these exports are EU-extra. On average

between 2014 and 2018, the trade balance of faba bean in the EU is in surplus meaning more exports than imports.

The import of faba bean by the main EU-importer is increasing over the last years (see Fig. 4). This reflects an increasing demand. **Italy** with an import average (2014-2018) of 30,000 t is the major importer of faba bean in the EU with the principal use for feed. It is followed by Spain (~21,000 t), France (17,000 t), Germany (10,000 t) and Denmark (9,000 t). These imports are mainly for feed and are covered by the other EU-countries, principally from the UK, France and Lithuania. An increase in EU-intra imports from the North Central EU with volumes not exceeding 30,000 t per year for each of the importing countries is observed. It should be noted that these import volumes remain low, less than 10 % of the EU-production.

The continuously increase of imports in Germany should be considered. More than 50 % of the import in Germany originates from the UK. Remarkably, there was a huge demand of faba bean in **Denmark** in 2018. Denmark imported less than 5,000 t in 2017 and rose to 38,000 t in 2018. Part of the explanation could be that the dairy cooperative (Swedish-Danish) **Arla** introduced that all drinking milk should be based on non GMO-fodder by the end of 2017. Denmark and Germany are producing organically farmed fish, namely salmon and trout (HAMANN ET AL., 2020). Since faba bean can be used as protein sources for fish feed, this could contribute to the further explanation of the increasing import of faba bean in Denmark and Germany in the last years.

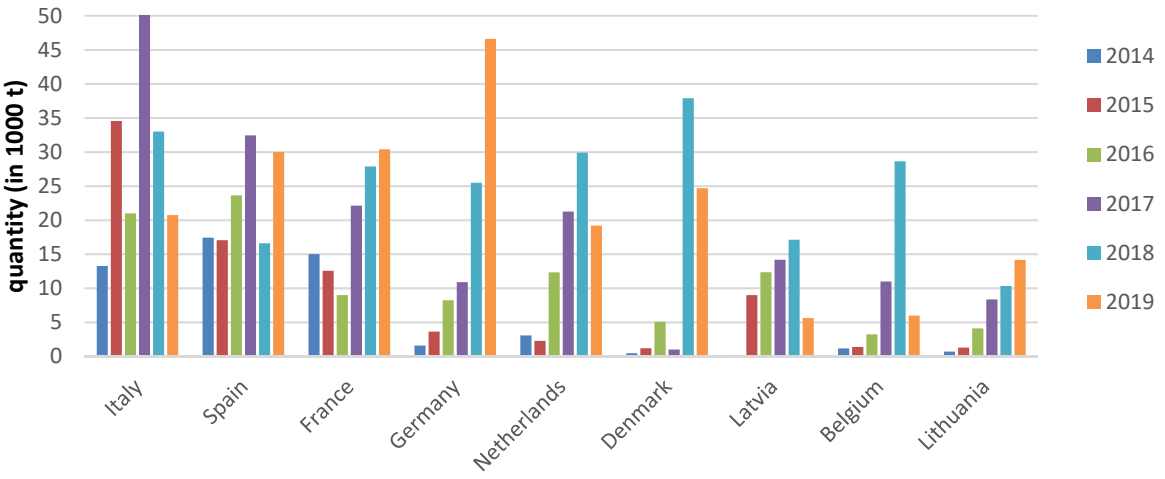


Fig. 4: The main importers of faba bean in the EU

UK was the second largest exporter of faba bean in the world after Australia in 2017. Lithuania and France were in the third and fourth position worldwide. In 2018, Australia with 1.1 Mio. t exports remained on the first place worldwide, followed by Lithuania (184,000 t), Latvia (146,000 t), the UK (119,000 t) and France (60,732 t). These four EU-countries are the main exporters of faba bean in the EU (see Fig. 5), Germany took off only recently. From 2014 to 2018 an annual average of 25 % of the faba bean production in the UK was exported, in France 50 % of the production was exported while Latvia and Lithuania exported 70 %. The other EU-countries focused rather on domestic use, with some EU-intra imports to supplement their needs. The main destinations of these exports with the respective quantities can be seen in the annex.

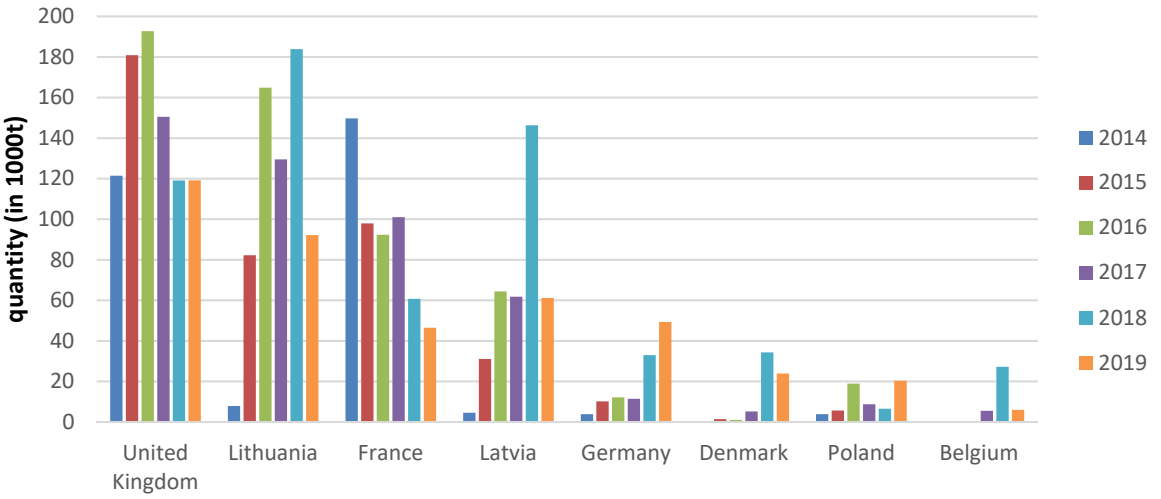


Fig. 5: The main exporters of faba bean in the EU

There are two main market export for the EU: Egypt for food and Norway for fish feed:

Egyptian market

Egypt is an important market for the faba bean produced in the EU. The end use in Egypt is for food in traditional meals like "Foul Medammas", a bean dish popular in the Middle East. The exports from France reached 240,000 t in 2010 and from the UK 160,000 t in 2011 (ITC, 2019). The export trend of faba bean from France and UK is decreasing due to the reduced control of bruchid beetle (SIMMEN AND LACAMPAGNE, 2019; KEZEYA SEPNGANG, 2019A). The larva of the bruchid beetle bores into the faba bean in the field and develops into a beetle inside the seed. Some of the beetles can remain in the beans after the harvest. A major part of the beetles hatches out of the beans at harvest time and leaves irreversible damage to the beans (STUTE AND SCHÄFER, 2018). The bruchid beetle causes physical damage to the seed making it unsightly and undesirable. The living beetles inside the beans as well as bruchid damage is undesirable for the export food market, principally to Egypt and Sudan. Thus, the supply of these markets with European faba bean decreased. Unfortunately, there is currently no effective solution to control the bruchid beetles on the field.

Around 70 % of the export from Lithuania and more than 80 % of the export from Latvia in 2018 went to **Egypt**. The trend of this demand in Egypt is increasing in the last years. This information leads to the conclusion that the supply deficit in Egypt, due to the decline in exports from France and the UK, is now covered by **Lithuania** and **Latvia** from the EU. This opportunity on the Egyptian market in 2018 would reinforce the development of production in Latvia and Lithuania. Germany has been trying to enter this market for a short time. In preferred growing locations (for instance in northern parts of the country) bruchid beetle infestation is significantly reduced. The reasons for this are not known. By optical selection of the damaged beans, a quality can be offered which meets the requirements for human nutrition. In 2019, 70 % of German´s export went to Egypt. The company "Fava Trading" that has sorting machines processes damaged grains and currently dominates the German export. Australia remains an important competitor as a supplier for the Egyptian market. The bruchid beetle pressure is very low in Australia. The production depends on the climatic conditions (often lack of rainfall), but faba bean is grown on the best area in Ausrtralia which is not a large area (South East). Thanks to the different seasonality - winter and summer - between Australia and Europe, the continuous supply of Egypt by these two continents is guaranteed.

Norwegian market

In 2018, around 70 % of the export from France went to Norway with the major use for fish feed (SIMMEN AND LACAMPAGNE, 2019). For this market, French producers dehulled the grains first to rise their protein content and then they exported it to **fishing farms** in **Norway**. The French Agri-food group "Soufflet" runs a dehulling factory devoted to faba bean in the harbour of Rouen.

The exponential increase in export from Denmark and Belgium in 2018 was mainly to supply the **Norwegian market** too. The faba bean from Germany in the same year went to Italy for feed and to Egypt for food.

To summarize, Fig. 6 gives an overview of the main trade flows of faba bean in the EU.

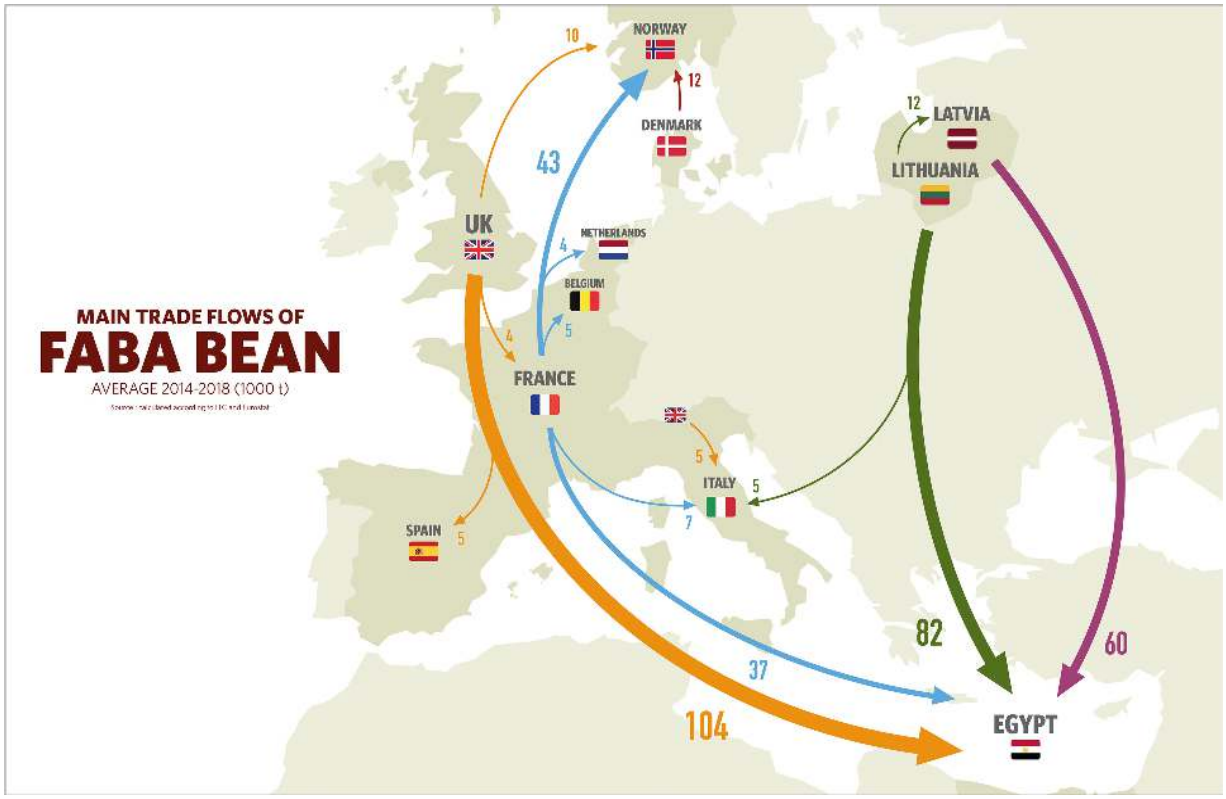


Fig. 6: The main trade flows of faba bean in the EU. Average 2014 – 2018, in 1000 t

3.2 Dry pea (*Pisum sativum*)

3.2.1 Development of production

Dry pea is a traditional food of the Northern European countryside (pea soup, with or without cream and sausages), cultivated for centuries as a vegetable. The average of the grain legume production from 2014 to 2018 in the EU (fig 1) shows that **dry pea** with 2.1 Mio. t is the second most produced grain legume in the EU after soybean (~2.5 Mio. t). Dry pea, also known as field pea, is used for feed and food in the EU. **France,** with an average production of 620,000 t per year from 2014 to 2018 is still by far the largest producer of dry pea in the EU (see Fig. 7). Lithuania (~280,000 t), Germany (~240,000 t), Spain (~210,000 t), UK (~150,000 t) and Romania (130,000 t) follow. These six countries represent ~80 % of the total production in the EU. Spring pea is the main produced in the EU. Only France have a high share of winter pea (around 20 %).

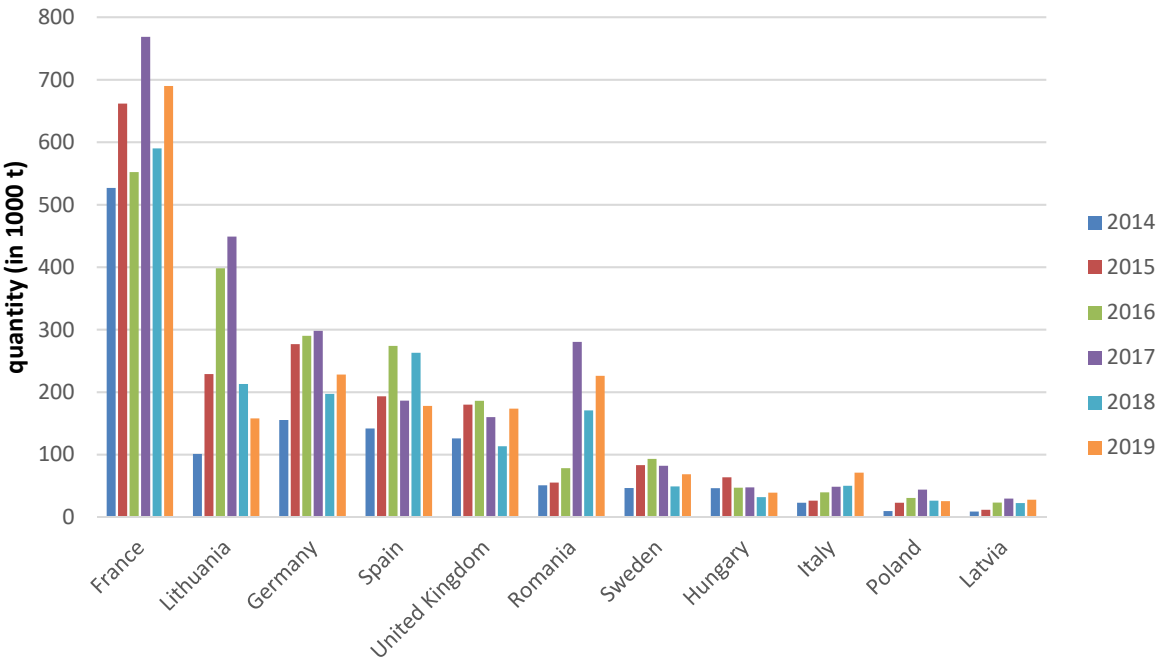


Fig. 7: The main producers of dry pea in the EU

The production of dry pea in the EU has increased from 2014 to 2018 as it is for many grain legumes. This is attributed mainly to the greening measures of the **CAP** since 2014 (see chapter 3.1.1). The trend of this increase is not constant. It fluctuates from year to year, depending on the weather, the stock variations and the demand and the politic measures.

Except for Spain, the EU production decreased from 2017 to 2018 due to the severe drought of the summer 2018, which contributed to the reduction of yields. Furthermore, the ban of plant protection products on EFA implemented in 2018 could have had a negative impact on cultivated area of dry pea since 2018. It can also be assumed that the implementation of taxes to the imported legumes in India had a negative impact on the pea production in some countries of the EU (more details in chapter 3.2.2). This may explain why Lithuanian production decreased to 50 % from 2017 to 2018.

3.2.2 Consumption of dry peas in the EU

France, **Germany** and **Spain** are the main consumers of dry pea in the EU, whereby Germany and Spain are net importers. The main use remains for **animal feeding**. Nevertheless, the share of use of dry pea as raw material in compound feed is very small, but with an increasing trend. Its share is estimated to be at 0.2 % of the total compound feed in France and Germany. While meals and cakes (after oil extraction of oil crops) represent 26.5 % of the total material for compound feed in the EU, grain legumes (except soybean) only represent 1.5 % (KRUMPRECHT, 2018). Equivalent to faba bean, the market price of dry pea in the use in compound feed is hardly profitable for the farmers. Therefore, many farmers (e.g. in Germany) prefer farm-use (see chapter 3.1.3 on faba bean). The share of farm-use is estimated at 55 % of the total production in Germany, 25 % in France and 20 % in Spain. In Lithuania, it is less than 10 %, since 70 % of the production is intended for export.

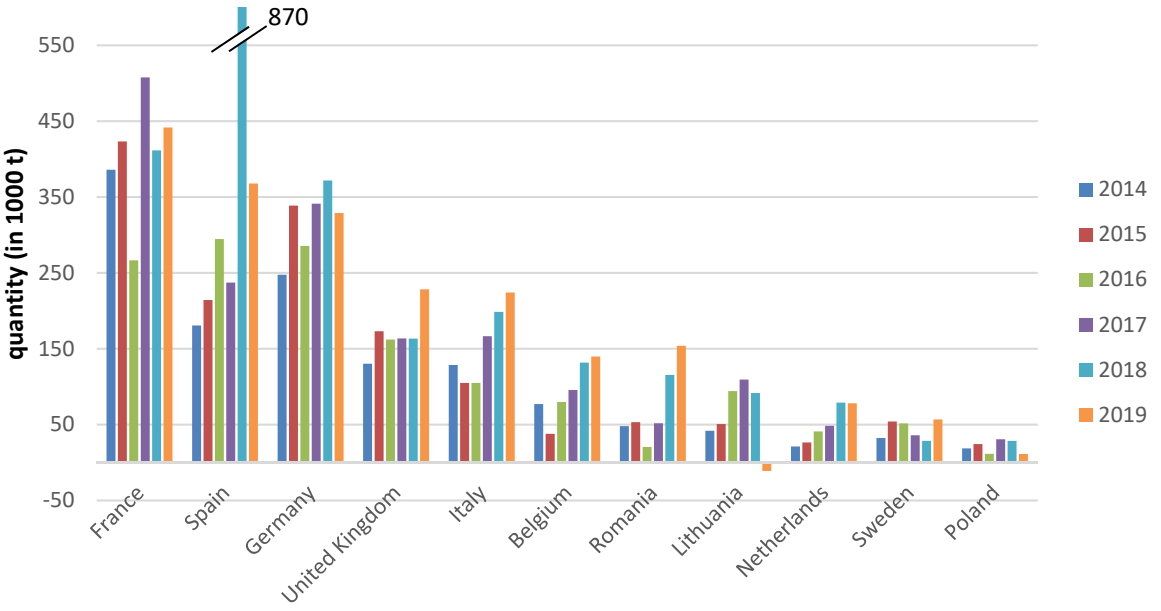


Fig. 8: The main consumers of dry pea in the EU

Dry pea also plays an important role in **human nutrition** in the EU, with an increasing trend. Within the EU countries, the share of use for food and feed can be very different. While 17 % of the national consumption of dry pea is used for food in France and 36 % in Germany, it is more than 80 % in the UK (KEZEYA SEPNGANG, 2019D). According to STATISTA (2019) and VEGANSOCIETY (2019), the trend of vegetarian nutrition habits is increasing in Germany, the UK and other EU countries. This is a lever for the use of legumes in the human nutrition. Peas and other legumes for food are better valuated than for feed. The three big pea processors in the EU, Emsland Group (DE), Roquette (FR & NL) and Cosucra (BE & DM) have an important influence on the pea market:

"Emsland Group" processes around one third of the national consumption in Germany, with a capacity of more than 100,000 t per year. It primary processes peas to gain the starch for the production of glass noodles. The protein isolate and fibers are by-products.

"Roquette" is a pea processor which extract protein isolate. Roquette processes around 140,000 t peas per year. A further increasing trend is expected in the years to come.

"Cosucra" extractes pea protein, with a processing capacity estimated by 100,000 t dry pea per year. Recently, this company opened a second processing factory in Denmark (RTBF, 2019). In Denmark, Cosucra processes peas from the Baltic Sea coast, which are transported to the factory by sea. This location gives Cosucra a privileged access to new pea-growing areas in Europe, such as Denmark, Lithuania, Poland and Sweden.

Furthermore, the impact of innovative companies like VeggieMeat, Purvegan, Beyond Meat, Impossible Food, Iglo and others that use protein isolate based on legumes could be seen as a **lever for market development** of legumes in the EU. To complete this market structure, fast food companies like McDonald's, Kentucky Fried Chicken (KFC) and food retailers are at the end of these supply chains. Hereby, it should be mentioned that the prices of these plant-based meat alternatives are higher than the basic meat products in 2020. Increasing production volumes and taking advantage of scale economies combined with intensified price competition by new market entrants could probably allow

companies to target consumer segments with lower willingness-to-pay in the future and increase respective markets shares. An increase in the production of legume-based meat alternatives and the improving know-how could also reduce the production costs and therefore increase price competition of the plant-based meat alternatives.

Recent news in these supply chains for food is the strengthening of the alliance between Roquette and Beyond Meat, which would significantly increase pea processing volumes of Roquette for the next three years. A food factory of Beyond Meat is expected to open soon in the Netherlands. The vegan start-up company Beyond Meat plans to expand its distribution of pea-based products in Asia in the next few years (TIFENN CLINKEMAILLIÉ, 2020; GREEN, 2020).

Belgium and the **Netherlands** are importing countries with an increasing national consumption. While the peas are fractioned in Belgium for the protein isolate, they are mainly used for feed in the Netherlands.

3.2.3 Foreign trade

An important foreign trade also characterizes the EU dry pea market. The imports represent more than 30 % of the production and are mainly within EU-countries. The exports are higher than the imports and represent ~40 % of the EU production. The shares of these exports within and outside the EU are almost identical. The trade balance of dry pea in the EU is well balanced. A continuous increase in demand would be easily cover, as there is potential for cultivation of dry pea in the EU (MERGENTHALER ET AL., 2020).

Worldwide, China and India (both for food) are the main importers of dry pea, followed by Spain (for feed) in 2018. China processes dry peas to extract the starch for noddle production and exported the pea protein isolate to the USA. It is unclear if this trading relationship is still active as China has massive demand for food and additionally the trade conflict between China and the USA started in 2018.

The import of dry pea in the EU sharply increased from 2017 to 2018, from 640,000 t to 1.46 Mio. t. This is due to the huge import of pea in Spain for feed, covered by the EU-extra imports, mainly from **Russia** (>55 % of the EU-extra import in 2018) and **Ukraine** (>30 %). This difference between Russia and Ukraine is due to the lower prices of Russian peas and their highest quantity of production. In general, the production costs of legume in the black sea areas (Russia and Ukraine) are low. The production costs of one metric ton of grain legumes in the black sea regions is on average estimated to be 35 USD lower than in the EU, North America or Australia (FEOFILOV, 2020).

Export markets of dry pea from Russia, Ukraine and Kazakhstan were affected by the introduction of protective import taxes by India resulting in a closing market. At the same time the Spanish demand for feed was rising. Compared to India's demand, it should be noted that the demand from Spain is not similarly huge. It was an opportunity for Spain to have access to a large and cheap amount of pea for feed. The decrease in import in Spain in 2019 demonstrates that feed production plays with commodities and can change very fast, depending on market prices. As a conclusion, it can be said that pea production in Russia, Ukraine and Kazakhstan fell in 2019, probably due to dissatisfaction of finding an added value market rather than feed market.

Spain and **Italy**, with regard to feed, are the main destinations of these EU-extra imports (65 %). Germany, UK and Belgium represent only 20 %. Remarkably, there was a huge demand of dry pea in **Spain** in 2018. Spain imported around 50,000 t in 2017 and increased imports to 600,000 t in 2018.

Since dry pea is mainly used for feed in Spain, the increase in livestock there in the last years could explain the high interest in peas. There is a huge pig meat production around Barcelona harbour. According to EUROSTAT (2020), the pig population in Spain continuously increased from 25.5 Mio. live swine in 2014 to 31.2 Mio. in 2019. The **increasing demand for meat in China** is the main driver of the increased livestock's production in Spain (USDA, 2018).

The EU-intra imports have doubled in five years (2014 to 2018) from 300,000 t to 600,000 t. **Belgium**, **Germany** and the **Netherlands** are the main importers of EU-peas. 20 % of production was destined to EU-intra in 2014, reaching almost 30 % in 2018. In relation with the increasing production in this period of years, this shows that the volumes of EU-intra trade increases with increasing EU-production. This is a lever to facilitate the establishment of new legume markets or value chains in the EU. These imports are mainly from France that exports 40 % of its dry pea production, whereby 55 % are EU-intra exports.

The import to Belgium is mainly from France (80 %). These peas are mainly for the fractionation industry for the production of protein isolate and starch. The leading company there is "Cosucra".

The peak of import in France in 2017 (see Fig. 9) was due to the import from Canada. Certainly, the company "Roquette" tried to import peas from Canada, but however, this import from Canada has now been abandoned probably due to price competitiveness and inferior quality compared to French peas. Staying on the Canadian origins, the German company, "Emsland Group" had imported dry pea from Canada in the past. Due to the risks related to GMO-crops, it had stopped processing Canadian peas, worrying about cross-contamination by means of transport. Consequently, there is currently no market for Canadian peas in the EU. This risk of cross-contamination with GMO-crops could be further raison why France stopped to import Canadian pea.

In Germany a development of imports from Eastern European countries like Russia and Ukraine, and EU-intra imports from countries like Lithuania and Poland can be observed. This can be explained by the geographical location of the pea processing company "Emsland Group" and the relatively cheap prices of imported pea compared with national production price. The lowest imported unit values from trade with these regions (Russia, Ukraine, Poland, Lithuania and Latvia) confirm this view.

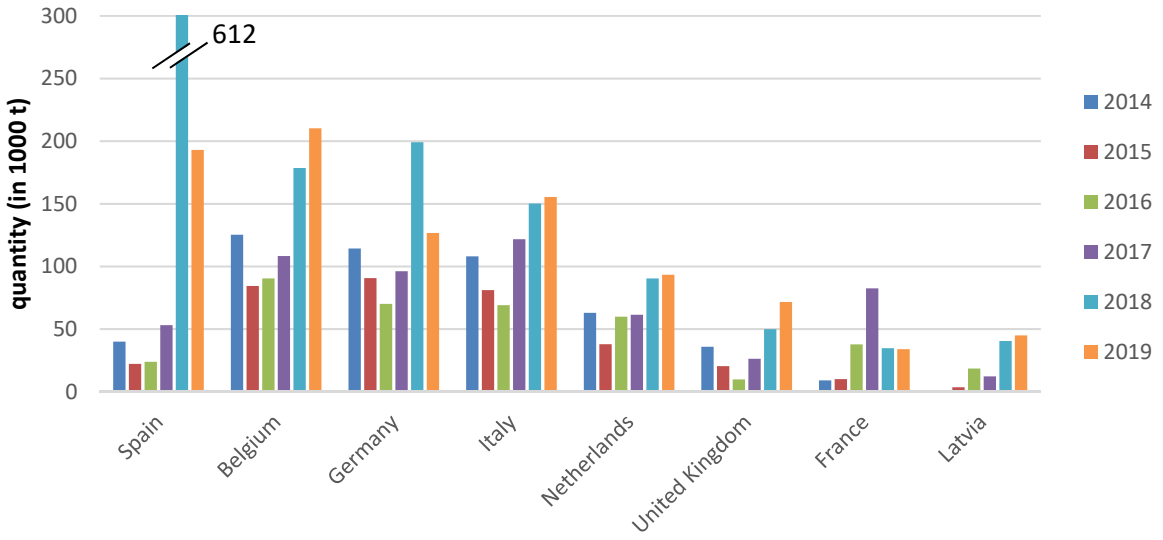


Fig. 9: The main importers of dry pea in the EU

The export of peas in the EU more than doubled from 2014 to 2018 from 410,000 t to 870,000 t. On average, the total export in the EU represents 40 % of its total production in this period. The share of these total exports between EU-extra and EU-intra destinations is equitable. In this period, the EU-intra export continuously increased, while the EU-extra export started to decrease as from 2017 due to the **taxes on imports in India** (KEZEYA SEPNGANG ET AL., 2019C). EU-extra exports were dominated by demand from India, up to 70 % in 2017 to nearly 0.5 Mio. t. Worldwide, the first suppliers of this Indian market were Canada, followed by Russia and Ukraine. From the EU, the principal suppliers of this Indian market were France, Lithuania, Romania, Estonia, Germany and Latvia. **France** and **Lithuania** are the leaders of pea export in the EU (see Fig. 10). These two countries account for almost 50 % of EU-intra exports and 60 % of EU-extra exports. These exports vary from year to year. From 2014 to 2018, an average of 40 % of the pea production in France was exported and in Lithuania 65 % of the production was exported. **Romania** exported more than 250,000 t in 2017, as the impact of taxes started in 2018. The exports were also mainly destined to India (80 % of the total Romanian exports). This can explain why the exports from Romania drastically decreased in 2018 and remained low in 2019. The closure of the Indian market had a direct effect to the Romanian production, although exports have refocused on EU-intra, mainly to Spain. Additionally to the implemented of a 50 % import tax in India, the government introduced in December 2019 a "minimum import price" to reinforce the protection of domestic farmers from low commodity prices in world markets (FLAMMINI, 2020). These barriers for the Indian market have an impact on the EU and Canadian exports. They also have consequences on the legume production in black sea countries, namely Russia, Ukraine, Kazakhstan, Romania and Bulgaria (FEOFILOV, 2020). Due to the reduction of export opportunities to India, they reduced their legume cultivation area since 2018.

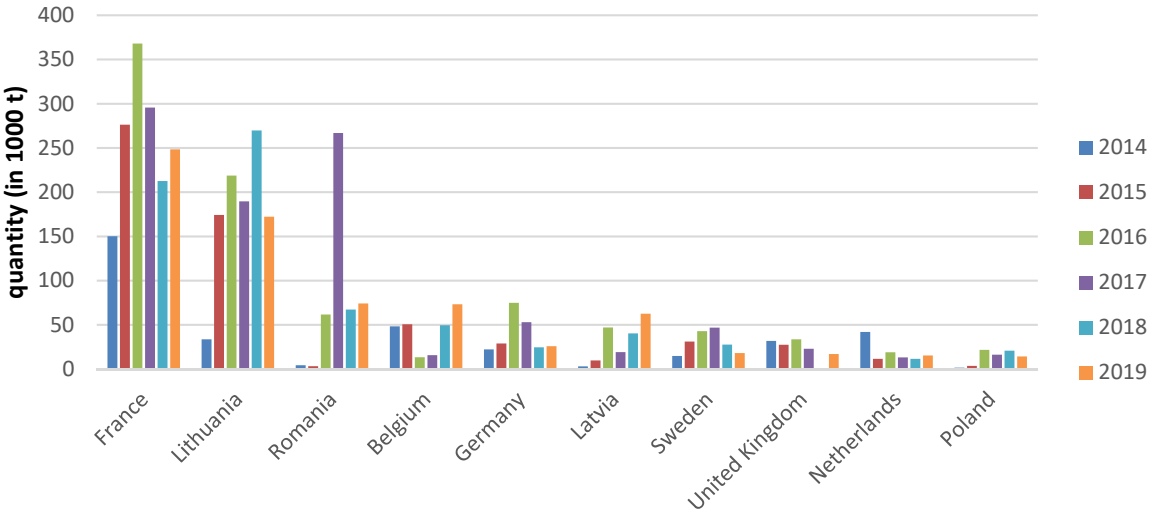


Fig. 10: The main exporters of dry pea in the EU

While Canada has shifted its export to China, the EU has used the share that were be exported to India for EU-intra markets, mainly to Spain. For the EU peas, **Bangladesh**, **Norway** and probably **China** could be potential export markets outside the EU. Bangladesh and China have an increasing demand of dry pea for food; Norway with an increasing demand for fish feed can also use dry pea as sustainable raw material to this end.

