



LITHUANIAN  
INSTITUTE OF  
AGRARIAN  
ECONOMICS



# AGRICULTURE AND FOOD SECTOR IN LITHUANIA 2016



LITHUANIAN INSTITUTE OF AGRARIAN ECONOMICS

**AGRICULTURAL AND FOOD SECTOR  
IN LITHUANIA**

**2016**

**VILNIUS, 2017**

An analytical review of the Lithuanian agricultural and food sector over the period of 2012–2016. “Agricultural and Food Sector in Lithuania 2016” is intended for representatives of governmental and self-governing authorities, scientific research and study institutions, and all interested in the development of agricultural and food sector and rural areas.

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## **ABBREVIATIONS**

AIRBC – Agricultural Information and Rural Business Centre  
EC – European Commission  
CAP – Common Agricultural Policy  
CN – Combined Nomenclature  
CNDP – complementary national direct payment  
EAGF – European Agricultural Guarantee Fund  
EC – European Commission  
EEU – Eurasian Economic Union  
EU – European Union  
EU-15 – the old EU Member States  
EU-27 – all EU Member States in 2007  
EU-28 – all EU Member States since 1 July 2013  
FADN – Farm Accountancy Data Network  
LIAE – Lithuanian Institute of Agrarian Economics  
RDP – Rural Development Programme  
TNA – transitional national aid  
UAA – utilized agricultural area  
USA – United States of Amerika  
VAT – Value added tax

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## **FOREWORD**

The publication “Agricultural and Food Sector in Lithuania 2016” is the eighteenth edition of the annual publications by the Lithuanian Institute of Agrarian Economics (LIAE). This is an analytical economic survey of agriculture and processing industry, prepared referring to the statistical information, accountability data of companies, and the findings of research conducted by the LIAE staff.

Relevance of the publication has been enhanced by the starting discussion on the Common Agricultural Policy (CAP) post-2020 in the European Union (EU). Lithuania will also join the discussion as a participant. In discussing the strategic goals of Lithuanian agriculture, it is necessary to survey the experience in the utilisation of the EU support and to distinguish the topmost achievements and most important problems.

The publication provides the five-year period variations in the agricultural and food sector development indices, special attention focusing on the 2016 outcomes. Pursuing the option for comparing the key tendencies, data in all surveys is provided under the single methodology and structure.

As in any previous years, some provisional statistical indicators for the year 2016 have been used. Final economic and financial outcomes will be reflected in the later publications of the Department of Statistics of Lithuania (Statistics Lithuania) and in the next-year LIAE survey. Minor statistical data discrepancies are possible due to rounding of figures.

The publication is intended for all interested in the achievements and problems of the agricultural and food sector. Material provided here might be useful for agricultural specialists and scientists, farmers and entrepreneurs, teachers and students.

Our sincere gratitude goes to the executives of the Department of Statistics and the Ministry of Agriculture of the Republic of Lithuania, the Agricultural Information and Rural Business Centre (AIRBC) and their staff members for provision of statistical information and advice. Dear readers, we are kindly looking forward to your remarks and proposals.

Dr. Rasa Melnikienė,  
Director of the Lithuanian Institute of Agrarian Economics

## **I. ACHIEVEMENTS OF THE LITHUANIAN AGRICULTURAL AND FOOD SECTOR AND THEIR UNDERLYING FACTORS**

### **1. Sustainable development of agriculture: a challenge or opportunity**

The EU has launched discussions on the CAP post-2020. The most important task for agriculturists at developing the CAP many years ago was the provision of the EU population with food. The current agenda of discussions will be focused on the following issues of importance for societies in the European countries, like climate change and preservation of natural resources, social problems induced by migration, necessity to utilise more rationally the available resources by developing the bioeconomy and circular economy. Lithuania will also become a participant in this discussion and will be faced with the challenges of how to reconcile the interests of agricultural producers and the changing needs of society. This process of discussions alongside organisations representing agriculturists will inevitably involve consumer and environmental non-governmental organisations, as well as communities representing the rural population. While discussing the goals important for Lithuanian agriculture in a new financial perspective, an overview of the experience gained in the use of the EU support should be made and most important achievements and problems highlighted.

**Preconditions for the development of sustainable agriculture.** Over the period of 2004–2016, an enormous aid from the EU and national budget amounting to EUR 7669.3 million reached the Lithuanian countryside. Most significant achievements in Lithuanian agriculture, evidencing the efficiency of aid use, according to policymakers, are the growth in the production volumes of agricultural products and export value increase. A conclusion derived from the analysis of last five-year tendencies implies that macro indicators reflecting the economic potential of agriculture have improved. The gross production value created in agriculture, forestry and fisheries have augmented evenly. In the period of 2012–2015 this indicator got increased by 1.6% and in 2015 reached EUR 3406 million. Export of agricultural and food products in 2012–2016 increased by 3.4% and in 2016 made 19.4% of Lithuanian exports (Table 1.1). It should be noted that not only the export value of agricultural and food products but also its share in the national export structure have increased. Over the period of 2012–2016 this indicator has changed insignificantly, even though in 2016, as compared to 2012, it was higher by one percentage point. The augmenting indicators of imports in agricultural and food products show that export has also increased due to re-export. Macroeconomic indicators also reveal certain worrying tendencies. Within the period of 2012–2016 the gross value added created in agriculture, forestry and fisheries has dropped and it also reflected the net income generated in the sector. During the reference period the gross value added, created in agriculture, forestry and fisheries, has been declining every year and in 2016 just accounted for 85% of the 2012 level.

**Table 1.1. Macroeconomic indicators in the agricultural and food sector in 2012–2016**

Indicators	2012	2013	2014	2015	2016*
Value of gross production in agriculture, forestry and fisheries, EUR mill.	3353	3326	3424	3406	...
Gross value added, at current prices, EUR mill.	30165	31693	33046	33577	34697
Gross value added created in agriculture, forestry and fisheries, EUR mill.	1340	1251	1252	1221	1139
Share of agriculture, forestry and fisheries in gross value added, %	4,4	3,9	3,8	3,6	3,3
Value of exported products, EUR mill.	4240	4696	4644	4475	4385
share in total export, %	18,4	19,1	18,9	19,5	19,4
Value of imported products, EUR mill.	3264	3722	3706	3585	3407
share in total import, %	13,1	14,2	14,1	14,1	13,7
Foreign trade balance, EUR mill.	976	974	939	890	978

\* Preliminary data.

Sources: *Data of Statistics Lithuania and Eurostat.*

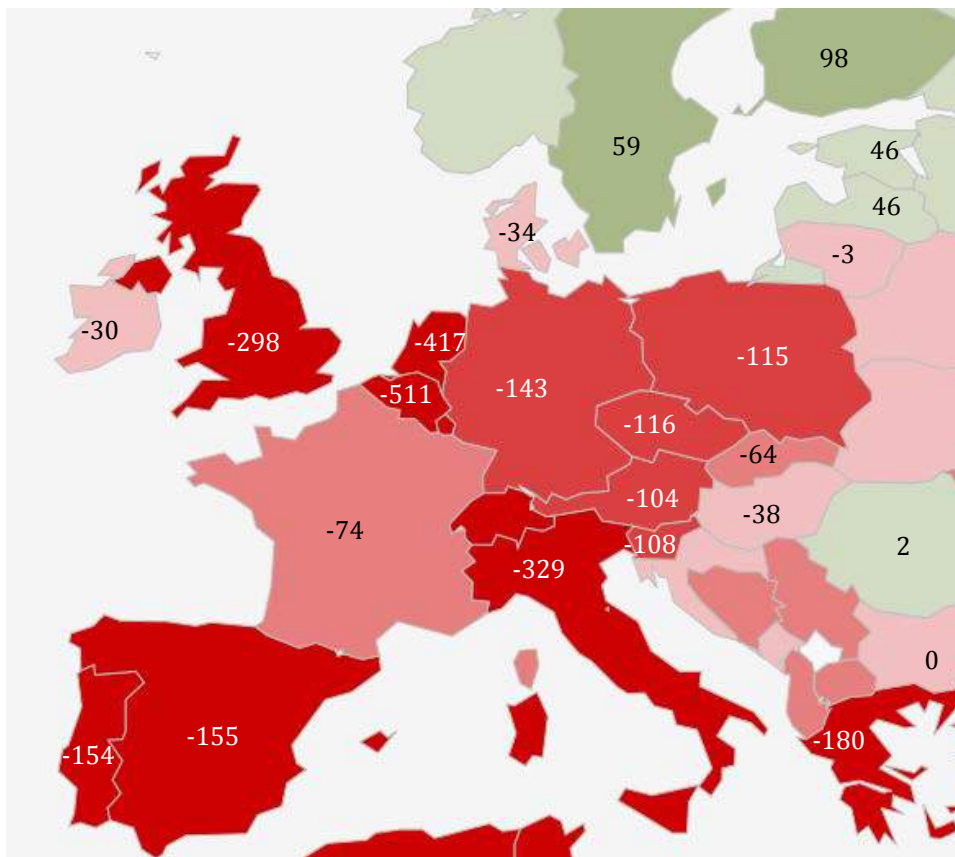
Within the reference period, alongside economic achievements, social problems have become still more important in the countryside: the deteriorating demographic situation, high inequality in income and poverty inherent of part of farmers, and permanently decreasing number of farms. Lithuanian villages being abandoned and a network of social establishments becoming sparse, the accessibility of services for both agriculturists and other rural residents becomes worse.

The intensifying disbalance between the areas important for Lithuanian society demonstrates the challenges faced by the agricultural policy of Lithuania in seeking to implement the sustainable development goals set for the EU agriculture. The long-term experience in coping with challenges in agriculture shows that only by the consistent implementation of the sustainable development goals the agriculture performs a mission expected by the society. Application of the principle of the sustainable development of agriculture in agricultural policy is aimed at creating the opportunities not only for the provision of the EU population with safe and quality food, increasing the income of agriculturists, simultaneously preserving the viability of rural regions, but also at turning back to the problems, caused by intensive agriculture due to the over-consumption of bioresources, and the necessity for agriculture to contribute to the improvement of human health and preservation of the clean living environment and landscape. The three sustainable development dimensions (economic, social and environmental), having been evaluated in planning an agricultural policy, afforded to reveal comprehensively the public interest, corresponding to the role of agriculture in the society, and to substantiate an enormous support in this sector. It is possible to state that development of agriculture is sustainable if preconditions are created in every new production cycle for a major part of farmers' farms operating on the market to be able to regenerate the resources used in the production process: material, human and biological.

In Lithuania, importance of the idea of sustainable development still has not been perceived as fully satisfying the expectations of society. Even though more and more politicians and farmers understand that sustainable development is the necessary

condition for the long-term provision of society with food, making preconditions for maintenance of the rural viability and preservation of humankind as part of the ecosystem, this perception does not turn into expeditiously implementable works. Special attention in implementing the agricultural policy in Lithuania is further devoted to increasing the agricultural production volumes and searching of new opportunities for marketing that production in export markets.

The reason for such approach: the seeking of sustainable development in the EU countries, especially in the old Member States, places focus mostly on the environmental dimension, and the CAP support is still more related to the implementation of environmental requirements. This topic is not a sensitive issue in Lithuania. Until 2012 Lithuania together with three Scandinavian countries (Finland, Sweden and Norway) and Latvia and Estonia could take pride in the excess of the available bioresources they possessed. This indicator demonstrates the relation between the used and renewable bioresources in the country. Since 2013 Lithuania has started living under the deficit biocapacity conditions (Fig. 1.1.). This means that bioresources are used faster than Earth's ecosystems are able to regenerate.



**Fig. 1.1. BioCapacity ability to regenerate in EU countries in 2013, %**

Source: Ecological Wealth of Nations. [http://www.footprintnetwork.org/content/documents/ecological\\_footprint\\_nations/index.html](http://www.footprintnetwork.org/content/documents/ecological_footprint_nations/index.html)

Even though this deficit reaches just 3 % it shows the declining ecological tendencies in the country. It should be recognised that the value of this indicator is predetermined not only by agriculture but also by other economic sectors and



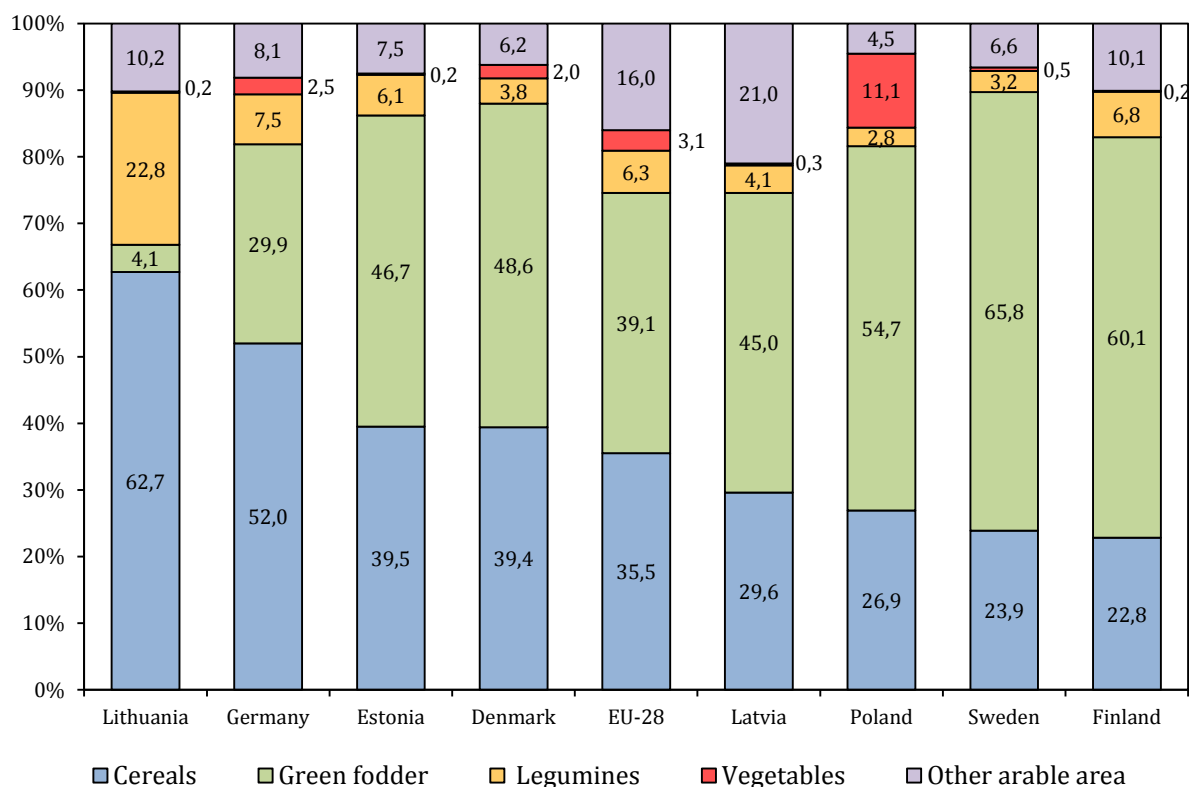
household activities. Nevertheless, agriculture is directly responsible for the preservation of a fertile soil layer and, therefore, a contribution of this sector into the biocapacity regeneration is of utmost importance. Farmers, taking care of the soil, also create preconditions for the continuity of their economic activity.

#### **Implementation of environmental principles in agricultural policy.**

Lithuania after the re-establishment of independence and during the period of reform implementation has reduced significantly the agricultural production intensity, this being demonstrated by the improved ecological situation. Moreover, mixed farms, also involved in animal husbandry, have been dominating in the farm structure for many years, and in the structure of utilised agricultural areas (UAA) an important share belonged to grasslands and pastures, important for biological diversity recreation. Currently, the situation has changed essentially. Farms, specialising in the cultivation of cereals and rape, occupy a still more important part in the farm structure. In 2013, according to the farm structure research data, farms operating in this trend accounted for 59%, this by 5.5 percentage points exceeding the number recorded during the 2010 agricultural census. In the UAA structure, over the period of the past five years, a share of cereals increased from 40.8% to 44.5%.

Over the reference period, a share of pasture areas of importance for soil quality improvement decreased from 39.7% in 2012 to 35.2% in 2016 calculating from the total UAA. Other processes, important for soil regeneration, are also of relevance to Lithuania, e. g., according to agricultural census data, in 2010, 50% of the arable land in Lithuania was included in the planned crop rotation, and in the EU countries – 70%, on the average. In Lithuania, the Shannon arable land diversity index was considerably lower than the average in the EU: in 2016 in Lithuania it was 0.53, even though in 2010 it reached 0.59. In 2010, this index in EU-28 was 0.68, on the average.

The development of organic agriculture should contribute to the sustainable utilisation of natural resources and soil pollution reduction. According to “Ekoagros” data, in Lithuania the share of UAA for organic agriculture has been constantly increasing since Lithuania’s entry to the EU in 2004 and in 2016 it reached 7.8%. Over the same period the share of the certified organic agricultural production farms in the total number of farms has increased from 0.5 to 1.9%. Nevertheless, organic farms make a small contribution to the preservation of biological variety, this being the necessary condition for the regeneration of national resources. Organic farms in Lithuania like the farms involved in traditional farming most often prefer crop production rather than animal husbandry. Due to this trend of production, the major part of UAA in the organic farms consists of arable land. According to Eurostat data, grasslands and pastures in the organic farms of Lithuania in 2015 covered 30% of UAA. This was by 1.5 times less than the average in the EU (in 2014, this indicator in EU-28 equalled 46%). Analysis of land use in the organic farms of the Baltic Sea region shows that share of grasslands and pastures in the UAA structure of these farms in Sweden, Denmark and Finland was lesser than in Lithuania. However, plants for green fodder in Sweden covered 66% of arable land, in Finland 60%, and in Denmark 49%. Plants for green fodder in the EU organic farms covered, on the average, 41%, and in Lithuania only 4%. Crop specialisation prevailed in the organic farms of Lithuania since cereals were cultivated even on 63% of arable land (Fig. 1.2). This is the highest indicator among the Baltic Sea region countries.



**Fig. 1.2. Structure of organic crops in some EU countries in 2015, %**

Source: Eurostat data.

The further development of organic farming may be negatively impacted by the development of organic animal husbandry. According to Eurostat data, in 2015, just 4.8% of the total number of cattle and 3.1% of cows were kept in the organic farms of Lithuania. In Sweden, the number of cattle kept in the organic farms comprised 20% and that of cows 14.1%, in Latvia, respectively, 19.1% and 11.1%, in Estonia 13.2% and 2.1%. Density of animals in Lithuanian organic farms is lower than that in traditional ones; therefore, this may condition the insufficient provision with organic fertilisers.

Alongside the alarming environmental tendencies in agriculture related to land utilisation and biological diversity preservation, new positive processes stimulated by the implementation of new technologies may be envisaged in Lithuania. Lithuanian agriculture makes breakthroughs in implementing energy-saving technologies and expanding the production of energy from the renewable sources. Due to the implementation of new technologies, the efficiency of energy resources used in agriculture is being enhanced and thermal pollution of the atmosphere becomes reduced consistently. According to Eurostat data, in 2004–2015 the final consumption of energy in agriculture per 1 ha of UAA has changed inconsistently, even though a general tendency towards reduction from 40.4 to 32.6 kg of oil equivalent per 1 ha is foreseen. In 2015, the final energy consumption in Lithuanian agriculture per 1 ha of UAA was by 4 times lower than the EU-28 average. In 2015, the use of 1 t of energy in Lithuania generated EUR 9.8 thousand per 1 t of oil equivalent of the gross agricultural value added, i. e. by 60% more than in EU-28. Eurostat data show that during the period of 2004–2012 the amount of greenhouse effect causing gas emissions from farming activities per 1 ha of UAA went on decreasing moderately: in 2012, as compared to 2004,

decreased in Lithuania by 7.3%, and, on the average, in EU-28 by 11.7% and in 2012 in Lithuania it reached 1.8, and, on the EU-28 average, – 2.7 t of CO<sub>2</sub> equivalents per 1 ha. Lithuanian agriculture thus has made a contribution to climate change reduction.

Due to the implementation of technologies for energy production from renewable resources, the volumes of renewable energy production in agriculture and its share in the total primary energy production from renewable energy resources augmented in Lithuania. In 2015, energy generated from renewable resources in agriculture reached 152 thousand tons of oil equivalent and accounted for 11.0% of the total primary energy production from renewable energy resources (in 2010 – 8.8%), on the EU-27 average, in 2010 – 10.6%.

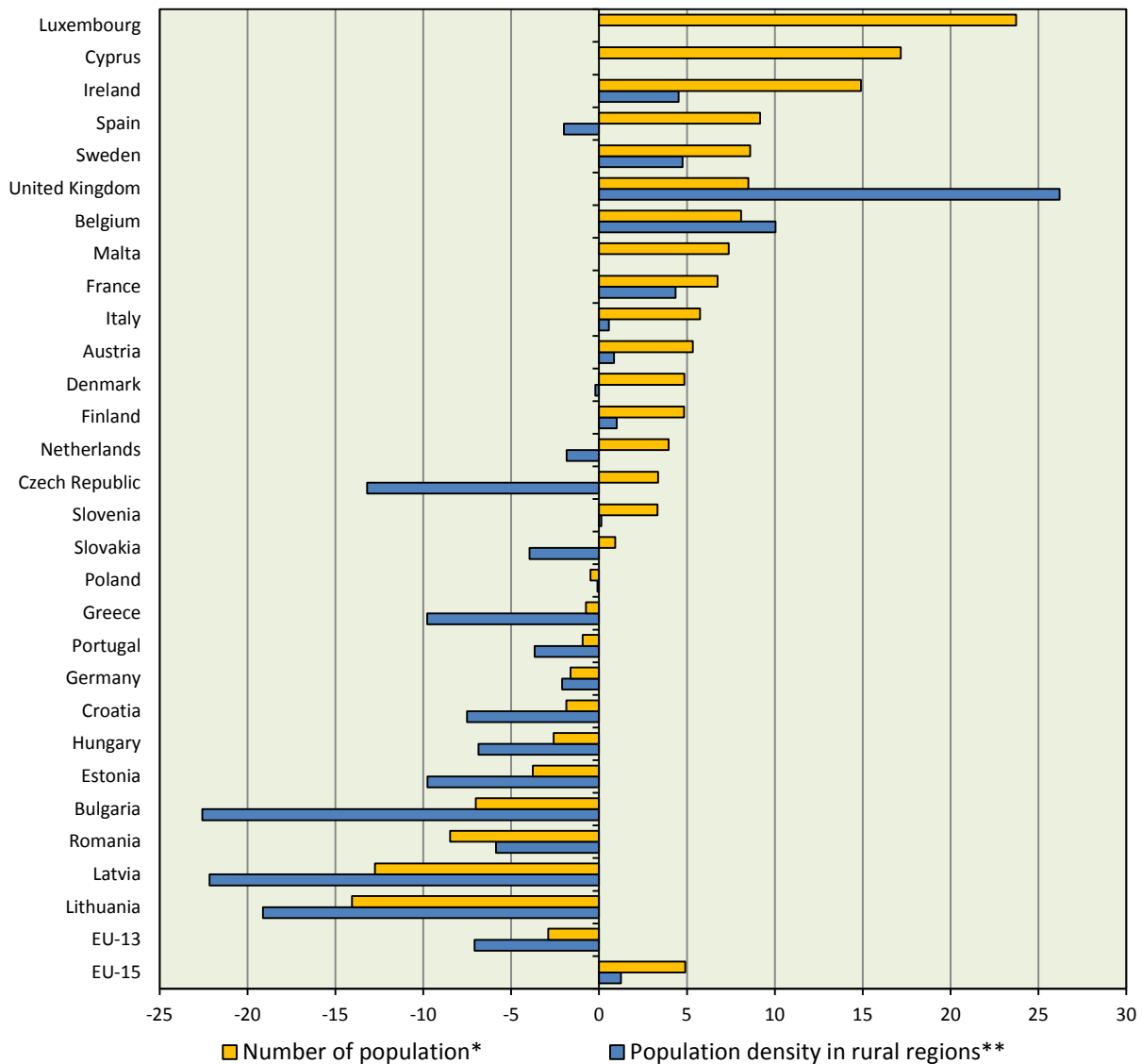
Upon generalisation of the situation in Lithuanian agriculture in terms of environmental protection it may be stated that Lithuania has the better balance of biological resources as compared to the majority of the EU countries. Preconditions for the sustainable development of agriculture in terms of environmental protection are created when farms are able to regenerate biological resources (soil and essential ecosystems), utilised in the production process, and to preserve the diversity of biological species and landscape. Increasing of production volumes and implementing of intensive technologies should involve the simultaneous application of measures, stimulating the farms to avoid the violation of natural balance and to use bioresources sustainably and with responsibility.

**Implementation of social principles in agricultural policy.** Agriculture still remains one of the most important agricultural activities in rural areas generating income for the major part of the rural population. According to the Department of Statistics of Lithuania, employment in agriculture, forestry and fisheries sector in rural areas in 2016 accounted for 23.1% and within the past five years from 2012 to 2016 decreased by 4.8% percentage points. Employment in other sectors in rural areas increased more rapidly as compared to its decrease in agriculture, forestry and fisheries sector. In 2016, the population employed in the industry and construction in rural areas amounted to 98.9 thousand people, and during the past five-year period their number increased by 20.1%, while in the trade and services sector accordingly amounted to 201.1 thousand people, and augmentation within the same period reached 16.8%. A year-by-year evaluation of growth rates has demonstrated that the number of the rural population employed in agriculture, forestry and fisheries sector started decreasing only in 2016, whereas in 2015, as compared to 2014, the number of the employed increased. Thus, it may be asserted that for the major part of the rural population, possessing land and engaged in farming, the important source of income is agriculture and it is an alternative to emigration. For this reason, great challenges in the development of Lithuanian agriculture are being faced in the social sphere.