To summarize, Fig 11 gives an overview of the main trade flows of dry bean in the EU.

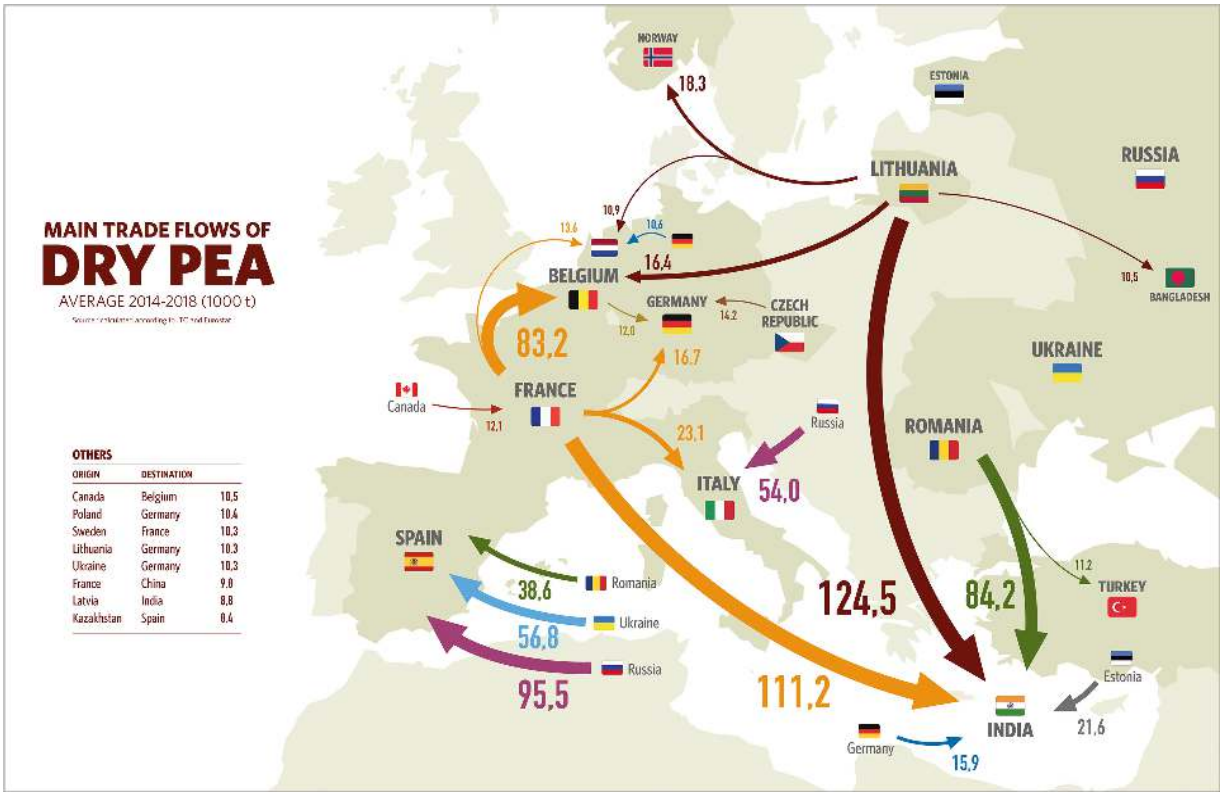


Fig. 11: The main trade flows of dry bean in the EU. Average 2014 – 2018, in 1000 t

3.3 Lupine (*Lupinus*)

Lupine with its high protein content is a promising legume that competes with soybean in terms of protein (LFL, 2016). The domestic lupine is also called sweet lupine because of its low alkaloid content (< 0.02 %). The content of bitter substances is higher in bitter lupines and therefore not fit for human and animal consumption for danger of poisoning. Therefore, only sweet lupine is allowed to be grown in the EU. Sweet lupine can be used for both feed and food. The lupin species mainly cultivated in Europe are blue lupine (lat. *Lupinus angustifolius*), mainly growing in Poland and Germany, white lupine (lat. *Lupinus albus*) in France (both spring and winter types) and yellow lupine (lat. *Lupinus luteus*) in Poland, whereby the blue lupine is the most produced worldwide and within the EU (GRESTA ET AL, 2017). Since yellow lupine is difficult to debitterize and has a high susceptibility to the fungal disease anthracnose, they are hardly ever cultivated. Yellow lupine is mainly grown in the sandy soils of Poland, but due to its high alkaloid (bitter substance) content, it is principally grown for green manure.

3.3.1 Development of production

Lupine are characterised by higher protein content compared to those for dry pea (22 %), faba bean (26 %) (STAUDACHER & POTTHASST, 2014). The raw protein content of blue lupine is around 34 % (TORRES ET AL, 2005) and those for white lupine is 40 % (GRESTA ET AL, 2007). Nevertheless, the lupine production in the EU represents on average (2014-2018) only 14 % of dry pea production and 16 % of faba bean. On average (2014-2018) lupine production was only 280,000 t with two-third produced in Poland.

Poland, Germany and France are the main growing countries for lupines in the EU. 90 % of the lupine produced in the EU are grown in these three countries. These data are summarised in Fig. 12. The other member states of the EU produced only marginal quantities.

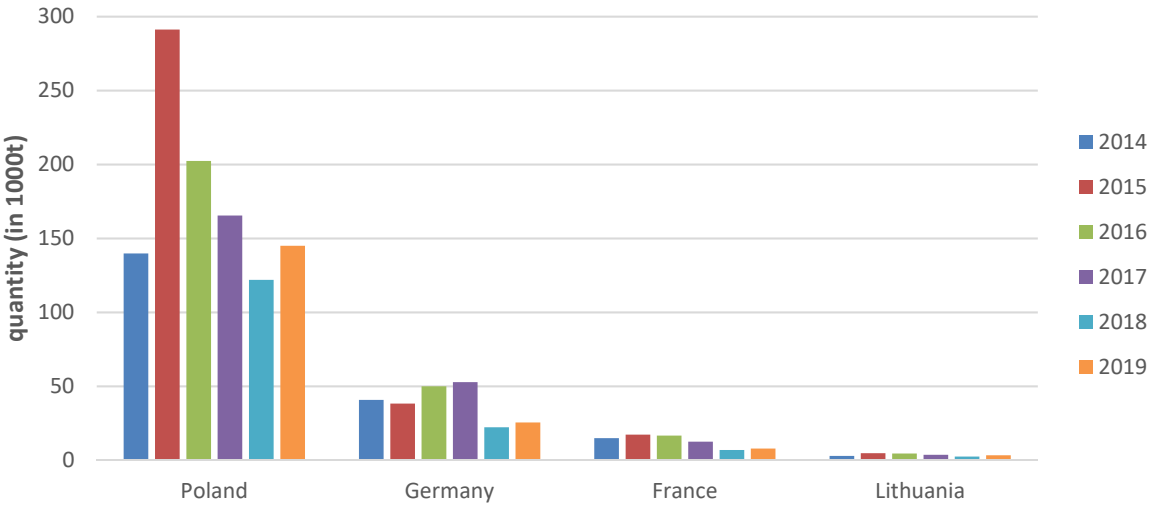
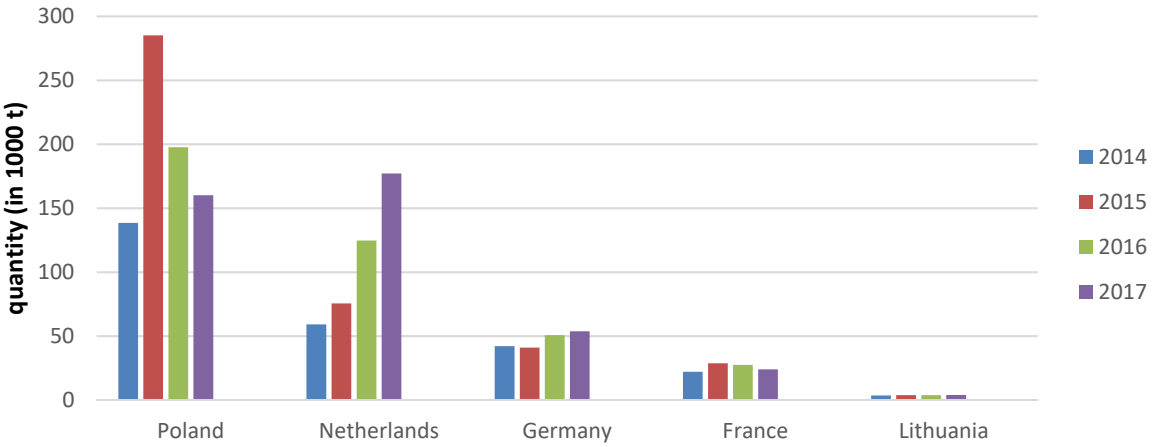


Fig. 12: The main producers of sweet lupine in the EU

The main produced lupine in the EU is blue sweet lupine that is used for feed. While Poland and Germany mainly produce blue lupine for feed, France produces the white lupine that is partly used for food-ingredients. In Germany, the trend is also towards white lupine for human nutrition. However, the areas under white lupine cultivation are still so marginal that they are currently not recorded. Thanks to its adequate location and climatic condition, **Poland** is the leader in the production of lupine in the EU with 70 % of the EU production. Lupines thrive well in poor, light, well-drained soils. These soil conditions are common in Poland. In terms of the production in the EU, Germany (15 %) and France (5 %) follow Poland. The production shows a continuous decrease in Poland over the last years. This could be due to the lack of competitiveness of lupine for feed with a low price to the farmers. Furthermore, increasing import from Australia into the EU could be another a reason of this decrease in production of lupine in Poland. It should be noted that Australia is the largest producer of lupine worldwide with more than 80 % of the global production.

3.3.2 Consumption of lupine in the EU

With a comparable protein content to soybean of around 40 %, lupine can be used as protein supplier in compound feed. **Poland** is the main user of lupine in the EU with the use for feed (see Fig. 13). The **Netherlands** (feed and food ingredient), **Germany** (for feed) and **France** (feed, food ingredient and cosmetic use) follow it. The innovatively extracted active ingredient for the use in cosmetics is "Collageneer". According to HAMANN ET AL. (2020) lupine can be used in fish feed, especially for feeding of shrimps. Trials are made in Germany for this purpose and its implementation could lead to reinforce the importance of lupine in the EU.



Note: This is a calculation based on the production, the imports and exports for the marketing years (From July to June)

Fig. 13: The main consumers of lupine in the EU.

The exact share of the use of lupine for feed in the Netherlands is not known, but it should be higher than those for food. It is mainly used in feeding of calves followed by cattle feed. As an ingredient for food in the Netherlands, one of the main players here is the company "Frank Food", a leading lupine processing company. They process around 4,000 t per year with an increasing trend. Their principal products are ingredients for food like flour for bread and protein concentrate for cake. Partly, the lupine ingredients (flour and protein concentrate) produced in the Netherlands are exported. There is no data about the total share of exports. Concerning the company Frank Food, it is estimated to reach 60 %, mainly to EU countries (Germany, Belgium and Italy). Beside Frank Food, the company Inveja of the group Terrena located in the Netherlands (Twello) and in France (Rennes and Nantes) also processes lupine for food ingredients and is the leader in this sector in France with a processing capacity estimated around 10.000 t per year (SIMMEN & LACAMPAGNE, 2019).

There is an increasing interest but relatively slow usage of lupine in human nutrition, especially from the organically cultivated segment. The organic segment on the EU-market is mainly from Germany. The white lupine with a higher protein content than the blue lupine, a lower content of bitter substances and a stronger resistance to bursting of the pods is more appropriate to this way of use. To this end, lupine meal is included in products like biscuits, bread, noodle, pasta, muffins and tofu (KARNPANIT ET AL., 2016; GRESTA ET AL., 2017). "Purvegan" is an example of acompany that brings lupine based products like "Lupeh" on the market. Since lupine does not contain gluten, its flour is more interesting as ingredient in gluten free-food. However, lupines also contain many proteins that can cause allergic reactions. Because of their special allergenic potential, lupines and their products have been included in the group of allergens requiring labelling. The trademark "Luve" of the company "Prolupine GmbH" is most prominent in Germany. The company started with the trademark "Lupinesse" in 2010, but changed its name to "Luve" or "Made with Luve" in 2015. It is a spin-off of several research projects at the research institute Fraunhofer IVV in Freising, Southern Germany. From the seeds of the lupine, the company obtains lupine protein isolate (LPI), lupine fibers, lupine oil and lupine skins using a production process patented by the Fraunhofer IVV. The company produces with these lupine ingredients many food products like lupines drink, yoghurt, cream cheese, desserts or ice cream.

3.3.3 Foreign trade

The **Netherlands** are the main importer of lupine in the EU with a continuously increasing trend in the last years (see Fig. 14). Its import reached 200,000 t in 2017. Theses imports stem mainly from **Australia** (96 %). A major player in these imports to the Netherlands is the trading company "De Bron B.V." that imports lupine and sells it to the processors. On average between 2014 and 2017, only 10 %, meaning 12,000 t of the total import to the Netherlands is exported, namely to Belgium, France and Italy.

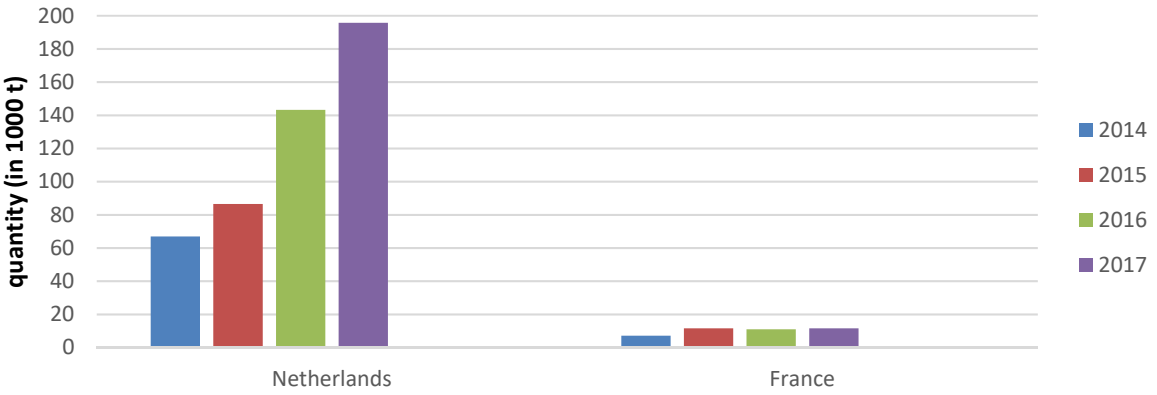


Fig. 14: The main importer of lupine in the EU. The data are for the marketing years (from July to June)

Lupine exports in the EU are negligible. Nevertheless, it should be noted that the Netherlands are the main exporter in the EU, namely to Belgium, France and Italy. These exports are not produced in Netherlands but in Australia, the Netherlands act as a trader. Although Poland is the first producer in the EU, it is not active in exports (see Fig. 15). A very small quantity is exported to the Netherlands and Germany.

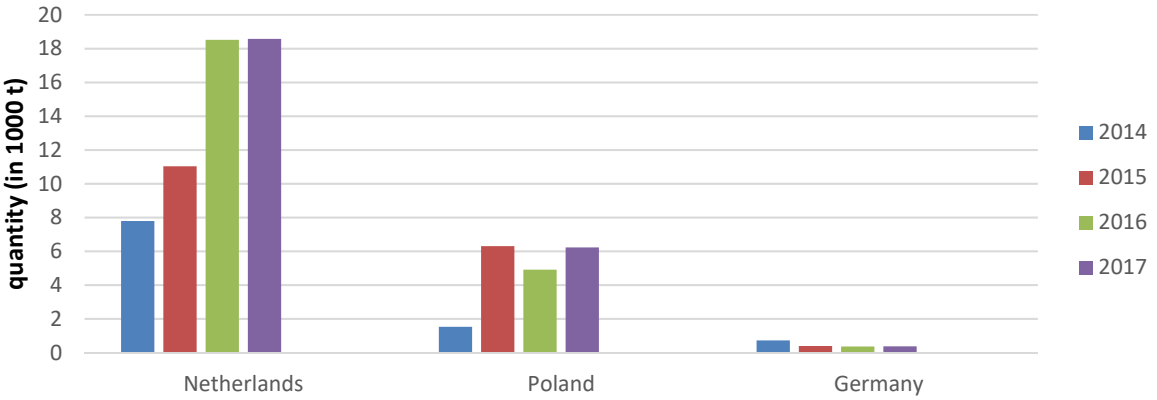


Fig. 15: The main exporters of lupine in the EU. The data are for the marketing years (from July to June)

3.4 Soybean (*Glycine max*)

Soybean was introduced in the EU at the same time as in the USA, namely in the early 20th century, mainly for oil production and for feed. Soybean is seen as an oil crop in the plant-oil and feed industry (OVID, 2019). Terming soya as an oil crop distracts from its main use in terms of monetary value: feed in intensive animal production in the form of soy meal. Soybean is the only crop with a high content of three essential nutrients, ~23 % oil, ~23 % carbohydrate and ~40 % protein. These characteristics give it a great opportunity to be used as an energy, feed and food source. Therefore, the market of soybean is complex: there are whole grain markets, oil markets and soybean meal markets. In this report we will focus on the grain market of soybean. In fact, nearly the same amount of soybean meals as of soybean is imported in the EU for animal feeding. This market segment, soybeans meal for feed, is better preferred, as no soyabeans have to be deoiled.

3.4.1 Development of production of soybean

All soybean produce in the EU is GMO-free. With an average production of 2.5 million tonnes per year for the period of 2014 to 2018, soybean is the main grain legume produced in the EU, followed by dry pea (2 Mio. t) and faba bean (1.8 Mio. t). **Italy** represents 40 % of the EU production. France, Romania, Croatia, Hungary and Austria follow with growing trends (see Fig. 16). Together with Italy, these six countries represent 90 % of the EU production. The geographical location of these southern European countries, with a higher daily average temperature and higher day length, gives preferable conditions for growing soybean.

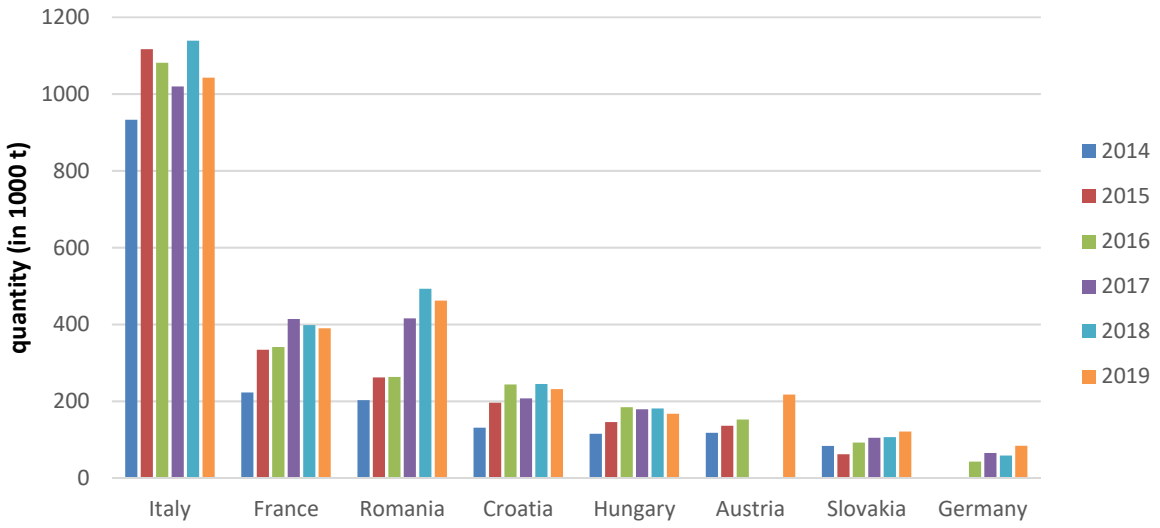


Fig. 16: The main producers of soybean in the EU

The increasing trend in production in the EU is partly due to the CAP reform 2014. There have been many reforms in the past that have negatively affected soybean production in the EU. The MacSharry reform in 1992 resulted in more direct support for farmers, shifting from price support. Soybean received less support per ton than other protein rich crops. Furthermore, the Blair House Agreement in 1992 restricted the growth area for oilseeds including soybean in the EU. Further decoupling in 2003 led to Single Payment Schemes (SPS), making farm payments conditional to compliance to environmental and animal welfare demands. All these led to a decrease in soybean cultivation area in the EU. Currently, there are no legal restrictions on growing oilseeds, including soybean (KOOTSTRA ET AL., 2017).

The increasing demand on GMO-free feed and food is another reason for the increase of soybean production in the EU. Furthermore, and especially in Italy, the attractive prices offered by the "biofuel industries" are another lever for soy production (KEZEYA SEPNGANG ET AL., 2019B). The international and non-profit organisation "Danube Soy", based in Vienna, plays an important role in supporting soy production in Europe. The organisation is committed to soybean cultivation in the Danube region using the brand "Europe Soya". GMO-free, sustainable and regional protein supply are the organisation's guiding principles.

3.4.2 Consumption of soybean in the EU

The main use of soybean in the EU is for **feed** as the principal source of protein ingredient in animal feeding. **Germany, Spain**, the **Netherlands** and **Italy** are the main consumers of soy in the EU (see Fig. 17). These four countries represent 75 % of the consumption of soybean in the EU. Around 80 % of the production in Italy is used for **biofuel** and the by-product soybean meal is used as feed (KEZEYA SEPNGANG ET AL., 2019B). The open question here is why Italy does not export its more valuated non-GMO soybean and processes only the imported GMO-soy from America to biofuel. Possible answers to this question could be the transaction costs and the willingness to use their own produced soy meal a more sustainable product. Furthermore, the feed that remains after the Italian soy extraction is also GMO-free and the meat and dairy products produced with it can be marketed as such. This can also explain why Italian extracted its GMO-free soy for biofuel.

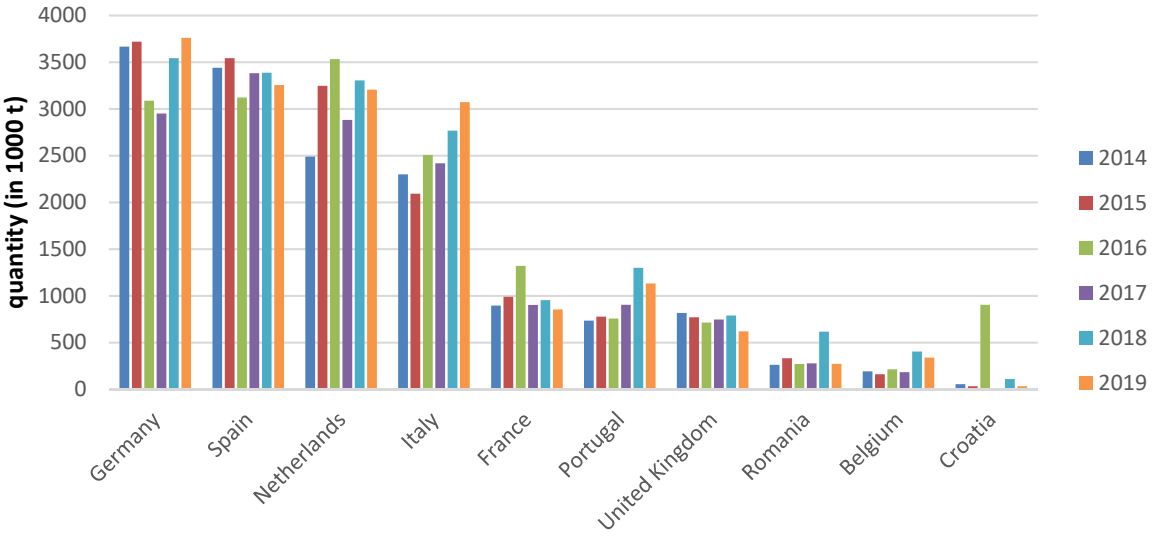


Fig. 17: The main consumers of soybean in the EU

The demand for soy in the food sector is currently increasing in Europe. However, the market share of this segment is currently still relatively low. Several soy based products like soy drink, tofu, tempeh, natto, miso, edamame, soy sauce, and others can be found in food retailing (HAHN & MIEDANER, 2013).

3.4.3 Foreign trade of soybeans

The EU imported 16 Mio. t of soybean per year on average between 2014 and 2018. 90 % of these imports are from EU-extra. Netherlands, Spain and Germany are the main importers of soybean in the EU (see Fig. 18). These three countries represent 74 % of the EU-extra imports in the EU. Thereof, a quarter of the imports in the Netherlands are redistributed EU-intra, mainly to Germany. A strong sector of intensive animal production, especially pig, is the main driver of soya imports in the EU.

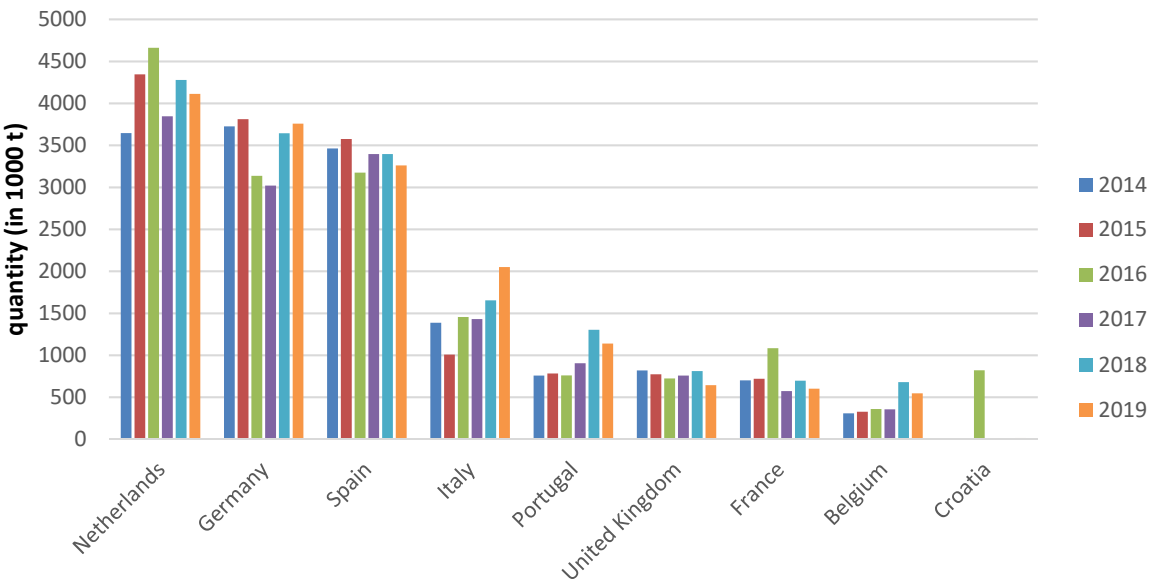


Fig. 18: The main importers of soybean in the EU

USA and **Brazil** are the main suppliers to **Germany** and the **Netherlands**. Due to trade disputes between USA and China, whereby China taxed US soy imports, the trend of EU-imports from the USA are increasing. At the meantime, the trend of importing from Brazil is decreasing. This is an extraordinary side effect of the US-China trade dispute: as China demands more Brazilian soybeans, the price for Brazilian soya has increased in the EU leading to lower imports. The USA are also an important supplier to **Spain**, but **Brazil** with constant quantity holds 60 % of Spain's soy supplies. As we said before, the increasing trend of the US soy in the EU in the last years is largely due to the trade dispute between China and USA. Since China was the first buyer of US soy until 2018, the closing of this market in China let to a decrease in prices for US soya and therefore an increase of export to the EU. It should be noted that these imports are GMO-containing products and are mainly used for feed. While European regulation allows GMO products for feed, consumers in food do not favour these crops. However, sustainability issues relating to Brazilian soy make judgment about importing soy difficult in general. Also for these reasons is Europe trying to increase domestic legume production.

Although **Italy** is quantitatively the first soy producer in Europe, the remaining half of its demand is covered by the import from the North and South American continent (USA, Canada and Brazil).

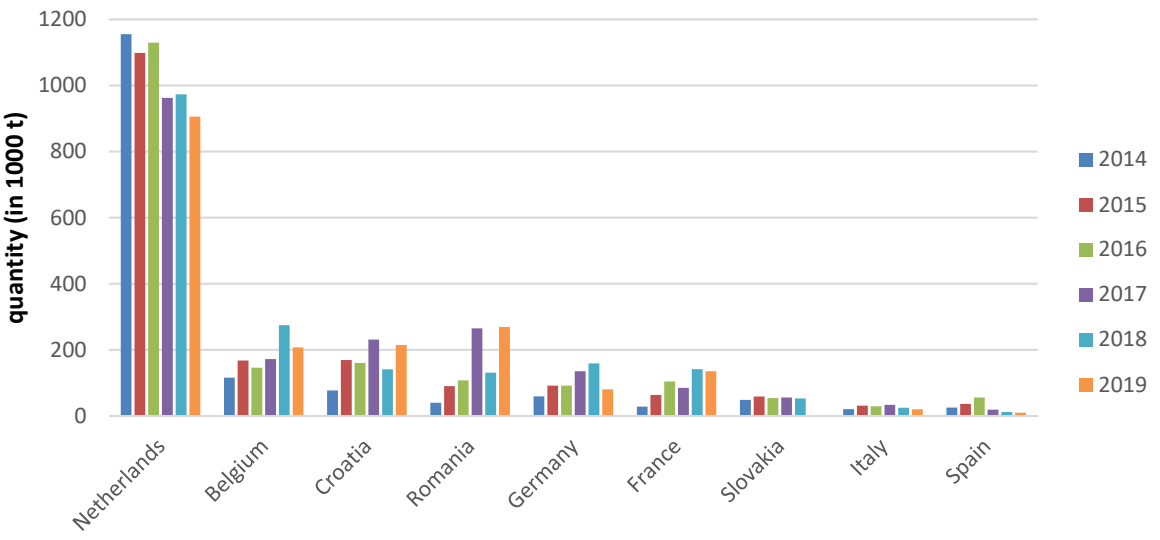


Fig. 19: The main exporters of soybean in the EU

The exports are mainly to EU-intra. Netherlands is a redistributor of the imported soy inside the EU (see Fig. 19). Around 90 % of this EU-intra export goes to Germany and the rest to Belgium, Finland and UK. Italy is currently not exporting it Non-GMO-soybeans, although it is the main producer inside the EU.