Lithuanian agriculture currently has been confronting the same challenges as the European countries several decades ago. Rural social problems and big-scale emigration from village to cities enhanced by farmers' poverty in the middle of the last century in Europe initiated the emergence of the CAP. Even though Lithuanian agriculture is granted the substantial EU support and national budget aid, the social problems of agriculturists have not been solved successfully. Big flows of emigration from rural areas and reduction in the number of the population show that Lithuanian agriculture fails to attract new human resources. Scientific research evidences the agricultural activities being unattractive for many young people since they are not only unprepared to take

over their parents' or grandparents' farms but also are not planning to come back to live in their homeland after studies and rather are searching for income alternatives in bigger cities of Lithuania or abroad. We are facing a situation when with the growth of agricultural production volumes, export and business revenues, the major part of the Lithuanian rural population fails to generate income from agricultural activities that would be attractive, as compared to the opportunities for earning in cities, or would motivate to stay living in the village. When a pensioner's farm is not taken over by a young person, the number of the population gets decreased rapidly alongside with the subsiding revival of rural communities.

According to Eurostat data, Lithuania within 2004–2015 was the one among the EU countries that was subject to the most rapid loss of its population (Fig. 1.3). It was followed by Latvia and Romania. Assessing a situation in the EU countries by a decline in the population density in the rural regions within the same period, Lithuania is ranked third after Bulgaria and Latvia.

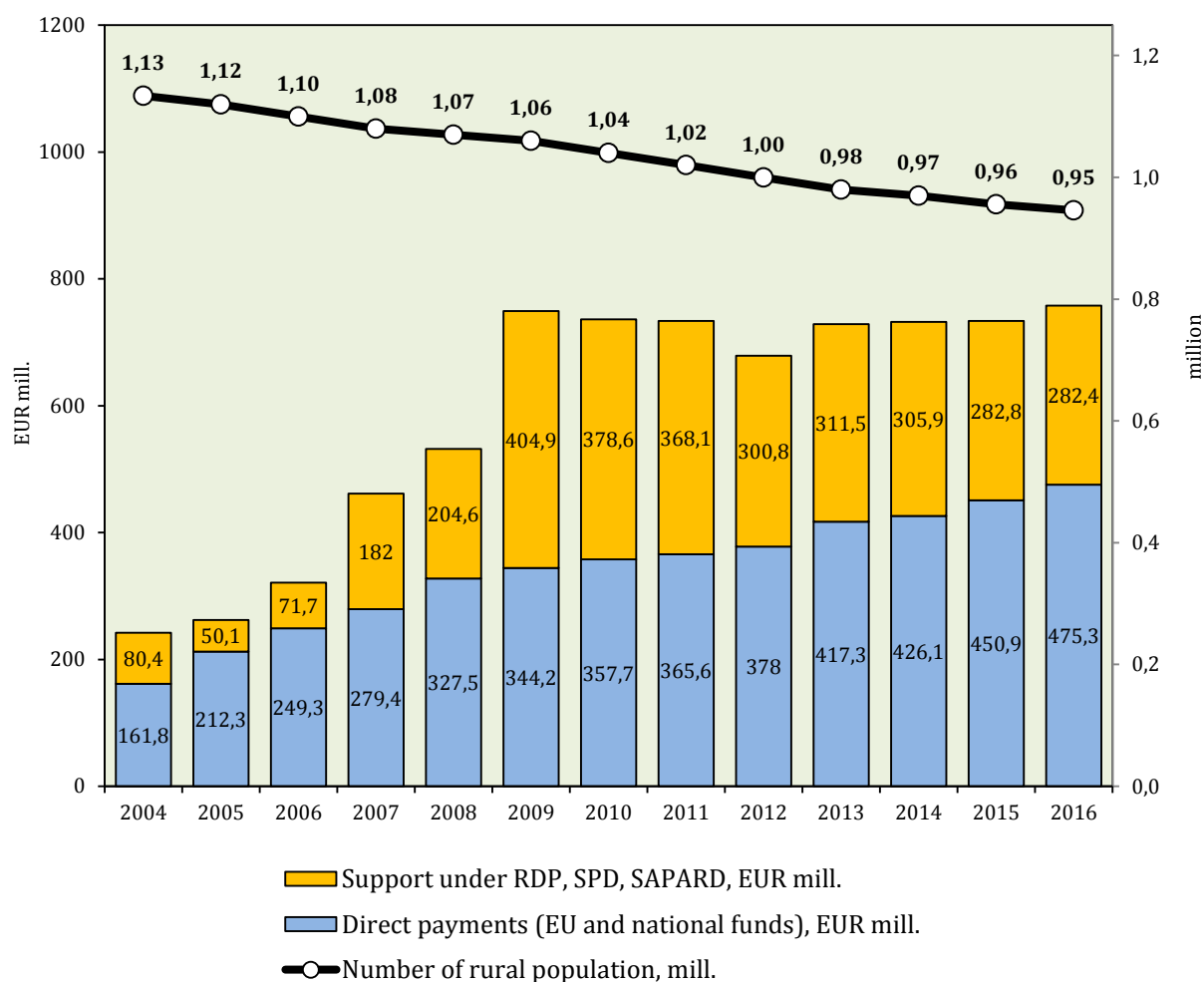


**Fig. 1.3. Changes in population number and density in EU countries in 2004–2015, %**

\* At the beginning of the year. \*\* According to the OECD methodology.

Šaltinis: Eurostat data.

From the beginning of Lithuania's membership in the EU, from 2004 to 2016 the Lithuanian population number decreased by 16.6%, in the junior group (under 15) by 35.1%, and within the past five years (from 2012 to 2016) –by 5.4% and 5.5%, respectively. Negative tendencies in the change of human resources in the rural regions have not been stopped by the EU support for maintaining of the level of farmers' income. Over the period of 2004–2016, EU support and State aid from the budget increased by 3.1 times, and per capita of the rural population by 3.8 times (Fig. 1.4).

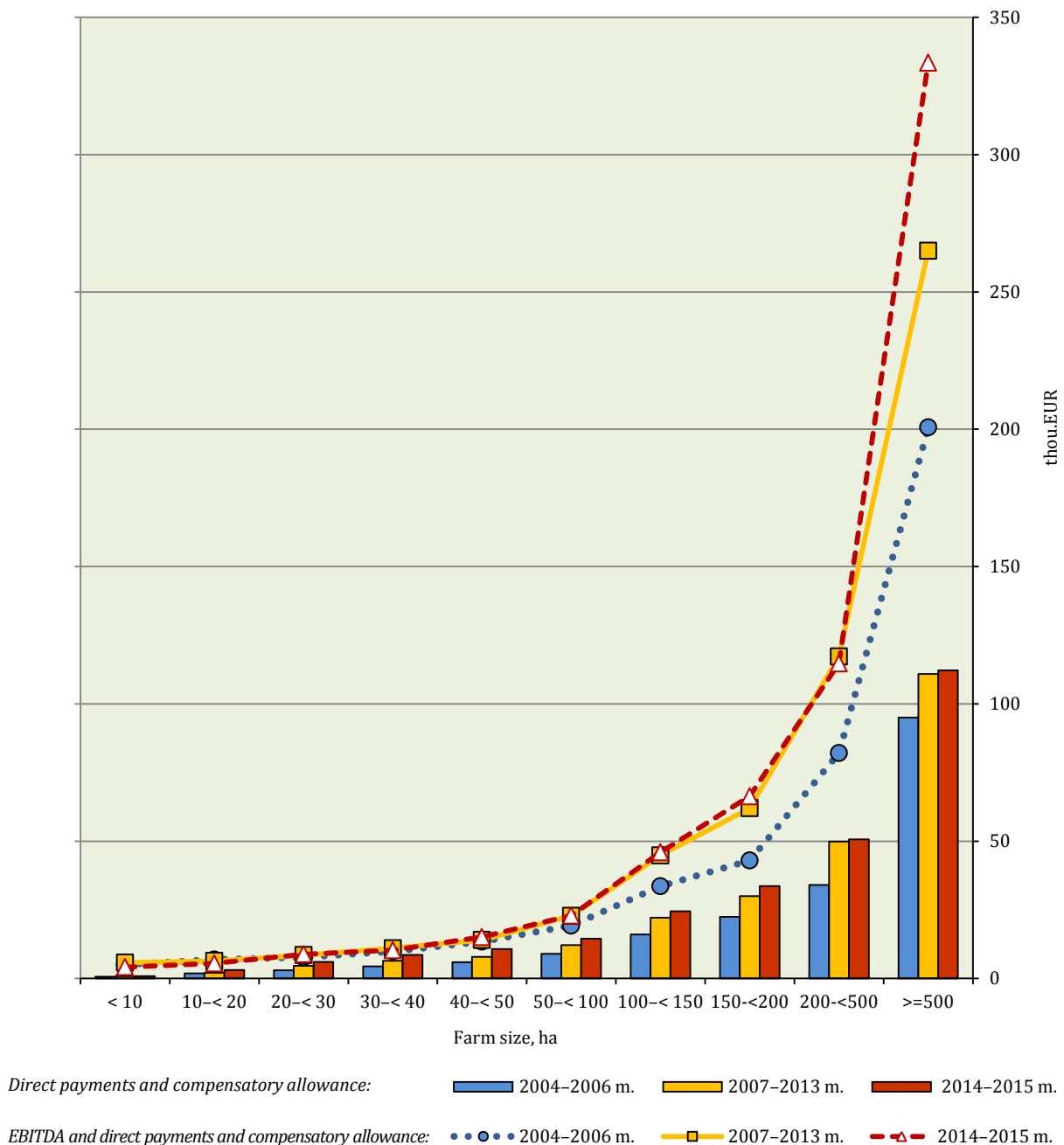


**Fig. 1.4. Changes in support for agriculture and rural development and in number of rural population in 2004–2016**

Source: Data of Statistics Lithuania and National Paying Agency.

Data by the respondents of the Farm Accountancy Data Network (FADN) show that with the increase of support amounts, assigned for agriculturists and rural residents, differentiation between the farms of different sizes has also augmented (Fig. 1.5). A model of direct payments, applied between 2007 and 2013, has also made a considerable contribution when the amount of direct payments received by farmers was calculated as the product of the number of hectares possessed by the farm and payments paid per hectare. From 2014 the opportunity appeared while calculating direct payments to apply a scheme “Payments for the first hectares” which foresaw that up to 30% of a direct payment envelope by the national decision may be additionally

disbursed to the farms for the first 30 ha. Thus, the EU institutions offered to the countries, with account taken of their specificities, to use funds of direct payments for tackling problems of poverty and income inequality. Lithuania allocated 15% of the funds devoted to direct payments for a scheme of first payments. The increased support due to the implementation of this scheme reached all the farms with an area of up to 65 ha, covering almost 95% of the farms in the total farm structure. This scheme had a positive impact on mitigating income inequality.



**Fig. 1.5. EBITDA margin, direct payments and compensatory allowance in family farms by farm size in 2004–2006, 2007–2013 and 2014–2015 on average per year, EUR thou.**

Source: FADN data.

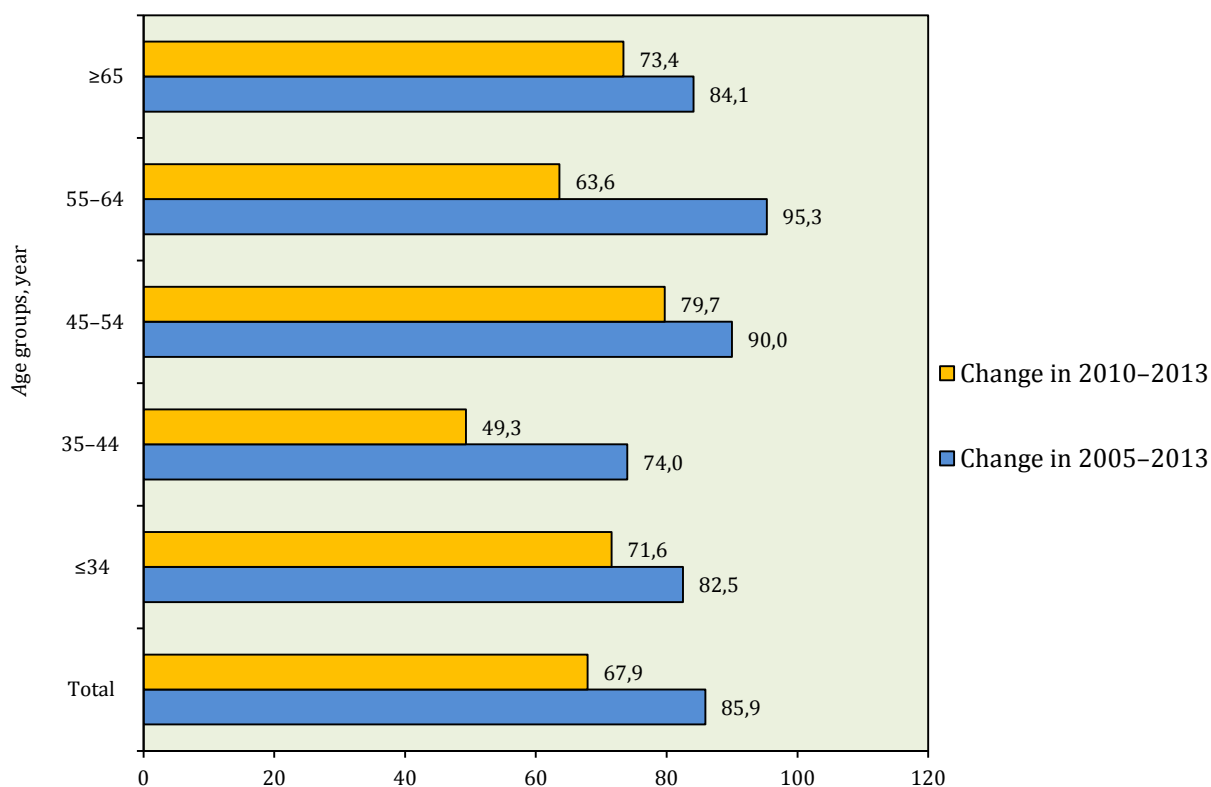
Income increase in the farms in possession of less than 65 ha that appeared due to the application of a scheme for the additional payments for the first 30 ha does not solve the problem of poverty of agriculturists in the core. Payments are concentrated in the large farms where the level of the generated income exceeds in ten times the average wages of two persons not only in the agriculture but also in other sectors of the national economy. To tackle the social problems, investments in human capital and creation of preconditions for the activity diversity in rural areas are requisite.

**Implementation of economic principles in agricultural policy.** Premises for the sustainable development of agriculture in economic terms are created when farms are able to generate income permitting not only to create the satisfactory life quality for farmers, but also to recreate the capital used in the course of production and to preserve business in the long-term perspective. Agricultural census and farm structure data illustrate that in the past years in Lithuania the still higher numbers of farms have terminated their activities. Comparing 2010 agricultural census data and 2013 agricultural structure research data it is seen that the number of agricultural holdings during that period decreased by 15%, and assessing the period between 2005 and 2013 – by one third.

The declining number of farms at first sight may seem to be a phenomenon to be welcomed. A circumstance that small farms dominated in the farm structure in Lithuania after restitution was perceived by policy-makers as a factor impeding the growth of agricultural production volumes. Moreover, conviction prevailed that small farms owned by farmers of pension age, persons with the lower education, shall retreat from the market. They shall sell or lease their owned land to younger people, farmers educated and more open to innovations, and farms that acquired the additional UAA areas may seek the effect bigger in scope.

Going deeper into the issue how the number of farms in different age groups of farming persons gets changed, it is possible to state that the number of farms goes on decreasing not only due to the withdrawal of senior farmers from business but also in all age groups (Fig. 1.6). The most rapid decrease is in the number of farms where farmers belong to the age group of 35–44 years. In the latter, the number of farms within 2010–2013 got reduced by 26%, and over the period of 2005–2013 even by 2 times.

Due to insufficient redistribution of direct payments among the farmers so as to ensure the adequate level of income for small full-employment farms, they cannot invest in the renewal of material resources. Upon Lithuania's joining the EU membership, special attention was accorded to the provision of farms with material resources, primarily, long-term assets. Over the period of 2004–2015, a good number of measures have been implemented granting investment support to farms for acquisition of machinery and equipment allowing to enhance the labour productivity in farms and to improve labour conditions. According to the FADN data, during 2004–2015, provision of farms with capital, calculating per hectare of UAA, increased by 1.8 times, capital consumption (depreciation of long-term assets) – even by 3.5 times.

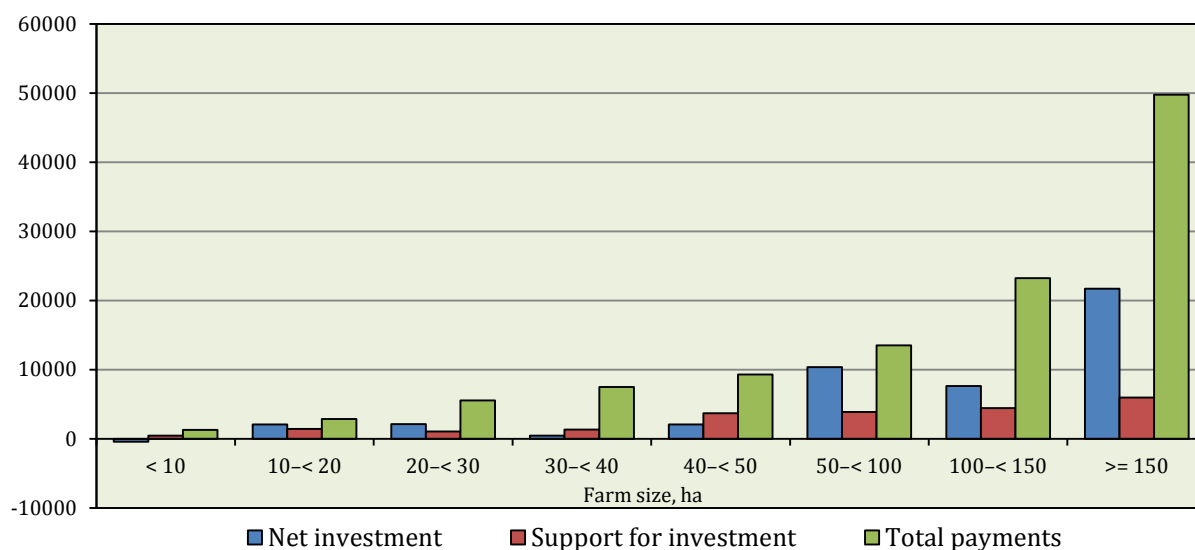


**Fig. 1.6. The decline in the number of farms by the age group of farmers in 2005-2013 and 2010-2013, %**

Sources: Data of the 2005 and 2013 agricultural structure and the 2010 agricultural census.

Provision with capital has improved at a faster pace in larger farms. Capital consumption in groups of smaller farms was higher as compared to their investment in the renewal of long-term assets; therefore, net investments were negative (Fig. 1.7). According to the FADN data, in 2011-2015 net investments in the farms with up to 10 ha were negative. Farms of that size constitute almost 70% of the total number of the farms in Lithuania. A group of farms with 10 to 20 ha also confront difficulties in renewing resources required for farm operation. However, the growing investment capacity of this group is satisfying. According to the FADN data, in the course of three years during the reference period, net investments were positive. In 2012 they reached EUR 4163 per farm in this group, on the average, in 2014 – EUR 6228, in 2015 – EUR 4208. Investment support these farms received has contributed considerably to the better provision of these farms with capital. The FADN data show that over the five-year reference period (2011-2015) support for investments was accessible to all groups of commodity farms. For a group of farms with up to 10 ha in 2011-2015 it reached EUR 466 per year, on the average, and for a group of farms with 10 to 20 ha – EUR 1418 annually, on the average.

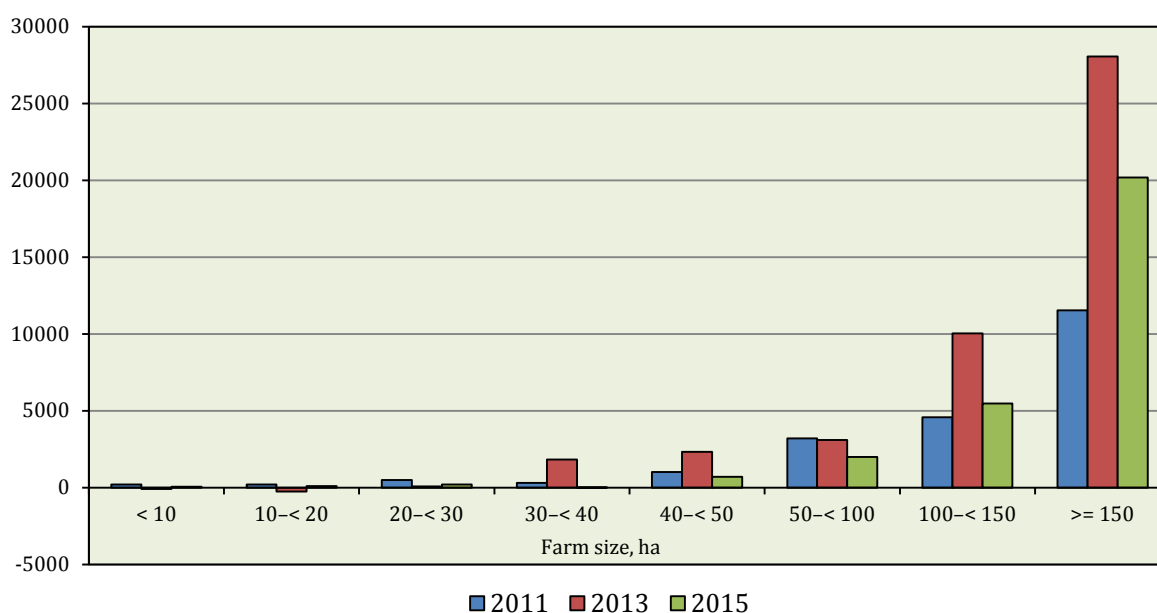




**Fig. 1.7. Net farm investment, support for investment and payments per farm on average per year in 2011–2015 EUR**

Source: FADN data.

Upon analysis of the opportunity of the farms to stay on the market, it should be recognised that the major part of farms cannot expect to continue their operation by augmenting the arable land areas and volumes of output. The financial opportunities of farms for land acquisition and output increase are also in direct dependence on the direct support amounts received; therefore, the situation was much more favourable for large farms. Over the period of 2011–2015, the farms, holding more than 150 ha, allocated EUR 20 thousand per year, on the average, for land acquisition, whereas farms with 40–50 ha by ten times less (Fig. 1.8). The large farms were active investors in purchasing land, thus still more increasing the amounts of direct payments received.

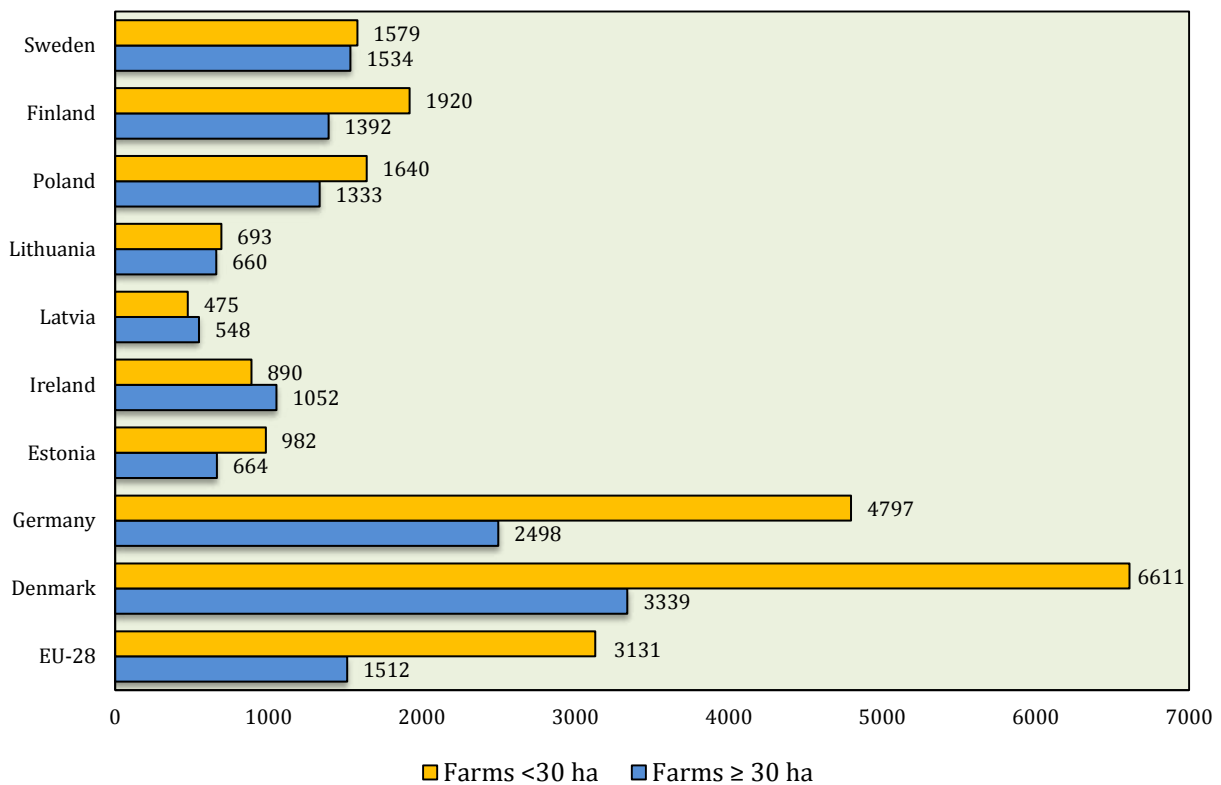


**Fig. 1.8. Farm investments in land acquisition per farm by farm size in 2011–2015, EUR**

Source: FADN data.

A situation on the land market shows that almost no opportunity exists for small and medium-sized farms to improve their efficiency by increasing the extent of production. To survive in business, they should cooperate or increase the productivity of their activity by choosing a business model oriented to the creation of products of higher added value and implementing various non-technological and technological innovations. In the opposite case, the agricultural activity cannot ensure even a minimum level of income to these farms, and their owners should create the additional source of income by combining the agricultural activity with other types of activities.

Experience gained in the old EU Member States shows that small farms are operating successfully, and with account taken of new consumer requirements for food quality they have plenty of opportunities to prosper in the future. Basing on the 2013 agricultural structure research results, the standard output value in the farms of up to 30 ha in Denmark made EUR 6.6 thousand/ha, in Germany – EUR 4.8 thousand/ha, being higher by 9.5 and 6.9 times, respectively, than in the Lithuanian farms of the same size (Fig. 1.9). This evidences the insufficient use of the economic potential of small farms in the country.



**Fig. 1.9. Standard farm production by farm size in some EU countries in 2013, EUR per 1 ha UAA**

Source: Eurostat data.

**Agricultural policy decisions, beneficial to the major part of the rural population.** A situation has been formed in Lithuania where social losses outweighed positive economic effects. As a result of the diminishing number of the population the internal food market of Lithuania is shrinking; due to the negative demographic tendencies, large farms, where hired labour force is used, started experiencing the

shortage of workers. Lithuania as a country attractive for living and creation for the educated young people is losing in the competitive fight. In this situation a question arises about the actions to be taken in order to mitigate the undesirable tendencies and to ensure the long-term rural viability.

After the re-establishment of independence, the Lithuanian agricultural policy-makers prioritised the economic goals by implementing a model of industrial agriculture that was oriented to the increase of production volumes and export development. This farming model, however, alongside advantages has a lot of negative consequences. Primarily, it stimulates the more intensive utilisation of biological resources and curtails employment in agriculture, offering few alternatives for income increase to the rural population. Making analysis of the development of agriculture in terms of sustainability dimensions, it is seen that economic results achieved while ignoring environmental and social aspects of agricultural development are short-term. In the perspective of 20–30 years the volumes of agricultural production products in Lithuania may decline if due to the intensive farming the content of organic carbon in the soil drops and with the number of the population decreasing the accessibility to social services and life quality of farmers become worse. In other words, environmental and social factors will make the food production an unattractive economic activity. Seeking to eliminate these risks, it is necessary alongside the intensive farming to also implement alternative business models favourable for the sustainable development of agriculture, like the bioeconomy, circular economy and sharing economy. These models create preconditions for sustainable development, giving the opportunity to recreate agricultural resources of all three types (biological, human and material), and are oriented to the enhancement of the value added rather than production volumes. Farms of different sizes may get involved in this activity if farmers have enough knowledge for implementing technological and social innovations.

The key targets aimed at increasing the sustainability of agricultural sector:

- Agriculture shall remain the partial or main source of income for the major part of the rural population.
- Agricultural activity shall be based at a still greater extent on the principles of the bioeconomy and circular economy, with the responsible utilisation of land and other natural resources, seeking to leave the more beautiful and better environment for future generations.
- Farms should be encouraged to combine various activities (crop growing, animal husbandry, fisheries, tourism, energy production, etc.) and thus to improve the regeneration of natural resources and to decrease a risk of income loss.
- To motivate farmers to orient still more on the satisfaction of the needs of Lithuanian consumers, simultaneously preserving the competitive advantages of Lithuanian agriculture in export markets.
- To use various business opportunities offered by the agricultural sector, to stimulate farmers to use innovative models for consumer food supply (the sharing economy) and to undertake agricultural production processing in their own farms.
- To search for new collaboration forms, to increase the importance of cooperation at all food supply chain stages for farmers to be ascertained of the benefit of cooperation.
- To enhance the attractiveness of village as a place of living for the urban population and the educated rural young people, creating opportunities for

making the agricultural activities more creative and bringing rural income closer to urban income.

- To minimise social, economic and demographic differences between remote and city neighbouring rural areas.

Lithuanian farmers should take advantage of new opportunities afforded by the changing needs of Lithuanian consumers. With the approach of the population towards healthy diet and environment preservation becoming stronger, interest of the country's population in organic foodstuffs and in the past years in fresh and natural agricultural and food products, cultivated or manufactured by local farmers, gets enhanced. Simultaneously, the earning opportunities are increasing for farmers who are able to place such products on the market. Even though this tendency has become highlighted quite recently, Lithuanian farmers are still more active in undertaking the processing of their own cultivated or manufactured products and, making use of modern information technologies, sell this production from the farms, in special outlets or deliver to the consumers by order, thus receiving much higher value added than from producing raw products for large processing enterprises. A business strategy, focused on the product differentiation according to the final consumer needs, helps the farmers to better manage a business risk, to adapt know-how of various professions in the farms, to employ other their own family members and to set a farm of several generations, making business attractive for future successors.

## 2. Gross agricultural production

According to the provisional data of the Lithuanian Department of Statistics, the gross agricultural output produced in 2016 if calculated at the current prices of the period, amounted to EUR 2.29 billion, i.e. by 9.4% less than in 2015. This was due to the yield of all crop production products and lower purchase prices of some products. Within the entire period under analysis, the crop output comprised the larger portion of the gross agricultural production value. This share, however, in 2016, as compared to 2015, was lower by 4.2 percentage points (Table 1.2).

**Table 1.2. Structure of gross agricultural production\* in 2012–2016**

Production	2012		2013		2014		2015		2016**	
	mill. EUR	%	mill. EUR	%	mill. EUR	%	mill. EUR	%	mill. EUR	%
Total	2711,2	100	2548,7	100	2450,9	100	2530,4	100	2293,0	100
crop production	1752,1	64,6	1512,0	59,3	1456,2	59,4	1678,8	66,3	1423,8	62,1
animal production	959,1	35,4	1036,7	40,7	994,7	40,6	851,6	33,7	869,2	37,9

\* At current prices.

\*\* Preliminary data.

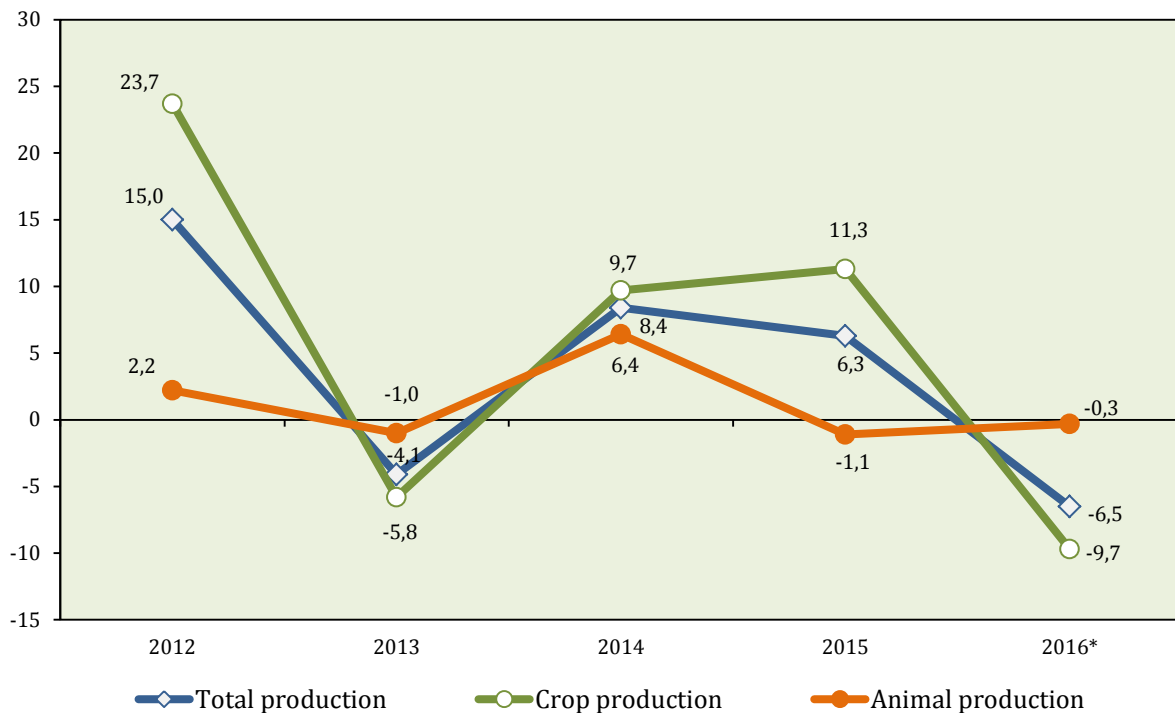
Source: Statistics Lithuania.

The crop output value in 2016, as compared to 2015, was lower by 15.2 percentage points. This resulted from the decreased harvest of all crop production

products. The crop output value decrease was also impacted by the lower purchase prices for fruit and berries, grain and vegetables (by 17.5, 10.2 and 9.5%, respectively). The value of livestock production in 2016, if compared to 2015, went up by 2.1% as a result of the increased production of eggs and milk (5.2 and 1.0%, respectively).

At estimating the gross agricultural output structure by counties, the highest share of crop output in 2015 was found in Šiauliai, Marijampolė and Panevėžys counties (77.7, 72.7 and 69.4%, respectively), and lowest in Alytus, Tauragė and Vilnius counties (52.4, 53.6 and 53.1%, respectively). In 2015, as compared to 2011, in all counties the share of crop output has increased. The highest growth in the share of crop output in 2015, as compared to 2011, was fixed in Utena, Telšiai and Marijampolė counties (by 13.4, 9.0 and 8.3 percentage points, respectively).

The gross agricultural production over the period of 2012–2016 if estimated at comparable prices declined mostly in 2016. Its highest increase was in the year 2012. Crop output in 2016, as compared to 2015, decreased by 9.7%, and livestock output by 0.3% (Fig. 1.10).



**Fig. 1.10. Changes in the volume of gross agricultural production\*\* in 2012–2016\*\*\*, %**

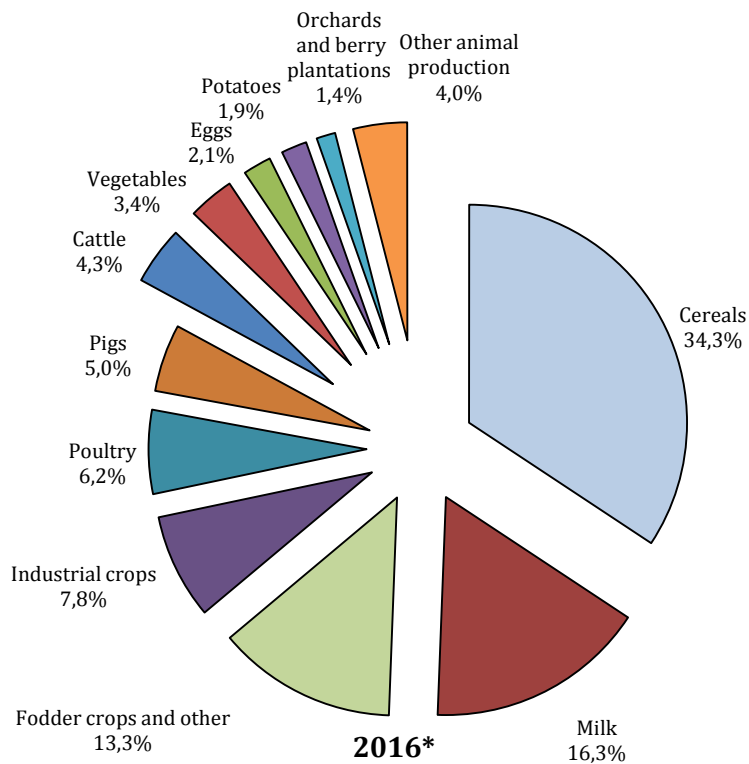
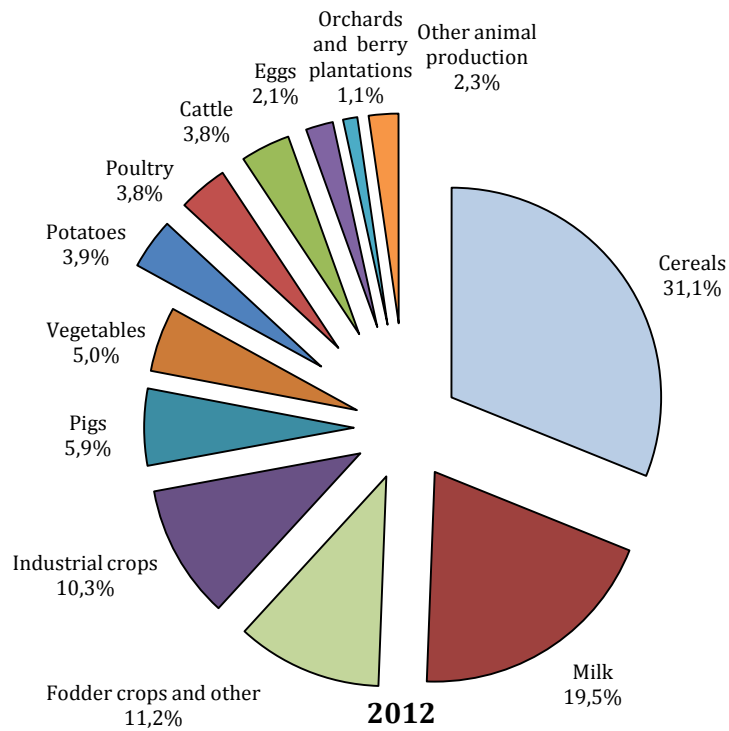
\* Preliminary data.

\*\* At constant prices.

\*\*\* Compared to the previous year.

Source: Statistics Lithuania.

The highest share of the gross agricultural output in Lithuania in 2012 and 2016 consisted of cereals (respectively, 31.1% and 34.3%) (Fig. 1.11).



\* Preliminary data.

**Fig. 1.11. Structure of gross agricultural production in 2012 and 2016**

Source: Statistics Lithuania.

In 2016, as compared to 2012, the share of cereals and poultry increased most of all in the gross agricultural output structure (by 3.2 and 2.4 percentage points, respectively), whereas the share of milk and plants for processing decreased most considerably (by 3.2 and 2.5 percentage points, respectively). The main reasons for negative tendencies in the dairy sector were the low purchase prices for milk and relatively lower direct payments as compared to crop products. The decreasing demand contributed considerably to the negative changes in the sector of plants for processing.

The gross agricultural output structure in the EU countries varies from country to country. All the EU countries as to the gross agricultural output structure may be subdivided into three groups: Lithuania is listed in the third group (the first group consists of the countries where livestock production is prevailing (e.g., Ireland, Finland), the second group – countries where the share of crop and livestock output is almost equal (e.g., Belgium, Luxembourg), the third group – countries where crop output is predominant (e.g., Bulgaria, Greece)). It is notable that at the beginning of the period under analysis the crop output in Lithuania constituted the gross output share that was higher by 2.5 percentage points. In 2016, the crop output share was similar to that in Slovakia, the Czech Republic and Latvia (Table 1.3).

**Table 1.3. Structure of gross agricultural production in EU countries in 2012 and 2016**

Country	2012			2016		
	crop production, %	livestock production, %	gross agricultural production, EUR/ha UAA	crop production, %	livestock production, %	gross agricultural production, EUR/ha UAA
Ireland	27,4	72,6	1313	24,8	75,2	1416
Finland	36,1	63,9	1816	37,2	62,8	1579
United Kingdom	41,1	58,9	1555	39,2	60,8	1422
Denmark	36,6	63,4	4251	40,2	59,8	3416
Malta	41,4	58,6	10997	43,8	56,2	10909
Cyprus	50,6	49,4	6289	44,7	55,3	6217
Belgium	45,3	54,7	6667	45,3	54,7	5921
Luxembourg	47,9	52,1	2883	45,7	54,3	2861
Estonia	52,8	47,2	848	46,5	53,5	695
Austria	48,9	51,1	2412	47,8	52,2	2237
Poland	53,3	46,7	1567	48,3	51,7	1514
Sweden	52,3	47,7	1866	48,6	51,4	1721
Germany	53,3	46,7	3173	50,8	49,2	2893
Slovenia	52,7	47,3	2328	55,0	45,0	2402
Netherlands	54,8	45,2	12692	56,7	43,3	12823
Portugal	55,3	44,7	1709	58,7	41,3	1785
France	63,1	36,9	2538	61,2	38,8	2296
Latvia	62,0	38,0	644	61,6	38,4	629
Czech Republic	61,4	38,6	1329	61,7	38,3	1284
Slovakia	55,5	44,5	1133	61,8	38,2	1008
<b>Lithuania</b>	<b>64,6</b>	<b>35,4</b>	<b>948</b>	<b>62,1</b>	<b>37,9</b>	<b>801</b>
Croatia	63,5	36,5	1659	62,9	37,1	1283
Spain	59,7	40,3	1729	63,7	36,3	1937

Country	2012			2016		
	crop production, %	livestock production, %	gross agricultural production, EUR/ha UAA	crop production, %	livestock production, %	gross agricultural production, EUR/ha UAA
Hungary	62,2	37,8	1498	64,5	35,5	1680
Italy	63,0	37,0	3764	65,5	34,5	3623
Romania	69,3	30,7	996	71,4	28,6	1039
Greece	71,6	28,4	1968	71,5	28,5	1917
Bulgaria	68,7	31,3	837	74,0	26,0	737

Source: Eurostat data.

Lithuania's gross agricultural production per 1 ha of UAA in 2016 was among the lowest in the EU. Compared to Denmark where conditions are similar, this indicator was lower by more than 4 times. Such results were mostly impacted by the purchase prices for agricultural products that were lower than in other countries. In 2016, the highest gross agricultural production per hectare of UAA was in the Netherlands, Malta, Cyprus, and Belgium. These countries have utilised rationally their natural and industrial resources and selected product production priorities according to their competitive advantages and situation on the market.

Comparing the gross agricultural output per hectare of UAA, it is seen that no distinct difference exists between groups. In Lithuania the gross agricultural output per hectare of UAA in 2016 was by 15.3% higher than in Estonia where livestock production makes a considerably larger portion of the gross agricultural output.

Procurement amounts and prices for agricultural products as well as input prices for their manufacture have the strongest impact on the volumes of the gross agricultural output. The volumes and structural changes of the agricultural production in Lithuania were also determined by the ever changing market conditions. Volumes of separate agricultural products purchased over the period of 2012–2016 have changed unevenly. In 2016, in comparison with 2015, purchase of grain increased by 17.4%, fruit and berries by 11.4%, and vegetables by 7.0%, whereas of rapeseed decreased by 26.1% and potatoes by 7.5%. Volumes of all purchased animals and livestock products, except eggs and poultry, decreased in 2016, as compared to 2015. Purchase of cattle decreased by 4.5%, pigs by 2.7%, and milk by 1.8%. These changes to a great extent were influenced by the prices of agricultural products and prices for input required for their production.

Price index variation tendencies for agricultural products and input required for their production somewhat differed within the period of 2012–2016. The purchase price index on crop products was highest in 2015, on livestock products in 2013, and on inputs in 2012. The lowest purchase price index on crop products was in 2014, on livestock products in 2015, and on inputs in 2016. In 2016, as compared to 2015, prices for crop products have reduced by 7.2%, for livestock product by 1.1%, and for inputs by 10.2%. These price index variations during the period of 2012–2016 predetermined the disproportion (the so-called price scissors) between the purchase price for agricultural products and price of inputs (Table 1.4).



**Table 1.4. Price indices of agricultural production and inputs in 2012–2016, %**

Indicators	2012	2013	2014	2015	2016
Price scissors	91,7	108,5	90,6	89,4	106,9
Purchase price indices of agricultural production					
total	99,5	102,5	87,8	91,4	96,0
crop production	97,1	97,1	85,0	99,5	92,8
animal production	101,7	107,2	90,1	85,3	98,9
Price index of inputs	108,5	94,5	96,9	102,2	89,8

*\* Compared to the previous year.*

*Source: Statistics Lithuania.*

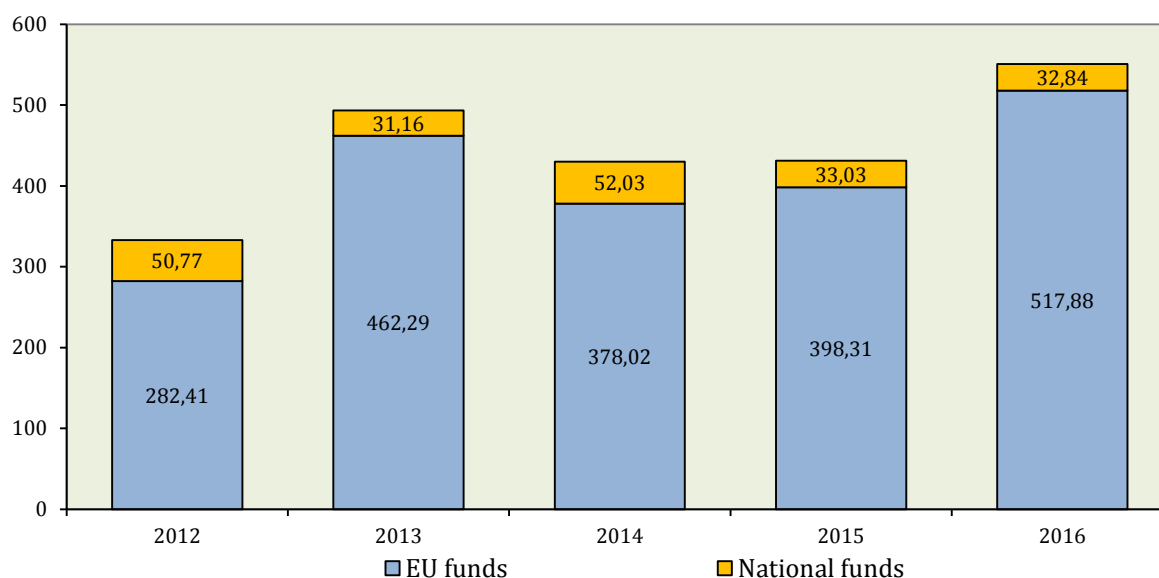
Over the entire period of 2012–2016, the year 2013 was most favourable for agricultural product producers, as compared to the previous years, the purchase prices for agricultural production increased by 2.5%, and for inputs decreased by 5.5%. The year 2015 was most unfavourable when comparing with 2012 the agricultural production purchase prices dropped by 8.6%, and for inputs increased by 2.2%. The year 2016 was favourable for both crop and livestock product producers, as the prices for inputs have decreased more to a greater extent than the purchase prices for agricultural production.

### **3. EU and national support for the development of Lithuania's agricultural and food sector**

The CAP, according to which support for agriculture in Lithuania was provided, was reformed in 2014, and in the year 2016 it was characterised by stability and continuity. The key goal of this policy is to maintain the viable agriculture, to provide the population with food, to preserve the environment and save resources, and to reduce social exclusion between the rural and urban population. Aiming to achieve this goal, support is granted to economic entities from the EU and national budget. In 2016, funds, allocated for financing of agriculture, comprised EUR 1069.9 million, i.e. by 1.26% less than it was allocated in 2015 (EUR 1083.5 million).

**Direct payments.** Aiming to assure the long-term and less vulnerable economic viability of farms, depending to a lower extent on the agricultural production price fluctuations, direct payments are paid. They are allocated to agricultural activity entities for the declared utilised agricultural area, crop and animals. Continuing the provision of support under the single area support implementation scheme, in 2016, like in 2015, direct payments in Lithuania have been paid from the European Agricultural Guarantee Fund (EAGF) and from the national budget by paying the transitional national aid (TNA) payments. In 2016, the share of EAGF funds, allocated for Lithuania's direct payments,

accounted for 93.4% (EUR 442.5 million); the disbursed amount made EUR 517.9 million (Fig. 1.12). Compared to 2015, part of the allocated EAGF funds increased by 5.9%, and the disbursed amount comprised 30.0%. The TNA part, paid out for the declared animals and crop in 2016, amounted to EUR 32.8 million, i.e. by 0.6% less than in 2015 (EUR 33.0 million).



**Fig. 1.12. Funds for direct payments in 2012–2016, EUR million**

Source: Data of National Paying Agency.

According to the CAP for 2014–2020, the increasing financial envelope is foreseen and it is intended for supporting direct payments from the EAGF. Due to this reason, in 2016, as compared to 2015, the payments have increased, namely, the basic payment, greening payment and payment for first hectares. In 2016, the amount of the basic direct payment, paid to the applicant for UAA, comprised 59.4 EUR/ha, i.e. by 4.8% more than in 2015 (Table 1.5).