To summarize, Fig. 20 gives an overview of the main trade flows of soybean in the EU that are dominated by the EU-extra imports. This figure refers only to the trade of soybean and it does not include the trade of soybean meal that will be describe in chapter 3.4.4.

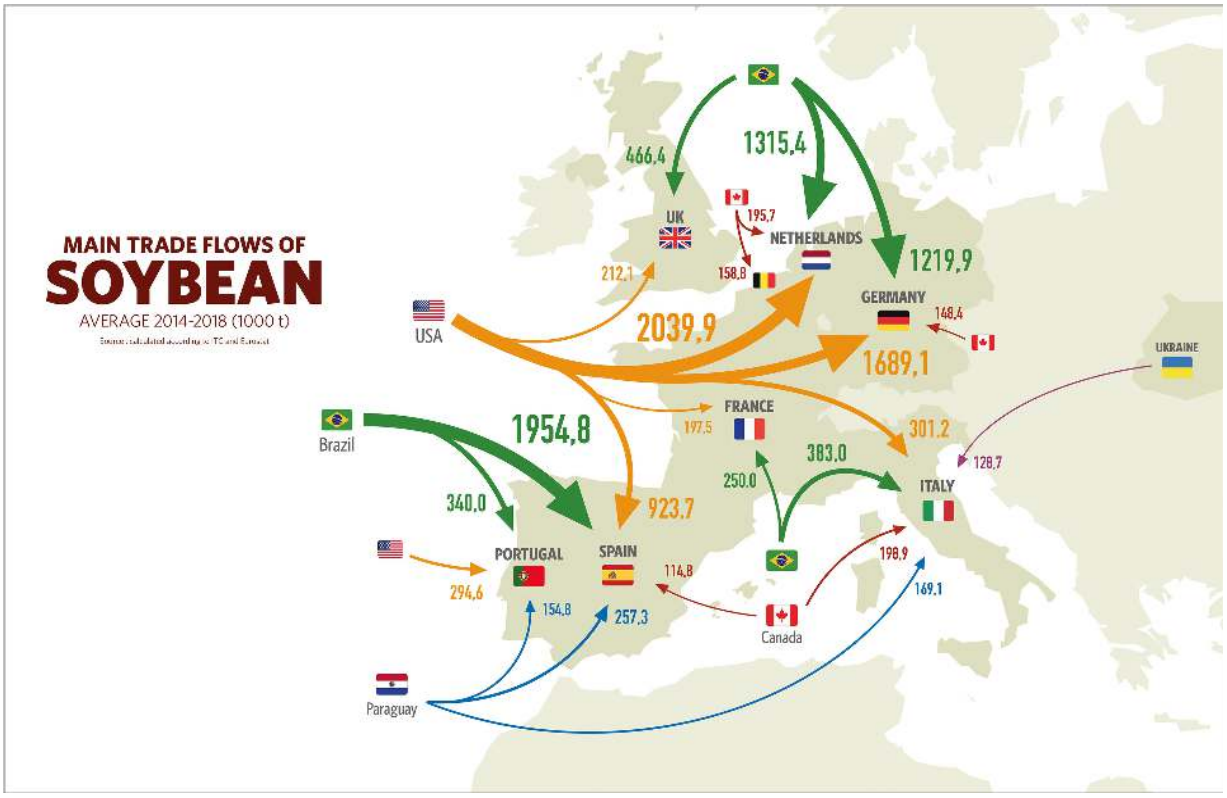


Fig. 20: The main trade flows of soybean in the EU. Average 2014 – 2018, in 1000 t

3.4.4 Import and consumption of soybean meal for feed in the EU

The extracted soy meals are mainly used for feed and they represent the most important protein ingredient used in compound feed in the EU. While China is the major importer of soybeans grains worldwide, the EU with 30 % of the world imports leads the import of soybeans meals for feed. Argentina, Brazil and the USA are main origins of these imports.

Fig. 21 presents the aggregated foreign trade of soy meal in the EU. This shows that the import of soy meal in the EU is relatively constant, indicating a well-established market segment.

Concerning the use for food, Italy exports **soybean meal** mainly to Austria, Switzerland and Germany. According to ITC (2020), the exported soy meals from Italy that are most likely used as food ingredients are estimated to amount to 133,000 t in 2018.

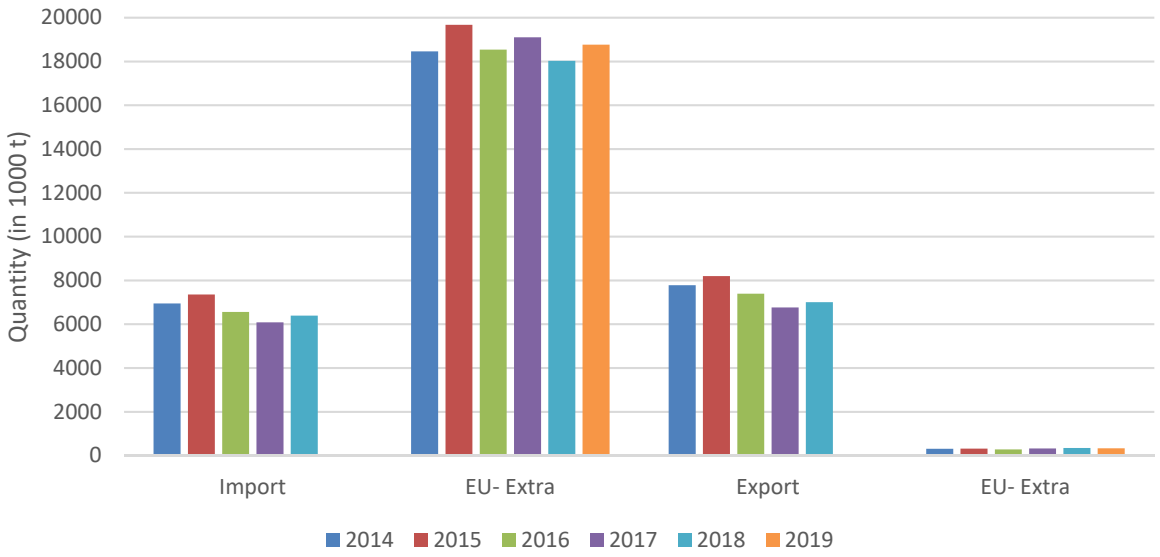


Fig. 21: Import and export of soy meals for feed in the EU.

3.5 Chickpea (*Cicer arietinum*)

3.5.1 Development of production

Chickpea is a traditional food in the Mediterranean basin since centuries. The mainly produced type in the EU is “Kabuli” that has medium to large grains with a creamy-white colour. Chickpea is mainly harvested dry and belong to the dried grain legumes. According to FAOSTAT (2020), India with around 80 % of the world’s production is the leading producer (8.4 Mio. t, average 2014 - 2018). On average between the years 2014 to 2018, Europe represented only 4 % of the worldwide production. This share in production has grown from 0.9 % in 2010 to 4 % in 2017 and to 5 % in 2018 (FAOSTAT, 2020). This increase in the production shows the increasing interest in chickpea in Europe in the last years. It is new and should be noticed that the EU production grows from 47,000 t in 2013 to 270,000 t in 2018.

The production of chickpea is expected to increase in the next years in the EU. Nevertheless, the production is so low that there is less data available in comparison to dry pea or faba bean. Since chickpea requires a warm and sunny climate, it is mainly grown in subtropical areas, especially in parts of Asia, Australia and in Africa. In the EU, southern countries especially France, Spain, Italy and Bulgaria

are the main cultivation areas for chickpea (see Fig. 22). In 2017, France produced 39,000 t, Spain 39,000 t, Italy 34,000 t and Bulgaria 32,000 t. There is a new interest to growing chickpea in particular in Spain, Bulgaria and France that produced respectively 91,500 t, 52,000 t and 47,000 t in 2018. Moreover, there are some attempts to assess chickpea cultivation in other areas thanks to the current profitability of chickpea. In Germany, in the southern region of Baden-Württemberg, there are already individual farms that successfully grow chickpea and there are further trials for chickpea cultivation in central Germany, too. Some experiments are currently being performed in the Northern part of France, in Denmark and in the UK.

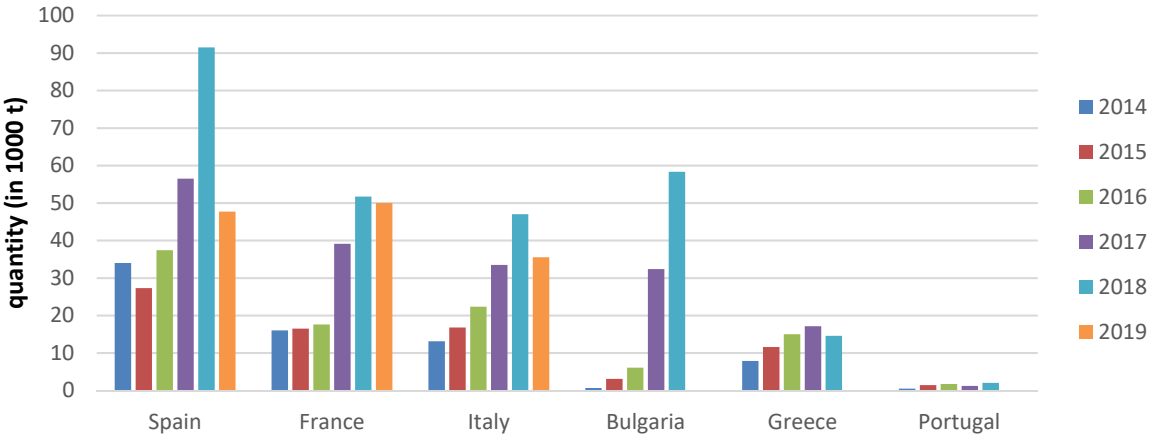


Fig. 22: The main producer of chickpea in the EU

3.5.2 Consumption of chickpea in the EU

Chickpea is almost solely grown for human consumption. The demand for dry and canned chickpea is increasing in the EU. The largest chickpea consumers are mainly located in the southern part of the EU, with the exception of the UK (large Indian and Pakistani population) and to a less extent Germany (Turkish population). Chickpea is an important food ingredient in many international dishes. Well known recipes containing chickpea are e.g. hummus or falafel. Chickpea is also a popular food product for Indian curries and stews or for fresh salads. Flour obtained from chickpea is suitable for cakes and sweet or savoury dough patties.

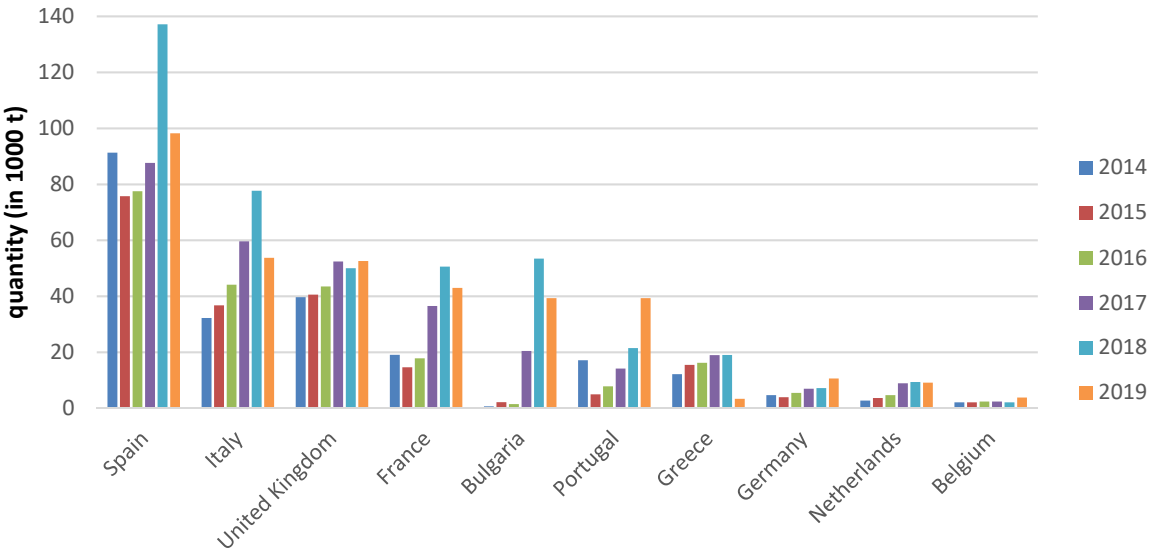


Fig. 23: The main consumers of chickpea in the EU

3.5.3 Foreign trade

No European country is self-sufficient in chickpea, although France is expected to become self-sufficient in the near future. France might soon be able to fulfil its increasing demand as well as exporting parts of its production EU-intra. Spain imports a stable quantity of 50,000 t each year to cover its demand. The imported type of chickpea in the EU are mainly "Desi" that is characterized by small, wrinkled and brown grains. EU-countries import chickpeas mainly from America. Argentina, Mexico and the USA are the main suppliers, together with 75 % of the total of import to the EU. Canada, Australia, India, Turkey and Russia are the other sources of imports to the EU, but with smaller volumes. On average (2014 – 2018), the extra EU-imports are relatively stable with around 150,000 t per year at an increasing trend. Tab. 2 presents the main players outside the EU that supply chickpea in the EU.

Tab. 2: The main origins of EU-extra import of chickpea in the EU, in 1000 t

Origins of the EU-extra import	2014	2015	2016	2017	2018	Average (2014-2018)
Argentina	20,6	45,7	21,3	33,1	41,8	32,7
Mexico	38,1	36,4	27,8	19,1	30,4	30,4
USA	19,4	17,0	20,5	34,0	29,7	24,1
Australia	13,9	9,6	13,3	18,3	15,4	14,4
Canada	8,3	8,1	8,8	7,2	5,6	7,6
India	5,3	4,1	7,0	5,7	13,4	7,1
Turkey	4,1	4,2	5,1	5,4	10,3	5,8
Russia	7,3	6,5	4,7	3,0	6,4	5,6
Others	26,1	-1,3	28,0	30,0	32,7	23,0
Total	**143,2**	**130,3**	**136,7**	**155,9**	**185,6**	**150,3**

UK, Spain and Italy are the first importers in the EU (see Fig. 24). While **Spain** mainly imports from the USA and Mexico, **Italy** mainly imports from Argentina, while the **UK** sources from Australia and India. Since India heavily taxed the imports of grain legumes, namely for dry pea, chickpea and lentil (FLAMMINI, 2020), the imports into the EU offer an alternative market for major EU-extra chickpea producing countries. Whether the EU imports of chickpea will continue to grow in the coming years as a result of the market barriers in India and the increasing demand in Europe remains to be seen. There is a clear competition between import outside the EU and the EU capability to produce what it needs. There is a lack of market organisation today for the EU production, as the importers were well equipped to connect to their European customers: this holds also true for lentils.

It should be noted that EU-intra trade remained irrelevant in the past 5 years. However, the increasing production in France will create some EU-intra trade, depending of the competitiveness compared with imported chickpea to the EU.

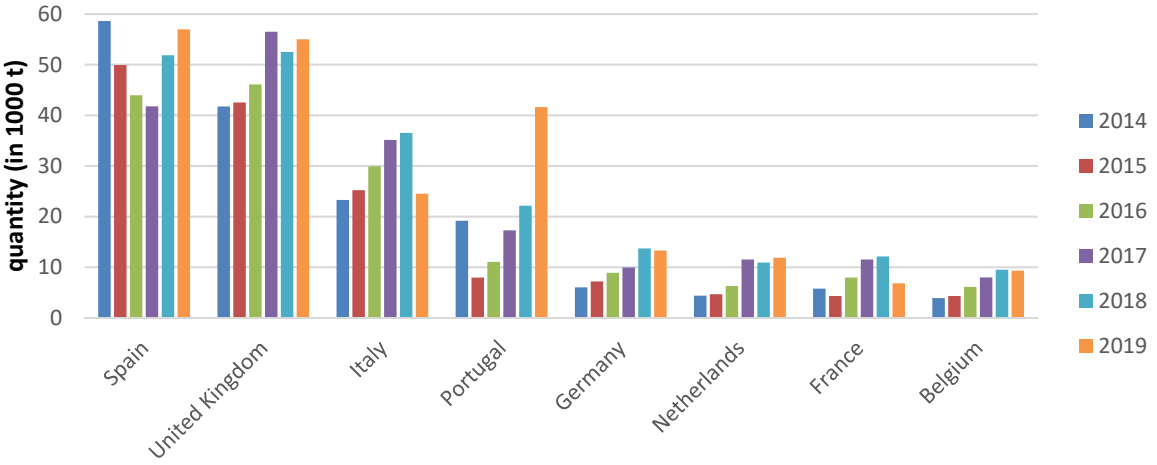


Fig. 24: The main importers of chickpea in the EU

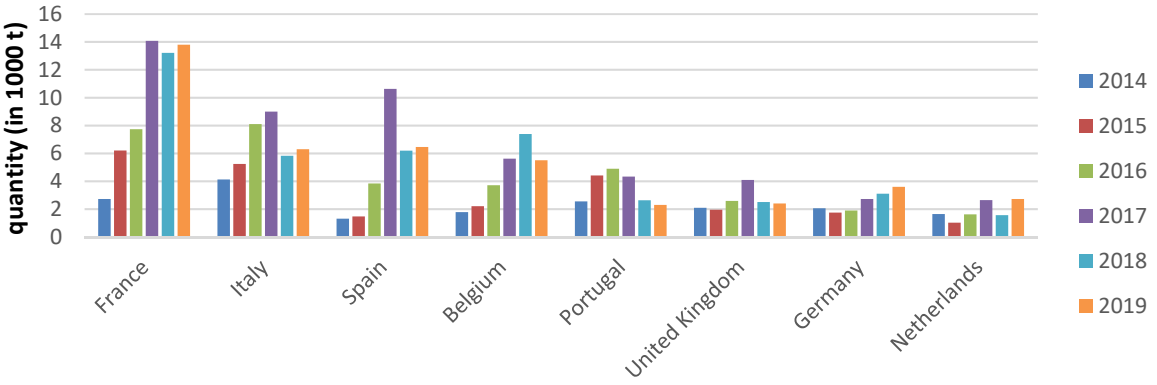


Fig. 25: The main exporters of chickpea in the EU

To summarize, Fig. 26 gives an overview of the main trade flows of chickpea in the EU that are dominated by the EU-extra imports.

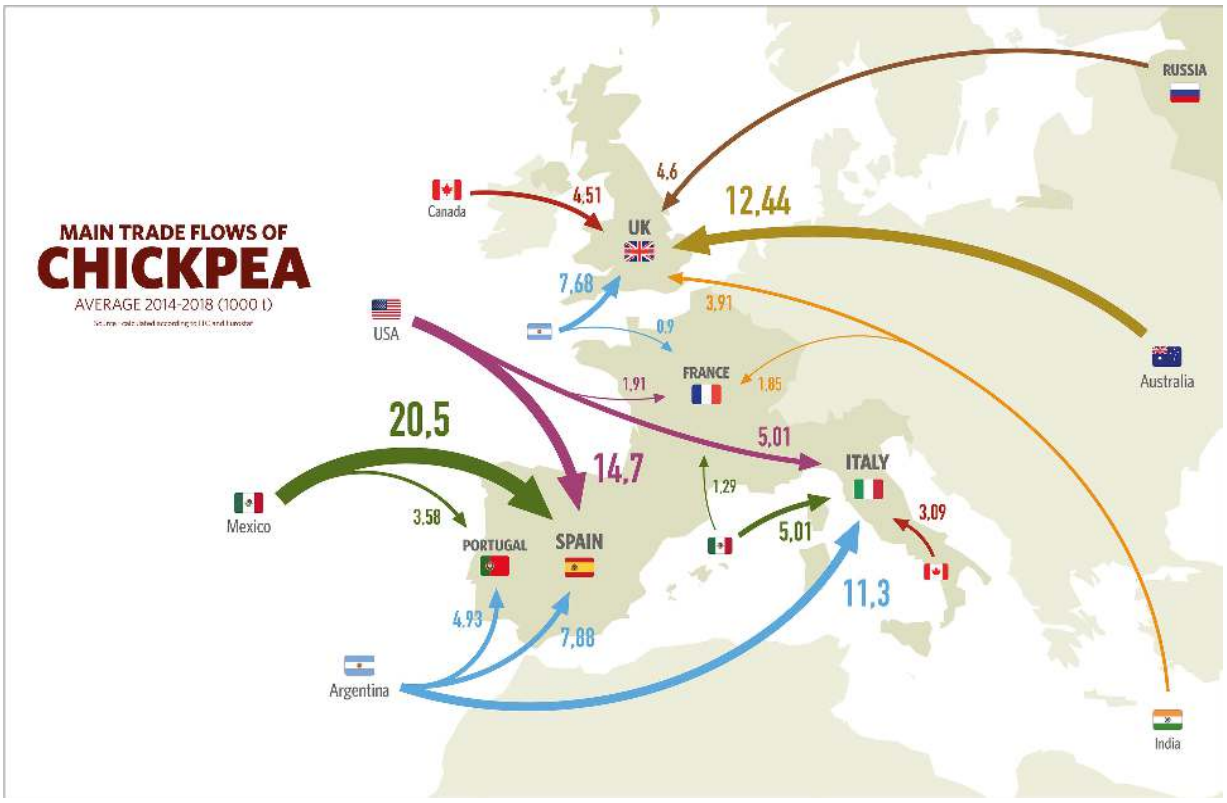


Fig. 26: The main trade flows of chickpea in the EU. Average 2014 – 2018, in 1000 t

3.6 Lentil (*Lens culinaris* or *Lens esculenta*)

3.6.1 Development of production

Lentil has been a traditional food in Spain, France and Italy for centuries, with several cultivation sites labelled as Protected Designation of Origin (PDO): “Lentejas de la Armuna” and “lenteja pardina de tierra de Campos” in Spain,” lenticchia di Altamura” and “lenticchia di Cstellucci di Norcia” in Italy, “lentilles vertes du Puy” and” lentilles vertes du Berry” in France. Lentil is harvested dry and belongs to the dried grain legumes, similar to chickpea. They are exclusively used for food. According to FAOSTAT (2020), the American continent with 53 % of the production is worldwide the major continent with Canada (2.9 Mio. t, average 2014 - 2018) being the leader in production. The American continent is followed by Asia in terms of production volume, with India (1 Mio. t) in the lead.

On average, from 2014 to 2018, Europe represented only 3 % of the worldwide production. There is, however, an increasing trend of production in the EU. According to FAOSTAT (2020), EU’s share in production grew from 1.2 % in 2010 to 3.6 % in 2017 and to 5.2 % in 2018. The production is so low that there is less cultivation data as for the legumes analysed above. The lentil production is located in the southern part of the EU, **France** and **Spain** are the main producers in the EU (see Fig. 27). In 2018, these two countries represented more than 80 % of the EU production (FAOSTAT, 2020). The mainly produced variety in France and Spain is green lentil. The production more than doubled in the EU from 50,000 t in 2013 to 115,000 t in 2018. This increase in the production of lentil is expected to continue to grow in the next years, with the perspective to become self-sufficient in the near future.

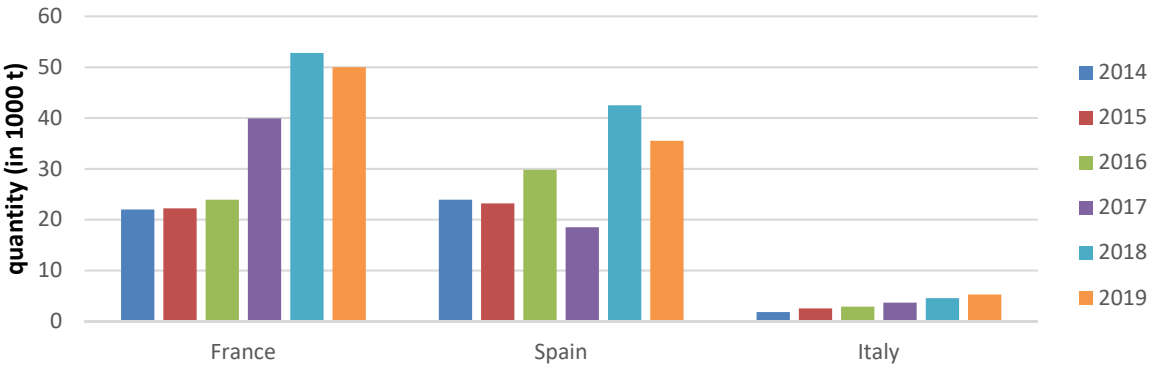


Fig. 27: The main producer of lentil in the EU

3.6.2 Consumption of lentil in the EU

The consumption of lentil plays an essential role in human nutrition in some countries in the world. It is mainly consumed in India, Mexico, the Arabic world and the Mediterranean countries. The use is manifold: Lentil can be processed into spicy curry, puree (dhal), lentil soup and spread, lentil salad or pasta sauces. Alternatively, feeding lentil is also an option to produce high-quality meat.

The EU consumption of lentil for food is about 300,000 t per year, with 2/3 used by Spain, France and Italy, followed by Germany and the UK (see Fig. 28). This is probably due to their foreign population being used to traditional food partly based on lentil. There is a slight increase of consumption all over the EU that participates to the food transition.

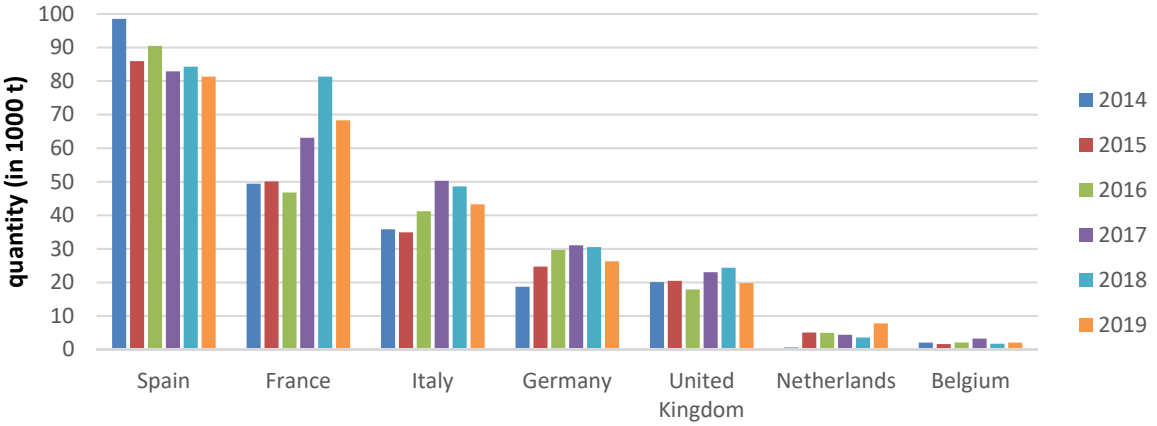


Fig. 28: The main consumers of lentil in the EU

3.6.3 Foreign trade

As with chickpea, no EU country is self-sufficient in lentil. To cover its demand, EU-countries import lentil outside the EU, mainly from North America. **Canada** covers more than 50 % of the extra EU-imports in to the EU. The **USA** with around 20 % imports (average from 2014 to 2018), is the second largest supplier of lentil in the EU. **Turkey** is followed with 15 % of the extra EU-imports. On average (2014 – 2018) the EU-extra imports are relatively stable with around 200,000 t per year, 25 % more

than chickpea (150,000 t), both with an increasing trend. Tab. 3 presents the main producers outside the EU that supply lentil to the EU.

Tab. 3: The main origins of EU-extra import of lentil in the EU, in 1000 t

Origins of the EU-extra import	2014	2015	2016	2017	2018	Average (2014-2018)
Canada	119,5	97,0	95,3	109,4	102,1	104,7
USA	32,8	36,8	40,3	53,2	33,2	39,3
Turkey	19,9	22,0	26,8	29,0	31,2	25,8
China	13,8	19,9	19,4	11,3	12,4	15,4
India	0,4	0,7	1,8	1,6	1,2	1,1
Others	-1,0	6,4	6,2	9,7	4,4	5,1
Total	**185,3**	**182,7**	**189,8**	**214,2**	**184,6**	**191,3**

The EU-intra trade for lentil is not established and the EU demand is mainly covered by the EU-extra imports. The EU-intra imports only represent 14 % of the total imports and are almost equal to the EU-intra exports. It remains unclear whether it is EU production or EU-extra imports that enable this trade.

Spain is the major importer into the EU, followed by **Italy**, **Germany**, **France** and the **UK** (see Fig. 29) Canada is the main supplier for these markets, except for Spain where the USA are heading the ranks.

Looking at the two main producing countries in the EU, Spain has lifted its rate of self-sufficiency to 50 %, similar to France. All other countries are completely dependent on imports.

Since India made imports of grain legumes costly and thus blocked its market (see chapter 3.2.2), namely for peas, chickpeas and lentil (FLAMMINI, 2020), the exports to the EU offer an alternative for lentil. Therefore, it is forecasted that the EU imports will continue to grow in the next years due to the expected increasing demand in the EU. However, these imports in the EU could be reduced by a planned growth in lentil production in the EU. This requires a good market organisation that does not exist yet in the EU. Today, the lentil market in EU is dominated or controlled by the importers, as it is for chickpea.

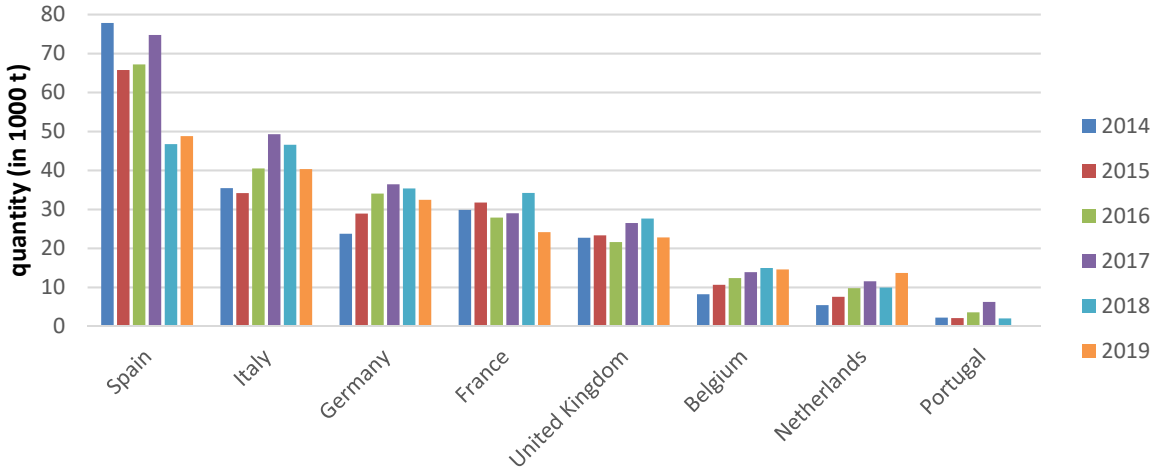


Fig. 29: The main importers of lentil in the EU

The total exports of lentil from the EU are very low. Of these exports, 90 % are designated to EU-intra export. **Belgium** is the main exporter in the EU, almost solely to France, the Netherlands and Germany. The same phenomenon as for chickpeas, Belgium is a hub for the lentil trade since its imports equivalent its exports. Spains´ figures also show a few exports to Morocco, especially in 2017.