**Table 1.5. Direct payments rate paid from the EU budget in Lithuania in 2012–2016**

Kind of payment	2012	2013	2014	2015	2016
EU budget payments:					
basic payment, EUR/ha	117,0	130,9	114,4	56,7	59,4
greening payment, EUR/ha	–	–	–	44,9	46,6
payment for the first hectares, EUR/ha	–	–	30,8	48,8	51,8
young farmer payment, EUR/ha	–	–	–	45,8	45,8
quota sugar payment, EUR/t	99,6	99,6	99,6	–	–
payment for protein crops, EUR/ha	–	–	–	83,5	60,1
payment for vegetables grown in heated greenhouses, EUR/a*	–	–	–	527,0	453,4
payment for field vegetables (except legumes), EUR/ha	–	–	–	324,2	310,9

Kind of payment	2012	2013	2014	2015	2016
payment for fruit and berry cultivation, EUR/ha	-	-	-	207,4	230,3
special milk support, EUR/t	-	-	9,2	-	-
dairy breed cows payment, EUR/head	-	-	-	80,0	91,0
beef cattle payment, EUR/head	148,0-187,7	128,0-162,5	86,5-109,8	108,8	94,0
dairy breed bulls payment, EUR/head	-	-	-	76,8	68,8
sheep (meat breeds) payment, EUR/head	11,0-19,7	9,0-15,9	6,3-11,1	13,4	10,7
dairy female goats payment, EUR/head	-	-	-	41,4	20,7

\* 1 are = 0,01 ha.

Source: Data of the Ministry of Agriculture of the Republic of Lithuania.

In 2016, the redistributive payments were paid for the first 30 ha, targeting to support farms smaller by UAA area; the payment size amounted to 51.8 EUR/ha, i.e. by 6.1% more than in 2015.

The greening payment is aimed to stimulate the more favourable agricultural activities in terms of environment. In 2016, the greening payment in Lithuania amounted to 46.6 EUR/ha, i.e. by 3.8% more than in 2015 (44.9 EUR/ha).

In 2016, like in 2015, payments aimed to contribute to retaining young people in the rural regions were disbursed. In 2016, the size of complementary direct payments allocated to young farmers in Lithuania amounted to 45.8 EUR/ha, i.e. the same amount as in 2015.

Of importance is to mention the continuity of payments in Lithuania relating to production volumes. The coupled support from the EAGF funds is paid for growing of vegetables, except potatoes, in closed (heated greenhouses) and open ground, as well as for growing fruit, berries and protein crops, for dairy cows, beef cattle and sheep of meat breeds, dairy bulls, and dairy goats.

In 2016, the coupled payment in Lithuania for cultivation of protein crops amounted to 60.1 EUR/ha, i.e. by 28% less than in 2015; for growing of vegetables in closed ground 453.4 EUR per are (in 2015 – 527 EUR per are); for growing of field vegetables (except of protein ones) 310.9 EUR/ha (in 2015 – 324.2 EUR/ha); for fruit and berries 230.3 EUR/ha (by 11.0% more than in 2015). Of the EAGF overall coupled support funds, 80% was foreseen for farms in the trend of livestock production. In 2016, the coupled payment in Lithuania per dairy cow made EUR 91 (in 2015 – EUR 80); per beef cattle head EUR 94.0, i.e. by 13.6% less than in 2015); per sheep of meat breeds EUR 10.7 (in 2015 – EUR 13.4); per dairy bull EUR 68.8 (in 2015 – EUR 76.8); payment per dairy goat decreased by half as compared to 2015, and in 2016 amounted to EUR 20.7.

These coupled direct payments for livestock have partly changed and supplemented the special support payments for milk and special support schemes for beef cattle and sheep of meat breeds applied in 2014. Annual variations in payment amounts depend on the number of units to be granted support. The number of supportable units being higher than that approved by the European Commission (EC) in

2014 determines the lower size of a payment per hectare of crops or per head of livestock.

Even though the major portion of direct payments was funded from the EU funds, some part of direct payments was also disbursed from the national budget funds. The TNA amount, foreseen to be paid in 2016 for declared animals and AUU, made the same amount as in 2015 – EUR 33.8 million. Without prejudice to the TNA payment procedure coordinated with the EC and taking into account the permissible limits of TNA funding for separate sectors and the available reserve of funds, the TNA payments in 2016, as compared to 2015, have increased for protein plants (23.4 EUR/ha), for suckling cows (111.1 EUR/head) and bulls (212.2 EUR/head) (Table 1.6).

In accordance with maximum limits of the TNA payments established by the EC for agricultural products, in 2015, due to the reduced TNA share, payments for quota milk and ewes had to decrease. With the number of eligible applicants reduced, the size of a payment for quota milk decreased insignificantly – by 1.9% (in 2016 – 15.7 EUR/t); for ewes – by 6.8% (in 2016 – 4.1 EUR/head).

**Table 1.6. Complementary national direct payments (CNDP) in 2012 and transitional national aid (TNA) payment rates in Lithuania in 2013–2016**

Kind of payment	2012	2013	2014	2015	2016
CNDP and TNA payments*for production of:					
grain crops, rape, EUR/ha	-	2,9	-	-	-
protein crops, EUR/ha	13,0	13,0	13,0	13,0	23,4
fibre flax, EUR/ha	43,4	43,4	44,0	-	-
suckler cows, EUR/head	89,8	89,8	87,0	105,0	111,1
bulls, EUR/head	173,8	231,7	173,0	205,0	212,2
bull production extensification, EUR/head	-	8,7	-	-	-
slaughtered adult cattle, EUR/head	-	8,7	-	-	-
ewes, EUR/head	11,3	7,5	5,8	4,4	4,1
quota milk, EUR/t	20,3	18,8	15,1	16,0	15,7

\* Total sum of coupled and decoupled payments.

Source: Data of the Ministry of Agriculture of the Republic of Lithuania.

According to the National Paying Agency data, until the end of the year a total of direct payments amounting to EUR 394 million (by EUR 111.7 million more than in 2015) was allocated to farmers for the UAA, crops and livestock, declared in 2016. The amount of the paid direct payments comprised 89% of the total financial envelope assigned for Lithuania. Lithuania is attributed to the EU Member States, paying payments most promptly.

**Market regulation measures.** In Lithuania, the pursued market regulation measures varied in different years. The key measures cover intervention purchase, storage and sale of grain, butter, skimmed milk powder and beef meat from intervention warehouses. The market regulation measures also cover support being granted for private storage of cheeses, butter, skimmed milk powder, white sugar, beef meat, pig

meat, mutton and goat meat; for usage of sugar in the production of industrial products; for fresh fruit and vegetables withdrawn from the market, for non-harvesting of fruit and vegetables and green harvesting. Aid is granted for consumption of milk and milk products in educational establishments, and the programme for promoting fruit consumption at schools is being implemented, etc.

Since 2014 the withdrawal of export subsidy forms (direct export subsidies, export credits, etc.) has been assured in Lithuania, and export of Lithuania's agricultural products has been promoted by other market regulation measures, while implementing a support scheme for information and sale promotion actions for agricultural products on the domestic market and third countries. In 2016, EUR 3 million was paid under the said scheme (EU funds – EUR 2.0 million, national budget funds – EUR 1.0 million), i.e., by 36.2% less than in 2015 (EUR 4.7 million).

With an aim to improving public health, it is very important to develop the proper eating habits in children and juveniles, and educational establishments are the best place to impact and change the children's nutrition habits. Seeking to promote the consumption of dairy products on the domestic market and to reduce disbalance on the dairy product market, the support programme "Milk for Children" is being implemented in Lithuania. In implementing the programme "Milk for Children", in 2016, 941 schools, 625 kindergartens and 8 child foster homes took part in it. In the said educational establishments milk was supplied to 221.9 thousand of children, i.e. by 3.4% more than in 2015 (214.5 thousand). For implementing this measure in 2016 EUR 3.5 million was disbursed (of which EUR 3.0 million from the national budget funds). This is an investment that will help to reduce the future expenditure on public health, related to improper nutrition, since currently drinking milk consumption per capita per annum is very low, hardly 25 litres. In Poland and Estonia this indicator is around 60 litres, whereas in Finland even 140 litres per capita per annum.

In the school year of 2015–2016, EUR 1541.7 thousand of support funds (excluding VAT) was allocated from the EU and national budget for promoting the programme for fruit consumption in children's educational establishments. In 2016 the disbursed support amount reached EUR 1614.8 thousand, of which the national budget funds comprised EUR 411.0 thousand. Aiming to use effectively the funds granted for the programme, from 1 November 2015 the limit of the monthly funds per child has been approved making EUR 1.03 excluding value-added tax VAT (from April 2016 – EUR 1.54, from May 2016 – EUR 2.29). The following products were distributed free to preschool children and primary schoolchildren: apple puree, organic or in their absence of national quality apples, pears, carrots and organic or in their absence of national quality apple, pear, carrot, currant, strawberry, raspberry, and chokeberry juice and their mixes. The programme involved 129 applicants: 58 suppliers supplied their products to 1474 educational establishments, and 71 educational establishments participated in the programme independently. In total, the programme covered the participation of 220.8 thousand children.

In 2016, like in 2015, support was granted to groups of fruit and vegetable producers for withdrawal from the market of products and non-harvesting measures. Due to the change in the Rules for provisional additional support to fruit and vegetable growers, the quantity of products intended for withdrawal from the market in the period from 8 August 2015 to 30 June 2016 in Lithuania was distributed as follows: apples and pears 2000 t; tomatoes, carrots, sweet paprika, cucumbers and gherkins 3000 t; other products, except apples, pears and carrots, referred to in Part 2 of Article 1

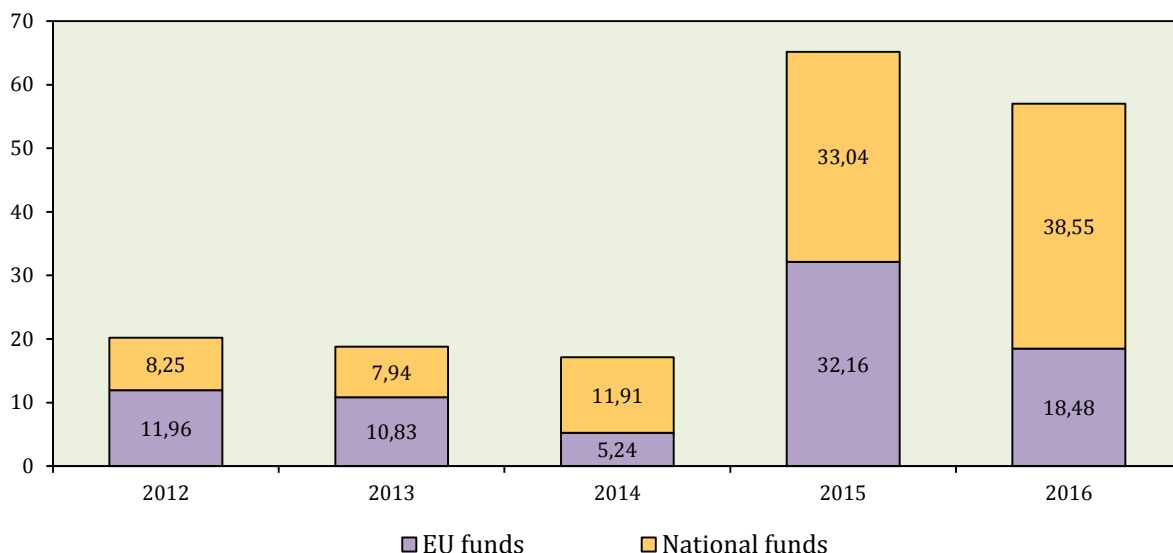
of Regulation (EU) No. 1031/2014 – 1000 t. In the above-mentioned period 585.5 t of carrots was withdrawn from the market with the view of their free distribution. The support measure was used by 3 farmers, and support allocated to them amounted to EUR 75.0 thousand. From August 2016 to January 2017 withdrawal from the market of carrots totalled 8.6 thousand tonnes. In total, EUR 98.1 thousand was paid in 2016.

In 2016, services for private storage of agricultural and food products and intervention product purchase have been used. In 2016, like in 2015, butter, skimmed milk powder and cheese were under storage. For intervention it was possible to sell butter, skimmed milk powder and grain. In 2016, under the private storage measure EUR 352.9 thousand disbursed, making twice as much than in 2015 (EUR 169.9 thousand). For intervention purchases in 2016 EUR 195.8 was spent, i.e. by 15.2% more than in 2015 (EUR 169.9 thousand). Support for private storage and expenses for intervention purchases are 100% financed from the EU budget funds

In 2016, a payment was continued under the special support to milk producers who suffered losses from Russia’s import embargo and under the provisional exclusive support to milk producers. Under these measures in 2016 EUR 42.1 million was paid out, i.e. by 19.8% less than in 2015 (EUR 52.47 million).

To compensate losses as a result of African swine fever, in 2016 in Lithuania EUR 963.2 thousand (in 2015 – EUR 787.8 thousand), of which 50% consisted of the national budget fund, was paid out to pig breeders in Zone III who sold pigs to slaughterhouses and lost part of income due to differences in prices, as compared to the average purchase price for pigs paid in the country.

In 2016, a total of EUR 57.0 million, i.e. by 12.6 less than in 2015 (65.2 million), was spent for funding of market regulation measures (Fig. 1.13).



**Fig. 1.13. Funds for market regulation measures in 2012–2016, EUR mill.**

Source: Data of the National Paying Agency.

The EU budget funds for the market regulation measures constituted EUR 18.5 million, the national budget funds EUR 38.5 million..

**Rural development measures.** Alongside the direct support of farmers, the CAP aims to achieve the rural development targets contributing to the smart, sustainable and inclusive growth strategy “Europe 2020”.

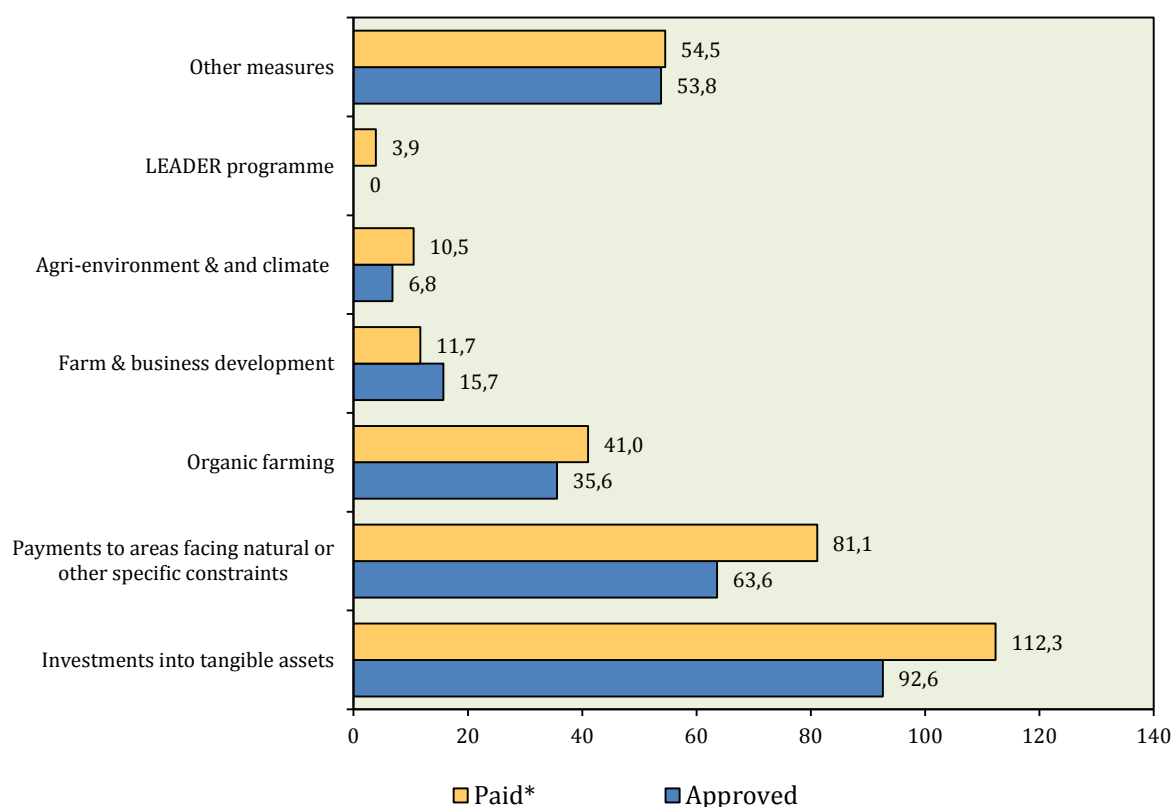
In 2016 applicants were willingly using the Lithuanian Rural Development Programme (RDP) for 2014–2020. Collection of applications was called for most of the supported rural activities. According to the data of the National Paying Agency, the support funds in 2016 were subdivided into 7 RDP investment measures and their 20 areas of activities and 4 land-related compensatory measures and their 9 areas of activities. Throughout 2016, almost 112.8 thousand of applications were collected, of which according to the 2014–2020 RDP measures 92.6 thousand, the remaining ones belonged to the earlier RDP measures. According to all the applications collected in 2016, support amounting to EUR 383.9 million (by 49.8% less than in 2015) was requested, and the paid out amount of support made EUR 304.9 million, i.e. by 2.7 times more than in 2015 (EUR 112.8 million).

In 2016, as in 2015, the significant part of applications (about 86 thousand) was submitted for support according to area-related compensatory measures: “Agri-environment and Climate” (5.0 thousand), “Organic Farming” (3.0 thousand), “Natura 2000 Payments and Payments Related to the Common Water Framework Directive” (3.8 thousand), and “Payments to Farmers in Areas with Natural and Other Specific Handicaps” (74.5 thousand).

Measures directly related to agriculture further remain in great request, if to add together both areas of activity “Support for Investments into Agricultural Holdings” and “Support for Small Farms”, the submitted applications amounted to 2705. According to the National Paying Agency data, most popular investments in the said areas of activities are: new machinery and equipment (tractors, grain harvesting combines, and other agricultural cultivation equipment), milking equipment, and construction and reconstruction expenses.

The total value of the submitted applications for support of investments into agricultural holdings is EUR 113.7 million. Under this activity in 2016 EUR 99.3 million was disbursed.

Under the RDP measure “Farm and Business Development” the activity “Support for Investments in Creation and Development of Economic Activities” in 2016 was ranked second by popularity. In 2016 EUR 36.6 million of support was requested for implementing that activity, i.e. by 17.7% more than in 2015. Support for activities “Support for Setting Up of Young Farmers” and “Support for Small Farms” was actively requested in 2016. Demand for support was higher by almost 2 times, as compared to the sums approved for those activities (EUR 5.9 and 7.9 million, respectively).



\* Including funds of previous years.

**Fig. 1.14. Funds for rural development measures approved and paid in 2016, EUR mill.**

Source: Data of the National Paying Agency.

In 2016, as in the previous years, support for organic farming has gained interest. In 2016 applications for support amounting to EUR 43.7 million were received, i.e. by 5.4% less than in 2015. Even though in 2015 payments under this measure were not performed, in 2016, support for more than EUR 41 million was disbursed.

Encouraging the community-initiated local development, 49 local development strategies were approved in 2016 under the area of activity of the “LEADER” measure “Support for Implementation of Local Projects under Local Development Strategies“. To implement the rural strategies EUR 108.9 million is envisaged for the period of 2014–2020. Under the “LEADER” area of activity “Support for Local Action Group Activities and Activation of Population“ in 2016 EUR 3.8 million was disbursed, and under the area of activity “Preparatory Support“ – more than EUR 100 thousand.

The major portion of support for RDP measures in 2016, like in 2015, was paid out in Vilnius, Panevėžys and Utena counties –EUR 59.0 million, EUR 40.6 million and EUR 40.4 million, respectively, the least amount in Marijampolė County – EUR 16.2 million. In 2016, applications were most actively submitted in Utena, Vilnius and Panevėžys counties – 20.5, 18.6 and 12.8 thousand, respectively, the least number in Marijampolė County – 3.9 thousand.

**State aid.** To develop the competitive and effective agriculture and food sector, to improve agricultural production and food product quality, the State aid measures are being implemented in Lithuania. The funds from the national budget are allocated for implementing these measures. In 2016, the following State aid measures were funded:

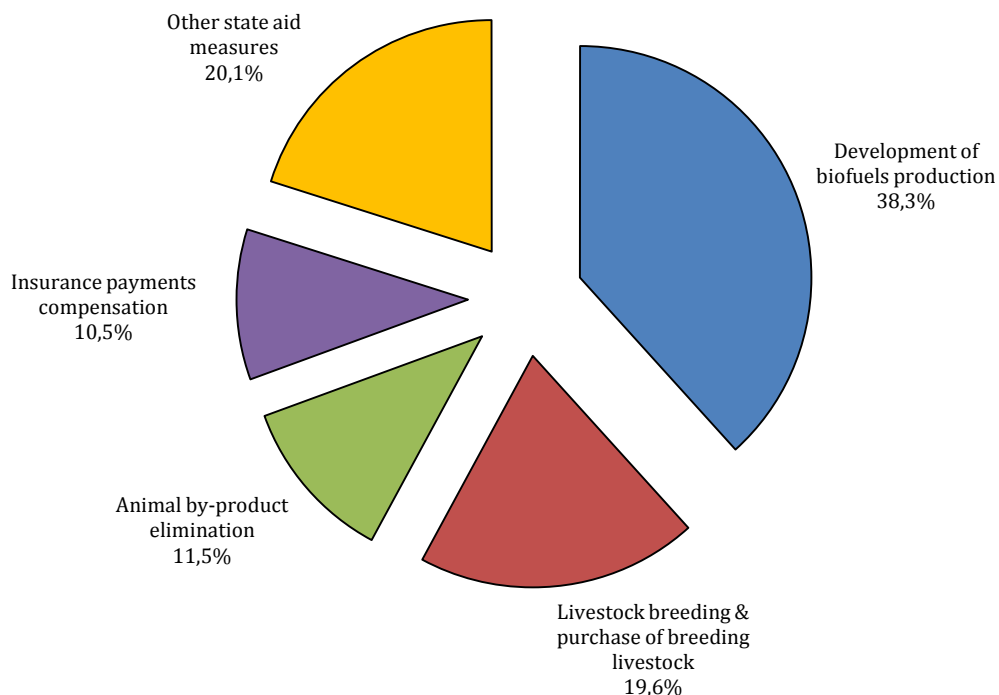


biofuel production; compensation of part of insurance premiums for agricultural activity entities; pedigree livestock breeding; acquisition of pedigree animals; animal by-products handling; safeguarding of certified national heritage products; promotion of manufacture, popularisation and sales of qualitative agricultural and food products; agricultural advisory services; performance of applied and international research; know-how transfer and information activities, etc.

As compared to 2015, in 2016 funding of the State aid measures got increased and comprised EUR 24.7 million, i. e. by 16.4% more than in 2015. The major portion of the State aid funds in 2016 was disbursed under the measure “Support for Biofuel Production Development” – EUR 9.5 million (38.3% of the total funding of the State aid measures in 2016), i.e. by 11.9% more than in 2015 (EUR 8.5 million). Under the above-mentioned measure, the State aid is granted by compensating part of the price for rape and cereals purchased for the production of rape oil and dehydrated ethanol.

Farmers used the crop insurance services more actively than in 2015. In 2016, under the State aid measure “Support for Compensating Insurance Premiums” EUR 2.6 million was disbursed, i.e. by 19.9% more than in 2015.

Seeking to improve the genetic quality of the herds of cattle, sheep and goats of meat breeds with high-valued pedigree livestock, improving the quality of manufactured agricultural products, in 2016 under the State aid measures “Pedigree Livestock Breeding” and “Support for Acquisition of Pedigree Animals” EUR 4.8 million was disbursed (19.6% of the total funds foreseen for the State aid measures, i.e. by 20.0% more than in 2015).



**Fig. 1.15. Structure of state-financed measures in 2016**

Source: Data of the Ministry of Agriculture of the Republic of Lithuania.

In 2016, as in the previous years, the State aid was actively used seeking to utilise the dead animals. Under the aid measure “Support for Handling of Animal By-products” EUR 2.8 million was disbursed in 2016 (11.5 % of the funds foreseen for funding of the State aid measures), i.e. by approx. 4.3% more than in 2015.

In 2016, support was foreseen for growers of beef cattle and sheep of meat breeds, dairy bulls, and dairy goats. This State aid is provided to those livestock growers who were not eligible for the coupled support payments in 2015 for beef cattle and sheep of meat breeds, dairy bulls, and dairy goats. The size of support to eligible livestock growers per beef cattle head could not exceed EUR 54.4, per sheep of meat breeds EUR 6.7, per dairy bull EUR 38.3, and per dairy goat EUR 20.7. Under this measure a total of EUR 1.4 million, i.e. 5.7% of the funds foreseen for funding of the State aid measures was disbursed.

The State aid measures, as in the previous years, have contributed to tackling problems, faced by agricultural entities. Part of the continuous measures has been adapted according to the 2016 needs, and due to the unwarranted payment of special measure payments from the EU budget fund because of the administrative obstacles, as compensation in 2016 was financed from the State aid.

#### **4. Economic entities in agriculture and manufacture of food products**

**Agricultural entities.** According to AIRBC data, the number of agricultural entities who declared UAA by categories has changed unevenly within 2012–2016: the number of agricultural companies and other agricultural enterprises increased by 27.6%, while the number of farms owned by natural persons decreased by 14.4% (Table 1.7). These tendencies are continuing over the entire period under study.

**Table 1.7. Number of agricultural entities who declared agricultural area in Lithuania in 2012–2016**

Agricultural entities	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Agricultural companies and enterprises	796	844	938	1012	1016	27.6
Households, thou.	158,7	150,2	141,5	137,9	135,9	-14.4

*Source: Data of the Simplified Direct Payments Information System.*

The average size of a farm by the UAA area declared by all agricultural entities in 2016 in Lithuania was 21.2 ha (Table 1.8), i.e. by 2.9% larger than in 2015 and by 21.1% than in 2012. In total, the agricultural entities in 2016 declared the lower number of farms by 8.1% than in 2015, and their declared area increased slightly – by 1.2%. Even

though in 2016, as in the previous year, farms with UAA up to 5 ha constituted around half of the farms which declared UAA, their number, however, if compared to the previous year, decreased by 12.9%. The number of such farms as compared to 2012 got reduced by 16.0 thousand, or by 19.3%. A group of farms with 5.1–10 ha is reducing every year. Within the reference period, the number of farms in this group reduced by 12.9%, whereas their part in the structure has changed insignificantly. The number of farms in the group of farms from 10.1 to 20 ha has dropped by 7.0%. In the period under analysis the number of farms in the farm groups with 20.1 to 50 ha, 50.1–100 ha and 100.1–500 ha increased by 2.5%, 5.7% and 12.2%, respectively. In the group of farms which declared more than 500 ha any changes were absent.

The declining number of farms was determined by several factors. Farms are becoming larger due to restructuring processes. Part of the senior farmers, receiving EU support, is retreating from the commodity agricultural production. Moreover, some farmers refuse to declare areas because of the stringent agrarian and environmental requirements concerning the good condition of the farm.

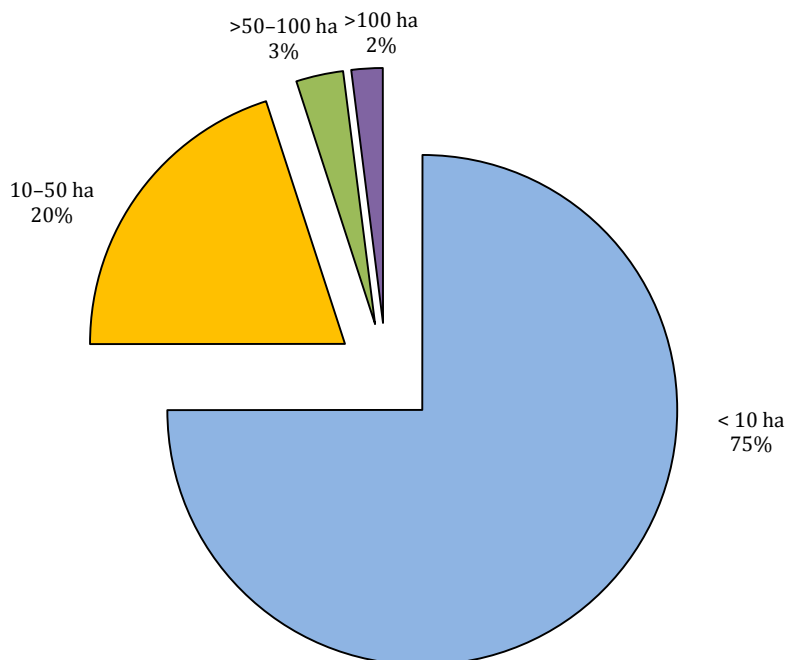
**Table 1.8. Structure of farms by declared agricultural area in Lithuania in 2012–2016**

Farm size, ha	2012		2013		2014		2015		2016	
	number, thou.	share, %	number, thou.	share, %	number, thou.	share, %	number, thou.	share, %	number, thou.	share, %
≤ 5	82,7	51,8	76,6	50,8	70,2	49,2	66,7	48,1	66,7	48,1
5,1–10	34,8	21,8	33,6	22,2	31,2	21,9	30,3	21,8	30,3	21,8
10,1–20	20,1	12,6	19,0	12,6	18,7	13,2	18,7	13,5	18,7	13,5
20,1–50	12,1	7,6	11,8	7,8	12,0	8,4	12,4	8,9	12,4	8,9
50,1–100	5,3	3,3	5,3	3,5	5,3	3,7	5,6	4,0	5,6	4,0
100,1–500	4,1	2,6	4,3	2,8	4,5	3,2	4,6	3,3	4,6	3,3
> 500	0,5	0,3	0,5	0,3	0,5	0,4	0,5	0,4	0,5	0,4
All farms	159,5	100,0	151,1	100,0	142,5	100,0	138,9	100,0	138,9	100,0
Average farm, ha	17,5		18,5		19,9		20,6		21,2	

*Source: Data of the Simplified Direct Payments Information System.*

According to the AIRBC data, at the end of 2016, the Register of Holdings held a record of 177.2 thousand holdings (further holdings). This is by 2.6% less than in the previous year. Reduction in the number of holdings is conditioned by the fact that from 2011 at the beginning of each year the holdings not complying with the requirements of the law are selected and deregistration of the holdings the data thereof has not been renewed within the past three years is initiated (at the end of the year 2016, 10.3 thousand holdings were deregistered). Even though the number of holdings went on decreasing, the land area of holdings held by the owners increased by 1.8%, as compared to 2015, up to 3.08 million ha of the total land area. The UAA area of holdings has not changed during the year amounting to 2.45 million ha. The average size of a holding in 2016 by total holding area constituted 17.4 ha (during 2012–2016 increased

by 28.9%), by UAA – 13.9 ha (within the reference period increased by 3%). As in the previous year, even 75% of all the holdings were up to 10 ha, and holdings, exceeding 50 ha, accounted for 5% (Fig. 1.16).

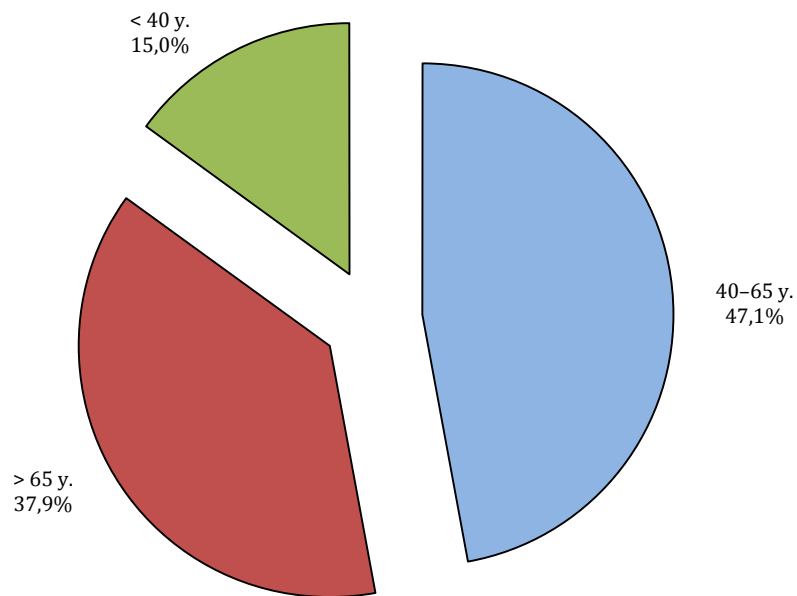


**Fig. 1.16. Distribution of agricultural holdings by size group in Lithuania in 2016, %**

*Sources: Data of the Register of Agriculture and Rural Business of the Republic of Lithuania.*

More than a half of the UAA is held by the owners of registered farmers' farms – 69.2% of the total number of the owners of holdings. At the end of 2016, as compared to 2015, the number of registered farmers' farms increased just by 0.1% – to 122.6 thousand. However, as compared to 2012, their number increased by 7.7%. The average size of the farmer's farm 9.4 ha remained the same as in the previous year. In the 2016 farm structure, farms with 5 ha of land prevailed (58%). Farms with 5 to 10 ha constituted 21%, and those from 10 to 50 ha – 19%. The largest farms with over 50 ha accounted for 2% of the total farmers' farms.

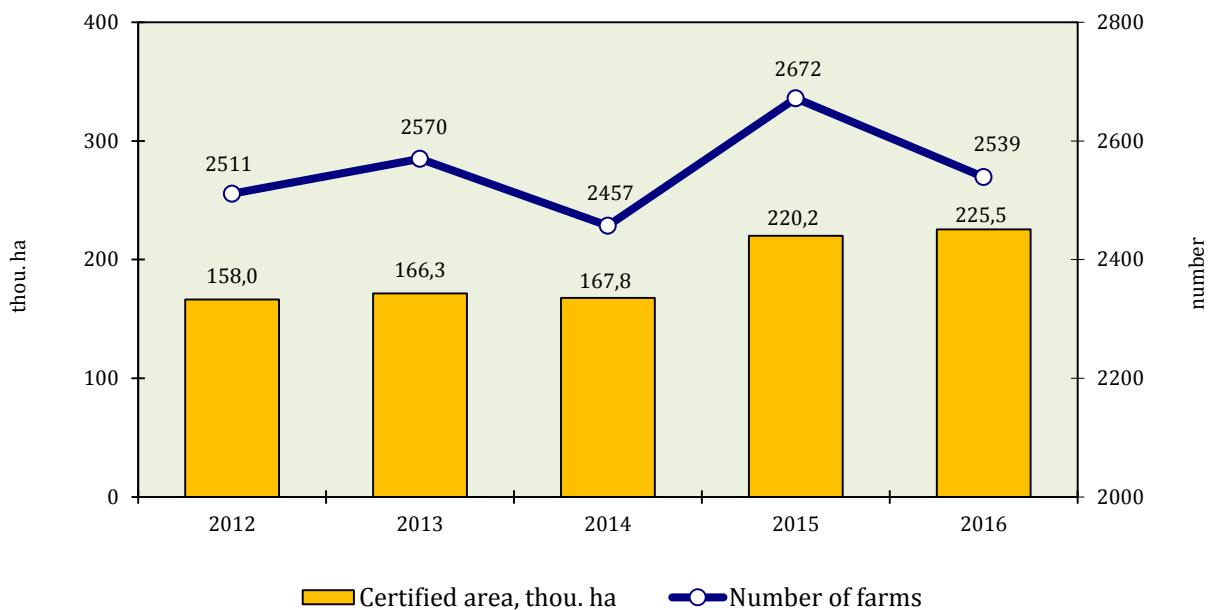
In 2016, the age of 47.1% of all registered farmers was 40–65. The share of young farmers under 40 comprised 15.0%, and at the age of retirement (over 65) – 37.9% (Fig. 1.17). As compared to 2012, the number of young farmers reduced by 8.5%, the number of the registered farmers at the age of retirement increased by 13.4%, and farmers at the age of 40–65 by 7.8%.



**Fig. 1.17. Distribution of registered farmers by age in Lithuania in 2016, %**

Source: Data of the Register of farmers' farms of the Republic of Lithuania.

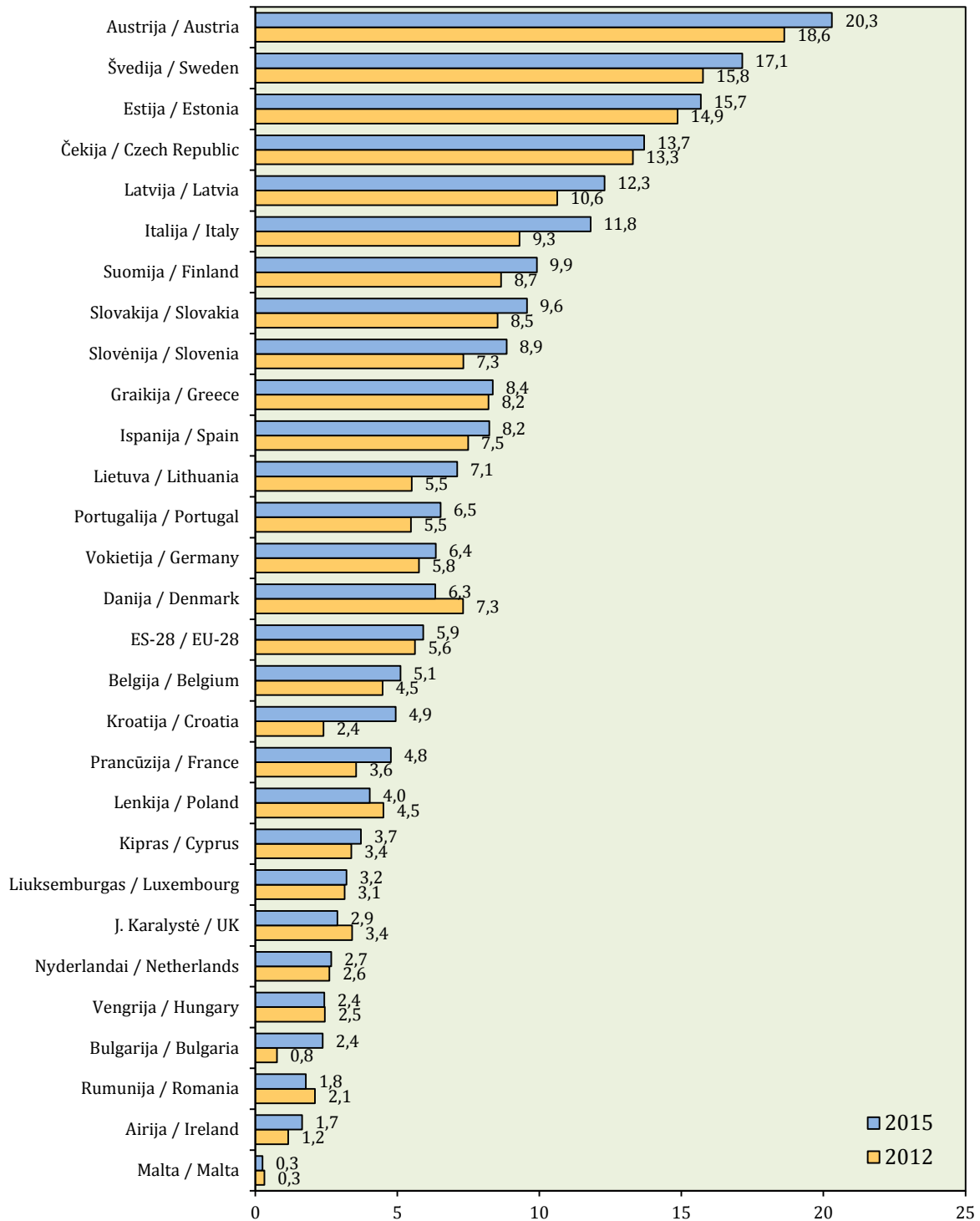
In Lithuania the certified organic production area in 2016 covered 225.5 thousand ha. During the period of 2012–2016 the certified area increased by 42.7%, and the number of farmers by 1.1%. In 2016, as compared to 2015, the certified area increased by 2.4%, the number of farms decreased by 5.0% (Fig. 1.18). The average size of the certified farm (including fisheries farms) in 2016, as compared to 2015, increased from 82.4 ha to 88.8 ha. 44.0% of organic farms kept animals, mostly cattle (55.9 thousand heads), sheep (27.2 thousand), and poultry (8.0 thousand). As compared to 2015, the number of certified cattle increased by 5.9%, sheep by 8.4%, and poultry by 29.0%.



**Fig. 1.18. Number of organic farms and certified area in Lithuania in 2012–2016**

Source: Data of public enterprise „Ekoagros“.

The share of organic areas in the total UAA structure is close to the average in EU-28. These areas in Lithuania comprised 7.1% of UAA; in EU-28, on the average, 5.9%. The major part of organic areas is in Austria, Sweden and Estonia, 20.3%, 17.1% and 15.7%, respectively (Fig. 1.19). During 2012–2015 the share of organic areas increased mostly in Croatia and Italy, by 2.5 percentage points in each, in Austria and Latvia – by 1.7 percentage points in each.



**Fig. 1.19. Share of organic area in total UAA in EU countries in 2012 and 2015, %**

Source: Eurostat data.

In Lithuania, as in many EU countries, the average area of an organic farm is larger than the average farm in the country. In the old EU countries, this difference is not distinct: in the United Kingdom it is higher by 54.3%, in Austria by 23.4%. Considerably bigger differences are seen in the new Member States: in Hungary the average organic farm is by 6.9 times larger than the average in the country, in Romania by 5.8 times, and in Slovakia by 5.4 times. Tendencies are similar in Lithuania – an organic farm is by 4.2 times larger than the average in the country (Table 1.9).

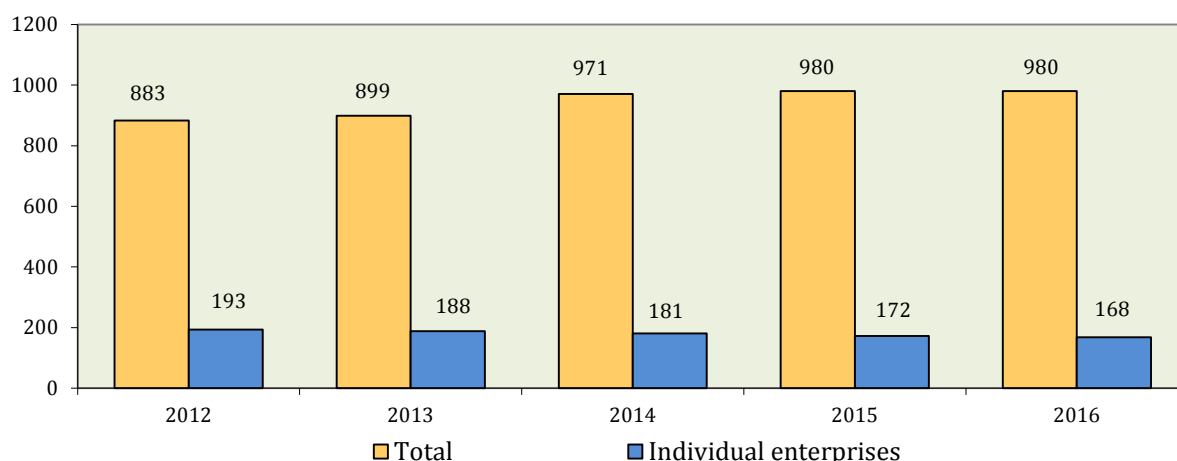
**Table 1.9. Average size of organic and country's farms in EU countries in 2013 and 2015, ha**

Countries	Average organic farm in 2015	Average country's farm in 2013
Slovakia	433,1	80,7
United Kingdom	144,4	93,6
Czech Republic	116,0	133,1
Estonia	95,6	49,9
Sweden	90,9	45,2
<b>Lithuania*</b>	<b>88,8</b>	<b>21,2</b>
Hungary	65,8	9,5
Latvia	63,7	23,0
Portugal	58,3	13,8
Spain	56,8	24,1
Denmark	55,9	67,5
Finland	52,0	41,9
Luxembourg	47,9	63,0
France	45,8	58,7
Ireland	42,7	35,5
Germany	42,3	58,6
Belgium	39,7	34,6
Netherlands	33,5	27,4
Italy	28,4	12,0
Poland	26,1	10,1
Croatia	24,8	10,0
Austria	23,9	19,4
Greece	20,8	6,8
Romania	20,7	3,6
Bulgaria	20,0	18,3
Slovenia	12,4	6,7
Cyprus	4,6	3,1
Malta	2,7	1,2

\* 2016

Sources: Data of Eurostat, Certification body "Ekoagros", AIRBC.

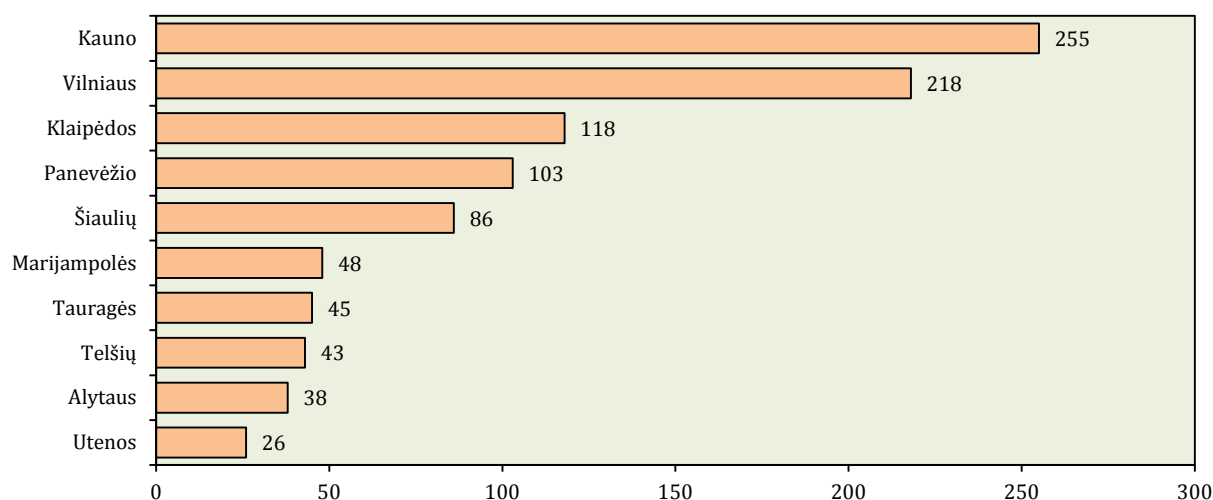
**Food industry enterprises.** At the end of 2016, 980 enterprises for manufacture of food products and beverages were in operation in Lithuania. 17.1% of all enterprises were individual. During the period of 2012–2016 the total number of enterprises increased by 11.0%, and the number of individual companies decreased by 1.3% (Fig. 1.20).



**Fig. 1.20. Number of enterprises of manufacture of food products and beverages in Lithuania in 2012–2016 (at the end of the year)**

Source: Statistics Lithuania.

According to the data of Lithuanian Department of Statistics, most of food production companies are located close to the major cities. 26.0% of all food and beverage production enterprises are sited in Kaunas County, 22.2% in Vilnius County (Fig. 1.21). The lowest number of food industry enterprises is in the counties of Utena and Alytus, accounting for 2.7% and 3.9%, respectively. In 2016, if compared to 2015, the number of enterprises increased most of all in Alytus, Šiauliai and Klaipėda counties – by 8.6%, 7.5% and 3.5%, respectively. The most considerable decrease was noted in Utena (10.3%), Telšiai (6.5%) and Vilnius (2.7%) counties.



**Fig. 1.21. Number of enterprises of manufacture of food and beverages by county in Lithuania in 2016 (at the end of the year)**

Source: Statistics Lithuania.



Over the reference period of 2012–2016, the number of enterprises in the sectors varied ambiguously. The number of enterprises engaged in the manufacture of grain milling products, starch and starch products has dropped by 7.1%. The number of enterprises most of all within five years increased in the sector of preparation, processing and canning of fruit, berries and vegetables and in the sector of production of milk and milk products – by 28.28 and 24.0%, respectively. The number of enterprises involved in the preparation and processing of fish and fish products and enterprises for production of meat and meat products increased at a slower pace – by 22.4% and 6.0%, respectively (Table 1.10).

**Table 1.10. Entities of manufacture of food products in Lithuania and their production\* sold in 2012–2016**

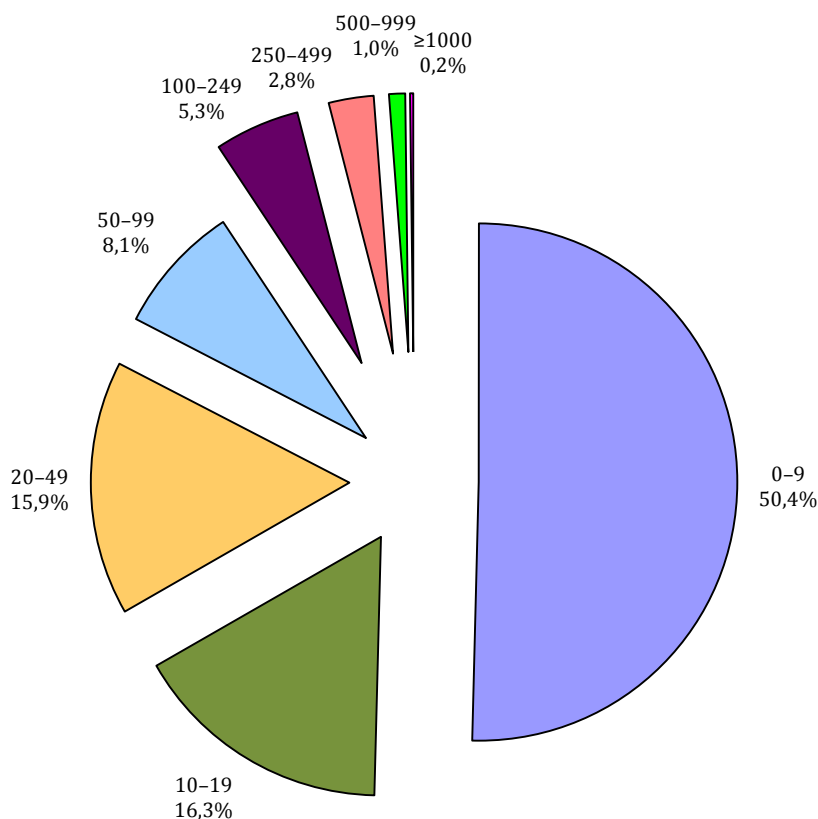
Indicators	2012	2013	2014	2015	2016
Manufacture of food products and beverages					
Number of enterprises	883	899	971	980	980
Number of employees	40828	41385	42843	42480	42051
Sales in domestic market, EUR mill.	2281,5	2390,2	2501,6	2483,8	2417,0
Export value, EUR mill.	1659,0	1765,3	1768,3	1656,3	1699,8
Manufacture of grain mill products, starches and starch products					
Number of enterprises	28	28	29	28	26
Number of employees	1063	798	1213	1196	1146
Sales in domestic market, EUR mill.	79,6	65,7	53,3	55,5	57,2
Export value, EUR mill.	102,9	115,9	125,5	149,2	161,2
Production of meat and meat products					
Number of enterprises	167	167	177	167	177
Number of employees	8372	8185	8415	7909	7458
Sales in domestic market, EUR mill.	515,4	536,2	553,3	507,8	397,6
Export value, EUR mill.	171,2	167,2	141,4	140,0	137,5
Production of milk and dairy products					
Number of enterprises	25	31	33	33	31
Number of employees	5713	7735	7557	7444	7283
Sales in domestic market, EUR mill.	548,0	544,7	554,1	499,9	532,0
Export value, EUR mill.	527,7	581,0	594,3	408,0	416,6
Preserving and processing of fish and fish products					
Number of enterprises	49	51	53	58	60
Number of employees	4565	4658	4895	4611	5123
Sales in domestic market, mill. EUR	76,7	113,8	186,1	198,9	190,3
Export value, mill. EUR	296,9	289,8	323,0	372,8	385,2
Preparation, processing and preserving of fruit, berries and vegetables					
Number of enterprises	39	39	41	46	50
Number of employees	1053	1024	1058	1186	1218
Sales in domestic market, EUR mill.	39,8	43,2	42,4	45,4	46,3
Export value, EUR mill.	29,8	38,2	30,6	30,9	38,9

\* VAT and excise duty incl.