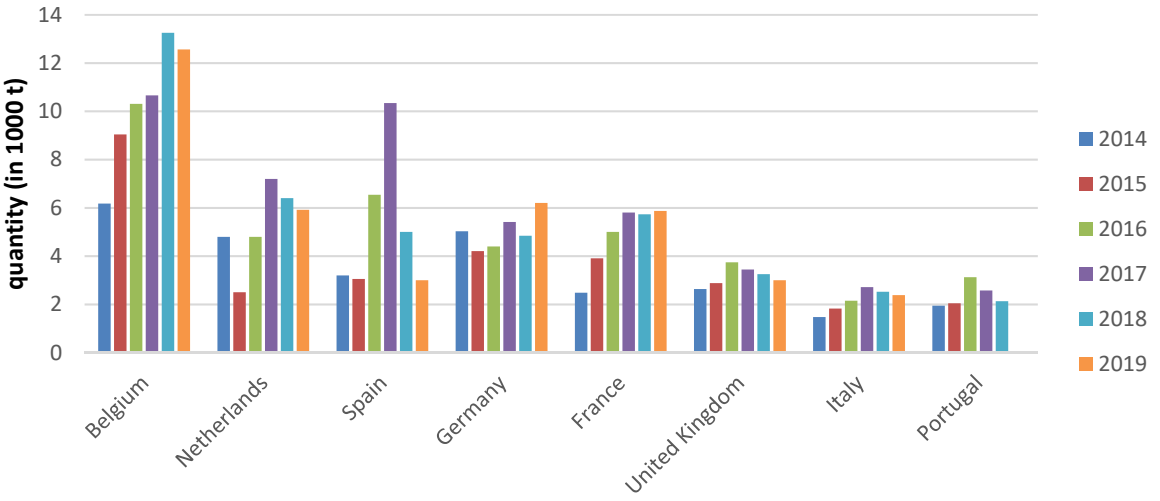


Fig. 30: The main exporter of lentil in the EU

To summarize, Fig. 31 gives an overview of the main trade flows of lentil in the EU.

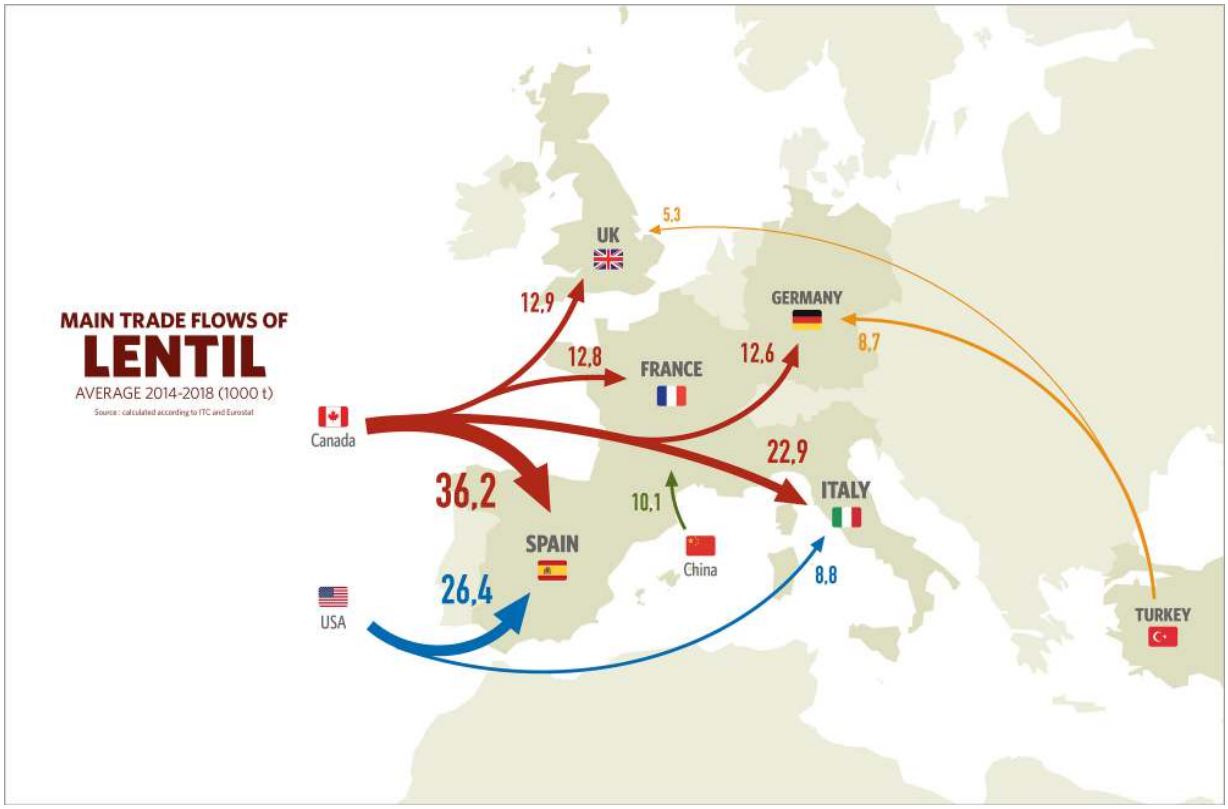


Fig. 31: The main trade flows of lentil in the EU. Average 2014 – 2018, in 1000 t

3.7 Fresh bean (*Phaseolus vulgaris*)

Fresh bean and fresh pea were luxury food in the 18th century. They became popular as vegetable through canning and frozen food all over Europe in the 20th century. Fresh beans are harvested in an immature stage with higher water content. The crops must be harvested in a very narrow window of maturity. If the maturation of the crops has progressed too far, the ability to harvest all the crops in a time critical-window can be lost. Up to 15 % of sowed hectares are **lost for harvesting** each year. Sowed areas lost for harvesting are generally known as bypassed crops. The bypassed crops either are allowed to mature for seed production or are simply ploughed under in the field (green manure). This aspect of losing fresh bean is similar to the cultivation of fresh peas.

3.7.1 Development of production

The production of fresh bean in the EU has been constant in recent years. On average, from 2014 to 2018, the EU produced ~1.1 Mio. t fresh bean per year. While it is increasing in France, the trend in Spain is decreasing (see Fig. 32). In the other EU countries, the production remains constant. **France** with an average production of 350,000 t from 2014 to 2018 is still the largest producer of fresh bean in the EU. **Spain** (~170,000 t), **Italy** (~160,000 t) and **Belgium** (~110,000 t) follow. These four countries represent ~70 % of the EU production.

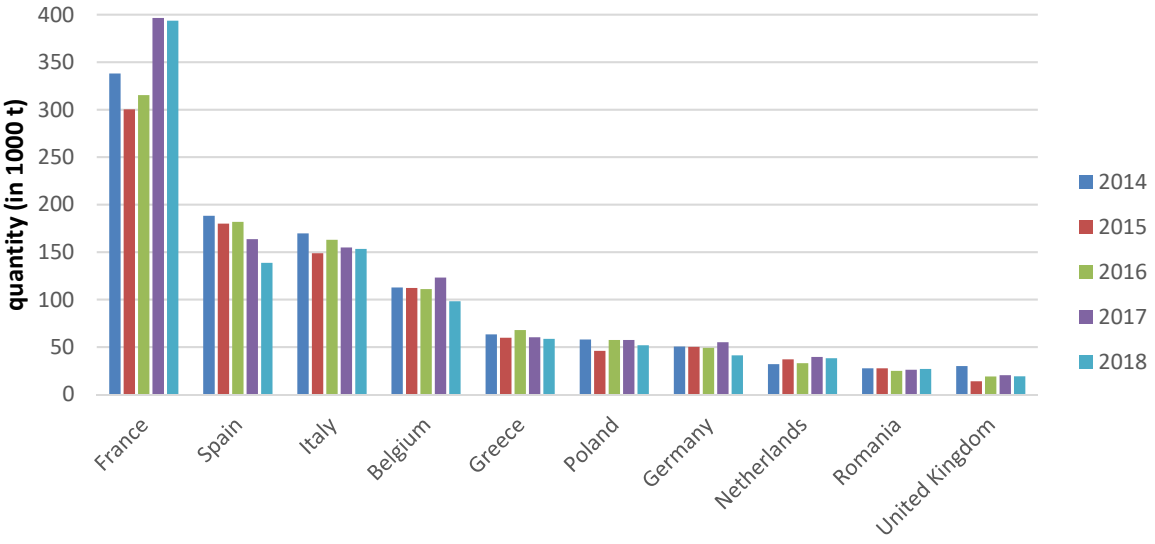


Fig. 32: The main producers of fresh bean in the EU

3.7.2 Consumption of fresh bean in the EU

The main producers and the main consumers of fresh bean in the EU are France, Spain, Italy and Belgium (see Fig. 33). Fresh bean is grown for human consumption. The consumption in the EU remains constant in the last years. The higher water content is a special characteristic of these kind of goods. They are harvested fresh for direct retailing or they are canned or frozen for conservation.

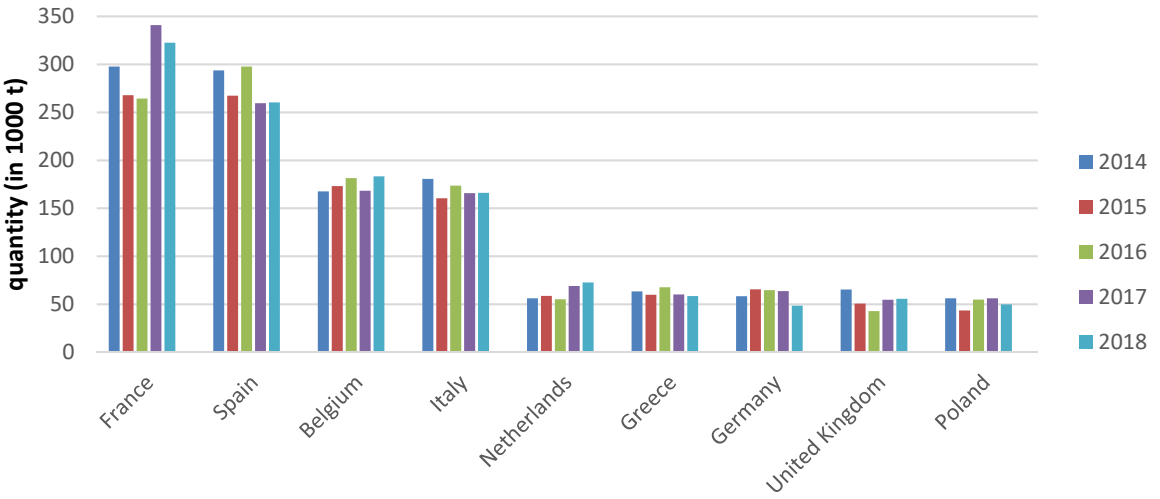


Fig. 33: The main consumers of fresh beans in the EU

3.7.3 Foreign trade

An important foreign trade also characterizes the fresh bean market in the EU. The total imports represent on average 40 % of the production and their origins are 50 % EU-intra and 50 % EU-extra. Spain is the main importer in the EU, followed by Belgium, the Netherlands and France (see Fig. 34).

65 % of the EU-extra imports into the EU are from **Morocco** (mainly to Spain, France and the Netherlands). The more favourable production costs in Morocco and the geographical location, which enables transport directly by sea and cheaper than by truck, are the economic reasons why Morocco is the main supplier to Spain and the EU. Furthermore, the agreement of liberalisation of trade for this good between EU and Morocco is a lever in this trade (KEZEYA SEPNGANG ET AL. 2019C). **Kenya** with 15 % of the EU-extra imports is the second supplier of fresh bean to the EU (mainly to the UK). France leads the EU-intra imports into the EU with a share of 45 % of these imports. France is followed by the Netherlands (20 %) that must be understood as a trading hub of the goods from Morocco.

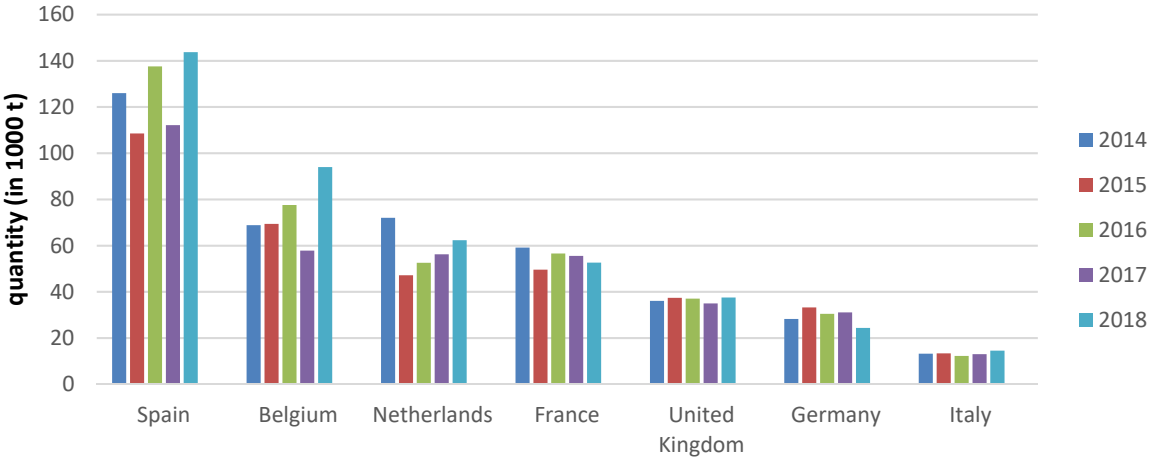


Fig. 34: The main importers of fresh bean in the EU

France is the major exporter of fresh bean in the EU (see Fig. 35). The total exports in the EU (200,000 t yearly average) are the half of the total imports. This is due to the lower activity in EU-extra exports. So the total exports are within the EU countries. Since the EU does not have export outside the EU, but EU-extra imports, there is no self-sufficiency of these goods in the EU. The self-sufficiency rate is estimated to reach 85 %. France with 50 % of the EU exports and an increasing trend in the last years is the leader of exports inside the EU. Spain and Belgium are its main buyers.

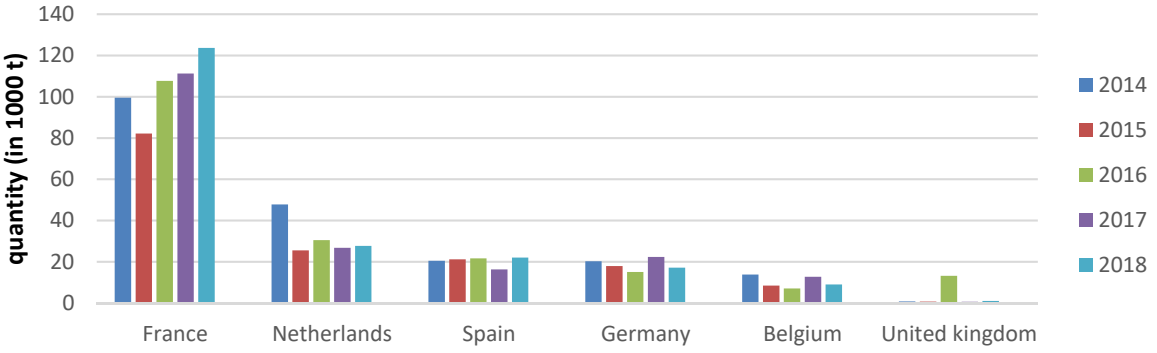


Fig. 35: The main exporters of fresh bean in the EU

3.8 Fresh pea (*Pisum sativum*)

3.8.1 Development of production

The production of fresh pea in the EU has been constant in recent years. On average, the EU produced ~950,000 t fresh pea per year (2014 – 2018). Fresh pea production is surrounding factories that process pea through canning and freezing for final food consumption. **France,** with an average production of 235,000 t (2014 - 2018) is still by far the largest producer of fresh pea in the EU. The UK (150,000 t), Spain (100,000 t), Hungary (100,000 t) and Italy (90,000 t) are the remaining main producers in the EU. These four countries represent 70 % of the EU fresh pea production. While the production is increasing in France, Hungary, Italy and Spain, the trend in the UK, Sweden and Belgium points downwards (see Fig. 36). In the other EU countries, the production remains constant. The **losses** are similar to those of fresh bean. Every year, up to 15 % of the cultivated area is lost during harvesting (see chapter 3.7).

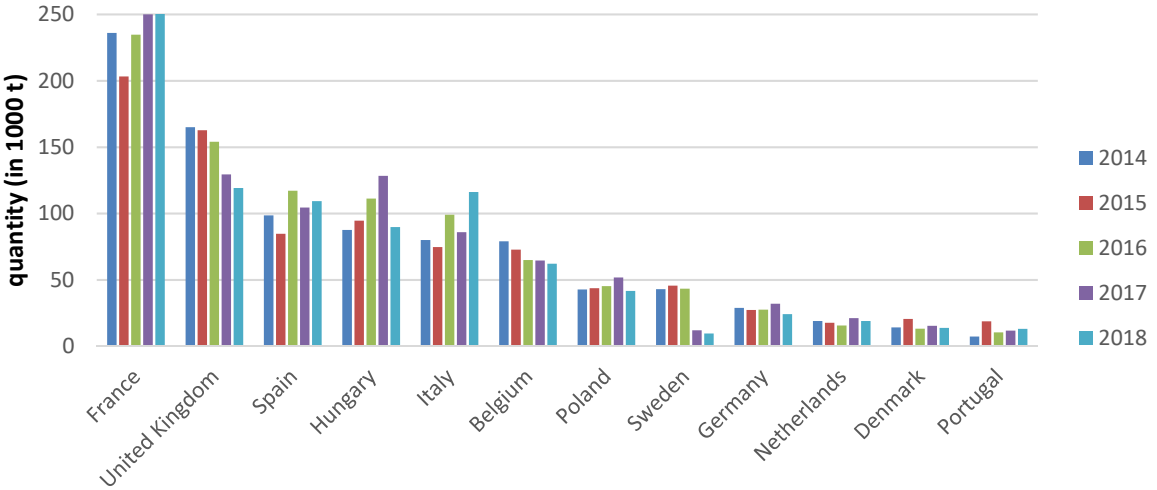


Fig. 36: The main producers of fresh peas in the EU

3.8.2 Consumption of fresh pea in the EU

France, Belgium and the UK are the three main consumers of fresh pea in the EU (see Fig. 37). Fresh pea is grown for human consumption, similar to fresh bean. Because their dry conservation is difficult due to their high moisture content, they are frozen or canned. In the UK for example, frozen peas contribute more than 95 % of the total fresh harvested peas (BGA, 2016). With this high percentage, the UK is one of the largest frozen pea producers in Europe. France, Belgium, Spain and Italy are the other main frozen pea producers in the EU.

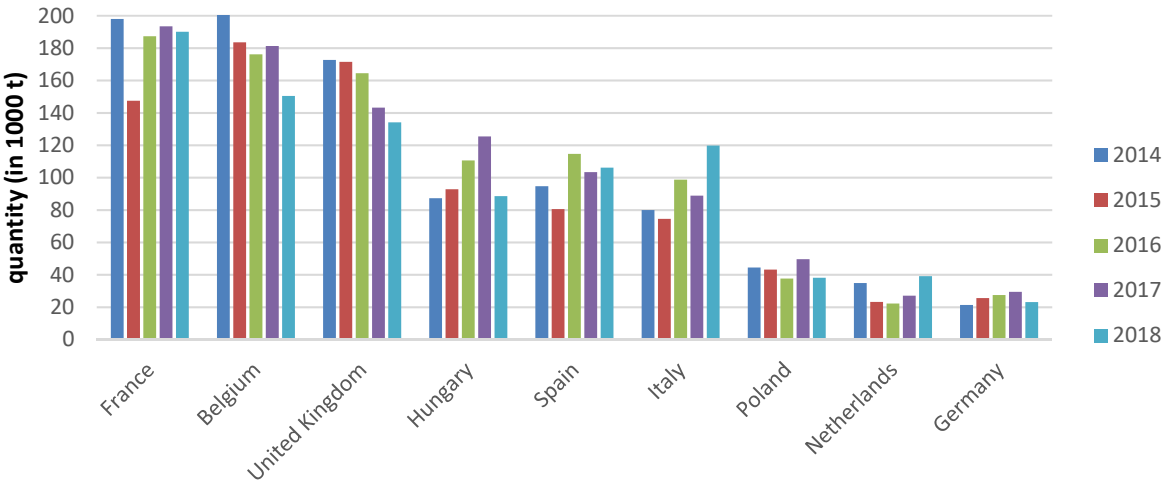


Fig. 37: The main consumers of fresh peas in the EU

3.8.3 Foreign trade

Belgium is the main driver of fresh pea imports in the EU (see Fig. 38). This country alone imports 60 % of the total EU fresh pea imports. 90 % of these imports to Belgium are from **France**. The Netherlands are the second biggest importer in the EU with significantly smaller volumes (20,000 t per year), mainly from Belgium and Germany.

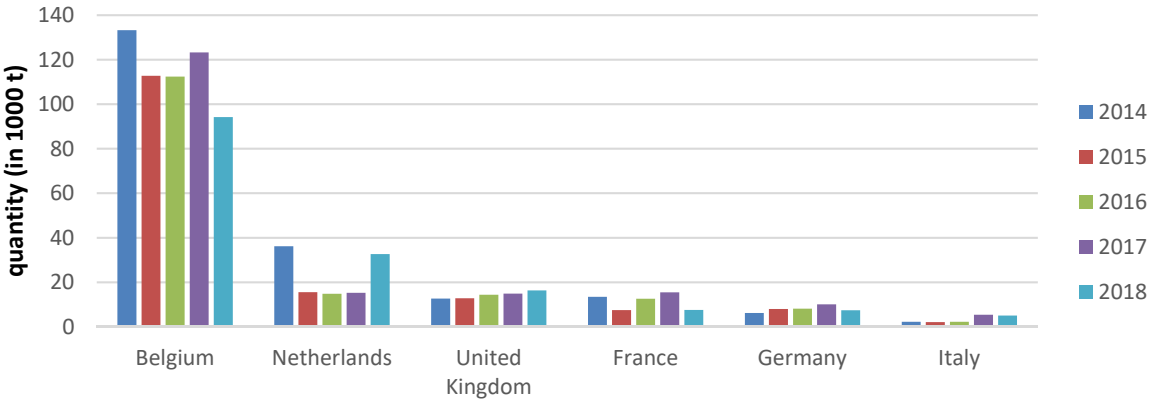


Fig. 38: The main importers of fresh peas in the EU

The total exports to the EU (130,000 t yearly average) are lower than the total imports (190,000 t). **France** is the leader of these exports with around 50 % of the total exports (see Fig. 39). Its main buyer is Belgium. The self-sufficiency of fresh pea is estimated to be almost 100 %. This is higher than for fresh bean with 85 %.

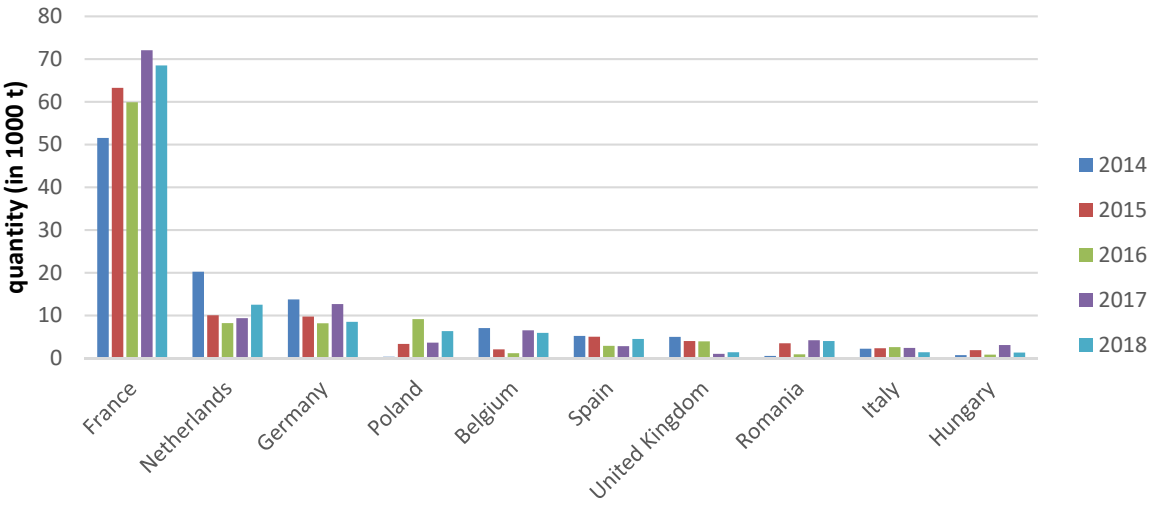


Fig. 39: The main exporters of fresh peas in the EU

3.9 Legume crops for whole plant harvesting

3.9.1 Forage legumes

Legume crops for whole plant harvesting (also known as forage legumes) include the small-seeded legumes. For this range of legumes, the whole plant is harvested and fed freshly or preserved (silage or hay). Concerning alfalfa, drying and pelleting (both with high energy requirements) are alternatives of preserving these crops. Italy accounts for 45 % of the EU-production and is the leading producer of forage legumes in the EU. France (11 %), Spain (11 %) and Germany (8 %) follow (see Fig. 40). As forage legumes have to be fed or preserved directly after cutting, there is hardly any trade over long distances. Their cultivation is only recommended for animal feed. Due to their low worthiness of being transported and expensive storage they are mainly cultivated for farm use.

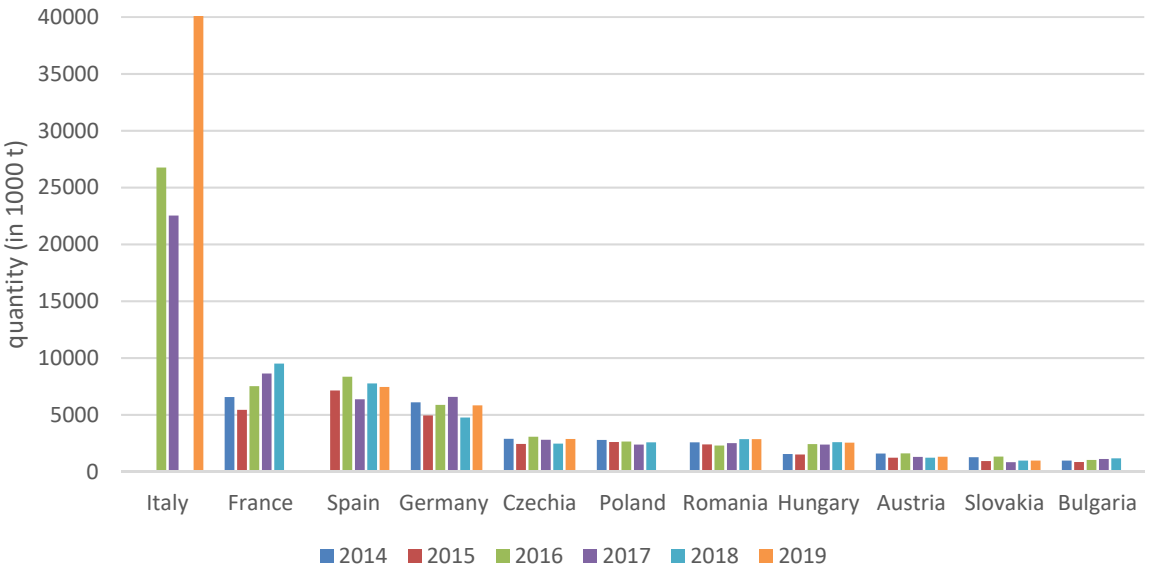


Fig. 40: The main producers of forage legumes in the EU

3.9.2 Alfalfa (*Medicago sativa*)

More than 70 % of forage legumes is alfalfa but there are other fodder legume species like clover (*trifolium*) and sainfoin (*onobrychis*). Due to their valuable feeding properties, such as high-quality protein (amino acids), ß-carotene, many vitamins and minerals, alfalfa is of major importance in horse feeding. Italy is the major producer of alfalfa in the EU, followed by France, Spain, and Germany (see Fig. 41). Unfortunately, there is no data for France and Germany available, due to the fact that alfalfa is the main produced legume for whole plant harvesting, and the statistic institutions do not differentiate them. In Europe, Turkey with a yearly average of 9 Mio.t is the second main producer of alfalfa after Italy (23 Mio.t).

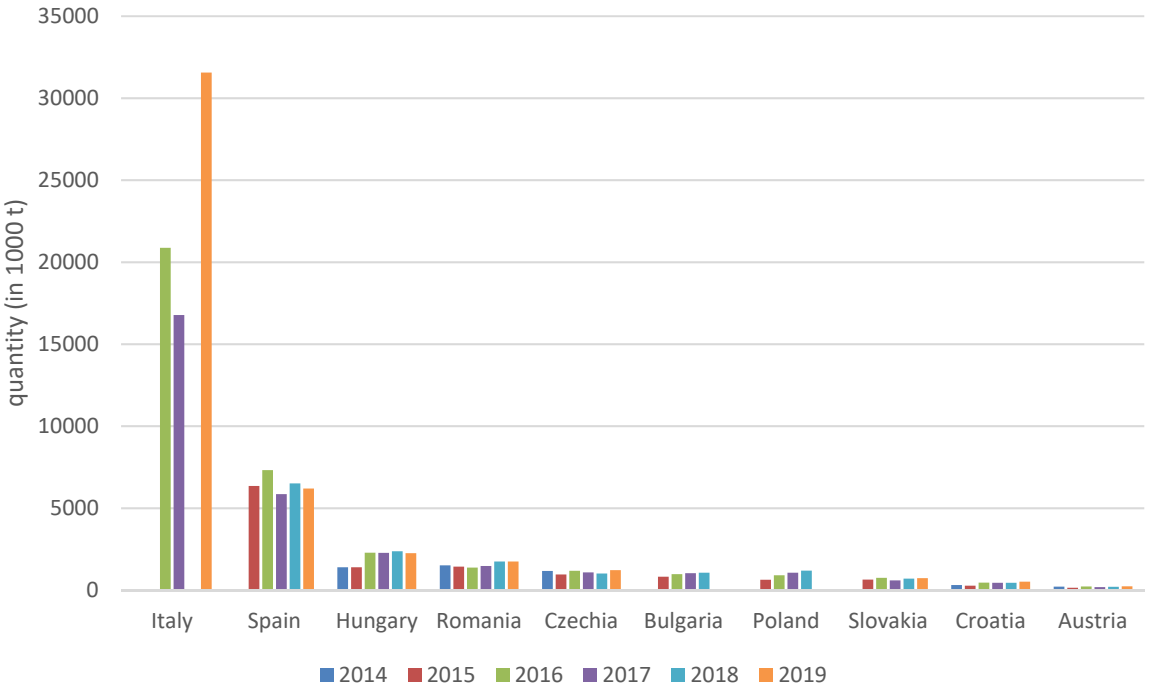


Fig. 41: The main producer of alfalfa in the EU (data for France and Germany are missing)

There is no foreign trade of fresh alfalfa, only on processed products "alfalfa meal and pellets". Therefore, the trade balance (EU-extra export – EU-extra import) of alfalfa meal and pellets in the EU were analysed. Fig. 42 presents the trade and trade balance of alfalfa meal and pellets in the EU. The trade balance of alfalfa meal and pellets is in surplus.