Source: Statistics Lithuania.

The total number of employees involved in the manufacture of food products and beverages in 2016, as compared to 2014, decreased insignificantly – by 1.0%, and in comparison with 2012 increased by 3.0%. During the reference period, the highest decrease in the number of employees was fixed in 2012, and increase in 2014. Tendencies by sector varied. In 2016, as compared to 2015, the number of employees increased most significantly in the enterprises involved in the preparation and processing of fish and fish products (by 11.1%) and enterprises involved in the preparation, processing and canning of fruit, berries and vegetables (by 2.7%). In other sectors the number of employees went on reducing within the past years; mostly in the sector of the manufacture of meat and meat products (5.7%). In 2016, the majority of enterprises operated in the sectors of bakeries and manufacture of bakery products (3900 enterprises) and manufacture of meat and meat products, whereas by the average employee number per enterprise they were relatively smaller than the enterprises in other sectors.

With the number of enterprises involved in the manufacture of food products and beverages decreasing, the average number of employees per enterprise dropped by 1%. In 2016, the average number of employees per enterprise in different sectors varied substantially: the smallest number was in the sector of animal and vegetable fats and oils (11 employees). The average number of employees per enterprise involved in preparation, processing and canning of fruit, berries and vegetables was 24 employees, the highest number was in the enterprises involved in the production of milk and dairy products and in the preparation and processing of fish and fish products (respectively, 235 and 85 employees).

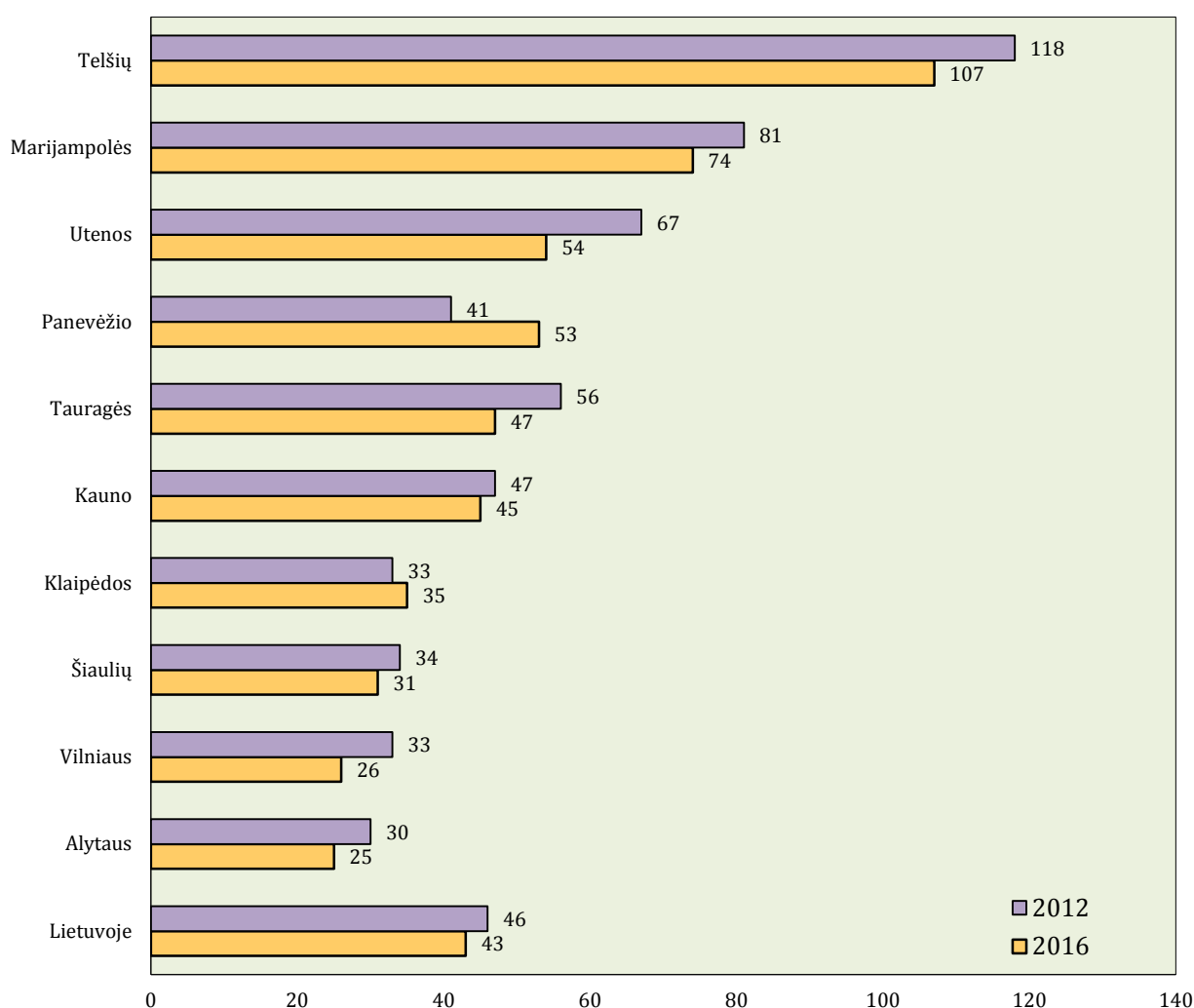


**Fig. 1.22. Structure of enterprises of manufacture of food and beverages by number of employees in Lithuania in 2016 (at the end of the year)**

Source: Statistics Lithuania.

50.4% of all enterprises in Lithuania involved in the manufacture of food products and beverages by number of their employees are attributed to very small (less than 10 employees), 32.2% to small enterprises (10–49 employees) and 13.4% to the medium-sized enterprises (50–249 employees) (Fig. 1.22). Enterprises with more than 250 employees in 2016 accounted for 4.0%, even though they employed almost 46.4% of all employees engaged in the sector for the manufacture of food products and beverages.

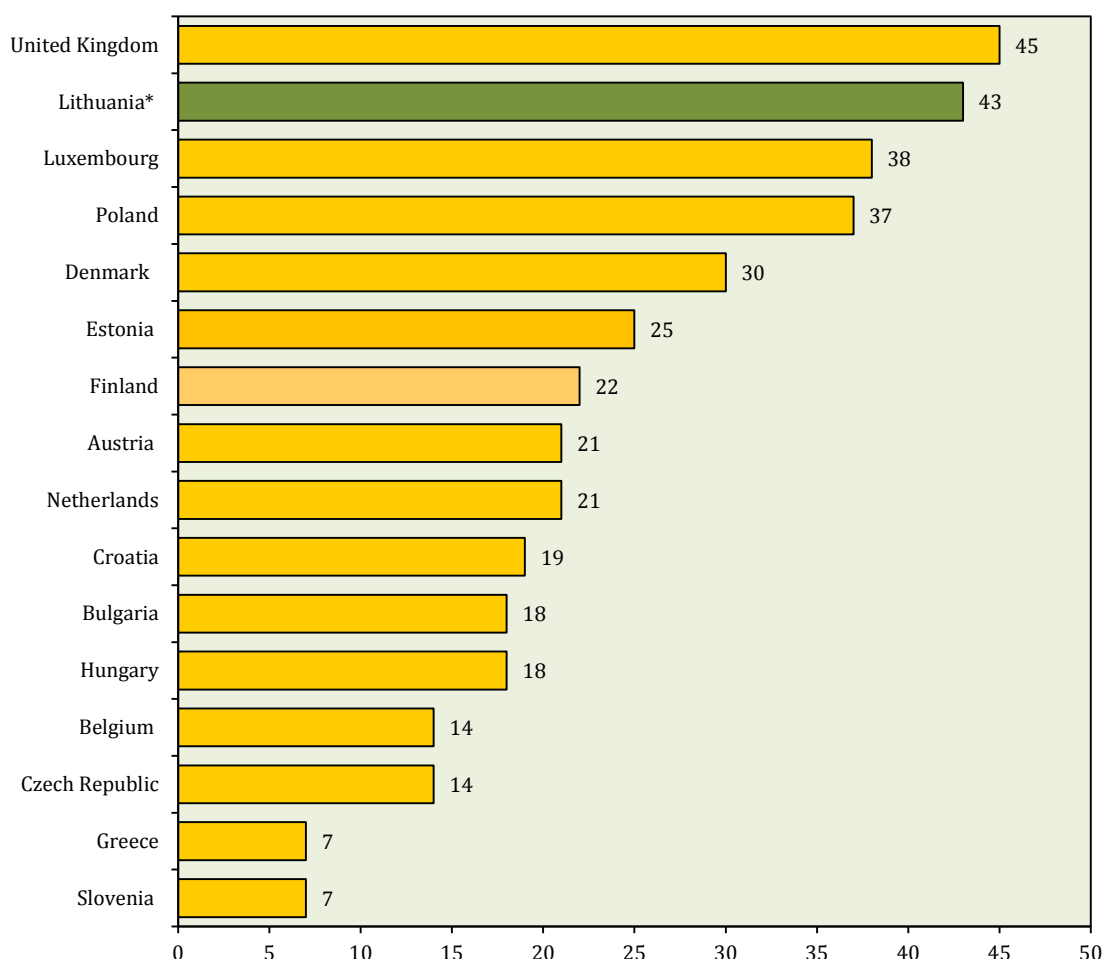
By the average number of employees per enterprise, Telšiai, Marijampolė and Utena counties were in the lead in 2016, as in 2012 (Fig. 1.23). Over the period under analysis the average number of employees per enterprise involved in the manufacture of food and beverages has changed most significantly in the Panevėžys County (the average number of employees increased by 29.3 %) and in the Vilnius County (decreased by 21.2%).



**Fig. 1.23. Average number of employees per enterprise of manufacture of food and beverages by county in Lithuania in 2012 and 2016 (at the end of the year)**

Source: Statistics Lithuania.

The average number of employees per enterprise in Lithuania employed in the manufacture of food products, beverages and tobacco production in 2016, like in 2015, stood at 43 employees. This indicator by several times exceeds that in many EU countries. The higher number of employees per enterprise, on the average, was only in the United Kingdom (Fig. 1.24). The average number of employees in Estonia was by 1.7 times lower than in Lithuania, even though this number is considerably higher than in many old EU Member States.



\* 2016 m.

**Fig. 1.24. Average number of employees per enterprise of manufacture of food and beverages in some EU countries in 2015**

Šaltinis: Eurostato duomenys.

The major share of the enterprises involved in the manufacture of food products in the EU-28 countries in 2015 consisted of very small enterprises (0–9 enterprises) – 80.4%. They were most numerous in Greece, Slovenia, and France, 95.2%, 91.6% and 89.7%, respectively. The biggest number of the large enterprises ( $\geq 250$  employees) was in the United Kingdom (3.9%), Luxembourg (3.8), and Ireland (2.5%). The large enterprises, on the average, in EU-28 accounted only for 0.9%.

Within the reference period of 2012–2016 in the sector of the manufacture of food products and beverages in Lithuania the share of very small enterprises increased by 6.1 percentage points and that of large enterprises by 0.3 percentage points.

## **II. PRODUCTION OF AGRICULTURAL AND FOOD PRODUCTS IN LITHUANIA AND SALES IN THE DOMESTIC AND FOREIGN MARKETS**

### **1. Changes in trade of agricultural and food products in the domestic market**

Not shrinking emigration of the Lithuanian population and going for shopping to neighbouring Poland of some part of the population could not decrease the domestic market volumes. It was only consumption of potatoes and vegetables that dropped, this not being related to the above reasons. Retailing during 2016 increased by 4.8%, and over the period of 2012–2016 the scale of this trading went up by 23.2% (Table 2.1).

**Table 2.1. Retail sales of food products, alcoholic beverages and tobacco products in 2012–2016**

Indicators	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Total sales, EUR mill.	3481,3	3688,0	3833,3	3946,5	4137,9	18,9
Per capita, EUR	1162,8	1246,9	1307,1	1358,6	1432,5	23,2

*Source: Statistics Lithuania.*

In the period of 2012–2016, the average monthly net earnings have increased by 27.4% (Table 2.2), and the price index of food products (in December 2016, as compared to December 2011) went up by 6.8%. In 2016, as compared to 2012, prices of food products, including sugar, eggs, beef and pork, were more affordable for the population of the country.

According to the published data of the Organisation for Economic Cooperation and Development, food expenditure by the Lithuanian population in 2015 made 23.4% of the total household expenditures, and, together with expenditures for lodging, utilities and fuel, amounted to 36%. Household consumption expenditures in Lithuania within 2011–2015 have increased by 20% and food expenditure by 16%.

**Table 2.2. Purchasing power of net earnings of employees in the whole economy in 2012–2016**

Indicators	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Average monthly net earnings, EUR	478,3	501,1	526,5	553,0	609,4	27,4
Purchasing power of average net monthly earnings in IV Quarter*						
beef ham with bone, kg	89	97	103	110	120	34,8
pork ham without bone, kg	122	134	141	153	167	36,9
milk, 2.5% fat content, l	718	665	675	758	846	17,8
butter, 82% fat content, kg	75	69	73	83	96	28,0
eggs, 10 pcs	339	430	450	457	500	47,5
rye bread, kg	343	348	353	374	401	16,9
sugar, kg	435	487	609	700	725	66,7

\*LIAE calculation.

Source: Statistics Lithuania.

The key national market consists of large supermarkets, constituting about  $\frac{3}{4}$  of the market and having more than 700 outlets. A total of 5.4 thousand stores are selling foodstuffs in Lithuania. In 2016 one more major trade network started food sales in the country.

The shortest supply chain of agricultural and food products “market place – consumer” occupies a small share on Lithuania’s market (3.4%). Half of these products consist of meat and meat products (Table 2.3), their turnover within 2012–2016 having increased by 8.5%. The trade volumes of vegetables and potatoes within the period in question went up by one-fourth, even though sales in milk products and eggs decreased.

**Table 2.3. The turnover of food products in local markets in 2012–2016, EUR mill.**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Food products	125,1	128,9	131,6	139,4	139,2	11,3
of which:						
meat and meat products	63,5	64,5	63,8	69,2	68,9	8,5
vegetables and potatoes	32,4	32,5	35,9	38,9	39,9	23,1
fruit and berries	12,7	15,1	15,1	15,5	16,5	29,9
milk and milk products	3,6	3,5	3,2	3,6	3,5	-2,8
eggs	3,1	2,9	3,2	2,6	2,3	-25,8
other food products	9,7	10,4	10,3	9,6	8,2	15,5

Source: Statistics Lithuania.

Most intensive sales in food products on market-places are in Quarters II and III, and difference between the lowest and highest turnovers of quarters makes 20–30%. Trade in market-places in Quarter IV of 2016, as compared to Quarter IV in 2015, during the same period, increased only in market-places of Telšiai and Klaipėda counties. Employment of trade places made 49%, or by 3% percentage points less than in Quarter IV of 2015. In total, 102 market-places operated in the country, by 3 market-places less than in 2015. Lately, other direct forms of trade, like mobile market-places, on-line trading or directly on the farm have increased in number.

Small mobile farmers' market-places are a form of trading in agricultural products that has emerged recently. Its outset goes back to the hardship period when farmers were forced to undertake trading in order to raise higher income. This is an alternative to urban market-places the farmers to enter which had and have little opportunities. A coordinator of small mobile farmers' market-places is the agricultural cooperative "Lithuanian Quality" („Lietuviško ūkio kokybė"). They may offer to their customers the products grown and produced by farmers. The cooperative shelters over fifty small mobile market-places. Purchasers accepted positively this innovation at once, no resellers are present here. Most important is that neither milk crisis nor low prices on the domestic market are relevant to the farmers.

On-line trading in farmers' products has gained in scope. Bargaining on the market place was replaced by clicking a button on the keyboard; and as a result all desirable products are delivered home or to some other set place. Farmers who will bring products and product prices may be selected on-line.

One more form of direct trade is "From farm to home" („Kaimas į namus"). This form is aimed at helping farmers to make direct and long-term cooperation contacts without agents with the final consumers of their manufactured products and of supplied services and receive the better price for their farm produce by applying in practice the state-of-the-art achievements in management science. Therefore, consumer communities are created and presentations of farmers' products to communities according to their orders are organised. In Vilnius alone some 160 communities with more than 1500 members have been registered.

Production of agricultural produce (Table 2.4) enables not only the needs of the domestic market (except pig meat, vegetables and fruit) to be satisfied but also a substantial part of cereals, beef meat and poultry meat to be exported. In 2016, one of the richest grain harvests was yielded exceeding the domestic market needs by three times; the number of cattle bred has also exceeded thrice the needs of the country. The provision of milk and milk products by 1.7 times exceeded the national needs. The provision is not in surplus of other types of agricultural and food products, and that of vegetables and fruit is insufficient, the latter also pertaining to pig meat as well.

Due to the lower yield of agricultural crops, especially cereals, and lower purchase prices, the crop production value decreased by 16%. The harvest of cereals was by 13% lower, and purchase prices went on shrinking by almost 10%. Harvest of sugar beet and leguminous was by one-fourth richer. The value of livestock production has dropped by 4.3%, though not due to the amounts but because of the decrease in the purchase prices for poultry (8.7%), eggs (6.6%), and cattle (4.4%). In 2016, the number of sheep and goats went up by one-fourth, and poultry by 6.8%. The number of pigs further went on decreasing (13.7%). The year 2016 was variable in many sectors of agriculture, whereas the gap between crop production and livestock breeding remained almost the same – income generated from crop production was by almost two times higher than from livestock breeding.

**Table 2.4. Production and purchase of agricultural products in 2012–2016, thou. t**

Indicators	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
<b>Production</b>						
Grain production	4737	4564	5324	6521	5710	20,5
Sugar beet for industry	1003	967	1014	620	934	-6,9
Livestock & poultry, slaughtered (l. w.)	315	327	340	363	347	10,2
Milk production	1778	1723	1795	1739	1756	-1,2
Egg production, mill. pcs	771	772	806	786	789	2,3
<b>Purchase</b>						
Cereal	3092	2954	3240	3428	4025	30,2
Rapeseed	582	501	406	441	326	-44,0
Livestock & poultry (l. w.)	244	262	269	277	284	16,4
Natural milk	1360	1339	1436	1438	1415	4,0
Eggs, mill. pcs	392	463	483	518	599	52,8

Source: Statistics Lithuania.

Since 2012 prices for most products went on dropping on the domestic market, even though there was some exclusion – prices for rye bread and loaf bread, drinking milk were higher (Table 2.5). In 2016 prices for milk products, rye-bread, loaf bread, and sugar went up.

**Table 2.5. Retail prices of food products in December 2012–2016, EUR/kg**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Beef ham with bone	5,67	5,29	5,12	4,99	5,11	-9,9
Pork ham with bone	3,60	3,49	3,39	3,24	3,28	-8,9
Chicken, drawn	2,62	2,58	2,48	2,33	2,33	-11,1
Milk, 2.5 % fat content, EUR/l	0,70	0,77	0,78	0,71	0,76	8,6
Butter, 82 % fat content	6,64	7,39	7,25	6,60	5,68	-14,5
Curd, 5–9 % fat content	3,59	3,99	3,90	3,45	3,55	-1,1
Eggs, 10 pcs	1,49	1,19	1,19	1,30	1,25	-16,1
Best quality wheat flour	0,70	0,68	0,68	0,69	0,65	-7,1
Rye bread	1,46	1,47	1,50	1,46	1,54	5,5
Best quality wheat flour bread	1,58	1,65	1,63	1,58	1,60	1,3
Potatoes	0,23	0,35	0,26	0,30	0,26	13,0
Granulated sugar	1,15	1,05	0,85	0,75	0,86	25,2

Source: Statistics Lithuania.



Products by local processors are predominant on the domestic market, even though the volumes of imported products are increasing. Sales in non-Lithuanian dairy products in 2016 accounted for 16%, bread, pastry and milling products 23%, meat 42% (beef meat 17%, poultry meat 37%, and pig meat 58%).

The prices for Lithuanian agricultural and food products sold on the domestic market were impacted not only by the international exchange prices, but also by the purchasing power of the population. The consumer price level indices are reflected best of all by a price position in separate countries. According to Eurostat data, the highest consumer price level indices for food in EU countries in 2015 were in Denmark, and lowest in Poland (Table 2.6). A level of prices for food products of Lithuanian origin was one of the lowest (78%), especially for meat, though prices for dairy products are already close even to the markets of Germany and France.

**Table 2.6. Price level indices for food and non-alcoholic beverages in EU countries in 2016**

Country	Food and non-alcoholic beverages	Bread, cereals	Meat	Milk, cheese, eggs	Fruit, vegetables, potatoes	Fish
Poland	60	60	53	63	62	63
Romania	62	53	59	91	48	68
Bulgaria	70	59	56	90	66	64
<b>Lithuania</b>	<b>78</b>	<b>78</b>	<b>65</b>	<b>90</b>	<b>79</b>	<b>76</b>
Czech Republic	79	75	77	83	75	107
Hungary	80	73	70	87	81	91
Slovakia	86	88	71	93	87	95
Estonia	88	91	80	89	88	101
Latvia	89	85	72	104	90	84
Croatia	93	97	79	94	94	96
Portugal	95	95	79	103	95	95
Spain	96	106	87	99	99	91
United Kingdom	96	85	97	104	101	91
Slovenia	100	104	98	103	93	102
Netherlands	100	91	114	96	108	101
<b>EU</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>	<b>100</b>
Greece	104	117	90	134	79	115
Germany	106	103	120	92	116	113
Cyprus	109	117	90	145	94	112
Belgium	113	111	123	119	102	116
Italy	113	120	115	125	106	109
France	114	114	131	95	121	111
Ireland	119	111	106	130	137	106
Finland	120	126	123	119	128	118
Luxembourg	123	117	136	125	118	117
Austria	125	141	137	107	126	129
Sweden	128	132	134	118	139	120
Denmark	146	165	139	129	140	132

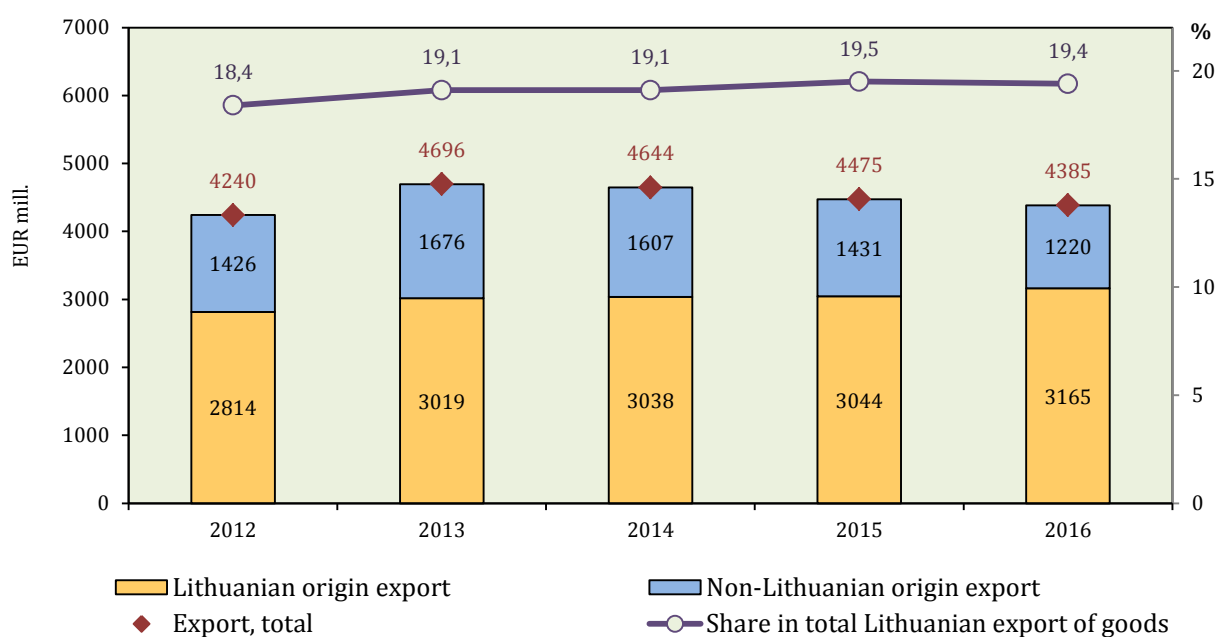
Source: [http://ec.europa.eu/eurostat/statistics-explained/index.php/Comparative\\_price\\_levels\\_for\\_food\\_beverages\\_and\\_tobacco](http://ec.europa.eu/eurostat/statistics-explained/index.php/Comparative_price_levels_for_food_beverages_and_tobacco).