There is an important and increasing trade between the EU countries. France and Spain are the main suppliers for these EU-intra imports, whereby France also imports from Spain. The main importers here are Belgium with a yearly average of total imports amounting to 69,000 t, followed by Germany (68,000 t), France (45,000 t) and the UK 36,000 t. There is no EU-extra import.

The exports are 50 % destined to EU countries and 50 % to non EU-countries. While the intra exports are increasing, the extra exports are decreasing. This signals a potential increase in internal consumption. Regarding EU-extra exports, Spain and France remain the dominating players here. The United Arab Emirates, China, Switzerland, Lebanon, Japan and Morocco are major importers of the EU´s alfalfa meal and pellets.

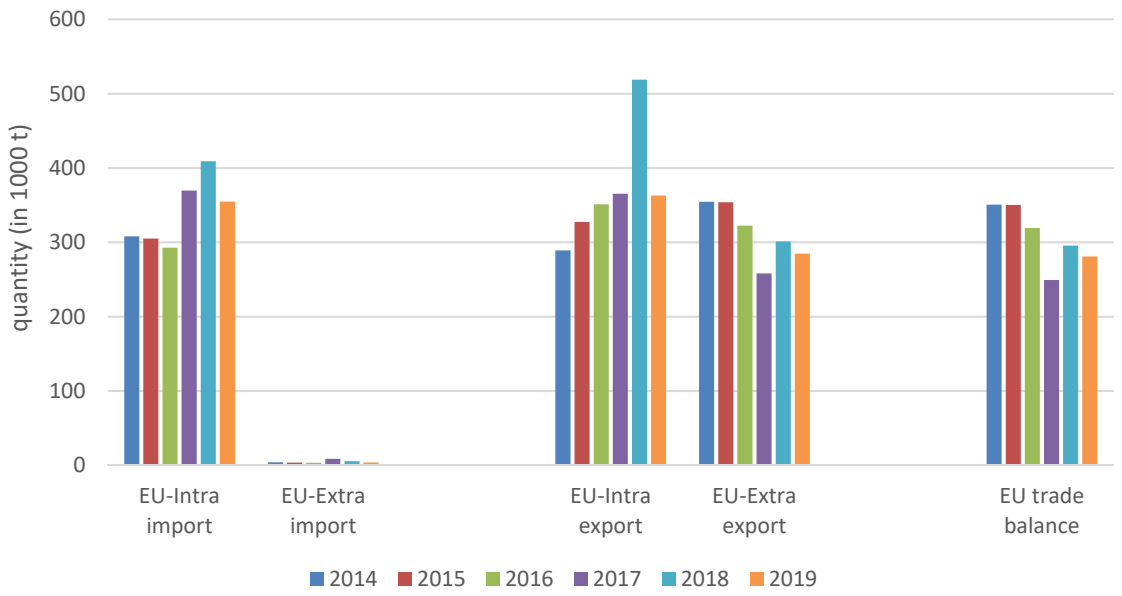


Fig. 42: Trade of alfalfa meal and pellets in the EU

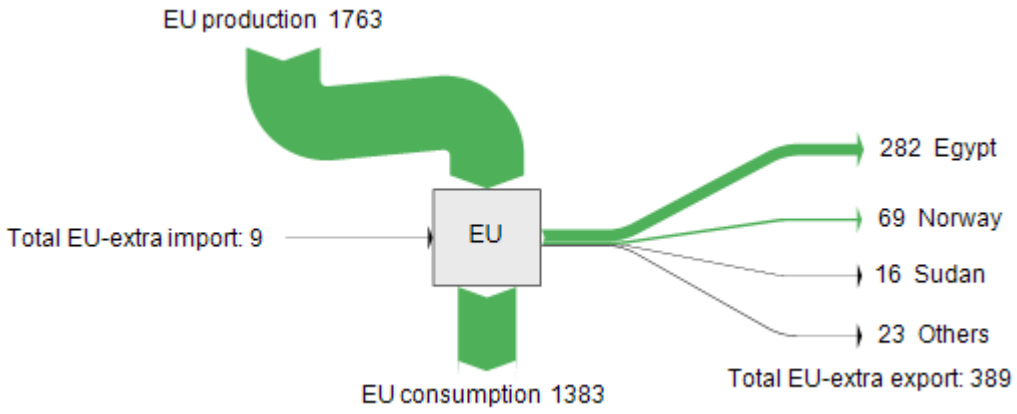
4 Legume specific synthesis

Faba bean: Concentrated in the Northern part of EU with several markets (feed, food and export) and no EU extra imports.

The UK is the main producer and consumer of faba bean in the EU. The main use of faba bean is for feed. The UK, France and Lithuania are the leaders in production and dominate exports in the EU. The main export destination to non-EU member states are Egypt and Sudan for food and Norway for fish feed. Big food processors are exploring to process faba bean for protein isolate production.

There are four categories of countries:

- Countries that use and also export: UK and France
- Countries that mainly export: Lithuania and Latvia
- Countries that are more or less balanced (use of their production): Germany, Italy, Sweden, Poland, Spain and Denmark
- Countries that import from EU-intra: Netherlands and Belgium



Green arrows = increasing trend and black arrows = constant trend.

Fig. 43: Supply balance of faba bean in the EU (Average 2014-2018), in 1000 t

Dry pea: Concentrated in the North Western part of the EU with several markets (feed, increasing demand for food and export) and EU extra imports for feed.

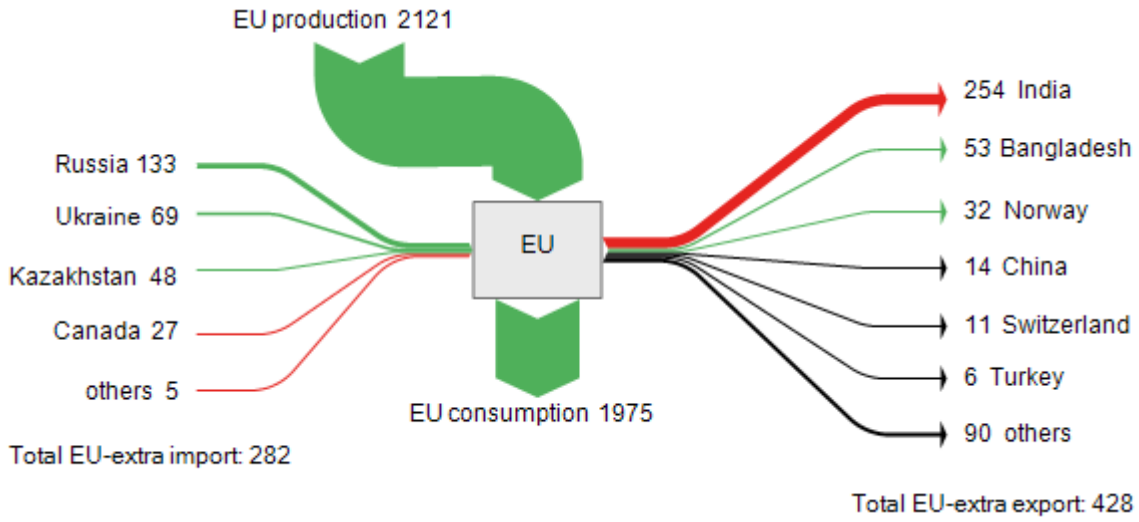
The main producers in the EU are France, Lithuania, Germany, Spain and UK. The main use in the EU remains for feed but soybean meal is a significant competitor in terms of protein supplier. An increasing and more valuable use in food via protein isolate extraction can be observed. Roquette (FR & NL), Amidori (DE), Emsland Group (DE), and Cosucra (BE & DM) are important processing companies of dry pea in the EU. The extracted protein isolates are used by innovative companies like Beyond meat, Veggiemeat, Purvegan and Iglo that have brought new meat alternatives products to the market in recent years.

20 % of the EU production is exported. An attractive market for EU dry pea to India flourished in 2016 and 2017. After the implementation of import taxes in India (50 % at the end of 2017) and a minimum

import price at the end of 2019, directing dry pea to India was no longer profitable for EU exporters. This has led to an increase in EU-intra exports, mainly to Spain. Spain was the largest importer in 2018, with the use for feed due to the growing demand for pork to China. Bangladesh, Norway and China are potential markets for dry pea outside the EU.

There are five categories of countries:

- Countries that use and also export: France
- Countries that mainly export: Lithuania and Romania
- Countries that are more or less balanced (use of their production): Spain, Germany and the UK
- Countries that import from EU-intra: Belgium and Netherlands
- Country that import from EU intra and extra: Italy
  The level of production and uses in all other EU countries are low and not significant.

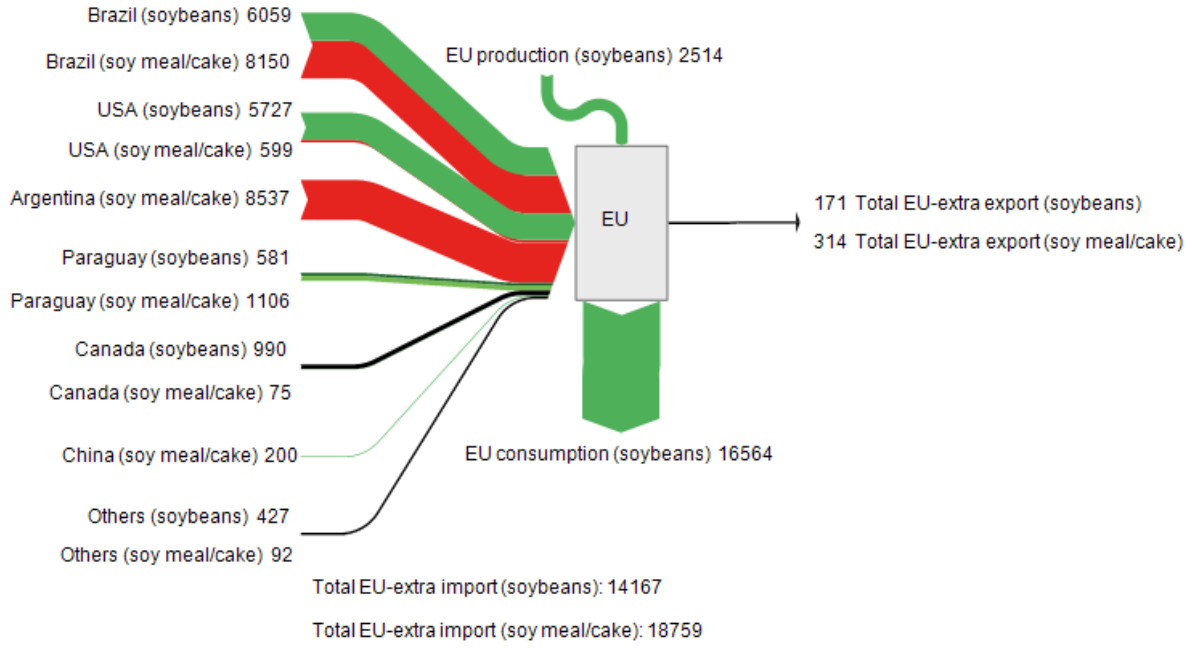


Green arrows = increasing trend, red arrows = decreasing and black arrows = constant trend.

Fig. 44: Supply balance of dry pea in the EU, Average 2014-2018, in 1000 t

Soybeans: Dominated by EU-extra imports but positive trend of the production due to demand of GMO-free soybeans

Italy is by far the largest producer of soybean in the EU with the main use of oil for biofuel. The EU production is GMO-free soybean and it is increasing, for both feed and food. However, this segment for food remains low compared to the feed market. The EU has a high dependency on South- and North-American soybeans, which are to a large extend produced by GMO-varieties. Beside soybean grains, their extracted meal is a major ingredient of compound feed in intensive animal production in the EU. All grain legumes in the EU used for animal feeding strongly depend on the import market for soya. Especially if no distinction is made between GMO-soya and GMO-free grain legumes. This equally applies to faba bean, dry pea and sweet lupine.



Green arrows = increasing trend, red arrows = decreasing and black arrows = constant trend.

Fig. 45: Supply balance of soybean and soy meal in the EU (Average 2014-2018), in 1000 t

Lupine: **a small niche market**

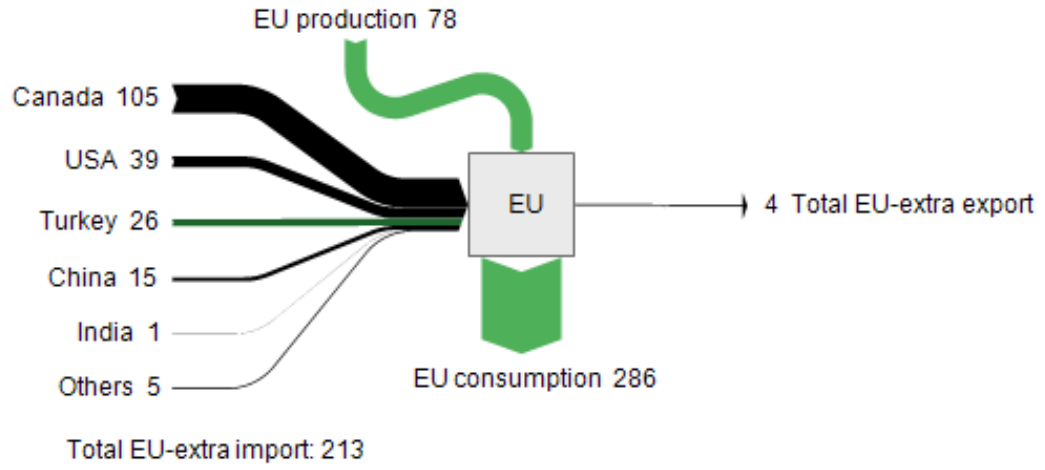
EU production is led by Poland. Blue lupine with a primary use for feed is the lupine produced in highest quantity in the EU. Production showed a continuously decreasing trend in the last five years. The EU consumption is expected to depend on the EU-extra imports, especially from **Australia** with the blue lupine.

Fresh legumes (fresh bean and fresh pea): Towards autonomy in the European countries

Fresh legumes are used exclusively for food. The latest CAP reform had no influence on the production of fresh legumes. Compared to other dry grain legumes, the vegetables legumes fresh bean and fresh pea have a very different, strongly integrated value chain. The self-sufficiency of fresh pea is estimated to be 98 %, even higher than self-sufficiency for fresh beans (85 %). 80 % of the EU-extra imported fresh bean come from Africa, namely **Morocco** and **Kenya**.

Lentil: Dominated by EU extra imports

More than 80 % of the production within the EU is located in France and in Spain. Nearly two thirds of the EU lentil processing is done by three countries: Spain, France and Italy. Only France is closed to become self-sufficient; Spain is half self-sufficient while all other EU countries are dependent on EU-extra imports. Canada, USA and Turkey are the main suppliers of lentil to the EU.

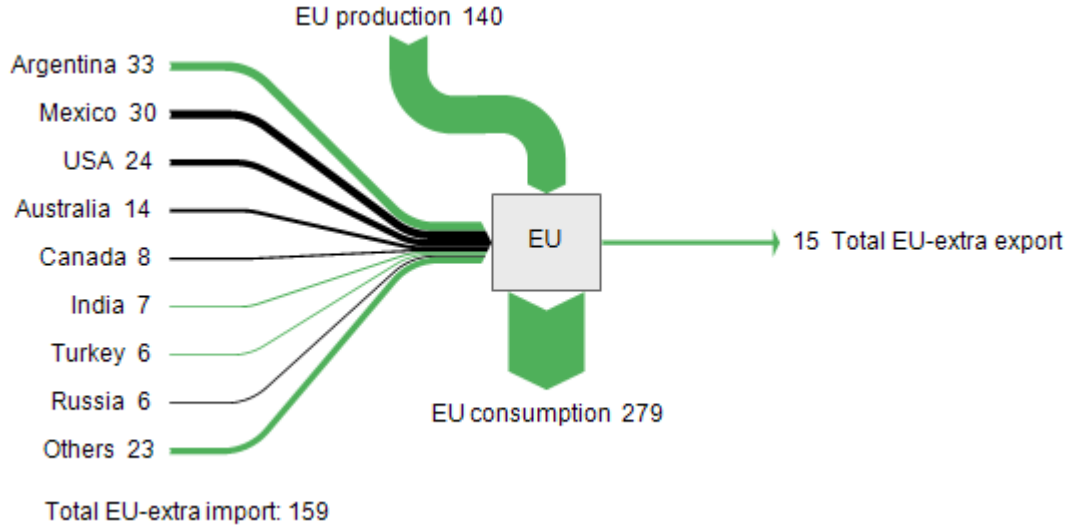


Green arrows = increasing trend, and black arrows = constant trend.

Fig. 46: Supply balance of lentil in the EU (Average 2014-2018), in 1000 t

Chickpea: Dominated by EU extra imports

80 % of European chickpea is produced in Spain and France. One third is used in Spain, this value rises to more than 80 % if Italy, the UK and France are added. France is self-sufficient and could become an exporter within the EU in the coming years. Spain and Italy are half self-sufficient, with a bigger effort to reach the self-sufficiency in Spain. All other countries are dependent from EU extra imports. Argentina, Mexico and the USA are the main suppliers of chickpea to the EU.



Green arrows = increasing trend and black arrows = constant trend.

Fig. 47: Supply balance of chickpea in the EU (Average 2014-2018), in 1000 t

Alfalfa: fodder legume, harvested as whole plant

Italy is by far the leading producer in the EU, followed by France, Spain and Germany. Alfalfa is mainly grown for farm use as feed, there is no foreign trade with harvested alfalfa. However, the dehydrated alfalfa is traded within the EU and outside the EU, with only two actors, namely France and Spain.

In summary, the EU is not yet self-sufficient in legumes. The EU market is characterized by high imports, low production and few exports. What could be the reason for this? This question will be answered in the next chapter using a classified and synthesised table.

5 Influencing factors of the supply and demand of legumes in the EU

Tab. 4 presents a list of some influencing factors on the legume market in the EU. Some of these factors are illustrated below the Tab. 4. Some factors listed here are specific for certain legume crops and are not influencing all species. These factors are market specific and are the keys that could help to improve the market situation of legumes in the EU. Other categories of factors like agronomic and political factors are deeply studied in other work packages (WPs) of LegValue project: WP1 for agronomy and WP4 for policies.

Tab. 4: Influencing factors on the legume market in the EU

	Positive	Negative	non classified
Supply		less breeding progress in the past	
		yield instability*	
	policy measures*	Lack of market organisation*	
	large farm sizes	diseases and pests (e.g. bruchid beetles)	
	legumes networks*	restriction in some policy measures	weather conditions*
	agronomic (breaking pest cycles, soil fertility, …)	Subsidising legume cultivation*	niche sector
	Contracts farming along the value chains	low producer prices*	fertiliser directive*
	strong coordination between actors in value chains	lack of competitiveness regarding imports	
		lack of knowledge on potential end uses	
		lack of value for the delivery of ecosystem services*	
		lack of coordination between actors in value chains	
Demand	GMO-free* ; gluten free	substitutes (e.g. imported soybeans)	
	higher protein content	high prices / Willingness to pay (food)*	
	consumption as meat alternative	acceptance in compound feed	
	food services*	quality (post-harvest treatment)	
	PDO (Protected Designation of Origin)*	variation of protein content	Farm use*
	Regionality (local food)	suboptimal storage capacity for legumes*	
	increasing demand of the food industries	plant pest (bean seed beetle)	
	well adapted for organic farming	no guarantee of a constant availability	
	biodiesel without rapeseed*	lack of Public awareness of the benefits of legumes	
	lower phosphorus content*	market segmentation*	
		limited processing facilities*	

*: are illustrated in the text before. The rest (without *) is scattered throughout the report.

Positive factors that affected the supply:

- Time-series statistics suggest that **policy measures** like requirements for ecological focus areas (EFA) and second pillar crop rotation diversification programs are a lever for growing legumes in the EU. On the other hand, there are many farmers in the EU for whom specific policy measures do not incentivize legume cultivation. Organic farmers are heavily incentivized to grow legumes as they have very few options to get nitrogen into their crop rotations.
- Grain legumes are mainly grown in farms with **large farm sizes.** According to a survey done by Eurostat in 2013, 91 % of dry legumes' cultivation in the EU is done by farms with over 10 ha of arable land (DE CICCO, 2016). There are possibly many farm managers in the EU interested in legumes, but most of them own farms with a total area of less than 10 hectares, in which it would be difficult to introduce grain legumes with limited shares in the crop rotation. This could further explain why the share of cultivated area of dry legumes in the EU is only around 2 % of the total arable land. Furthermore, the EFA´s regulation requires farmers with arable land exceeding 15 ha to ensure that at least 5 % of the areas considered as ecological focus area (EUROPEAN COMMISSION, 2017; KOOTSTRA ET AL., 2017). For small farms, the absolute acreage of legumes would become very small making their cultivation costly due to a lack of economies of scale. The long cultivation break of legumes, up to six years, may also mentioned here as further explanation.
- The creation and support of national **legumes networks** could help to increase the EU production and uses. These networks could help to increase the awareness of legumes advantages and accompanying farmers in the planning of their crop rotation up to the point of sale. These networks are also helpful for collectors, processors, food industries and the other actors involved in the supply chain. The networks "DemoNetErBo" for peas and faba beans, "Soja-Netzwerk" and "Lupinen-Netzwerk" are example in case of Germany.

Negative factors that affected the supply:

- The **yield instability** indicates a need of genetic improvement of varieties well adapted to the EU conditions.
- **Lack of market organisation** for the production to meet the demand.
- **Subsidising legume cultivation** might lead to lower market prices as buyers of legumes in **oligopolistic markets** consider these highly transparent subsidies in their price formation, which is characterised by market power led price setting. As a result, producer prices are lowered. Therefore, supply subsidies alone will not efficiently contribute to the development of legumes on the market and might even produce counter-intuitive effects.
- The **low producer prices** that the farmers receive for their legumes, especially for faba bean and dry pea, do not motivate them to increase the share of legumes in their crop rotation. These lower prices are often fixed to the purpose of animal feeding. Although these legumes are also processed for food purposes, this value adding is not reflected in the official / published price reporting.
- Another aspect is the fact that the farmers not really take into account the delivery of the **ecosystem services provided** by legumes to the cropping system. This aspect is worked out in the deliverable 3.4 that will be published at a later stage of the project LegValue.

Positive factors that affect the demand:

- Demand for **GMO-free** animal feed production could spur EU grain legume and soybean cultivation.
- **PDO** (Protected Designation of Origin) or **PGI** (Protected Geographical Origin) guarantee the originality and the quality of the products. Therefore, the PDI-varieties achieve higher prices. In Spain e.g., these quality standards, which are more numerous in the dry bean sector, represent a traditional and valued market there. A list of all legumes PDO in the EU can be found in annex 8.
- **Food services** or **catering** can play a key role for the market development of legumes in the EU by creating and developing new value chains. Institutional food services (like canteens at universities, schools, in kindergartens, in hospitals, at works places) have a stronger influence on food habits, rather than the profit-oriented sector (restaurants). These factors have been studied in deliverable 4.4 of the project TRUE (HAMANN ET AL., 2018) and the deliverable 2.5 of LegValue (MAGRINI & FERNANDEZ-INIGO, 2020).
- **Reduction of rapeseed oil as an admixture of biodiesel** as from 2020 should be seen as a driving force for the expansion of legume cultivation in the EU. The resulting lower oilseed rape cultivation would lead to the reduced availability of rapeseed meal. As a consequence, higher prices for rapeseed meal due to the lower supply would make grain legumes as substitutes more competitive. Therefore, the demand of grain legumes in compound feed might increase.
- The **low content of phosphorus in grain legumes** is another driving force for their use in compound feed. Organic fertilization with residues of animals fed on legume-based compound feed reduces eutrophication and has advantages with regard to legal fertilization regulation. The phosphorus (P) content on the basis of dry matter of rapeseed meal (12.5 % P) and soybean meal (7.2 % P) are higher than those for faba beans (5.5 % P), dry pea (4.6 % P) and lupine (5.6 % P for the yellow lupine, 4.5 % P for the white lupine and 3.2 % P for the blue lupine) (PRIES, 2015; STAUDACHER & POTTHASST, 2014).

Negative factors that affect the demand:

- **High prices and limited willingness to pay of the customers** is an obstacle in the market for legumes in the food sector. Deliverable D5.3 of the project LegValue shows that the increasing changing in the society, by further increase awareness of consumers to eat sustainably, will increase the demand of plant based protein products. This will lead to the increase of the supply of plant protein isolate, as well as lower costs of these products. New products are often more expensive initially, and begin to become cheaper when they are very popular and widely sold. Also increasing price competition leads to lower prices as markets mature.
- The **suboptimal storage capacity with legumes** is explained by the fact that the storage capacities are not used up with legumes. Bundling quantities reduces transaction costs for trading companies and gives them incentives to offer higher prices. The Association "Rheinische Ackerbohne" in Germany offers these services to their members who produced faba bean (STUTE ET AL, 2019).
- **Market segmentation** through a missing link between production and use limits the development.

- **Limited processing facilities** that increase the value of legumes, and consequently the price paid to the farmers.

Factors that could have positive or negative influence on supply and demand of legumes:

- The tightened **fertilizer directive** can highlight a bilateral effect (positive or negative) on legume production depending on regional livestock intensities. If it affects the decline in animal production, it could be considered as a lever for the use of legumes in human nutrition, because the less available animal protein is replaced by plant-based protein sources. Secondly, especially in regions with a high livestock density a surplus of organic fertilizers will have a rather negative effect on the area under legumes as the high amounts of nitrogen present cannot be applied to legumes and less nitrogen fertiliser can be used for the subsequent crop of legumes. Therefore, the introduction of legumes in crop rotation will not be attractive and the legume production will be low in regions with high livestock density.
- Depending on the years, the **weather** can play a positive or negative influence on the legumes supply.
- The **farm use** as it is defined in chapter 2 (Methods) enclosed the intra-use and inter-use. This represents a part of the production which does not fit into the market. Tab. 5 shows the share of farm use in percent of the total legumes production in some countries. The farm use in in the EU is seen as a lever for the supply because of its profitability for the farmer (without trading margin). On the other side it is seen as hindrance of the development of legume market because legumes like dry pea and faba bean have more potential in food sector, instead of the use for feed by "farm use".

Tab. 5: Farm use in % of the legumes production

	dry pea	faba bean	soybeans	Sources
France	25	25	15	FranceAgriMer (2014-20189)
Germany	55	65		Kezeya Sepngang et al. (2018)
UK		15-20		Expert´s estimations (2018)
Spain	20	20		MAPA (2019)
Lithuania	< 10	< 10		Estimations

6 Outlook

Legume markets will continue to depend on many factors. An important foreign trade that strongly varies depending on the legume types animates the legume market in the EU. These EU-intra and EU-extra trade are necessary to cover the demands in the different countries. The often declared goal of "reaching self-sufficiency" cannot be an objective in itself in an interdependent and closely connected world. Besides its direct and indirect food producing function, increased legume production should be based on its contribution to the provision of public goods. Trying to increase the production of grain legumes like lentil and chickpea in the EU is a good thing, especially regarding the biodiversity (agronomic), although they can be imported. From a marketing point of view, it would be more efficient to focus on legume crops that are well adapted to the European climate conditions taking account of favourable production conditions. The short-term conflicting interests between individual financial farm interests and broader welfare aspects in society should be further discussed to internalise the external effects of legume production.

International trade flows are volatile as the collapse of legumes exports to India due to tax barriers have shown. In order for the EU legume market to develop the market and policy incentives have to be aligned to efficiency considerations that take into account external effects. Within the Green Deal and specifically the farm-to-fork strategy of the EU, higher importance will be placed on climate mitigation policies. In this context, taxing GHG-emissions or acquiring CO_2-certificates for GHG-emissions will probably be implemented into the agricultural sector. Taxing imported legumes based on their GHG-emissions might become an option to give domestic grain legumes a cutting advantage over imports. Import barriers might become feasible in combination with Green Deal policies of the EU requiring all products in the EU to reflect their climate impacts. Therefore taxing soybean imports based on their climate impacts might be an option as soon as agricultural production including legume cultivation becomes part of the ETS-system (emission trading system) of the EU. However, introducing import tariffs on soybeans or soybean meal disconnected from GHG-emissions would provoke retaliating trade barriers by soybean exporting countries and is not a promising venue for promoting grain legumes in the EU.

Contract cultivation over several years guarantees a long-term and continuous availability of raw materials in niche markets. However, EU farmers do not always prefer these markets. With the permanent change of rules in the agricultural sector and the entry of start-ups in the food sector with higher remuneration than for feed, one-year cultivation contracts are currently preferred in the EU. Once these niches grow and develop into larger market segments, specific contract arrangements might be replaced by more general forward contracting as in other major crops.

Food transformation towards less animal-based products and more plant-based diets for ethical, health and climate reasons is an important driver of the market development of legumes. Innovative food companies and start-ups that focus on the process and use of grain legumes drive this market development. The increasing demand on plant based products, as meat and milk alternatives will insure the durability of these investors in the food sector.

Niche markets are lucrative markets for the actors being active in these small market segments. Increasing market transparency on these niche markets inherently risks destroying these niche markets. But this will not affect the PDOs. Since the asymmetric market information is in advantage for some stakeholders and not for others (like farmers), a **transparent price setting systems** in the

legumes market will be helpful, principally to farmers. Furthermore, the development and use of price indicators could facilitate legumes´ trade as value-adding potentials would be more transparent.

It is difficult to get qualitative data for such a market analyses. The **confidentiality** of information was a strategical reason of many stakeholder to avoid the discussion. The inaccurate data is certainly also due to the fact that many legumes are niche products. The particular legume species are sometimes so insignificant that they are not even recorded statistically. One possible solution to enhance the data availability is the constant request of statistical data concerning legumes. A constant availability of data could simplify the update of such a report. Nevertheless, there is an interest of updating this report annually. In view of the development and regular changes on the markets for legumes in the EU, it would be crucial to update this report or this type of report every year. This will allow stakeholders to have an up-to-date overview of the market situation. Suitable formats and institutional settings for regular EU-legume market up-dates have to be developed.

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Appendix

This chapter encloses data about the production, import, export, consumption and self-sufficiency. A clear differentiation between EU-intra and EU-extra trade is highlighted in following tables. The data are mainly from Eurostat, ITC, FAOSTAT and other national databases. The consumption and self-sufficiency are calculated, see chapter 2 (Method). The red written "ITC-Data" is used as control. The selected countries for each species are ordered alphabetically and are selected based on the importance of at least one of the factors mentioned above. * for 2019 (2019*) means that the data were not stabilised when they were collected from the different data bases.