The domestic market for food products in our country which is noted for low prices for meat and fish does not seem to be that cheap to local consumers as the purchasing power of the population with regard to the average wages is still lower.

In 2016, the highest average monthly net wages were in Luxembourg (EUR 3149), Denmark (EUR 3100), Sweden (EUR 2560) and Finland (EUR 2335), and lowest – in Bulgaria (EUR 382), Romania (EUR 463) and Hungary (EUR 570). Lithuania (EUR 585) was ranked 25th among the EU countries and lagged behind from the average (EUR 1508) by 2.5 times.

## 2. Foreign trade in agricultural and food products

**Export.** Because of the small domestic market, Lithuania’s economy is oriented towards export. Export development is one of the key factors to ensure the growth of the national economy, to provide conditions for the production development, and to create new jobs. The still larger portion of export in Lithuanian products consists of exports in agricultural and food products that increased from 18.4% in 2012 to 19.4% in 2016 (Fig. 2.1). This means that export of these products plays an important role in Lithuania’s economy. The value of exports in agricultural and food products that augmented rapidly at the beginning of the reference period (in 2013, as compared to 2012, export value increased by 11%) from the year 2014 has changed its direction – started declining. This tendency has been continuing for three years in turn. According to the preliminary data of the Lithuanian Department of Statistics, exports of agricultural and food products from Lithuania in 2016 amounted to EUR 4.4 billion. As compared to 2015, export decreased by 2.0%, though if comparing to the beginning of the period under analysis it increased by 3.4%.



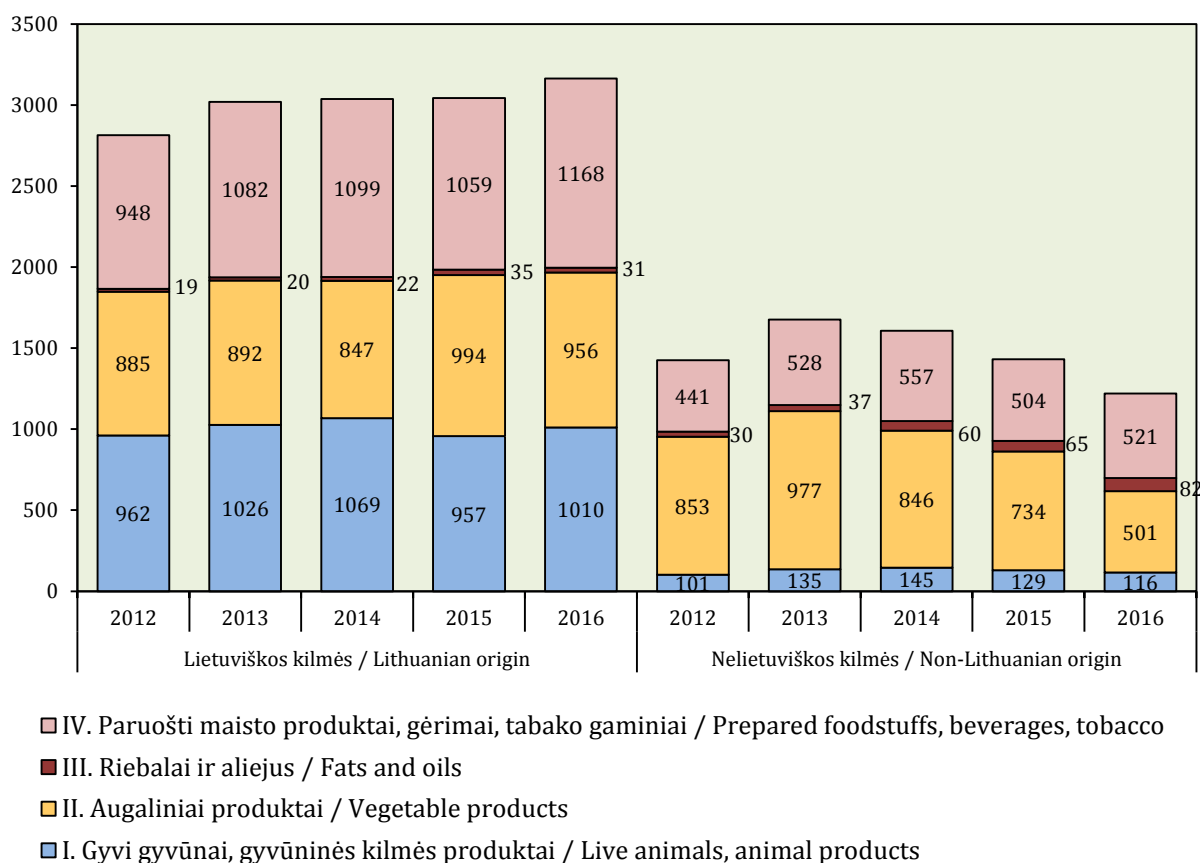
**Fig. 2.1. Exports of agricultural and food products by origin of product and the share in total Lithuanian export of goods 2012–2016**

Source: Statistics Lithuania.

Upon splitting the agricultural and food products by origin, it is seen that variation tendencies were opposite. Export of products of Lithuanian origin within the past five years has been increasing and in 2016 reached its peak (amounted to EUR 3.2 billion). Comparing to 2012, the specific weight of products of Lithuanian origin increased by 12% and in the export structure by origin went up from 66% in 2012 to 72% in 2016.

Variation tendencies of exports of products of non-Lithuanian origin have reiterated export tendencies of the total exports in agricultural and food products. In 2013, as compared to 2012, it still went on increasing by 18% – up to EUR 1.7 billion, and since 2014 went on decreasing with every year and in 2016 reached EUR 1.2 billion. If compared to 2012, export has dropped by 14%

The growth of the above-mentioned export of products of Lithuanian origin over the period of 2012–2014 and in 2016 was impacted by an increase in the same years of exports in ready-made food products, non-alcoholic and alcoholic beverages and tobacco products (CN Section IV) and live animals and products of animal origin (CN Section I) (Fig. 2.2).



**Fig. 2.2. Export of agricultural and food products by CN section and origin of product in 2012–2016, EUR mill.**

Source: Statistics Lithuania.

In 2015, the declining export of products under CN sections I and IV (by 10% and 3.7%, respectively), as compared to 2014, was determined by Russia's embargo imposed in 2014 on imports of dairy products, meat and meat products, fish and fish products and their reduced export prices due to the increased supply of these products in the world. In 2012–2014 insignificant variations in the value of export in plant products (under CN Section II) occurred, whereas in 2015, as compared to 2014, it went up fast – by 17%. It is this positive change that determined the growth of exports in the products of Lithuanian origin in 2015. The share of export in the products under CN Section I consisting of the products of Lithuanian origin got reduced from 34% in 2012 to 32% in 2016, under CN Section II dropped from 31 to 30%, under CN Section III increased from 0.7 to 1.0%, and under CN Section IV went up from 34 to 37%.

**Table 2.7. Exports of agricultural and food products in 2012 and 2016, EUR mill.**

CN code and products*	2012		2016**		Change, %	
	total	Lithuanian origin	total	Lithuanian origin	total	Lithuanian origin
10 Cereals	524,4	508,9	593,7	578,8	13,2	13,7
04 Dairy produce; birds' eggs; natural honey	550,0	529,9	434,2	415,3	-21,1	-21,6
03 Fish & crustaceans	214,9	170,6	397,6	331,4	85,0	94,2
24 Tobacco & manufactured tobacco substitutes	258,6	257,9	385,4	381,4	49,0	47,9
22 Beverages, spirits & vinegar	268,5	91,9	279,7	103,7	4,2	12,8
07 Edible vegetables	367,0	48,1	221,5	147,1	-39,6	3,1***
23 Residues & waste of the food industries; prepared animal fodder	229,7	182,8	216,0	168,6	-5,9	-7,8
08 Edible fruit & nuts	439,7	26,7	211,2	17,2	-52,0	-35,5
02 Meat & edible meat offal	212,5	180,8	203,2	179,8	-4,4	-0,5
16 Preparation of meat, of fish	143,8	120,5	184,6	148,5	28,4	23,2
21 Miscellaneous edible preparations	141,8	57,2	179,4	75,2	26,5	31,5
19 Preparations of cereals, flour, starch or milk	113,3	74,1	157,9	107,9	39,3	45,6
06 Live trees & other plants; cut flowers	46,4	4,5	125,3	6,0	2,7***	34,6
11 Products of the milling industry; malt; starches	91,5	88,4	123,6	119,5	35,1	35,2
18 Cocoa & cocoa preparations	82,9	58,6	116,5	80,6	40,5	37,6
15 Animal or vegetable fats & oils	48,9	18,9	112,6	30,9	2,3***	63,5
12 Oil seeds; straw & fodder	223,9	207,2	105,1	83,7	-53,1	-59,6
17 Sugar & sugar confectionery	103,6	80,5	102,2	75,7	-1,3	-5,9
01 Live animals	76,0	74,4	78,2	74,9	2,9	0,8
09 Coffee, tea and spices	44,5	1,7	72,6	3,7	63,0	2,2***

CN code and products*	2012		2016**		Change, %	
	total	Lithuanian origin	total	Lithuanian origin	total	Lithuanian origin
20 Preparations of vegetables, fruit, nuts or milk	47,1	24,6	67,4	26,4	42,9	7,4
05 Products of animal origin, not elsewhere specified	9,5	6,3	13,2	8,6	38,7	36,0
13 Lac; vegetable extracts	1,3	0,01	3,9	0,2	3,0***	11***
14 Vegetable plaiting materials	0,1	0,03	0,2	0,1	3,3***	3,8***
Total	4240,0	2814,3	4385,2	3165,2	3,4	12,5

\* Sorted by the 2016 export value in descending order.

\*\* Preliminary data.

\*\*\* Times.

Source: *Statistics Lithuania*.

The most substantial decline was in exports of fruit and nuts (EUR 229 million), vegetables (EUR 145 million), oils seeds, straw and fodder (EUR 119 million), milk and milk products, eggs, honey (EUR 116 million), food industry residues and waste and prepared animal fodder (EUR 14 million), meat and edible meat offal (EUR 9.3 million), and sugar and sugar confectionery products (EUR 1.4 million).

As compared to 2012, exports of the major part of products of Lithuanian origin have increased. Most substantial increase of export was noted of fish and crustaceans – increment amounted to EUR 161 million. An increase of exports of tobacco and processed tobacco substitutes was EUR 124 million, vegetables EUR 99 million, cereals EUR 70 million, products from cereals, flour, starch or milk EUR 34million, milling products, malt, starch EUR 31 million, products from meat and fish EUR 28 million.

Export of cereals that took the first place in 2014–2015 by export value has retained the same position in 2016 as well. Their export value that gained momentum until 2014 has not almost changed in 2015–2016 due to the declined prices on the global market. If compared 2012, their export value increased by 13%, and, comparing with 2015, has not almost changed and reached EUR 594 million, comprising 13.5% of the total agricultural and food product export value. 98% of the shipped cereals have been cultivated in Lithuania. The substantial share of the total export of cereals of Lithuanian origin consisted of wheat. Its share in exports from 85% in 2012 increased to 92% in 2016. During the reference period, export of buckwheat of Lithuanian origin, oats, rice, and wheat augmented (by 7.8 times, 1.8 times, 36%, 23%, respectively). In 2012, the main partners of export in cereals were the Islamic Republic of Iran (38% of the total export of cereals), Saudi Arabia (14%), Latvia (11%), Germany (8.5%), and the Netherlands (5.7%). In 2016 export markets were Saudi Arabia (19% of the total export of cereals), Spain (13%), Latvia (12%), Turkey (8.9%), and Germany (5.8%).

Milk and milk products (CN 0401–0406) were second ranked by export value, their exports amounting to EUR 407 million (9.3% of the total export of agricultural and food products). As a result of the reduced global prices for milk and milk products and an import embargo on these products imposed by Russia, the value of exports of the products under study which went on increasing until 2013 (reached EUR 583 million) has dropped in 2014–2015 (EUR 567 million and EUR 391 million, respectively). The

process of export reorientation and the growing export prices predetermined the increase in export volumes of milk and milk products in 2016. During the reference period the products of Lithuanian origin accounted for 97% of export of milk and milk products.

46% (in 2012 – 52%) of the value of exports of milk and milk products of Lithuanian origin consisted of cheeses and curd. Exports of these products amounted to EUR 183 million, by 32% less than in 2012. The export value of not concentrated milk and sweet cream, as compared to 2012, increased by 14% and amounted to EUR 113 million (accounted for 30% of export of milk and milk products, in 2012 – 20%). Butter and other milk fats comprised 8.5% (in 2012 – 3.0%) of the export value of products under study, their exports amounting to EUR 33 million, or by 2.2 times more than in 2012. Export of concentrated milk and sweet milk amounted to EUR 31 million, in 2012 EUR 79 million. The share of milk and milk products decreased in the export structure from 15% at the beginning of the reference period to 7.8% in 2016.

In 2012, 59% of export of milk and milk products of Lithuanian origin was shipped to the EU countries and 30% to Russia. With Russia's market closed, the export structure started changing, and the share of the said products exported to the EU countries in 2016 increased to 78%, and the key markets in third countries became Saudi Arabia and the USA (4.6% each), and Kazakhstan (1.9%).

Ranked third in terms of export value (9.1% of the total value of exported agricultural and food products) were fish and crustaceans, their export amounting to EUR 398 million, or by 1.9 times more than in 2012. The share of products of Lithuanian origins increased from 79% (in 2012) to 83% of the total export of fish and crustaceans. The largest portion of exports included dried, salted, smoked or otherwise processed fish, for EUR 241 million, by 2.2 times more than in 2012. Export of fish fillets and other fish meat has also increased substantially – by 1.7 times (to EUR 123 million). The main export partners remained the same markets – Germany (38%), Belgium and Italy (14% each), Latvia (4.9%), and the United Kingdom (4.6%).

Export of tobacco products amounted to EUR 385 million (in 2012 – EUR 259 million), their share in the total export making 8.8% (6.1%). Almost all these exported products were manufactured in Lithuania. Cigarettes accounted for 94% (in 2012 – 83%) of export, 3.4% (2.3%) – cigars and cigarillos, the remaining part consisted of tobacco. The key export markets were the EU countries (66%). It is notable that within the period of 2012–2016 export to Japan increased most significantly among third countries – from EUR 1.7 to 101 million.

In 2016, 6.4% of the export value belonged to beverages, spirits and vinegar. Their export value, as compared to 2012, increased by 4.2% – to EUR 280 million. The value of the exported alcoholic beverages reached EUR 230 million, or by 3.0% more than in 2012. The key export partners, like five years ago, were Russia (71%) and Latvia (11%). The export value of non-alcoholic beverages reached EUR 47 million, or by 9.8% more than in 2012. The larger portion of non-alcoholic beverages was shipped to Latvia (45%) and Estonia (34%). Beverages of Lithuanian origin accounted just for 37% of the export value.

Export of vegetables amounted to EUR 222 million, its value comprising 5.1% of the total exports. As compared to 2012, the export value dropped by 1.7 times. It is notable that the share of vegetables of Lithuanian origin over the period of 2012–2016 has increased from 13 to 66%. In the past years the considerable increase in exports of

the leguminous, grown in Lithuania, was observed – from EUR 7.5 million in 2012 to EUR 108 million in 2016. The major portion of the shipped vegetables of Lithuanian origin consisted of dried peas (42% of exports of vegetables of Lithuanian origin), dried beans (26%), champignons (11%), and chanterelles (9.5%). Of vegetables of non-Lithuanian origin, the major part of exports consisted of tomatoes (20% of exports of non-Lithuanian origin), chanterelles (19%), paprika (9.7%), champignons (9.0%), lettuce (6.7%), cabbage and broccoli (5.6%), and aubergines (5.5%). The major share of export in 2016 belonged to India – 22% of the total exported vegetables. Shipment to Belarus comprised 18% of vegetables, to Egypt 15%, and to Latvia 10%. It is notable that in 2012 vegetables shipped to Russia made 82% of the total export of vegetables. In 2016, vegetables of Lithuanian origin were largely exported to India, Egypt, and Latvia.

Export of residues and waste from the food industries and prepared animal fodder (under CN Chapter 23) was by 5.9% less than in 2012 – EUR 216 million. Products of Lithuanian origin constituted 78% of the total export of products in question. The key partners of export in products under CN Chapter 23 were the United Kingdom, Poland and Latvia (13% each), Germany (11%), and Norway (6.3%).

The exported fruit and nuts amounted to EUR 211 million, or by 2.1 times less than in 2012. This reduction resulted from Russia's import embargo, as in 2012 export of fruit and nuts to this country amounted to 73%. Fruit of Lithuanian origin in 2016 accounted just for 8.2%, of which the largest portion of exports consisted of frozen bilberries, gathered in Lithuania (for EUR 11 million). Exports of fruit of non-Lithuanian origin largely consisted of pears and peach (14% of non-Lithuanian origin exports each), citrus fruit (13%), apples (8.3%), frozen bilberries (8.2%), bananas (5.9%), grapes (4.8%), kiwi (3.5%), and strawberries (3.3%). 48% of the total exported fruit and nuts were shipped to Belarus, to Latvia 12%, and to Estonia 6.4%. 18% of fruit and nuts of Lithuanian origin were exported to Germany, 14% to China, 11% to Italy, and 9.9 to Belgium.

The share of exports in agricultural and food products to the EU countries in 2013, as compared to 2012, has decreased by 2 percentage points and accounted for 52%, and since 2014 it started to boost and in 2016 reached 67%. The still growing specific weight shows that the EU market not only remains the key one but also is becoming still more important for Lithuanian agricultural and food product exporters. If compared to 2012, export to the EU countries increased by 28% to EUR 2919 million (Table 2.8). This growth was conditioned by the export of products of Lithuanian origin, its value boosting from EUR 1907 million to EUR 2297 million, and its share from the total export to the EU countries comprising 79%. Over the period under study, export of products of non-Lithuanian origin to the EU increased from EUR 372 million to EUR 622 million. The main partners of export to the EU market are: Latvia (19% of the total export to the EU countries), Poland (15%), Germany (14%), Estonia (7.4%), and Italy (7.3%). Export to the countries in question increased by 6.9%, 1.6 times, 7.3%, 24%, and 1.6 times.



**Table 2.8. Main export markets for agricultural and food products by country group and origin of products in 2012 and 2016, EUR million**

Country	2012		2016*		Change, %	
	total	Lithuanian origin	total	Lithuanian origin	total	Lithuanian origin
EU-28	2279	1907	2919	2297	28,1	20,4
of which:						
Latvia	507	329	542	344	6,9	4,5
Poland	268	218	431	295	61,0	35,4
Germany	374	349	401	363	7,3	4,2
Estonia	175	113	216	118	23,6	5,3
Italy	131	124	214	192	63,9	54,9
other EU countries	825	775	1115	984	35,2	27,0
Third countries	1961	907	1466	868	-25,3	-4,3
of which:						
Russia	1250	328	419	62	-66,5	-81,2
Belarus	115	28	193	14	67,9	-50,0
Saudi Arabia	76	76	133	133	76,4	76,4
Japan	5,8	5,8	105	105	18**	18**
India	0,4	0,4	61	61	149**	160**
other third countries	514	469	554	493	7,8	5,0

\* Preliminary data.

\*\* Times.

Source: Statistics Lithuania.

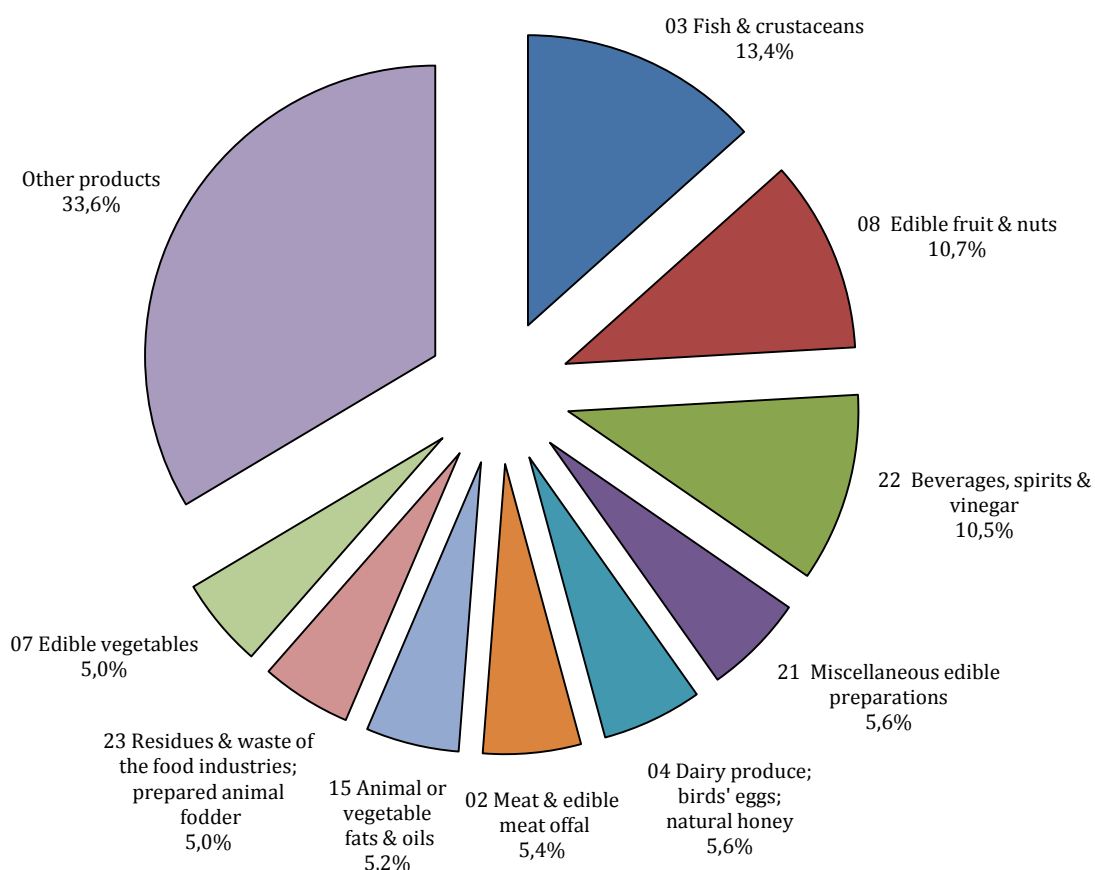
Export to third countries from 2012 to 2013 went on increasing, and since 2014 a tendency for reduction has been observed and in 2016 reached EUR 1466 million, i.e. by 25% less than in 2012. Within the period of 2012–2015, export of products of Lithuanian origin, on the average, accounted for 47% of the total export to third countries, and in 2016 increased to 59%. Its value, however, decreased from EUR 907 million in 2012 to EUR 868 million in 2016. Decline in export to third countries resulted from the drop in exports to Russia in 2016, from EUR 1250 million in 2012 to EUR 419 million. The reasons for these changes were an embargo on import of certain food products imposed by Russia in 2014 and the economic recession in Russia. Last year Russia's share against the total export to third countries dropped to 29%, whereas in 2012 it made 64%. Despite of that fall, it still retains the first position among the partners of export to third countries. Comparing to 2012, export to other main countries has augmented considerably – Belarus (13% of export to third countries), Saudi Arabia (9.1%), Japan (7.2%), and India (4.2%) – by 1.6 times, 1.8 times, 18 times, and 149 times, respectively.

**Import.** In 2016, Lithuania imported goods from 167 countries, agricultural and food products were imported from 113 countries for EUR 3407 million, by EUR 178 million less (5.0%) than in 2015. Agricultural and food products comprised 13.7% of the



total import of Lithuania. Of the 24 CN chapters, imports of 10 products have increased. The highest increase of import by value was observed for oil seeds, straw and fodder – 27%. Import of meat and fish products as well as fish and crustaceans has increased by 21% each, sugar and sugar confectionery products by 19%, cocoa and cocoa products by 11%, products from cereals, flour and starch by 9.3%, and fats and oils by 7.9%. Import of fruit and nuts decreased by 35%, vegetables by 33%, live animals by 19%, and tobacco and tobacco products by 12%.

Over the period of 2012–2015, the largest portion of imports consisted of fruit and nuts, whereas in the year 2016 imports of fish and crustaceans took the lead, and fruit and nuts ranked second (Fig. 2.3). Various beverages, miscellaneous food products under CN Chapter 21 (extracts, food additives, and spreads), milk and milk products (excluding honey and eggs – EUR 171 million), meat, fats and oils, residues and waste from the food industries, edible vegetables, tobacco and tobacco substitutes were imported. The value of above-mentioned products constituted 66% of the total value of import of agricultural and food products.