Annex 1: Production and trade of faba bean in EU and some EU countries (in 1000 t)

European Union

Production and trade of faba bean in the EU (in 1000 t)								
		2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production		1270,2	1952,4	1954,3	2190,1	1445,5	1734,0	1762,5
Imports	EU-intra	47,9	94,7	106,3	182,7	294,6		145,3
	EU-extra	9,7	8,6	10,7	9,5	8,5	8,7	9,4
	Total imports	57,7	103,3	117,1	192,3	303,2		154,7
Exports	EU-intra	35,8	99,0	108,9	154,3	172,6		114,1
	EU-extra	266,5	352,9	481,5	359,6	485,9	332,3	389,3
	Total exports	302,3	451,9	590,4	513,9	658,5		503,4
EU Consumption		1013,4	1608,1	1483,5	1840,0	968,2	1410,4	1382,6
EU Self-sufficiency		1,3	1,2	1,3	1,2	1,5	1,2	1,3

The main EU-extra export of faba bean (in 1000 t)							
Countries	Destinations	2014	2015	2016	2017	2018	Average (2014-2018)
UK	Egypt	107,2	149,2	145,1	72,2	45,2	103,8
Lithuania		6,9	47,8	136,9	91,5	127,1	82,0
Latvia			7,8	49,5	49,8	132,1	59,8
France		111,8	53,0	12,3	8,2	0,3	37,1
Germany		0,1	0,5	2,1	0,5	11,9	3,0
other		24,0		14,3			
	Total	**258,3**	**258,3**	**363,7**	**222,3**	**316,6**	**284,0**
France	Norway	25,9	32,5	56,7	59,7	41,7	43,3
Denmark			0,1		2,9	31,9	11,6
UK		1,2		1,1	17,7	18,3	9,6
Lithuania			1,4	2,4	4,1	7,2	3,8
other		0,0	3,3	3,3	4,6	27,1	2,1
	Total	**27,1**	**37,2**	**63,4**	**89,1**	**126,1**	**68,6**

Country specific tables

Production and foreign trade of faba bean in Belgium (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	2,6	3,5	3,4	4,6		2,8
Imports	**EU-intra**		**1,1**	**1,4**	**3,2**	**10,8**	**28,6**	**5,8**	9,0
	Ranking for the year 2018	Netherlands	0,1	0,1	0,3	1,5	23,6	2,6	5,1
		France	0,7	0,5	1,9	7,5	3,7	1,8	2,9
		UK	0,3	0,6	0,6	1,5	1,1	1,3	0,8
	EU-extra		**0,1**	**0,0**	**0,1**	**0,1**	**0,1**	**0,1**	0,1
	Total imports		**1,2**	**1,5**	**3,4**	**11,0**	**28,6**	**5,9**	9,1
	ITC-Data		1,2	1,4	3,2	11,0	28,6	5,9	9,1
Exports	**EU-intra**		**0,2**	**0,2**	**0,3**	**5,4**	**9,4**	**6,0**	3,1
	Ranking for the year 2018	Netherlands	0,1	0,0	0,0	2,0	7,2	5,5	1,9
		France	0,0	0,0	0,1	3,3	2,1	0,3	1,1
	EU-extra		**0,0**	**0,0**	**0,0**	**0,1**	**17,7**	**0,0**	3,6
		Norway				0,0	17,7		8,9
	Total exports		**0,2**	**0,2**	**0,4**	**5,4**	**27,2**	**6,0**	6,7
	ITC-Data		0,2	0,2	0,4	5,5	27,2	6,0	6,7
National consumption			1,0	3,9	6,4	9,0	6,1		5,3
Self-sufficiency			0,0	0,7	0,5	0,4	0,8		0,5

Production and foreign trade of faba bean in Denmark (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			16,2	30,0	37,9	65,0	69,7	67,0	43,8
Imports	**EU-intra**		**0,5**	**1,6**	**5,3**	**1,0**	**38,0**	**24,1**	9,3
	Ranking for the year 2018	UK	0,0				19,5	11,0	9,8
		France					8,8	8,9	8,8
		Lithuania		0,0		0,5	5,0		1,8
		Poland	0,1				2,1		1,1
		Sweden	0,2	1,1	3,8	0,5	1,3	0,9	1,4
		Germany		0,5	0,0	0,0	1,2	3,4	0,4
	EU-extra		**0,0**	**0,3**	**0,0**	**0,0**	**0,0**	**0,6**	0,1
	Total imports		**0,5**	**1,9**	**5,3**	**1,0**	**38,0**	**24,7**	9,3
	ITC-Data		0,5	1,9	5,1	1,0	38,0	24,7	9,3
Exports	**EU-intra**		**0,4**	**1,3**	**1,1**	**2,1**	**1,1**	**10,4**	1,2
	EU-extra			**0,1**	**0,0**	**3,0**	**32,2**	**13,5**	8,8
		Norway		0,1		2,9	31,9	13,5	11,6
	Total exports		**0,4**	**1,4**	**1,1**	**5,2**	**33,3**	**23,9**	8,3
	ITC-Data		0,4	1,4	1,0	5,2	33,3	23,9	8,2
National consumption			16,3	30,5	42,0	60,9	74,4	67,8	44,8
Self-sufficiency			1,0	1,0	0,9	1,1	0,9	1,0	1,0

Production and foreign trade of faba bean in France (in 1000 t)									
			2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production			278,7	251,4	197,7	199,1	147,3	176,0	214,8
Imports	**EU-intra**		**14,4**	**12,1**	**8,7**	**21,6**	**27,3**	**30,1**	16,8
	Ranking for the year 2018	UK	0,1	0,2	4,8	12,7	24,9	27,4	8,6
		Italy	0,7	1,1	1,3	1,3	1,2	1,4	1,1
		Spain	1,0	1,0	1,5	1,0	1,0	1,0	1,1
	EU-extra		**0,6**	**0,5**	**0,3**	**0,6**	**0,5**	**0,3**	0,5
	Total imports		**15,0**	**12,6**	**9,0**	**22,1**	**27,9**	**30,4**	17,3
	ITC-Data		15,0	12,6	9,0	22,1	27,9	30,4	17,3
Exports	**EU-intra**		**11,9**	**12,4**	**23,2**	**31,5**	**18,0**	**11,0**	19,4
	Ranking for the year 2018	Italy	5,2	6,2	7,7	7,5	6,9	4,7	6,7
		Netherlands	0,8	0,5	6,8	9,7	4,5	2,3	4,5
		Belgium	3,0	3,5	5,2	9,6	3,1	2,5	4,9
		Spain	2,7	2,1	2,1	4,0	2,9	1,5	2,7
	EU-extra		**137,8**	**85,5**	**69,0**	**70,2**	**42,7**	**35,4**	81,0
	Ranking for the year 2018	Norway	25,9	32,5	56,7	59,7	41,7	27,1	43,3
		Egypt	111,8	53,0	12,3	8,2	0,3	6,2	37,1
	Total exports		**149,7**	**97,9**	**92,3**	**101,7**	**60,7**	**46,4**	100,5
	ITC-Data		149,6	97,9	92,3	101,7	60,7	46,4	100,5
National consumption			144,1	166,1	114,5	119,4	114,4	160,0	131,7
Self-sufficiency			1,9	1,5	1,7	1,7	1,3	1,1	1,6

Production and foreign trade of faba bean in Germany (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			87,6	133,2	153,7	188,8	160,8	165,4	144,8
Imports	**EU-intra**		**1,5**	**3,4**	**7,9**	**10,7**	**25,5**	**46,3**	9,8
	Ranking for the year 2018	UK		0,0	0,2	0,3	13,1	24,1	3,4
		Lithuania	0,5	0,7	2,4	5,6	5,4	4,7	2,9
		Poland	0,5	0,6	0,9	2,1	3,2	11,5	1,5
	EU-extra		**0,1**	**0,2**	**0,3**	**0,3**	**0,2**	**0,3**	0,2
	Total imports		**1,6**	**3,7**	**8,2**	**10,9**	**25,7**	**46,6**	10,0
	ITC-Data		1,6	3,7	7,9	10,9	25,5	46,6	9,9
Exports	**EU-intra**		**3,3**	**9,2**	**9,7**	**10,4**	**19,7**	**8,8**	10,5
	Ranking for the year 2018	Italy	1,3	4,8	3,5	6,4	13,3	4,0	5,8
		Austria	0,1	0,8	1,8	2,0	2,7	1,8	1,5
		Netherlands	1,2	1,8	2,3	0,6	1,9	1,9	1,6
	EU-extra		**0,5**	**0,9**	**2,4**	**1,0**	**13,7**	**40,5**	3,7
	Ranking for the year 2018	Egypt	0,1	0,5	2,1	0,5	11,9	35,3	3,0
		Saudi Arabia					1,0	1,0	1,0
		Switzerland	0,3	0,4	0,3	0,5	0,4	0,4	0,4
	Total exports		**3,8**	**10,1**	**12,2**	**11,4**	**33,4**	**49,3**	14,2
	ITC-Data		3,8	10,1	12,1	11,4	33,0	49,3	14,1
National consumption			85,4	126,7	149,5	188,3	153,3	162,7	140,6
Self-sufficiency			1,0	1,1	1,0	1,0	1,0	1,0	1,0

Production and foreign trade of faba bean in Italy (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			85,8	92,0	111,7	103,9	113,6	132,0	101,4
Imports	**EU-intra**		**8,9**	**31,3**	**17,3**	**46,1**	**29,3**	**17,6**	26,6
	Ranking for the year 2017	Lithuania		6,6	5,5	14,1			8,7
		France	5,5	7,6	7,4	12,6	6,7	4,7	7,4
		UK		3,1		10,2	13,8	3,6	7,7
		Germany	2,9	3,5	3,4	4,9	7,9	2,8	4,2
		Poland	0,1	0,0	0,0	3,3	0,0	0,0	0,6
	EU-extra		**4,4**	**3,3**	**4,0**	**4,4**	**3,7**	**3,1**	3,9
	Ranking for the year 2017	Egypt	2,4	1,6	1,8	2,6	2,1	1,8	2,1
		Morocco	0,7	0,7	0,5	0,7	0,8	0,6	0,7
	Total imports		**13,3**	**34,6**	**21,3**	**50,5**	**33,0**	**20,8**	30,5
	ITC-Data		13,3	34,6	21,3	50,5	33,0	20,8	28,9
Exports	**EU-intra**		**2,1**	**7,3**	**6,5**	**2,1**	**1,3**	**1,4**	3,9
	EU-extra		**0,3**	**0,2**	**0,1**	**0,1**	**0,1**	**0,1**	0,1
	Total exports		**2,4**	**7,5**	**6,6**	**2,2**	**1,4**	**1,5**	4,0
	ITC-Data		2,4	5,9	6,6	2,2	1,4	1,5	3,3
National consumption			96,7	120,6	126,5	152,2	145,2	151,3	128,3
Self-sufficiency			0,9	0,8	0,9	0,7	0,8	0,9	0,8

Production and foreign trade of faba bean in Latvia (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			23,6	86,8	100,3	140,7	81,2		86,5
Imports	**EU-intra**		**0,2**	**21,0**	**14,6**	**17,7**	**28,2**		16,3
	Ranking for the year 2018	Lithuania	0,1	8,7	11,5	11,3	13,1	4,5	8,2
		Denmark		0,1	0,0	0,1	3,3		0,9
		Estonia		0,1	0,7	2,3	0,7	1,1	1,0
	EU-extra		**no data**	**no data**	**no data**	**no data**	**no data**	**0,0**	
	Total import (ITC)		0,2	9,0	12,4	14,2	17,1	5,6	9,7
Exports	**EU-intra**		**4,6**	**21,8**	**10,5**	**11,9**	**6,2**	**0,9**	11,0
	EU-extra			**21,3**	**56,9**	**52,1**	**151,1**	**60,2**	70,3
	Ranking for the year 2018	Egypt		7,8	49,5	49,8	132,1	58,6	59,6
		Norway		1,4			4,7	1,6	
		Morocco					3,3		
	Total exports		**4,6**	**43,1**	**67,3**	**64,0**	**157,4**		67,3
	ITC-Data		4,6	31,1	64,4	61,8	146,3	61,1	61,5
National consumption			19,2	64,7	48,3	93,1	-48,0		35,5
Self-sufficiency			1,2	1,3	2,1	1,5	1,7		1,6

Production and foreign trade of faba bean in Lithuania (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			62,5	192,5	209,3	229,8	149,7	119,0	168,7
Imports	**EU-intra**		**0,7**	**1,3**	**4,1**	**8,4**	**10,3**	**14,2**	4,9
	Ranking for the year 2018	Latvia	0,1	1,0	3,9	7,7	5,3	3,7	3,6
		Estonia		0,1	0,1	0,5	2,1	2,9	0,7
		Denmark	0,0	0,0	0,0	0,0	2,1	2,8	0,4
	EU-extra		**0,0**	**0,0**	**0,0**	**0,0**		**0,0**	0,0
	Total imports		**0,7**	**1,3**	**4,1**	**8,4**	**10,3**	**14,2**	4,9
	ITC-Data		0,7	1,3	4,1	8,4	10,3	14,2	4,9
Exports	**EU-intra**		**1,0**	**30,5**	**17,7**	**33,4**	**53,0**	**14,7**	27,1
	Ranking for the year 2018	Latvia	0,3	11,9	13,7	10,1	24,8	10,5	12,1
		Denmark					11,3	0,0	11,3
		Italy		6,6		4,0	3,6	0,0	4,7
		Netherlands	0,2	2,1	0,1	2,1	2,4	1,3	1,4
		Germany	0,3	0,6	1,3	1,9	2,2	0,9	1,2
	EU-extra		**6,9**	**51,6**	**147,0**	**96,1**	**135,9**	**77,4**	87,5
	Ranking for the year 2018	Egypt	6,9	47,8	136,9	91,5	127,1	72,1	82,0
		Norway		1,4	2,4	4,1	7,2	0,0	3,8
		Saudi Arabia				0,1	1,0	0,0	0,6
	Total exports		**7,9**	**82,2**	**164,8**	**129,4**	**188,9**	**92,1**	114,6
	ITC-Data		7,9	82,2	164,8	129,4	183,8	92,1	113,6
National consumption			55,3	111,6	48,6	108,7	-23,8	41,1	60,1
Self-sufficiency			1,1	1,7	4,3	2,1	-6,3	2,9	0,6

Production and foreign trade of faba bean in Netherlands (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	0,0	0,0	0,0	0,0	0,0	0,0
Imports	**EU-intra**		**1,6**	**2,1**	**11,9**	**20,9**	**29,9**		13,3
	Ranking for the year 2018	UK	1,2	0,0	0,0	0,2	24,8	14,4	5,3
		Poland		0,1	4,3	2,8	1,8	1,3	2,3
		Germany	0,2	0,4	0,3	0,4	1,8	0,9	0,6
		Lithuania	1,5	1,2	6,4	15,2	0,5	0,1	4,9
	EU-extra		**0,1**	**0,1**	**0,1**	**0,1**	**0,0**		0,1
	Total imports		**1,7**	**2,1**	**12,0**	**21,0**	**29,9**		13,4
	ITC-Data		3,1	2,3	12,3	21,2	29,9	19,2	13,8
Exports	**EU-intra**		**0,7**	**0,6**	**1,1**	**0,7**	**3,2**		1,3
	Ranking for the year 2018	Belgium	0,1	0,1	0,4	0,2	2,8	0,5	0,7
		Germany	0,3	3,5	2,1	0,4	0,2	4,6	1,3
	EU-extra		**0,1**	**0,0**	**0,0**	**0,1**	**0,0**	**0,1**	0,1
	Total exports		**0,8**	**0,6**	**1,2**	**0,8**	**3,2**		1,3
	ITC-Data		1,0	4,1	3,1	0,7	3,2	5,5	2,4
National consumption			2,1	-1,8	9,2	20,5	26,7	13,7	11,3
Self-sufficiency			0,0	0,0	0,0	0,0	0,0	0,0	0,0

Production and foreign trade of faba bean in Poland (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			37,5	84,8	88,5	82,2	81,8	71,0	75,0
Imports	**EU-intra**		**0,0**	**0,0**	**0,7**	**1,9**	**1,9**	**0,3**	0,9
	EU-extra			**0,0**	**0,1**			**0,1**	
	Total imports		**0,0**	**0,0**	**0,8**	**1,9**	**1,9**	**0,4**	0,9
	ITC-Data		0,0	0,0	0,8	1,7	1,9	0,4	0,8
Exports	**EU-intra**		**3,8**	**5,0**	**2,5**	**7,4**	**4,5**	**13,9**	4,6
	Ranking for the year 2019	Germany	0,0	0,1	0,4	2,5	0,9	10,3	0,8
		Netherlands	0,0	0,1	6,4	0,6	2,2	2,1	1,9
	EU-extra		**0,0**	**0,6**	**11,6**	**1,5**	**2,1**	**6,5**	3,1
	Ranking for the year 2016	Egypt	24,0		10,8				
		Norway			0,7	1,4	2,1	5,7	
	Total exports		**3,9**	**5,7**	**14,0**	**8,8**	**6,6**	**20,4**	7,8
	ITC-Data		3,9	5,7	18,9	8,7	6,6	20,4	10,7
National consumption			33,6	79,2	70,4	75,2	77,1	51,1	67,1
Self-sufficiency			1,1	1,1	1,3	1,1	1,1	1,4	1,1

Production and foreign trade of faba bean in Spain (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			38,9	65,5	53,6	48,5	43,2	31,0	50,0
Imports	EU-intra		**14,8**	**15,1**	**21,7**	**30,7**	**14,6**	**27,5**	19,4
	Ranking for the year 2018	UK	4,4	4,4	15,2	21,3	7,3	22,5	10,5
		Latvia	3,0	4,3	3,9		3,4		3,6
		France	2,2	1,8	1,9	5,0	3,1	1,6	2,8
	EU-extra		**2,6**	**1,9**	**1,9**	**1,8**	**2,0**	**2,5**	2,0
	Ranking for the year 2018	Egypt	1,0	1,0	1,0	1,3	1,4	1,8	1,1
		Australia	0,9	0,4	0,5	0,3	0,4	0,4	0,5
	Total imports		**17,4**	**17,1**	**23,6**	**32,4**	**16,6**	**30,0**	21,4
	ITC-Data		17,4	17,1	23,6	32,4	16,6	30,0	21,4
Exports	EU-intra		**2,6**	**3,4**	**4,8**	**6,3**	**5,2**	**3,2**	4,5
	Ranking for the year 2018	Portugal	0,7	0,7	1,4	1,6	2,3	1,2	1,3
		France	1,1	1,3	2,1	2,5	1,6	0,9	1,7
	EU-extra		**0,2**	**0,4**	**0,2**	**0,4**	**0,2**	**0,2**	0,3
	Total exports		**2,8**	**3,8**	**5,0**	**6,7**	**5,4**	**3,4**	4,7
	ITC-Data		2,8	3,8	5,0	6,7	5,4	3,4	4,7
National consumption			53,6	78,8	72,3	74,2	54,4	57,6	66,7
Self-sufficiency			0,7	0,8	0,7	0,7	0,8	0,5	0,7

Production and foreign trade of faba bean in Sweden (in 1000 t)								
		2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production		61,1	99,1	103,9	109,4	34,5	59,7	81,6
Imports	EU-intra	**0,2**	**0,4**	**0,1**	**0,2**	**2,3**		0,6
	EU-extra	**0,1**	**0,2**	**0,2**	**0,3**	**0,1**	**0,1**	0,2
	Total imports	**0,3**	**0,6**	**0,2**	**0,5**	**2,5**		0,8
	ITC-Data	0,3	0,6	0,2	0,5	2,5	0,6	0,8
Exports	EU-intra	**0,1**	**0,7**	**4,1**	**6,9**	**3,2**		3,0
	EU-extra	**0,0**	**1,9**	**8,9**	**3,3**	**2,7**	**0,7**	3,4
	Total exports	**0,1**	**2,6**	**13,0**	**10,2**	**5,9**		6,4
	ITC-Data	0,2	2,6	13,0	10,2	5,9	0,8	5,4
National consumption		61,2	97,1	91,1	99,7	31,1		76,0
Self-sufficiency		1,0	1,0	1,1	1,1	1,1		1,1

Production and foreign trade of faba bean in the UK (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			448,0	740,0	651,0	771,0	409,5	724,0	603,9
Imports	EU-intra		**0,1**	**0,2**	**0,6**	**0,5**	**0,2**	**4,9**	0,3
	EU-extra		**0,3**	**0,3**	**1,5**	**0,4**	**0,4**	**0,2**	0,6
	Total imports		**0,4**	**0,4**	**2,1**	**0,9**	**0,7**	**5,1**	0,9
	ITC-Data		0,4	0,5	2,2	0,9	0,8	5,1	1,0
Exports	EU-intra		**0,7**	**0,8**	**18,0**	**27,8**	**37,4**	**34,3**	16,9
	Ranking for the year 2018	Italy	0,0	0,0	0,0	12,1	10,7	3,1	4,6
		Denmark			0,0	0,0	8,3	8,4	2,8
		Belgium	0,4	0,6	1,0	1,4	8,0	1,2	2,3
		Germany	0,0	0,0	0,0	0,0	4,5	3,3	0,9
		Spain	0,0		9,0	7,3	4,5	5,4	5,2
		France	0,1	0,2	8,3	7,2	3,0	12,4	3,7
	EU-extra		**120,6**	**179,9**	**174,1**	**121,4**	**79,5**	**84,8**	135,1
	Ranking for the year 2018	Egypt	107,2	149,2	145,1	72,2	45,2	63,3	103,8
		Norway	1,2		1,1	17,7	18,3	6,3	9,6
		Sudan	5,9	20,5	16,2	27,1	11,7	10,2	16,3
	Total exports		**121,4**	**180,8**	**192,0**	**149,2**	**116,9**	**119,1**	152,0
	ITC-Data		121,4	180,9	192,7	150,5	119,0	119,1	152,9
National consumption			327,0	559,6	460,6	621,4	291,2	610,1	452,0
Self-sufficiency			1,4	1,3	1,4	1,2	1,4	1,2	1,4

Annex 2: Production and trade of dry pea in EU and some EU countries (in 1000 t)

European Union

Production and foreign trade of dry pea in the EU (in 1000 t)								
		2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production		1401,1	2078,1	2332,3	2782,4	2009,0	2213,4	2120,6
Imports	EU-intra	296,2	319,6	359,3	469,2	605,9		410,1
	EU-extra	225,7	84,7	75,0	170,8	854,4	395,4	282,1
	Total imports	522,0	404,3	434,3	640,0	1460,3		692,2
Exports	EU-intra	311,7	368,9	369,7	431,5	599,2		416,2
	EU-extra	96,3	368,4	725,6	682,4	268,5	191,3	428,3
	Total exports	408,0	737,4	1095,3	1113,9	867,7		844,5
EU Consumption		1530,5	1794,3	1681,7	2270,8	2594,9	2417,4	1974,5
EU Self-sufficiency		0,9	1,2	1,4	1,2	0,8	0,9	1,1

	EU-intra export of dry pea in the EU (in 1000 t)					
	2014	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
France	123,2	137,6	113,6	143,0	196,6	142,8
Lithuania	25,8	35,6	29,2	39,4	113,6	48,7
Belgium	47,2	48,2	12,5	14,9	48,6	34,3
Sweden	11,4	27,9	28,5	34,0	24,0	25,2
Germany	17,5	24,2	44,1	18,0	19,6	24,7
Romania	4,0	0,3	3,4	38,5	62,9	21,8
Netherlands	35,1	10,0	13,2	11,8	11,3	16,3
Hungary	10,6	10,7	13,7	14,7	13,0	12,5
Latvia	0,3	4,8	6,7	10,6	29,0	10,3
Poland	1,6	3,0	7,4	12,5	20,2	8,9
UK	7,1	7,6	10,3	7,6	6,6	7,9
other	27,8	58,9	87,1	86,5	53,9	62,8
Total	**311,7**	**368,9**	**369,7**	**431,5**	**599,2**	**416,2**

EU-intra import of dry pea (in 1000 t)						
	2014	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Belgium	76,7	70,6	88,0	104,5	164,5	100,9
Germany	100,4	86,3	68,4	87,2	127,6	94,0
Netherlands	35,8	26,9	55,7	41,8	69,6	45,9
Italy	20,9	47,5	50,5	57,4	18,6	39,0
Spain	9,1	10,5	11,7	42,1	78,5	30,4
France	4,3	7,7	17,8	44,7	33,5	21,6
Other	26,8	33,1	43,4	64,2	51,4	44,0
Total	**0,0**	**282,6**	**335,5**	**441,9**	**543,7**	**375,7**

EU-extra export of dry pea (in 1000 t)						
	2014	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Lithuania	7,8	138,6	189,5	150,1	164,9	130,2
France	26,9	138,7	254,4	152,7	16,0	117,7
Romania	0,3	2,9	58,3	228,2	4,4	58,8
UK	23,7	18,8	22,4	14,7	12,8	18,5
Germany	4,7	4,8	30,6	35,1	5,3	16,1
Latvia	2,7	6,6	42,4	10,7	15,2	15,5
Hungary	8,2	7,6	7,0	7,6	5,9	7,3
Poland	0,0	0,6	14,6	4,3	0,6	4,0
other	22,0	49,9	106,5	78,9	43,4	60,1
Total	**96,3**	**368,4**	**725,6**	**682,4**	**268,5**	**428,3**

Import extra EU of dry pea (1000t)						
	2014	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Spain	23,3	7,5	7,8	6,9	533,5	115,8
Italy	87,2	33,6	18,6	64,2	131,6	67,0
Germany	14,0	4,5	2,1	9,0	71,8	20,3
UK	21,8	12,2	3,7	20,7	30,5	17,8
Belgium	47,8	15,1	2,6	5,5	10,1	16,2
France	4,6	2,4	19,9	37,8	1,2	13,2
Netherland	15,2	2,0	8,2	14,0	21,1	12,1
Latvia	0,2	0,5	7,8	4,8	27,1	8,1
Poland	3,3	1,1	0,2	0,5	20,4	5,1
other	8,3	5,8	4,1	7,4	7,1	6,5
Total	**225,7**	**84,7**	**75,0**	**170,8**	**854,4**	**282,1**

EU-extra import of dry pea (1000t)						
Origins of the EU-extra import of dry pea	**2014**	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Russia	76,0	31,8	17,8	75,0	465,5	**133,2**
Ukraine	37,5	6,9	13,5	10,4	275,8	68,8
Kazakhstan	0,0	0,0	0,0	0,0	47,8	47,8
Canada	41,7	16,8	22,7	41,1	12,0	26,9
other	70,5	29,3	21,1	44,3	53,3	5,4
EU-extra	**225,7**	**84,7**	**75,0**	**170,8**	**854,4**	**282,1**

Country specific tables

Production and foreign trade of dry pea in Belgium (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	3,9	2,6	2,9	2,6	2,6	2,4
Imports	**EU-intra**		**76,7**	**70,6**	**88,0**	**104,5**	**164,5**	**187,5**	**100,9**
	Ranking for the year 2018	France	67,5	58,5	65,7	84,4	140,0	152,2	83,2
		Lithuania					16,4	24,9	16,4
		Netherlands	4,6	5,3	7,1	5,0	5,6	5,0	5,5
		UK	3,0	3,1	8,4	8,9	3,4	0,6	5,4
		Germany	1,4	0,7	4,6	1,8	1,3	1,3	2,0
	EU-extra		**47,8**	**15,1**	**2,6**	**5,5**	**10,1**	**22,7**	**17,3**
	Ranking for the year 2018	Canada	31,1	11,1	0,2	1,8	8,0	16,1	10,5
		Australia	4,5	2,5	2,1	1,3	1,8	1,1	2,4
		USA	8,2	1,2	0,1	2,1	0,4	2,3	2,4
	Total imports		**124,5**	**85,7**	**90,5**	**110,0**	**174,7**	**210,2**	**117,1**
	ITC-Data		125,3	84,4	90,4	108,3	178,5	210,2	132,9
Exports	**EU-intra**		**47,2**	**48,2**	**12,5**	**14,9**	**48,6**	**65,2**	**34,3**
	Ranking for the year 2018	Netherlands	17,8	5,4	7,1	9,9	41,9	56,7	16,4
		Germany	25,5	41,7	0,2	0,4	3,0	4,5	14,1
		France	3,7	2,0	3,8	2,9	2,4	2,3	3,0
	EU-extra		**0,7**	**0,7**	**0,7**	**0,7**	**0,9**	**8,0**	**2,0**
	Total exports		**48,0**	**48,8**	**13,3**	**15,6**	**49,6**	**73,2**	**35,1**
	ITC-Data		48,3	50,6	13,4	15,7	49,6	73,2	35,5
National consumption			77,0	37,7	79,6	95,5	131,5	139,7	84,3
Self-sufficiency			0,0	0,1	0,0	0,0	0,0	0,0	0,0

Production and foreign trade of dry pea in France (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			526,9	661,7	552,4	768,6	589,9	690,0	**619,9**
Imports	**EU-intra**		**4,3**	**7,7**	**17,8**	**44,7**	**33,5**	**32,2**	21,6
	Ranking for the year 2018	Sweden	0,0	2,7	5,8	22,9	20,2	11,0	10,3
		UK	0,7	0,2	0,4	0,2	6,7	6,4	1,6
		Belgium	0,7	0,9	5,6	0,8	1,7	1,2	1,9
	EU-extra		**4,6**	**2,4**	**19,9**	**37,8**	**1,2**	**1,7**	11,3
	Ranking for the year 2017	Canada	3,3	0,9	19,4	36,4	0,1	0,1	12,0
		Madagascar	0,9	0,9	0,2	0,5	0,2	0,4	0,6
		USA	1,3	0,4	0,5	0,4	0,5	1,0	0,6
	Total imports		**9,0**	**10,1**	**37,7**	**82,5**	**34,7**	**33,9**	34,8
	ITC-Data		9,0	10,1	37,7	82,5	34,7	33,9	**34,8**
Exports	**EU-intra**		**123,2**	**137,6**	**113,6**	**143,0**	**196,6**	**230,9**	142,8
	Ranking for the year 2018	Belgium	62,5	60,5	64,4	82,4	124,4	133,3	78,8
		Netherlands	14,0	9,1	6,7	13,1	32,1	31,6	15,0
		Spain	8,2	7,2	4,5	8,9	13,1	18,8	8,4
		Italy	10,6	33,6	23,6	24,7	9,3	14,7	20,4
		UK	4,8	5,9	2,8	2,4	8,0	25,0	4,8
		Germany	16,9	13,6	9,1	7,6	6,6	3,5	10,7
	EU-extra		**26,9**	**138,7**	**254,4**	**152,7**	**16,0**	**17,5**	117,7
	Ranking for the year 2016	India		107,8	226,6	110,2	0,0		111,2
		China	0,0	1,7	7,3	30,0			9,8
		Switzerland	11,8	11,3	5,0	7,9	6,8	7,0	8,6
		Norway	12,1	10,8	0,1	2,2	6,2	3,3	6,3
		Egypt	1,1		0,1		0,9	0,6	0,7
		Morocco	1,4	1,5	1,5	0,7	0,7	1,5	1,2
	Total exports		**150,1**	**276,3**	**368,0**	**295,8**	**212,6**	**248,4**	260,5
	ITC-Data		150,0	276,3	368,0	295,6	212,6	248,4	**260,5**
National consumption			385,8	395,5	222,2	555,4	412,1	475,5	**394,2**
Self-sufficiency			1,4	1,7	2,5	1,4	1,4	1,5	**1,7**

Production and foreign trade of dry pea in Germany (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			155,3	276,8	290,2	298,1	197,1	228,8	243,5
Imports	**EU-intra**		**100,4**	**86,3**	**68,4**	**87,2**	**127,6**	**99,0**	94,0
	Ranking for the year 2018	Lithuania	9,2	3,1	5,5	5,0	28,4	17,4	10,3
		Poland	1,2	3,9	5,8	14,8	26,5	17,5	10,4
		Czech Rep.	7,7	16,2	16,7	18,5	14,1	14,9	14,6
	EU-extra		**14,0**	**4,5**	**2,1**	**9,0**	**71,8**	**27,7**	20,3
	Ranking for the year 2018	Ukraine	0,2	2,0	2,8	2,4	44,4	6,0	10,3
		Russia	5,5	54,0	49,0	6,5	26,9	21,9	28,4
		Canada	3,8	2,3	0,3	0,8	2,0	2,9	1,8
	Total imports		**114,4**	**90,7**	**70,5**	**96,2**	**199,4**	**126,7**	114,2
	ITC-Data		114,4	90,7	69,6	96,2	199,1	126,7	114,0
Exports	**EU-intra**		**17,5**	**24,2**	**44,1**	**18,0**	**19,6**	**19,6**	24,7
	Ranking for the year 2018	Netherlands	3,8	8,7	23,5	3,7	7,2	8,1	9,4
		Italy	5,4	4,9	4,7	4,2	2,5	1,9	4,3
		France	0,9	1,6	1,9	1,7	1,7	1,6	1,5
	EU-extra		**4,7**	**4,8**	**30,6**	**35,1**	**5,3**	**6,3**	16,1
	Ranking for the year 2018	India			19,9	27,5			23,7
		Russia	1,0	1,1	1,3	1,8	1,5	1,2	1,3
		Switzerland	1,7	1,9	2,8	1,6	1,5	1,0	1,9
		Turkey	0,6	0,4	0,4	0,3	0,4	0,6	0,5
	Total exports		**22,2**	**29,0**	**74,7**	**53,1**	**24,8**	**25,9**	40,8
	ITC-Data		22,2	29,0	72,9	53,1	24,5	25,9	40,3
National consumption			247,4	338,5	287,0	341,2	371,6	329,6	317,2
Self-sufficiency			0,6	0,8	1,0	0,9	0,5	0,7	0,8

Production and foreign trade of dry pea in Italy (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			23,0	26,2	39,5	48,5	50,2	71,0	37,5
Imports	**EU-intra**		**20,9**	**47,5**	**50,5**	**57,4**	**18,6**	**32,7**	39,0
	Ranking for the year 2018	France	14,1	25,9	23,0	40,8	11,7	11,2	23,1
		Germany	1,9	5,6	7,3	4,2	2,1	2,1	4,2
		Hungary	1,9	1,5	3,2	4,1	1,8	2,0	2,5
	EU-extra		**87,2**	**33,6**	**18,6**	**64,2**	**131,6**	**122,7**	67,0
	Ranking for the year 2018	Russia	68,4	25,1	9,2	47,2	120,1	67,1	54,0
		Moldova	0,1			3,2	5,5	0,5	2,9
		Argentina	4,7	5,4	4,9	4,5	3,3	2,4	4,5
		Canada	3,5	2,2	2,8	2,1	1,9	2,7	2,5
	Total imports		**108,1**	**81,1**	**69,1**	**121,6**	**150,2**	**155,4**	106,0
	ITC-Data		108,1	81,1	69,0	121,7	150,2	155,4	106,0
Exports	**EU-intra**		1,9	1,7	2,4	3,0	1,3	1,6	2,1
	EU-extra		0,7	0,7	1,2	0,9	0,5	0,7	0,8
	Total exports		**2,6**	**2,4**	**3,6**	**4,0**	**1,8**	**2,3**	2,9
	ITC-Data		2,6	2,4	3,6	3,9	1,8	2,3	2,9
National consumption			128,5	104,9	104,9	166,3	198,6	224,1	140,7
Self-sufficiency			0,2	0,3	0,4	0,3	0,3	0,3	**0,3**

Production and foreign trade of dry pea in Sweden (in 1000 t)								
		2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production		46,50	83,1	92,7	82,2	49,0	68,6	70,7
Imports	**EU-intra**	0,5	1,8	0,9	0,3			0,9
	EU-extra	0,1	0,1	0,2	0,2	0,1	0,1	0,1
	Total imports	**0,6**	**2,0**	**1,1**	**0,5**			1,0
	ITC-Data	0,6	2,0	1,1	0,5	7,1	6,1	2,9
Exports	**EU-intra**	11,4	27,9	28,5	34,0	24,0		25,2
	EU-extra	3,4	3,1	14,4	12,8	3,7	0,1	7,5
	Total exports	**14,8**	**31,0**	**42,9**	**46,8**	**27,7**		32,6
	ITC-Data	14,8	31,0	42,9	46,8	27,7	18,1	30,2
National consumption		32,3	54,0	50,9	35,9	28,4	56,6	40,3
Self-sufficiency		1,4	1,5	1,8	2,3	1,7	1,2	1,8

Production and foreign trade of dry pea in Lithuania (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			101,1	228,8	398,1	449,0	213,7	158,0	278,1
Imports	**EU-intra**		**1,0**	**11,4**	**15,8**	**8,4**	**1,8**	**2,0**	7,7
	EU-extra		**1,3**	**0,9**	**0,6**	**0,2**	**0,3**	**1,0**	0,7
	Total imports		**2,3**	**12,3**	**16,5**	**8,6**	**2,1**	**3,0**	8,3
	ITC-Data		2,3	12,3	16,1	7,6	2,1	3,0	8,1
Exports	**EU-intra**		**25,8**	**35,6**	**29,2**	**39,4**	**113,6**	**124,6**	48,7
	Ranking for the year 2018	Germany	9,6	5,4	8,0	12,2	36,9	13,2	14,4
		France	0,0	0,1	0,1	16,3	19,7	26,6	7,2
		Belgium		0,1			11,7	21,1	5,9
		Netherlands	6,6	16,8	11,3	4,1	11,4	11,0	10,0
		Latvia	1,9	5,2	8,3	3,1	9,9	12,2	5,7
		Poland	1,28	2,47	0	0,6	1,76	17	1,2
	EU-extra		**7,8**	**138,6**	**189,5**	**150,1**	**164,9**	**47,6**	130,2
	Ranking for the year 2018	India		101,3	178,1	126,2	91,1	4,8	124,2
		Bangladesh					52,5		
		Norway	7,7	35,0	7,7	21,2	19,8	33,6	18,3
		Egypt			0,7	0,5	1,4	8,5	0,9
	Total exports		**33,6**	**174,2**	**218,7**	**189,4**	**278,5**	**172,2**	178,9
	ITC-Data		32,3	174,2	218,7	189,4	269,7	172,2	176,9
National consumption			71,1	66,9	195,5	267,2	-53,9	-11,2	109,3
Self-sufficiency			1,4	3,4	2,0	1,7	4,0	14,1	2,5

Production and foreign trade of dry pea in Romania (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			50,8	55,2	78,3	280,5	170,7	226,0	127,1
Imports	**EU-intra**		**1,1**	**1,2**	**3,7**	**37,3**	**11,7**	**1,7**	11,0
		Bulgaria	0,2	0,1	2,0	31,4	7,7	0,0	6,9
	EU-extra		**0,2**	**0,0**	**0,1**	**0,6**	**0,2**	**0,4**	0,2
	Total imports		**1,4**	**1,2**	**3,8**	**37,9**	**11,9**	**2,0**	11,2
	ITC-Data		1,4	1,2	3,8	37,9	11,9	2,0	9,7
Exports	**EU-intra**		**4,0**	**0,3**	**3,4**	**38,5**	**62,9**	**68,3**	21,8
	Ranking for the year 2019	Spain				29,5	59,6	49,1	44,5
		Italy	3,9	0,0	2,9	1,3	0,6	13,4	3,7
	EU-extra		**0,3**	**2,9**	**58,3**	**228,2**	**4,4**	**5,9**	58,8
	Ranking for the year 2019	India			39,0	213,4	0,1	4,4	64,2
		Pakistan	2,5	2,5	6,5	2,0		1,2	2,9
	Total exports		**4,3**	**3,2**	**61,7**	**266,8**	**67,3**	**74,2**	80,7
	ITC-Data		4,3	3,2	61,7	266,8	67,3	74,2	79,6
National consumption			47,9	53,2	20,3	51,6	115,3	153,8	57,7
Self-sufficiency			1,1	1,0	3,9	5,4	1,5	1,5	2,6

Production and foreign trade of dry pea in Spain (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			141,9	193,4	274,0	186,4	263,0	178,0	211,7
Imports	**EU-intra**		**9,1**	**10,5**	**11,7**	**42,1**	**78,5**	**63,6**	30,4
	Ranking for the year 2018	Romania				17,4	59,8	38,0	38,6
		France	7,1	7,8	4,2	6,6	14,4	14,0	8,0
		Poland	0,4	0,5			1,7	2,1	0,8
	EU-extra		**23,3**	**7,5**	**7,8**	**6,9**	**533,5**	**129,4**	115,8
	Ranking for the year 2018	Russia	2,0			5,7	278,8	21,5	95,5
		Ukraine	9,2		9,0	2,0	206,9	79,6	56,8
		Kazakhstan					42,3	14,0	
	Total imports		**32,4**	**18,1**	**19,5**	**49,0**	**612,0**	**193,0**	146,2
	ITC-Data		32,4	18,1	19,5	49,0	612,0	193,0	146,2
Exports	**EU-intra**		**1,0**	**1,3**	**3,1**	**1,7**	**2,7**	**3,0**	2,0
	EU-extra		**0,1**	**0,2**	**0,0**	**0,0**	**0,1**	**0,2**	0,1
	Total exports		**1,1**	**1,5**	**3,1**	**1,7**	**2,8**	**3,2**	2,0
	ITC-Data		1,1	1,5	3,1	1,7	2,8	3,2	2,0
National consumption			173,2	210,0	290,4	233,7	872,1	367,8	355,9
Self-sufficiency			0,8	0,9	0,9	0,8	0,3	0,5	0,8

Production and foreign trade of dry pea in the UK (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			126,0	180,0	186,0	160,0	113,4	173,0	153,1
Imports	EU-intra		**13,6**	**6,8**	**5,7**	**5,3**	**19,0**	**60,1**	10,1
	Ranking for the year 2019	France	5,1	4,7	3,2	2,6	10,7	29,1	5,3
		Lithuania	0,0	0,0	0,0	0,0	5,5	14,6	1,1
		Latvia	2,0	2,0	1,0	1,0		7,4	1,5
		Bulgaria						6,0	
	EU-extra		**21,8**	**12,2**	**3,7**	**20,7**	**30,5**	**11,5**	16,7
	Ranking for the year 2019	Russia	0,0	6,4	0,8	11,0	9,8	5,3	5,6
		Ukraine	16,2	2,9	1,3	1,4	1,2	3,2	4,6
		Canada	2,0	0,9	0,4	1,2	12,2	1,6	3,3
	Total imports		**35,4**	**19,0**	**9,5**	**26,0**	**49,5**	**71,6**	27,9
	ITC-Data		35,9	20,5	9,8	26,3	49,9	71,6	28,5
Exports	EU-intra		**7,1**	**7,6**	**10,3**	**7,6**	**6,6**	**3,6**	7,9
	EU-extra		**23,7**	**18,8**	**22,4**	**14,7**	**12,8**	**13,3**	17,6
	Ranking for the year 2018	China	5,9	3,9	9,0	4,7	4,8	2,4	5,6
		Japan	2,8	2,8	3,8	3,4	4,0	3,2	3,4
		Malaysia	2,5	1,8	2,7	2,2	2,1	1,6	2,2
	Total exports		**30,8**	**26,4**	**32,6**	**22,4**	**19,4**	**16,9**	26,3
	ITC-Data		31,9	27,5	33,7	22,9		16,9	29,0
National consumption			130,1	173,0	162,1	163,4	163,3	227,7	**158,4**
Self-sufficiency			1,0	1,0	1,1	1,0	0,7	0,8	**1,0**

Annex 3: Production and foreign trade of soybean in EU and some EU countries (in 1000 t)

European Union

Production and foreign trade of soybean in the EU (in 1000 t)								
		2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production		1927,1	2440,5	2545,4	2743,0	2912,0	2776,0	2513,6
Imports	EU-intra	1943,5	2058,6	1633,5	1664,5	2265,4		1913,1
	EU-extra	13096,6	14203,5	14669,5	13644,7	15130,4	14631,3	14229,3
	Total imports	15040,1	16262,1	16303,1	15309,2	17395,8		16062,1
Exports	EU-intra	1614,0	1720,3	1893,6	1892,5	1946,9		1813,5
	EU-extra	66,8	184,4	135,0	359,0	99,6	228,6	178,9
	Total exports	1680,9	1904,7	2028,6	2251,5	2046,5		1982,4
EU Consumption		14956,9	16459,6	17079,9	16028,7	17942,9	17178,8	16564,1
EU Self-sufficiency		0,1	0,1	0,1	0,2	0,2	0,2	0,2

Origins of the EU-extra import of soybean	2014	2015	2016	2017	2018	Average (2014-2018)
Brazil	6902,6	6535,1	5942,1	5246,7	5669,6	6059,2
USA	4608,2	4949,0	5539,7	5053,4	8487,9	5727,7
Canada	892,8	1157,6	1065,8	1015,6	819,8	990,3
Paraguay	451,4	567,8	676,6	904,7	305,3	581,2
Ukraine	423,4	182,9	154,4	445,0	443,2	329,8
Argentina	69,4	75,0	79,3	17,2	16,6	51,5
Serbia	7,4	12,5	56,2	44,9	9,5	26,1
India	4,6	9,9	10,3	15,7	16,9	11,5
Moldova	10,9	5,0	12,9	15,7	10,3	10,9
Egypt			0,0	1,0	20,2	7,1
Togo	1,0	0,8	3,8	9,1	15,9	6,1
others	-235,4	755,7	1233,7	978,0	-596,7	427,1
Total	**13112,4**	**14223,2**	**14691,6**	**13660,6**	**15145,7**	**14166,7**

Country specific tables

Production and foreign trade of soybean in Austria (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			118,1	136,2	152,6	195,7	186,5	217,8	157,8
Imports	**EU-intra**		**89,2**	**122,5**	**114,8**	**99,0**	**108,8**	**110,2**	107,4
	Ranking for the year 2018	Slovakia	11,5	30,2	21,1	20,6	29,8	7,0	22,7
		Hungary	27,4	41,3	42,4	45,6	26,6	37,9	36,7
		Italy	24,8	27,0	17,8	10,4	17,8	18,2	19,6
		Croatia	8,0	7,6	8,4	1,4	10,3	17,8	7,2
		Germany	8,1	7,5	10,5	6,2	8,9	7,4	8,2
	EU-extra		**9,7**	**6,6**	**6,1**	**0,7**	**2,0**	**36,0**	5,0
	Ranking for the year 2018	Ukraine	5,6	2,2	0,8	0,6	1,2	2,7	2,1
		Serbia	3,6	3,9	4,9	0,0	0,8	31,6	2,6
	Total imports		**98,9**	**129,1**	**120,9**	**99,7**	**110,9**	**146,2**	111,9
	ITC-Data		99,7	133,6	122,9	104,3	115,6	146,2	115,2
Exports	**EU-intra**		**31,7**	**41,1**	**49,1**	**51,7**	**53,9**	**65,1**	45,5
	Ranking for the year 2018	Germany	15,4	18,0	33,6	25,6	33,4	34,2	25,2
		Italy	4,9	13,2	5,3	11,9	4,6	4,9	8,0
		Belgium	3,0	2,1	1,9	4,4	4,0	4,6	3,1
	EU-extra		**1,1**	**0,6**	**0,6**	**2,2**	**1,7**	**2,8**	1,2
	Total exports		**32,8**	**41,7**	**49,7**	**53,9**	**55,5**	**67,8**	46,7
	ITC-Data		37,1	49,5	60,3	60,2	62,1	67,8	53,9
National consumption			180,7	220,3	215,2	239,7	240,0	296,2	219,2
Self-sufficiency			0,65	0,62	0,71	0,82	0,78	0,74	0,7

Production and foreign trade of soybean in Belgium (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	0,0	0,0	0,0	0,0	0,0	0,0
Imports	**EU-intra**		**149,6**	**136,5**	**131,8**	**63,3**	**182,2**	**74,4**	132,7
	Ranking for the year 2018	Netherlands	135,8	105,5	88,3	11,7	120,9	9,9	92,5
		France	5,4	25,2	36,4	43,9	56,0	54,5	33,4
		Austria	3,0	3,9	1,8	4,0	3,6	4,2	3,2
	EU-extra		**157,2**	**190,6**	**228,0**	**292,1**	**496,3**	**471,8**	272,8
	Ranking for the year 2018	Brazil	15,6		57,0		225,2	56,6	99,3
		Canada	128,9	175,3	148,1	165,5	176,2	206,4	158,8
		USA	1,0	0,0	4,5	88,2	72,7	189,7	33,3
		India	4,6	9,9	10,3	15,7	16,9	15,9	11,5
	Total imports		**306,9**	**327,0**	**359,8**	**355,4**	**678,5**	**546,2**	405,5
	ITC-Data		308,0	327,9	359,7	355,4	679,1	546,2	429,4
Exports	**EU-intra**		**111,9**	**159,9**	**142,3**	**169,1**	**273,1**	**205,8**	171,3
	Ranking for the year 2018	Netherlands	51,0	89,5	88,8	112,0	137,3	134,7	95,7
		Germany	8,3	12,6	3,1	2,9	79,0	5,3	21,2
		UK	11,7	20,8	21,9	24,9	24,5	29,3	20,7
		France	30,1	36,1	23,3	21,5	23,2	24,9	26,8
	EU-extra		**2,8**	**2,4**	**2,7**	**2,8**	**2,1**	**1,8**	2,5
	Total exports		**114,6**	**162,3**	**145,0**	**171,9**	**275,2**	**207,6**	173,8
	ITC-Data		115,9	167,6	146,0	171,9	275,0	207,6	175,3
National consumption			192,2	160,3	213,7	183,5	404,1	338,6	230,8
Self-sufficiency			0	0	0	0	0	0	0,0

Production and foreign trade of soybean in Croatia (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			131,4	196,4	244,1	207,8	245,9	232,0	205,1
Imports	**EU-intra**		**0,6**	**5,0**	**0,4**	**9,6**	**4,7**	**14,8**	4,1
		Slovenia	0,2	1,7	0,0		3,5	12,7	1,4
	EU-extra		**0,4**	**0,5**	**0,1**	**1,4**	**0,1**	**0,3**	0,5
	Total imports		**1,0**	**5,5**	**0,5**	**11,1**	**4,7**	**15,1**	4,6
	ITC-Data		1,6	5,6	820,0	11,1	5,9	15,1	168,8
Exports	**EU-intra**		**30,7**	**44,1**	**79,7**	**50,5**	**109,9**		63,0
	Ranking for the year 2018	Italy	1,9	19,5	51,7		57,8	91,1	32,7
		Austria	8,5	9,6	11,0		21,5	49,3	12,7
		Hungary	2,7	5,2	8,5		13,7	7,7	7,5
	EU-extra		**45,3**	**123,8**	**80,2**	**180,7**	**30,6**	**36,2**	92,1
	Ranking for the year 2018	Bosnia and Herzegovia	10,7	16,2	13,5		26,8	8,2	16,8
		Serbia	27,6	89,6	14,2		3,9	3,1	33,8
	Total exports		**76,0**	**168,0**	**159,9**	**231,2**	**140,5**		155,1
	ITC-Data		77,4	169,1	160,5	231,2	141,1	214,8	155,9
National consumption			55,6	32,9	903,5	-12,3	110,6	32,3	218,1
Self-sufficiency			2,36	5,97	0,27	16,8	2,22	7,19	5,5

Production and foreign trade of soybean in France (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			223,2	334,2	341,5	414,3	398,5	390,0	342,4
Imports	**EU-intra**		**105,2**	**114,5**	**332,0**	**37,2**	**41,8**	**42,3**	126,1
	Ranking for the year 2018	Belgium	25,3	27,0	26,1	26,7	29,6	26,3	27,0
		Spain	4,1	0,4	49,5	3,7	4,4	6,0	12,4
	EU-extra		**595,5**	**604,3**	**751,3**	**535,7**	**654,2**	**558,5**	628,2
	Ranking for the year 2018	Brazil	106,2	221,2	265,9	325,0	331,9	195,2	250,0
		USA	215,4	109,9	270,3	137,2	254,6	217,5	197,5
		Canada	143,7	112,9	143,1	31,2	39,6	71,5	94,1
		Togo	1,0	0,8	3,8	9,1	15,9	31,5	6,1
		Ukrania			0,0		0,0	34,4	0,0
	Total imports		**700,7**	**718,8**	**1083,2**	**572,9**	**696,0**	**600,8**	754,3
	ITC-Data		700,5	718,3	1081,5	574,4	696,0	600,8	754,1
Exports	**EU-intra**		**23,4**	**57,4**	**94,3**	**75,7**	**130,6**	**122,1**	76,3
	Ranking for the year 2018	Belgium	4,7	21,7	30,6	39,3	47,2	51,0	28,7
		Spain	14,8	24,4	44,9	22,0	35,8	49,0	28,4
		Germany	1,1	3,2	9,3	6,1	28,1	7,7	9,6
		Italy	0,5	6,1	6,6	5,8	12,8	6,5	6,4
	EU-extra		**4,9**	**6,2**	**10,1**	**9,2**	**10,9**	**13,3**	8,3
	Ranking for the year 2018	Switzerland	4,9	5,5	7,1	6,4	7,1	6,1	6,2
		Thailand	0,0	0,5	1,4	2,2	2,8	5,7	1,4
	Total exports		**28,4**	**63,6**	**104,4**	**84,9**	**141,5**	**135,4**	84,6
	ITC-Data		27,3	63,6	104,3	84,9	141,5	135,4	84,3
National consumption			896,4	988,8	1318,7	903,8	953,0	855,4	1012,1
Self-sufficiency			0,2	0,3	0,3	0,5	0,4	0,5	0,3

Production and foreign trade of soybean in Germany (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production					43,2	65,7	58,7	84,1	55,9
Imports	**EU-intra**								
	Ranking for the year 2018	Austria	13,8	26,1	53,2	54,7	39,0	40,8	37,4
		Romania	9,5	19,7	38,9	47,6	22,5	39,8	27,6
		Netherlands		1,0		7,5	13,7	10,9	7,4
		France	2,5	6,3	6,7	4,2	13,3	8,8	6,6
		Italy	6,6	7,5	12,3	9,5	8,7	8,3	8,9
		Slovakia	1,7	1,5	3,1	9,2	6,1	4,0	4,3
	EU-extra								
	Ranking for the year 2018	USA	1222,7	1636,5	1496,5	1835,7	2254,1	2573,1	1689,1
		Brazil	1873,9	1630,5	972,9	626,3	996,0	568,4	1219,9
		Canada	237,4	84,5	161,0	102,0	156,9	122,5	148,4
		Ukraine	49,5	2,2	7,2	79,6	88,4	96,9	45,4
		Argentina	40,5	37,0	20,1	17,2	16,6	26,0	26,3
	Total imports								
	ITC-Data		3726,0	3810,5	3135,4	3019,4	3644,0	3756,9	3467,0
Exports	**EU-intra**		**58,8**	**91,4**	**91,5**	**134,7**	**157,7**	**79,1**	106,8
	Ranking for the year 2018	Poland	39,3	74,2	63,8	107,4	97,0	12,1	76,4
		Czech Rep.	5,3	4,5	10,6	11,4	20,0	3,8	10,4
	EU-extra		**0,7**	**0,3**	**0,2**	**0,5**	**1,2**	**1,5**	0,6
		Switzerland	0,6	0,3	0,2	0,5	1,1		0,6
	Total exports		**59,4**	**91,7**	**91,8**	**135,3**	**158,9**	**80,6**	107,4
	ITC-Data		59,4	91,8	91,0	135,3	159,1	80,6	107,3
National consumption			3666,5	3718,7	3087,7	2949,8	3543,6	3760,4	3393,3
Self-sufficiency			0,0	0,0	0,0	0,0	0,0	0,0	0,0

Production and foreign trade of soybean in Hungary (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			115,6	145,9	184,7	179,3	181,2	167,5	161,3
Imports	**EU-intra**		**24,5**	**38,2**	**60,7**	**83,1**	**59,7**	**60,5**	53,3
	Ranking for the year 2017	Romania	2,1	3,2	6,8	29,7	29,2	19,0	14,2
		Croatia	1,6	5,3	17,6	21,3	19,1	16,3	13,0
		Slovakia	6,1	15,9	15,0	17,5	6,2	16,8	12,1
	EU-extra		**49,2**	**24,4**	**64,7**	**72,3**	**55,2**	**63,3**	53,2
	Ranking for the year 2017	Serbia	3,8	8,6	51,3	44,9	8,7	25,1	23,5
		Ukraine	45,4	15,7	13,4	26,3	43,2	37,9	28,8
		Canada			0,0	1,2	3,1	0,0	1,4
	Total imports		**73,7**	**62,6**	**125,4**	**155,4**	**114,9**	**123,8**	106,4
	ITC-Data		73,7	62,5	118,8	154,4	114,9	123,8	104,9
Exports	**EU-intra**		**31,8**	**44,4**	**79,0**	**98,1**	**36,3**	**75,0**	57,9
	Ranking for the year 2017	Germany	369,0	751,0	31,9	41,2	3,2	29,1	239,3
		Austria	19,3	34,0	35,5	37,6	16,7	38,1	28,6
		Italy	0,5	3,9	4,4	8,0	8,0	6,17	5,0
		Croatia	1,7	1,3		5,0	1,3	0,2	1,9
	EU-extra		**0,7**	**0,7**	**0,1**	**18,8**	**2,0**	**0,1**	3,7
		Serbia	0,3	0,6		18,0	1,9	0,0	4,2
	Total exports		**32,6**	**45,1**	**79,1**	**116,9**	**38,3**	**75,1**	62,4
	ITC-Data		32,6	45,0	77,1	117,3	38,3	75,1	64,2
National consumption			156,7	163,4	226,5	216,4	257,8	216,2	204,2
Self-sufficiency			0,7	0,9	0,8	0,8	0,7	0,8	0,8

Production and foreign trade of soybean in Italy (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			933,1	1117,0	1081,3	1019,8	1139,0	1043,0	1058,0
Imports	**EU-intra**		**64,5**	**108,8**	**87,6**	**155,4**	**140,0**	**183,0**	111,2
	Ranking for the year 2019	Croatia	5,6	19,4	24,2	29,8	67,4	114,5	29,3
		Romania	8,7	17,6	9,2	53,2	24,9	26,2	22,7
		Austria	3,1	19,5	16,8	19,5	11,1	14,4	14,0
	EU-extra		**1315,8**	**888,6**	**1356,6**	**1257,0**	**1499,9**	**1866,9**	1263,6
	Ranking for the year 2019	USA	244,3	147,7	307,7	143,1	663,1	724,8	301,2
		Brazil	416,9	293,7	518,9	418,1	267,6	591,4	383,0
		Canada	127,1	152,2	193,3	242,6	279,2	234,9	198,9
		Ukraine	215,1	69,5	65,0	152,2	141,6	194,7	128,7
		Paraguay	187,2	142,0	182,9	219,3	114,2	75,5	169,1
		Argentina	28,9	38,0	59,2	0,0	0,0	33,0	25,2
	Total imports		**1380,3**	**997,5**	**1444,1**	**1412,3**	**1639,9**	**2049,9**	1374,8
	ITC-Data		1387,1	1006,8	1459,5	1431,4	1653,2	2049,9	1387,6
Exports	**EU-intra**		**17,7**	**24,2**	**22,4**	**19,9**	**14,0**	**17,3**	19,2
	Ranking for the year 2017	Denmark	1,5	3,9	5,7	4,6	2,4	0,1	3,6
		Hungary	1,0	3,2	0,1	4,3	1,8	0,0	2,1
		Sweden	5,1	6,0	7,5	3,9	2,1	1,2	4,9
		Belgium	1,0	3,5	1,9	2,5	1,9	6,2	2,1
	EU-extra		**1,9**	**4,2**	**4,1**	**11,1**	**6,7**	**2,5**	5,6
		Switzerland	1,4	1,0	4,3	11,1	6,9	2,5	4,9
	Total exports		**19,6**	**28,3**	**26,5**	**30,9**	**20,7**	**19,8**	25,2
	ITC-Data		20,6	31,3	29,4	33,4	25,1	19,9	28,0
National consumption			2299,7	2092,5	2511,5	2417,7	2767,2	3073,0	2417,7
Self-sufficiency			0,4	0,5	0,4	0,4	0,4	0,3	0,4

Production and foreign trade of soybean in Netherlands (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	0,0	0,0	0,0	0,0	0,0	0,0
Imports	**EU-intra**		**58,6**	**64,5**	**157,1**	**129,7**	**74,4**	**78,4**	96,9
	Ranking for the year 2018	Belgium	59,8		89,8	61,3	65,4	61,9	69,1
		Germany	13,6	6,7	17,2	10,2	3,1	5,6	10,2
		UK	0,0	0,4	0,7	32,1	2,7	0,0	7,2
	EU-extra		**3011,9**	**4312,9**	**4530,2**	**3713,0**	**4203,9**	**4033,8**	3954,4
	Ranking for the year 2018	USA	1361,8	1792,5	2129,8	1887,1	3028,4	1594,3	2039,9
		Brazil	1599,4	1271,9	1575,5	1139,6	990,6	1798,7	1315,4
		Ukraine	3,4	5,2		130,1	99,5	23,8	59,5
		Canada	79,8	475,5	268,8	113,6	41,0	365,4	195,7
	Total imports		**3070,4**	**4377,4**	**4687,3**	**3842,7**	**4278,3**	**4112,2**	4051,2
	ITC-Data		3645,3	4344,7	4661,5	3842,0	4277,9	4112,2	4154,3
Exports	**EU-intra**		**1116,3**	**1055,2**	**1100,3**	**958,1**	**972,9**	**904,7**	1040,6
	Ranking for the year 2018	Germany	904,4	921,9	954,4	916,5	849,1	867,4	909,3
		Belgium	157,3	124,5	99,4	16,0	59,5	15,3	91,3
		Finland	0,2	0,3	30,2	0,5	28,8	0,3	12,0
		UK	1,7	10,4	25,1	1,2	14,0	0,4	10,5
	EU-extra		**3,8**	**5,5**	**0,1**	**0,2**	**0,1**	**0,9**	1,9
	Total exports		**1120,1**	**1060,8**	**1100,4**	**958,3**	**973,0**	**905,6**	1042,5
	ITC-Data		1155,0	1098,4	1129,4	961,7	972,7	905,6	1063,4
National consumption			2490,3	3246,3	3532,1	2880,3	3305,3	3206,6	3090,9
Self-sufficiency			0	0	0	0	0	0	0,0

Production and foreign trade of soybean in Portugal (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2019)
Production			0,0	0,0	0,0	0,0	0,0	0,0	0,0
Imports	**EU-intra**		**13,2**	**18,4**	**18,0**	**119,8**	**95,9**	**180,9**	53,1
	Ranking for the year 2018	Germany		0,0	0,0	109,4	90,25	174	49,9
		Spain	11,9	17,2	16,1	9,1	4,5	6,367	11,8
	EU-extra		**743,6**	**763,0**	**741,0**	**784,7**	**1077,2**	**957,6**	821,9
	Ranking for the year 2019	USA	344,4	167,8	197,4	122,8	640,4	492,2	294,6
		Brazil	347,9	457,8	243,9	320,3	330,4	355,1	340,0
		Canada	39,0	60,0	58,7	84,1	63,1	70,2	61,0
		Paraguay	47,5	130,3	240,9	220,8	134,3	40,0	154,8
	Total imports		**756,8**	**781,4**	**759,0**	**904,5**	**1173,1**	**1138,5**	875,0
	ITC-Data		756,8	781,4	759,0	904,5	1302,3	1138,5	900,8
Exports	**EU-intra**		**21,2**	**4,1**	**2,6**	**0,1**	**1,1**	**6,3**	5,8
		Spain	21,2	4,1	2,6	0,1	1,5	6,1	5,9
	EU-extra		**0,0**	**0,0**	**0,2**	**0,2**	**0,2**	**0,1**	0,1
	Total exports		**21,3**	**4,1**	**2,8**	**0,4**	**1,3**	**6,4**	6,0
	ITC-Data		21,3	4,1	2,8	0,4	2,0	6,4	6,1
National consumption			735,6	777,3	756,2	904,1	1300,3	1132,1	894,7
Self-sufficiency			0	0	0	0	0	0	0,0

Production and foreign trade of soybean in Spain (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			2,7	4,1	2,9	4,6	4,3	4,7	3,7
Imports	**EU-intra**		**23,6**	**29,5**	**24,5**	**34,4**	**44,8**	**43,7**	31,4
		France	9,9	25,9	20,4	17,8	26,0	36,5	20,0
	EU-extra		**3437,7**	**3545,5**	**3147,7**	**3360,7**	**3349,3**	**3217,2**	3368,2
	Ranking for the year 2019	Brazil	1971,4	2201,8	1854,0	1791,6	1954,8	1670,8	1954,8
		USA	1025,3	826,7	903,3	661,6	1201,8	1355,2	923,7
		Canada	124,9	63,0	91,1	241,8	53,4	101,0	114,8
		Ukraine	77,0	49,6	52,1	56,1	69,3	65,8	60,8
		Paraguay	216,7	295,5	252,8	464,6	56,8	7,7	257,3
	Total imports		**3461,2**	**3575,0**	**3172,2**	**3395,1**	**3394,1**	**3260,9**	3399,5
	ITC-Data		3461,2	3575,0	3172,2	3395,1	3394,1	3260,9	3399,5
Exports	**EU-intra**		**19,9**	**36,4**	**55,1**	**19,0**	**9,1**	**4,6**	27,9
	EU-extra		**0,0**	**0,0**	**0,0**	**0,0**	**0,0**	**5,1**	0,0
	Total exports		**19,9**	**36,4**	**55,1**	**19,0**	**9,1**	**9,7**	27,9
	ITC-Data		19,9	36,4	55,7	19,2	11,9	9,7	28,6
National consumption			3444,0	3542,8	3119,4	3380,5	3386,4	3255,9	3374,6
Self-sufficiency			0,0	0,0	0,0	0,0	0,0	0,0	0,0

Production and foreign trade of soybean in Romania (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			202,9	262,1	263,4	416,0	493,0	462,0	327,5
Imports	**EU-intra**		**6,7**	**6,6**	**2,4**	**7,5**	**6,7**	**11,0**	6,0
	Ranking for the year 2017	Hungary	2,0	2,5	1,9	5,8	5,4	6,0	3,5
		Bulgaria	3,3	3,0	0,1	0,1	0,6	0,0	1,2
	EU-extra		**93,3**	**154,5**	**112,3**	**119,4**	**247,9**	**68,4**	145,5
	Ranking for the year 2017	Brazil	9,6	43,2	74,7	99,8	123,1	50,7	70,1
		USA		67,8			113,5	1,0	90,6
		Moldova	10,9	5,0	12,9	15,7	10,3	13,7	10,9
		Ukraine	27,3	38,5	15,9	0,1	0,0	1,1	16,4
	Total imports		**100,0**	**161,2**	**114,7**	**126,9**	**254,6**	**79,4**	151,5
	ITC-Data		100,0	161,2	114,7	126,9	254,6	79,4	151,5
Exports	**EU-intra**		**37,7**	**52,8**	**72,0**	**135,7**	**88,1**	**106,0**	77,3
	Ranking for the year 2017	Hungary	6,7	2,8	3,7	35,2	28,5	19,5	15,4
		Italy	7,9	11,9	8,9	53,2	23,0	26,9	21,0
		Germany	13,4	15,8	16,7	28,1	17,4	41,2	18,3
		Greece	2,8		4,1		10,5		5,8
	EU-extra		**2,1**	**37,5**	**35,5**	**129,4**	**42,7**	**163,5**	49,4
	Ranking for the year 2017	Russia				83,1	33,7	77,4	58,4
		Turkey		31,8	19,3	5,0	7,6	85,9	15,9
		Serbia	1,8	4,5		41,3	1,3		12,2
	Total exports		**39,9**	**90,3**	**107,5**	**265,1**	**130,8**	**269,5**	126,7
	ITC-Data		39,9	90,3	107,5	265,1	130,8	269	126,7
National consumption			263,0	333,0	270,5	277,9	616,8	271,9	352,2
Self-sufficiency			0,8	0,8	1,0	1,5	0,8	1,7	1,0

Production and foreign trade of soybean in the UK (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,0	0,0	0,0	0,0	0,0	0,0	0,0
Imports	EU-intra		**23,3**	**77,9**	**14,6**	**15,2**	**22,7**	**25,1**	30,8
	Ranking for the year 2018	Belgium	6,8	6,6	6,5	6,5	14,1	7,3	8,1
		Ireland	16,4	10,1	4,8	5,4	8,2	8,6	9,0
		France	0,3	56,9	0,5	1,3	0,9		12,0
	EU-extra		**794,1**	**694,2**	**708,6**	**741,5**	**788,7**	**617,6**	745,4
	Ranking for the year 2018	Brazil	561,8	415,0	379,3	526,0	449,9	356,1	466,4
		USA	193,4	200,1	230,2	177,7	259,3	171,6	212,1
		Canada	12,0	34,2	1,7	33,7	7,1	83,9	17,7
	Total imports		**817,4**	**772,1**	**723,2**	**756,8**	**811,4**	**642,7**	776,2
	ITC-Data		818,1	773,5	723,3	757,9	811,4	642,7	776,9
Exports	EU-intra		**1,2**	**1,8**	**9,3**	**11,1**	**19,6**	**22,4**	8,6
		Ireland	1,2	2,0	9,4	10,6	19,3	22,0	8,5
	EU-extra		**0,2**	**0,4**	**0,0**	**0,2**	**1,0**	**0,7**	0,4
	Total exports		**1,4**	**2,2**	**9,3**	**11,3**	**20,6**	**23,0**	8,9
	ITC-Data		1,5	2,5	9,5	11,3	21,3	23,0	9,2
National consumption			816,6	771,1	713,9	746,6	790,1	619,6	767,7
Self-sufficiency			0	0	0	0	0	0	0,0

Annex 4: Production and foreign trade of lentil in EU and some EU countries (in 1000 t)

European Union

Production and foreign trade of lentil in the EU (in 1000 t)								
		2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production		49,3	59,5	75,3	88,4	115,3		77,6
Imports	EU-intra	21,1	29,8	37,4	42,7	44,5		35,1
	EU-extra	194,5	194,3	205,1	246,1	222,7	212,9	212,5
	Total imports	215,6	224,1	242,5	288,8	267,2		247,6
Exports	EU-intra	28,5	29,5	41,3	46,2	46,8		38,5
	EU-extra	4,3	4,6	5,7	3,8	3,5	4,3	4,4
	Total exports	32,8	34,1	47,0	50,0	50,4		42,9
EU Consumption		239,5	249,2	274,7	330,7	334,5		285,7
EU Self-sufficiency		0,2	0,2	0,3	0,3	0,3		0,3

EU-extra import of lentil (in 1000 t)						
countries	**2014**	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Spain	70,4	62,9	64,0	72,1	43,9	62,7
Italy	34,4	32,7	37,7	46,1	43,9	39,0
Germany	20,2	22,0	28,1	27,9	28,0	25,2
France	26,3	26,7	21,1	22,2	22,9	23,8
UK	21,8	21,9	20,0	23,9	25,6	22,6
Belgium	6,9	8,8	10,1	11,7	12,1	9,9
Netherland	5,4	7,6	8,9	10,3	8,3	8,1
Total	**185,3**	**182,7**	**189,8**	**214,2**	**184,6**	**191,3**

Origins of the EU-extra import of lentil	**2014**	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Canada	119,5	97,0	95,3	109,4	102,1	104,7
USA	32,8	36,8	40,3	53,2	33,2	39,3
Turkey	19,9	22,0	26,8	29,0	31,2	25,8
China	13,8	19,9	19,4	11,3	12,4	15,4
India	0,4	0,7	1,8	1,6	1,2	1,1
Others	-1,0	6,4	6,2	9,7	4,4	5,1
Total	**185,3**	**182,7**	**189,8**	**214,2**	**184,6**	**191,3**

Country specific tables

Production and foreign trade of lentil in France (in 1000 t)									
				2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production				22,0	22,2	23,9	39,9	52,8	50,0	32,2
Imports	**EU-intra**			**3,6**	**5,0**	**6,8**	**6,9**	**11,4**	**6,3**	6,7
	Ranking for the year 2018	Belgium		0,0	0,1	0,1	0,4	3,1	0,7	0,7
		Italy		0,2	0,2	0,2	0,4	1,4	1,2	0,5
	EU-extra			**26,3**	**26,7**	**21,1**	**22,2**	**22,9**	**17,8**	23,8
	Ranking for the year 2018	Canada		13,8	12,4	10,2	13,1	14,5	12,2	12,8
		China		10,9	14,2	10,2	7,0	8,4	3,4	10,1
		Turkey		1,6	2,1	2,6	3,5	2,8	3,0	2,5
	Total imports			**29,9**	**31,8**	**27,9**	**29,1**	**34,2**	**24,2**	30,6
	ITC-Data			29,8	31,8	27,9	29,0	34,2	24,2	30,5
Exports	**EU-intra**			**1,8**	**3,4**	**4,2**	**4,6**	**4,9**	**4,9**	3,8
	Ranking for the year 2018	UK		0,3	0,5	0,7	0,9	1,4	1,3	0,8
		Belgium		0,3	0,6	1,0	0,8	0,9	1,0	0,7
		Spain		0,2	1,1	0,9	0,8	0,7	0,6	0,8
	EU-extra			**0,7**	**0,5**	**0,8**	**1,2**	**0,8**	**0,9**	0,8
	Total exports			**2,5**	**3,9**	**5,0**	**5,8**	**5,7**	**5,9**	4,6
	ITC-Data			2,5	3,9	5,0	5,6	5,7	5,9	4,5
National consumption				49,4	50,1	46,8	63,3	81,3	68,3	58,2
Self-sufficiency				0,4	0,4	0,5	0,6	0,6	0,7	0,5

Production and foreign trade of lentil in Germany (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production									
Imports	EU-intra		**3,5**	**6,9**	**6,2**	**8,6**	**7,7**	**7,3**	6,6
	Ranking for the year 2018	Netherlands	1,1	1,7	1,9	2,8	2,8	3,0	2,0
		Italy	0,3	1,4	1,2	2,3	1,0	0,5	1,2
	EU-extra		**20,2**	**22,0**	**28,1**	**27,9**	**28,0**	**25,2**	25,2
	Ranking for the year 2018	Canada	12,4	12,7	12,4	11,0	14,7	10,1	12,6
		Turkey	6,3	7,6	10,8	10,0	8,9	10,3	8,7
		USA	1,9	3,8	4,6	5,9	4,2	2,8	4,1
	Total imports		**23,7**	**28,9**	**34,3**	**36,4**	**35,7**	**32,5**	31,8
	ITC-Data		23,7	28,9	34,1	36,4	35,7	32,5	31,8
Exports	EU-intra		**4,8**	**3,6**	**4,1**	**5,1**	**4,5**	**5,4**	4,4
	EU-extra		**0,3**	**0,6**	**0,3**	**0,3**	**0,5**	**0,8**	0,4
	Total exports		**5,0**	**4,2**	**4,4**	**5,4**	**5,0**	**6,2**	4,8
	ITC-Data		5,0	4,2	4,4	5,4	5,0	6,2	4,8
National consumption			18,7	24,7	29,7	31,0	30,7	26,3	27,0
Self-sufficiency			0	0	0	0	0	0	0,0

Production and foreign trade of lentil in Italy (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			1,8	2,5	2,9	3,7	4,5	5,3	3,1
Imports	EU-intra		**1,0**	**1,5**	**2,9**	**3,3**	**2,7**	**2,2**	2,3
	EU-extra		**34,4**	**32,7**	**37,7**	**46,1**	**43,9**	**38,1**	39,0
	Ranking for the year 2017	Canada	23,9	18,9	19,9	24,3	27,6	23,0	22,9
		USA	6,2	8,3	9,7	12,9	7,0	4,7	8,1
		Turkey	1,5	2,0	3,2	5,7	7,0	7,8	4,5
		China	2,0	2,8	4,2	1,9	1,4	1,6	2,3
	Total imports		**35,5**	**34,2**	**40,5**	**49,4**	**46,6**	**40,4**	41,2
	ITC-Data		35,5	34,2	40,5	49,3	46,6	40,4	41,1
Exports	EU-intra		**1,3**	**1,3**	**1,9**	**2,4**	**2,3**	**2,1**	1,8
	EU-extra		**0,2**	**0,5**	**0,3**	**0,4**	**0,2**	**0,3**	0,3
	Total exports		**1,5**	**1,8**	**2,2**	**2,7**	**2,5**	**2,4**	2,1
	ITC-Data		1,5	1,8	2,2	2,7	2,5	2,4	2,2
National consumption			35,8	34,9	41,2	50,2	48,6	43,3	42,2
Self-sufficiency			0,1	0,1	0,1	0,1	0,1	0,1	0,1

Production and foreign trade of lentil in Spain (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			23,9	23,2	29,8	24,4	42,5	35,5	28,8
Imports	EU-intra		**1,9**	**2,9**	**3,1**	**2,6**	**2,1**	**1,7**	2,5
		Portugal	1,3	1,6	1,9	1,4	1,2	0,7	1,5
	EU-extra		**70,4**	**62,9**	**64,0**	**72,1**	**43,9**	**47,1**	62,7
	Ranking for the year 2018	USA	24,7	24,7	26,1	34,4	22,0	28,2	26,4
		Canada	50,6	37,8	36,3	35,6	20,8	18,4	36,2
	Total imports		**72,3**	**65,8**	**67,1**	**74,7**	**46,0**	**48,8**	65,2
	ITC-Data		77,8	65,8	67,2	74,7	46,8	48,8	66,5
Exports	EU-intra		**1,9**	**1,6**	**2,2**	**2,2**	**2,4**	**2,5**	2,1
	EU-extra		**1,3**	**1,6**	**3,0**	**0,4**	**0,5**	**0,5**	1,4
	Total exports		**3,3**	**3,2**	**5,2**	**2,6**	**2,9**	**3,0**	3,4
	ITC-Data		3,2	3,1	6,5	10,4	5,0	3,0	5,6
National consumption			98,5	85,9	90,4	88,7	84,3	81,3	89,6
Self-sufficiency			0,2	0,3	0,3	0,3	0,5	0,4	0,3

Production and foreign trade of lentil in the UK (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production									
Imports	EU-intra		**0,9**	**1,3**	**1,5**	**2,2**	**1,8**	**1,9**	1,5
		France	0,6	0,9	1,1	1,9	1,5	1,4	1,2
	EU-extra		**21,8**	**21,9**	**20,0**	**23,9**	**25,6**	**26,4**	22,6
	Ranking for the year 2018	Canada	12,3	11,1	10,6	14,7	15,9	15,4	12,9
		Turkey	6,5	6,1	4,9	4,0	5,2	6,1	5,3
		India	0,4	0,7	1,8	1,6	1,2	1,2	1,1
	Total imports		**22,7**	**23,2**	**21,5**	**26,1**	**27,4**	**28,2**	24,2
	ITC-Data		22,7	23,3	21,6	26,5	27,6	28,2	24,4
Exports	EU-intra		**2,1**	**2,2**	**3,1**	**3,0**	**2,8**	**2,6**	2,6
	EU-extra		**0,2**	**0,3**	**0,2**	**0,3**	**0,3**	**0,4**	0,3
	Total exports		**2,4**	**2,5**	**3,3**	**3,3**	**3,1**	**3,0**	2,9
	ITC-Data		2,6	2,9	3,7	3,4	3,3	3,0	3,2
National consumption			20,1	20,5	17,9	23,0	24,4	25,2	21,2
Self-sufficiency			0	0	0	0	0	0	0,0

Annex 5: Production and foreign trade of chickpea in EU and some EU countries (in 1000 t)

European Union

Production and foreign trade of chickpea in the EU (in 1000 t)								
		2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production		73,6	77,1	101,0	182,4	267,6		140,3
Imports	EU-intra	20,2	26,9	38,2	54,7	46,0		37,2
	EU-extra	143,2	130,3	136,7	155,9	185,6	201,8	158,9
	Total imports	163,4	157,3	174,9	210,5	231,7		187,6
Exports	EU-intra	16,2	22,3	30,7	44,2	40,1		30,7
	EU-extra	3,3	4,6	12,7	27,3	12,8	26,8	14,6
	Total exports	19,6	26,8	43,4	71,4	52,9		42,8
EU Consumption		213,4	202,9	225,1	310,9	440,4		278,5
EU Self-sufficiency		0,3	0,4	0,4	0,6	0,6		0,5

EU-extra import of chickpea (1000t)						
Countries	**2014**	**2015**	**2016**	**2017**	**2018**	**Average (2014-2018)**
Spain	57,2	48,4	42,6	39,5	48,2	47,2
UK	31,2	30,2	33,1	39,4	42,0	35,2
Italy	22,9	23,4	26,4	32,6	35,3	28,1
Portugal	18,9	7,8	10,8	13,4	21,8	14,5
France	4,5	3,0	4,7	6,3	6,4	5,0
Germany	3,3	3,2	4,3	4,6	8,5	4,8
Netherlands	3,4	2,2	3,6	4,5	5,1	3,7
Belgium	2,2	2,8	2,4	3,1	4,5	3,0
TOTAL	**143,6**	**120,9**	**127,9**	**143,3**	**171,7**	**141,5**

Origins of the EU-extra import	2014	2015	2016	2017	2018	Average (2014-2018)
Argentina	20,6	45,7	21,3	33,1	41,8	32,7
Mexico	38,1	36,4	27,8	19,1	30,4	30,4
USA	19,4	17,0	20,5	34,0	29,7	24,1
Australia	13,9	9,6	13,3	18,3	15,4	14,4
Canada	8,3	8,1	8,8	7,2	5,6	7,6
India	5,3	4,1	7,0	5,7	13,4	7,1
Turkey	4,1	4,2	5,1	5,4	10,3	5,8
Russia	7,3	6,5	4,7	3,0	6,4	5,6
Others	26,1	-1,3	28,0	30,0	32,7	23,0
Total	**143,2**	**130,3**	**136,7**	**155,9**	**185,6**	**150,3**

Country specific tables

Production and foreign trade of chickpea in France (in 1000 t)								
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			16,0	16,5	17,6	39,1	51,7	50,0	28,2
Imports	**EU-intra**		**1,3**	**1,3**	**3,2**	**5,2**	**5,7**	**3,0**	3,4
		Spain	0,2	0,3	1,2	1,0	1,4	1,1	0,8
	EU-extra		**4,5**	**3,0**	**4,7**	**6,3**	**6,4**	**3,7**	5,0
		USA	1,0	0,0	0,2	4,9	3,4	0,0	1,9
		India	2,6	2,0	1,9	0,9	1,9	1,5	1,9
		Mexico	1,3	0,6	1,3	1,5	1,6	2,0	1,3
		Argentina	0,3		0,5	1,2	1,6	0,1	0,9
	Total imports		**5,8**	**4,3**	**7,9**	**11,5**	**12,1**	**6,8**	8,3
	ITC-Data		5,8	4,3	7,9	11,5	12,1	6,8	8,3
Exports	**EU-intra**		**2,7**	**5,7**	**7,6**	**12,6**	**13,0**	**13,4**	8,3
		Netherlands	0,1	0,6	0,7	2,4	3,5	2,5	1,5
		Belgium	0,7	0,9	2,3	2,7	3,2	4,5	1,9
		UK	0,6	1,4	2,0	3,5	2,6	2,2	2,0
		Spain	0,3	0,8	0,8	1,6	1,4	1,0	1,0
		Germany	0,4	0,6	0,4	0,9	1,1	1,3	0,7
	EU-extra		**0,0**	**0,5**	**0,2**	**1,5**	**0,2**	**0,4**	0,5
	Total exports		**2,7**	**6,2**	**7,7**	**14,1**	**13,2**	**13,8**	8,8
	ITC-Data		2,7	6,2	7,7	14,1	13,2	13,8	8,8
National consumption			19,1	14,6	17,8	36,5	50,6	43,0	27,7
Self-sufficiency			0,84	1,13	0,989	1,07	1,02	1,16	1,0

Production and foreign trade of chickpea in Italy (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			13,1	16,8	22,3	33,5	47,0	35,5	26,6
Imports	EU-intra		**0,4**	**1,8**	**3,6**	**2,3**	**1,2**	**0,6**	1,9
	EU-extra		**22,9**	**23,4**	**26,4**	**32,6**	**35,3**	**24,0**	28,1
	Ranking for the year 2018	Argentina	6,9	8,2	9,4	14,2	17,8	6,9	10,6
		USA	4,1	4,7	5,0	6,9	4,3	5,2	5,0
		Mexico	5,4	5,6	5,5	4,5	4,1	4,4	4,9
		Turkey	0,7	0,7	1,0	1,3	3,4	4,3	1,9
		Canada	4,5	2,6	2,5	2,8	3,0	2,2	2,9
		Australia	0,4	0,3	0,4	0,5	1,1	0,3	0,5
	Total imports		**23,3**	**25,2**	**29,9**	**35,0**	**36,5**	**24,5**	30,0
	ITC-Data		23,3	25,2	29,9	35,1	36,5	24,5	30,0
Exports	EU-intra		3,4	4,5	5,7	4,8	4,5	**4,8**	4,6
	EU-extra		0,7	0,7	2,4	4,2	1,4	1,5	1,9
	Total exports		**4,1**	**5,2**	**8,1**	**9,1**	**5,8**	**6,3**	6,4
	ITC-Data		4,1	5,2	8,1	9,0	5,8	6,3	6,4
National consumption			32,2	36,8	44,1	59,6	77,7	53,8	50,1
Self-sufficiency			0,4	0,5	0,5	0,6	0,6	0,7	0,5

Production and foreign trade of chickpea in Portugal (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			0,5	1,4	1,7	1,2	2,0		1,4
Imports	EU-intra		**0,3**	**0,2**	**0,2**	**3,9**	**0,3**	**1,1**	1,0
	EU-extra		**18,9**	**7,8**	**10,8**	**13,4**	**21,8**	**40,5**	14,5
	Ranking for the year 2019	Mexico	3,8	3,8	2,4	0,5	7,7	14,8	3,7
		USA	2,9	1,6	1,6	3,9	2,5	14,4	2,5
		Canada	0,1	0,2	2,2	1,9	1,1	7,1	1,1
		Argentina	7,5	1,6	3,0	5,6	7,1	4,1	5,0
	Total imports		**19,2**	**7,9**	**11,0**	**17,3**	**22,1**	**41,6**	15,5
	ITC-Data		19,2	7,9	11,0	17,3	22,1	41,6	15,5
Exports	EU-intra		**1,4**	**3,7**	**3,9**	**3,6**	**2,1**	**1,8**	2,9
	Ranking for the year 2018	Spain	1,1	1,2	1,1	1,4	0,9	1,0	1,2
		Italy	2,0	2,0	1,8	1,3	0,7	0,5	1,6
	EU-extra		**1,1**	**0,7**	**1,0**	**0,7**	**0,5**	**0,4**	0,8
	Total exports		**2,6**	**4,4**	**4,9**	**4,3**	**2,6**	**2,3**	3,8
	ITC-Data		2,6	4,4	4,9	4,3	2,6	2,3	3,8
National consumption			17,1	4,9	7,8	14,1	21,5	39,3	13,1
Self-sufficiency			0,2	0,3	0,3	0,3	0,8	0,0	0,4

Production and foreign trade of chickpea in Spain (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Production			34,0	27,3	37,4	56,5	91,5	47,7	49,3
Imports	EU-intra		**1,0**	**1,5**	**1,3**	**2,2**	**3,1**	**1,2**	1,8
	EU-extra		**57,2**	**48,4**	**42,6**	**39,5**	**48,2**	**55,8**	48,6
	Ranking for the year 2018	USA	11,4	10,7	13,7	18,2	19,5	25,2	14,7
		Mexico	27,5	26,4	18,6	12,7	17,4	21,7	20,5
		Argentina	5,5	9,8	7,5	7,5	9,1	7,8	7,9
	Total imports		**58,2**	**49,9**	**43,9**	**41,8**	**51,3**	**57,0**	49,0
	ITC-Data		58,6	49,9	43,9	41,8	51,9	57,0	49,2
Exports	**EU-intra**		**1,1**	**1,0**	**2,4**	**5,8**	**3,0**	**2,0**	2,5
	EU-extra		**0,4**	**0,8**	**2,0**	**5,1**	**4,2**	**4,5**	2,8
	Total exports		**1,5**	**1,8**	**4,4**	**10,9**	**7,3**	**6,5**	5,2
	ITC-Data		1,3	1,5	3,8	10,6	6,2	6,5	4,7
National consumption			91,3	75,7	77,5	87,6	137,2	98,2	93,9
Self-sufficiency			0,4	0,4	0,5	0,6	0,7	0,5	0,5

Foreign trade of chickpea in the UK (in 1000 t)									
			2014	2015	2016	2017	2018	2019*	Average (2014-2018)
Imports	**EU-intra**		**9,1**	**10,9**	**12,4**	**15,0**	**9,7**	**9,2**	**11,4**
	Ranking for the year 2018	Italy	9,2	9,3	7,9	11,4	7,6	7,4	9,1
		France	0,2	0,7	1,5	2,7	1,8	1,2	1,4
	EU-extra		**31,2**	**30,2**	**33,1**	**39,4**	**42,0**	**45,8**	**35,2**
	Ranking for the year 2018	Australia	10,5	9,3	12,9	17,8	11,7	10,1	12,4
		India	1,1	1,6	3,7	3,4	9,7	8,8	3,9
		Argentina	0,4	26,0	1,0	4,6	6,4	4,4	7,7
		Russia	6,9	6,0	4,2	2,3	3,5	8,3	4,6
		Turkey	2,2	2,2	2,5	2,2	3,5	5,2	2,5
		Canada	3,8	5,5	6,3	4,4	2,6	5,5	4,5
	Total imports		**40,3**	**41,2**	**45,5**	**54,4**	**51,7**	**55,0**	**46,6**
	ITC-Data		**41,7**	**42,5**	**46,1**	**56,5**	**52,5**	**55,0**	**47,9**
Exports	**EU-intra**		**1,6**	**1,4**	**1,9**	**3,5**	**1,9**	**2,2**	**2,1**
	EU-extra		**0,3**	**0,4**	**0,4**	**0,5**	**0,4**	**0,2**	**0,4**
	Total exports		**1,9**	**1,7**	**2,3**	**4,0**	**2,3**	**2,4**	**2,5**
	ITC-Data		**2,1**	**2,0**	**2,6**	**4,1**	**2,5**	**2,4**	**2,6**
National consumption			39,6	40,6	43,5	52,4	50,0	52,6	45,2
Self-sufficiency			0	0	0	0	0	0	0,0

Annex 6: Production and foreign trade of fresh pea in the EU (in 1000 t)

Production and foreign trade of fresh peas in the EU (in 1000 t)								
		2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production		959,0	919,4	992,2	964,0	907,0	911,0	942,1
Imports	EU-intra	186,1	148,7	155,7	168,1	146,5		161,0
	EU-extra	26,7	27,4	28,4	30,5	30,0		28,6
	Total imports	212,8	176,1	184,0	198,6	176,6		189,6
Exports	EU-intra	101,7	107,8	110,5	132,6	157,4		122,0
	EU-extra	4,6	14,4	10,8	14,4	6,2		10,1
	Total exports	106,2	122,2	121,2	146,9	163,6		132,0
EU Consumption		981,1	932,4	1009,8	980,2	930,8		960,7
EU Self-sufficiency		1,0	1,0	1,0	1,0	1,0		1,0

Annex 7: Production and foreign trade of fresh bean in the EU (in 1000 t)

Production and foreign trade of fresh beans in the EU (in 1000 t)								
		2014	**2015**	**2016**	**2017**	**2018**	**2019***	**Average (2014-2018)**
Production		1119,5	1020,8	1068,5	1139,3	1061,1	970,0	1063,2
Imports	EU-intra	210,7	173,3	213,9	225,3	239,7		212,6
	EU-extra	196,4	196,9	212,3	199,0	215,3		204,0
	Total imports	407,1	370,2	426,1	424,3	455,0		416,6
Exports	EU-intra	202,3	157,6	196,7	207,1	206,3		194,0
	EU-extra	4,5	6,4	19,9	3,7	2,9		7,5
	Total exports	206,8	164,0	216,5	210,9	209,2		201,5
EU Consumption		1311,4	1211,3	1260,9	1334,6	1273,5		1259,7
EU Self-sufficiency		0,9	0,8	0,8	0,9	0,8		0,8

Annex 8: EU list of PDO (Protected Designation of Origin) or PGI (Protected Geographical Origin) legumes.

Names	species	countries
Steirische Käferbohne	dry bean	DE
Alubia de La Bañeza-León	dry bean	ES
FABA ASTURIANA	dry bean	ES
Faba de Lourenzá	dry bean	ES
Fesols de Santa Pau	dry bean	ES
JUDIAS DE EL BARCO DE AVILA	dry bean	ES
Mongeta del Ganxet	dry bean	ES
F a g i o l o d i S a r c o n i	dry bean	IT
Fagioli Bianchi di Rotonda	dry bean	IT
Fagiolo Cannellino di Atina	dry bean	IT
Fagiolo Cuneo	dry bean	IT
Fagiolo di Lamon délia Vallata Bellunese	dry bean	IT
Fagiolo di Sorana	dry bean	IT
$A20AIA KOINA	dry bean	GR
Fasolia Vanilies Feneou	dry bean	GR
haricot de Kato Nevrokopi	dry bean	GR
haricots géants-éléphants de Kastoria	dry bean	GR
Prespon Florinas	dry bean	GR
Coco de Paimpol	dry bean	FR
Haricot Tarbais	dry bean	FR
LINGOT DU NORD	dry bean	FR
Mogette de Vendée	dry bean	FR
Fasola korczyńska	dry bean	PL
Fasola Piękny Jaś z Doliny Dunajca	dry bean	PL
Fasola wrzawska	dry bean	PL
Bruna bönor från Öland	dry bean	SW
LENTEJA DE LA ARMUNA	lentil	ES
LENTEJA PARDINA DE TIERRA DE CAMPOS	lentil	ES
LENTILLES VERTES DU BERRY	lentil	FR
Lentilles Vertes du Puy	lentil	FR
Lenticchia di Altamura	lentil	IT
LentiCchia di Castelluccio di Norcia	lentil	IT
Garbanzo de Escacena	chick pea	ES
Garbanzo de Fuentesaúco	chick pea	ES
Fava Santorinis	lathyrus	GR
Φάβα Φενεού	lathyrus	GR
Latvijas lielie pelēkie zirņi	dry pea	LET

Source: https://ec.europa.eu/info/food-farming-fisheries/food-safety-and-quality/certification/quality-labels/geographical-indications-register/. (2018)