**Fig. 2.3. Structure of import of agricultural and food products in 2016**

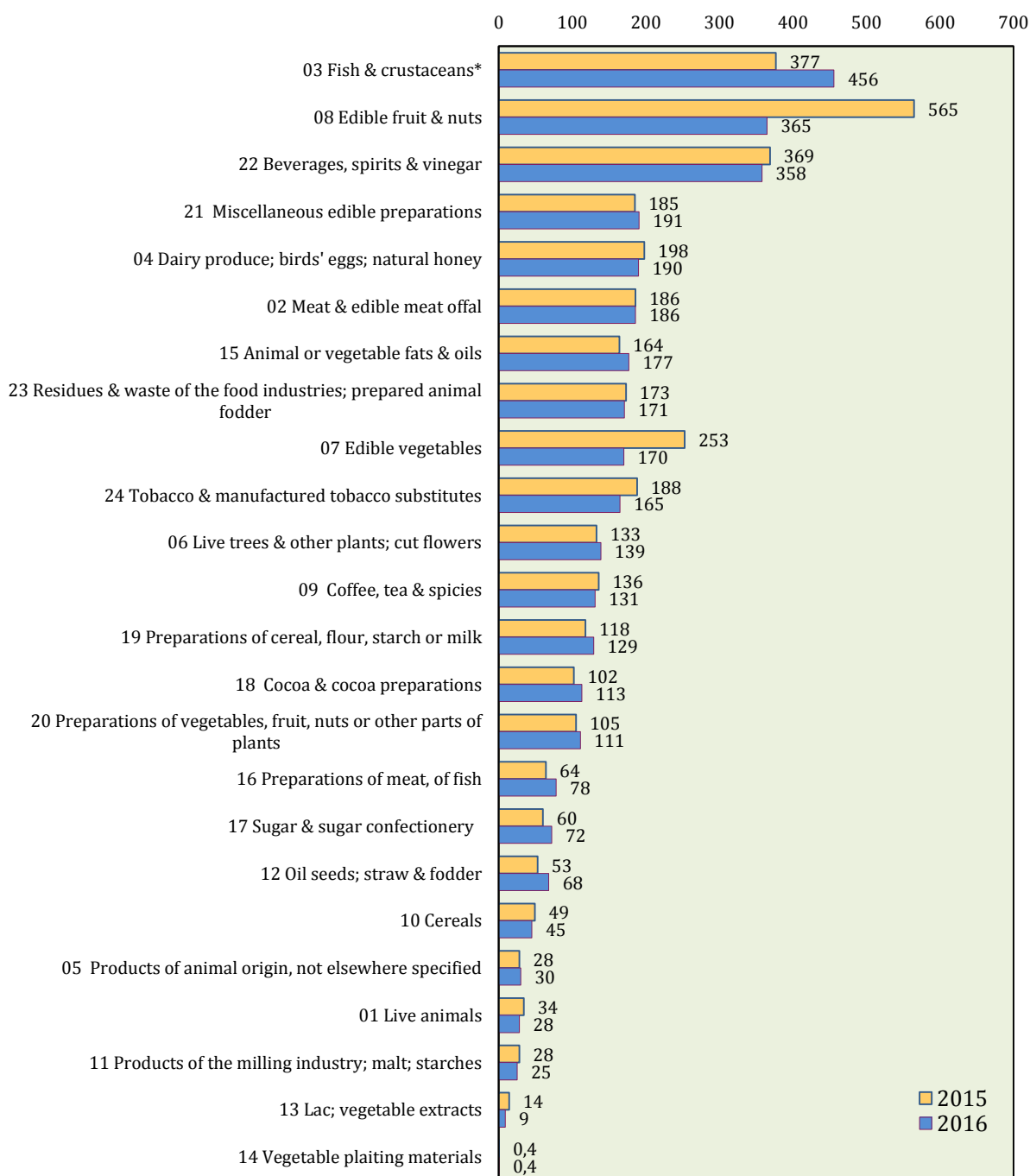
Source: Statistics Lithuania.

During the period of 2012–2016, the import value of fish and crustaceans has increased constantly, even though only in 2016 it was ranked first. In 2016, as compared to 2015, import of fish and crustaceans in terms of value increased by 21%, i.e. was larger by EUR 78 million, their import comprised 13.4% of the total value of imports of agricultural and food products. In 2016, import of fish and crustaceans, as compared to 2012, in terms of value increased by 1.8 times, and if compared to 2014 – by 1.4 times. In 2016, 43 thou. t of fresh and chilled fish, 52 thou. t of frozen fish, 30 thou. t of fish fillet and other fish meat have been imported. The most substantial increase related to the average price for import of fresh and chilled fish: from 4374.6 to 5871.6 EUR /t, i.e. even by EUR 1497.0 (by 34% more). Price for frozen fish increased from 1890.7 to 1941.5 EUR/t (by 50.8 EUR higher. Price for fish fillet and fish meat has reduced: from 2799.1 to 2699.1 EUR/t (by EUR 100 lower). 47% fish and crustaceans (EUR 215 million) was imported from Sweden, 10% (EUR 47 million) from Norway, 9.7% (EUR 44 million) from Germany, 6.4% (EUR 29 million) from Russia, 4.4% (EUR 20 million) from Latvia, and 4.0% (EUR 18 million) from the USA. Import from these countries accounted for 82% of the total value of imported fish and crustaceans.

Import of edible fruit and nuts is ranked second, even though their import value has decreased most considerably: in 2012 amounted to EUR 505 million, in 2013 EUR 542 million, in 2014 EUR 509 million, in 2015 EUR 565 million, and in 2016 – just EUR 365 million, and as compared to 2015, dropped by 2.9 times, but still comprised 10.7% of the total agricultural and food product import. 66% of the total value of import of fruit and nuts consisted of apples and pears (16%), citrus fruit (15.1%), apricots, cherries, peaches and plums (15.0%), fresh strawberries, kiwi, raspberries, cranberries and bilberries (10.7%), and bananas (9.7%). 20% of fruit and nuts were shipped from the Netherlands, from Spain 14%, Poland 9.3%, Belgium 7.6%, Latvia 4.6%, and Italy 4.4% Import from the afore-mentioned countries comprised 60% of the value of the imported fruit and nuts. In 2015, 92% of the products under this chapter was re-exported, in 2016 this share of re-export decreased to 53%

Various beverages were ranked third by import volume. Comparing the past five years, import in this group in 2016 was lowest. If compared to 2012, import value was lower by 1.6%, as compared to 2013 by 18%, to 2015 by 3.1% lower. Wine constituted 47% of the import value in this group, strong spirits 24%, mineral and carbonated water with sugar or sweetening matter and other flavours 12%, and beer 6.4%. Wine was imported from 42 countries of the world; however, the shares of import from France, Italy and Spain accounted for 80% of the total value of imported wine. Strong spirits were imported from 44 countries, their import from France, Germany, Latvia, Spain, the United Kingdom, Estonia and Russia comprised 71% of the import value. Import of mineral and carbonated waters with various flavours from Poland, Latvia, Austria, Germany and Estonia accounted for 72%, beer import from Belarus, Germany, Poland, Ukraine, the Netherlands and Finland comprised 69% of the import value under this chapter.

Import of products under CN Chapter 21 (Miscellaneous food products) comprised 5.6% (EUR 191 million). In 2016, as compared to 2012, the import value under this chapter has increased by 28%, and if compared to 2015 by 3.4%, i.e. by EUR 6.2 million. The major portion of the imported products under this chapter consisted of food additives, protein concentrates, dressings, spices, prepared mustard, coffee or tea essences, extracts, ice cream, soups, bouillons, and yeast.

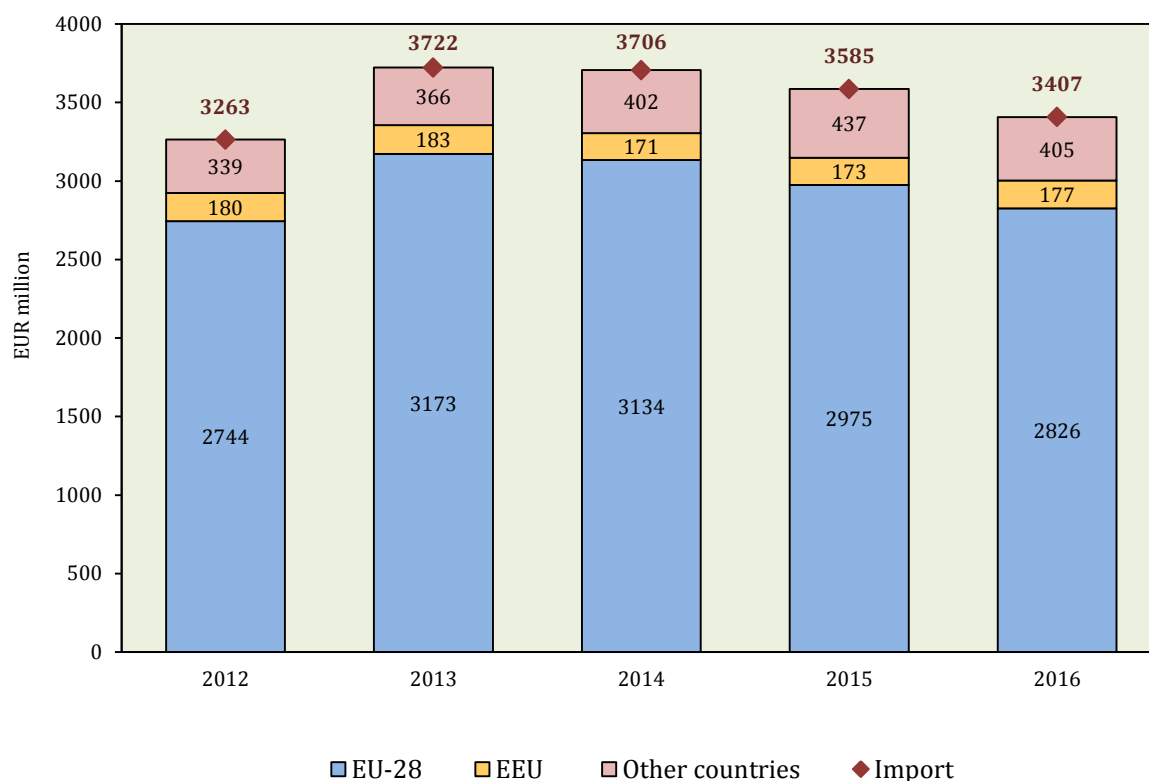


\* CN code and product group.

**Fig. 2.4. Import of agricultural and food products in 2015 and 2016, EUR mill.**

Source: Statistics Lithuania.

The share of the total imports of agricultural and food products from the EU countries in 2012–2015 fluctuated between 84–85%, while in 2016 it was lowest making 82.9%. Imports from third countries that previously accounted for 15–16%, in 2016 reached 17.1%. In 2012–2015 import from the Eurasian Economic Union (EEU) countries (Russia, Belarus, Kazakhstan, Armenia, and Kirghizia), which previously reached 28–35% of the total imports from third countries, in 2016 comprised 30%.



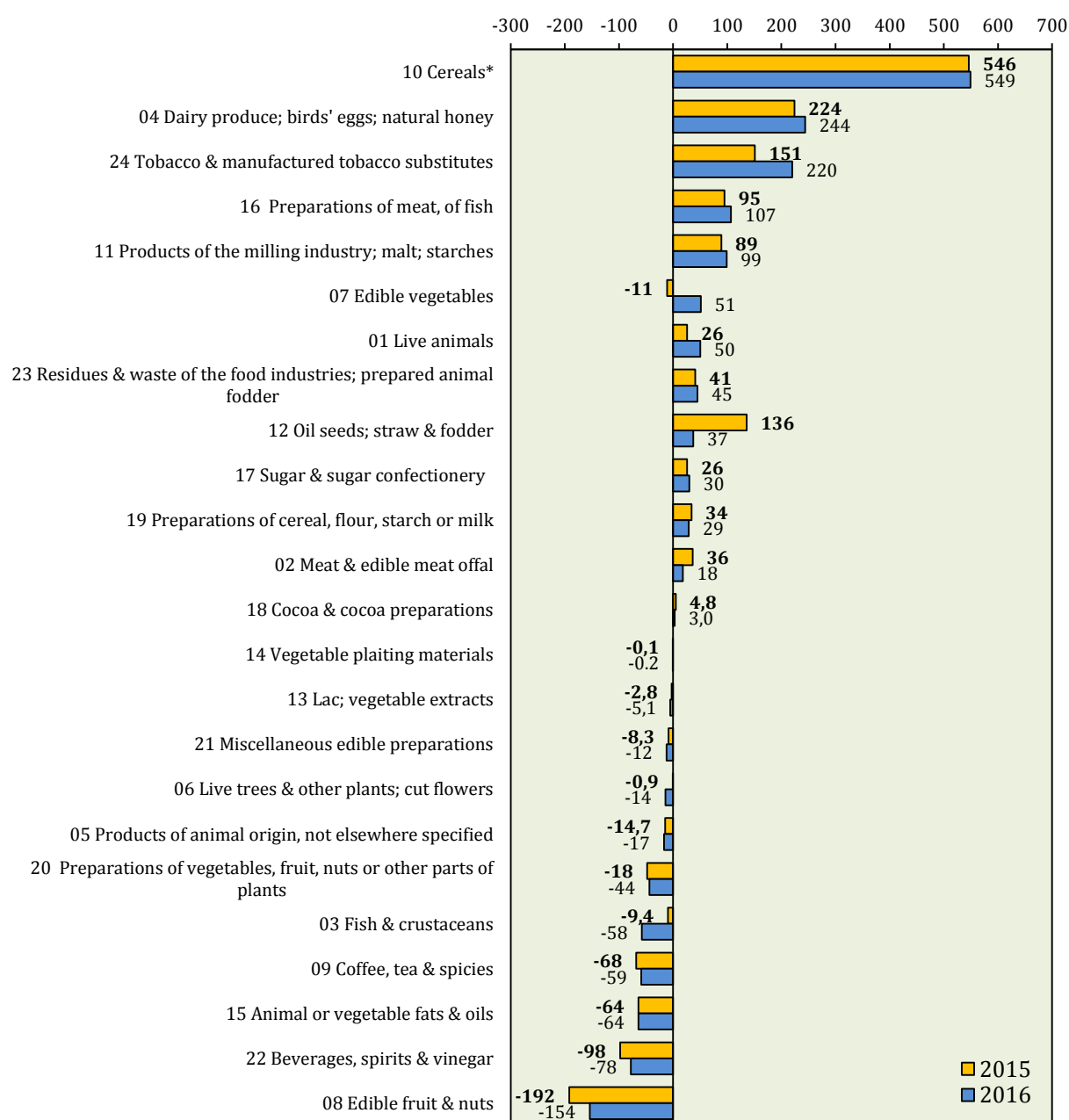
**Fig. 2.5. Dynamics of import of agricultural and food products by country group in 2012–2016, EUR mill.**

Source: Statistics Lithuania.

In 2016, as compared to 2015, the value of import from EU has dropped by 5.0% (EUR 150 million), in the period of 2012–2016 the highest value of import was in the year 2013, and in 2016 it got decreased by 11% (EUR 348 million). Import from the EEU countries in 2012–2016 was at a similar level; its value in 2016 was by 2.2% (EUR 3.9 million) higher than in 2015 and by 3.4% (EUR 6.2 million) lower than in 2013. The value of import from the EEU countries in 2016 accounted for 30% of the value of imported agricultural and food products from third countries. Of the EEU countries the main importers are Russia and Belarus. The share of the value of import from these countries comprised from 86% in 2012 to 94% in 2016. The largest portion of imports from the EEU countries consists of fats and oils, fish, edible vegetables and various beverages.

Import from the remaining countries, excluding the EU and EEU countries, amounted to EUR 405 million, making 12% of the total import of agricultural and food products.

The surplus of foreign trade in agricultural and food products in 2016 made EUR 978 million. Export of products under CN thirteen chapters exceeded import (Fig. 2.6). The highest positive balances stood for trade in grain, in products under CN Chapter 04 (milk and milk products, eggs, and honey), tobacco and tobacco products, meat and fish products, milling products, malt, starch, edible vegetables, and live animals. The highest negative balances were for trade in fruit and nuts, various beverages, fats and oils, coffee, tea and spices, fish and crustaceans, processed or reprocessed vegetable and fruit products.



\* CN code and product group.

**Fig. 2.6. Balances of agricultural and food products in 2015 and 2016, EUR mill.**

Source: Statistics Lithuania.

In 2016 for the first time since 2012 the balance of trade with the EU countries was positive – EUR 94 million, even though in 2015 it was in deficit, making EUR 156 million (in 2013, EUR 754 million, in 2014, EUR 639 million). Within the comparative period, surplus in trade with the EEU countries has shrunk from EUR 735 to 470 million. Within the period in question, surplus in trade with third countries was observed, in 2012 it made EUR 1441 million, and in 2016, as compared to 2015, it fell down from EUR 1064 to 884 million.

The biggest surplus in 2016 was in trading with Russia (EUR 301 million; as compared to 2012, got reduced by 3.8 times), Latvia (EUR 194 million), Belarus (EUR 146 million, in 2015 EUR 312 million), Saudi Arabia (EUR 132 million, and Japan (EUR 105 million), the highest deficit was in trade with the Netherlands (EUR 174 million), Poland (EUR 98 million), Sweden (EUR 88 million), and Spain (EUR 71 million).

### 3. Changes in production of agricultural and food products

#### 3.1. Grūdai

##### 3.1. Cereals

The grain sector is becoming one of the most important in Lithuania's agriculture, its growth at the same time revealing the problem areas to be solved. Grain crops constitute an important part in the structure of areas under crops, in 2015 reaching 71.5%. The total production of crops cultivated in Lithuania accounts for 34.3% of the total agricultural production. Of EU-28 countries, Lithuania ranked sixth in 2016 by wheat export. In the structure of exports of grain and milling products, however, milling production in 2016 just made 17%.

**Cultivation.** The area under grain crops in Lithuania in 2016, as compared to 2015, increased by 5.3%, and, compared to the past five-year average, by 21.3%. At the beginning of 2016, due to a sudden onset of cold weather and a thin layer of snow, areas under winter cereal crops suffered, while rainy weather in August determined the lower yield of grain. The yielding capacity of grain crops in 2016 was lower if compare to both the past five-year average and to the year 2015, by 2.0% and 15.9%, respectively (Fig. 2.7).

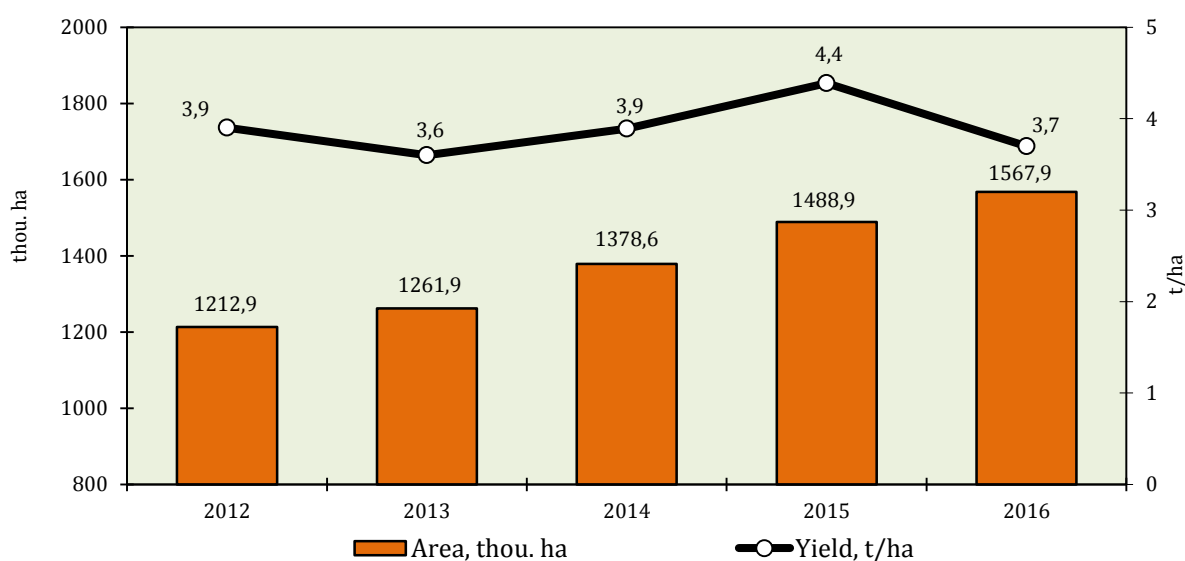
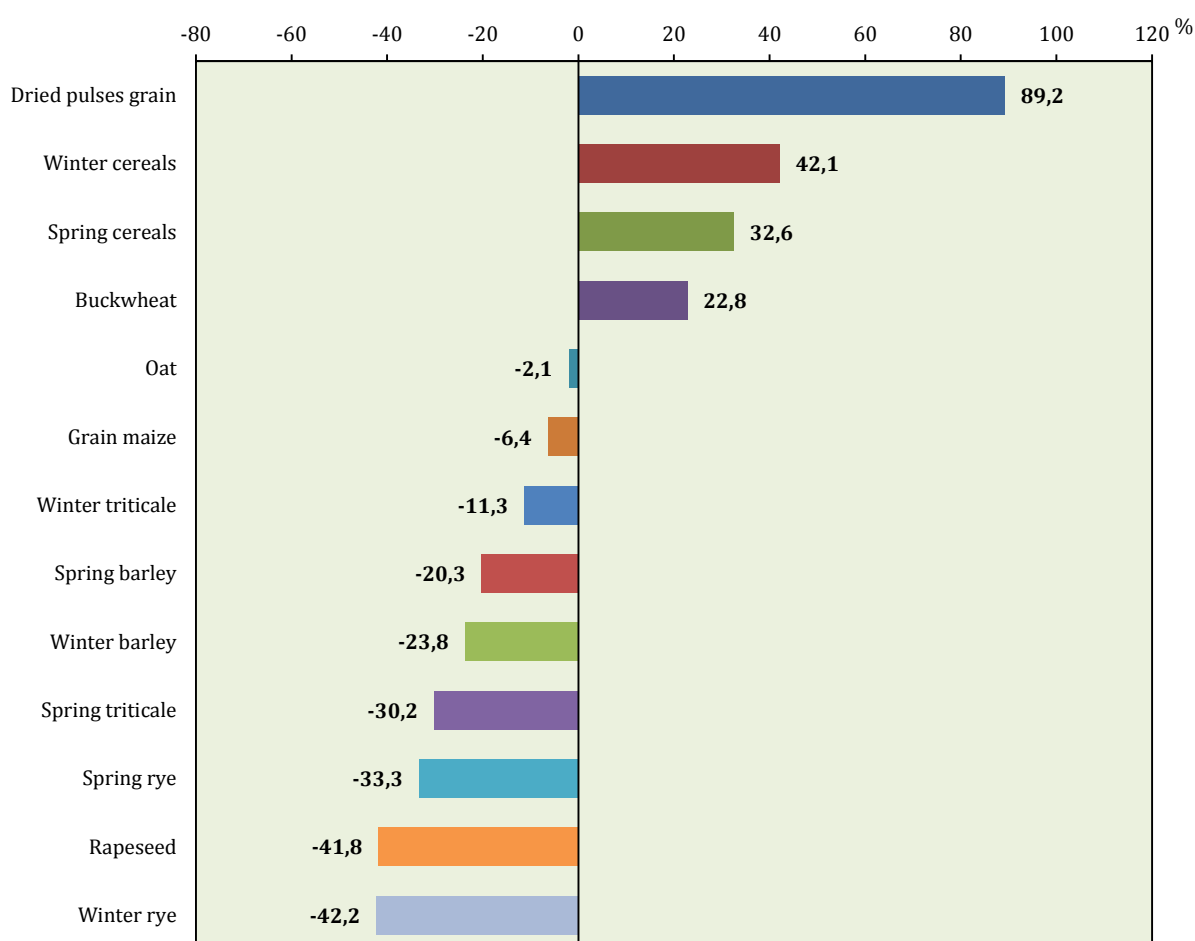


Fig. 2.7. Crop area and yield of grain crops in 2012–2016

Source: Statistics Lithuania.

In 2016, as compared to 2012, areas of leguminous crops for grain, winter and spring wheat increased most considerably, by 89.2%, 42.1% and 32.6%, respectively. The most substantial reduction in area was observed for rape, winter and spring rye, by 41.8%, 42.2% and 33.3%, respectively. In 2016, cereals in the structure of areas under grain crops accounted for 84.7%. Areas under winter cereal crops in the structure of areas under cereal crops comprised 56%, and compared to 2012 – by 5 percentage points more. In 2016, in the structure of areas under winter cereal crops 83.5% was under wheat, as compared to 2012, their share increased by 10.1 percentage points (Fig. 2.8).



**Fig. 2.8. Crop area change, 2016 compared to 2012, %**

Source: Statistics Lithuania.

According to Eurostat data, the area under cereal crops in 2016 had a tendency towards decreasing, i. e. compared to 2015, areas decreased by 1.2%. The area increased most significantly in Croatia (7.4%) and Latvia (7.0%), and the largest reduction was fixed in Cyprus (15.4%). Of most important wheat exporters in EU-28 countries, in 2016, if compared to 2015, these areas under crops increased most substantially in France (0.3%), Poland (1.6%) and Latvia (7.7%), and decreased in Germany (2.2%) and Romania (1.8%).

The EU-28 yield of cereal in 2016 reached, on the average, 5.2 t/ha and was by 0.3 t/ha lower than in 2015. The highest yield of cereal was reached in Ireland (8.2 t/ha), and the lowest – in Cyprus (2.2 t/ha). The yield of wheat in 2016 in EU-28 reached, on the average, 5.6 t/ha, i.e. by 0.7 t/ha was lower than in 2015. The highest wheat yield was in Ireland (9.6t/ha), and the lowest – in Greece and Portugal (2.3 t/ha).

The total yield of grain crops in Lithuania in 2016 was lower (by 6.3%) than in 2012. Higher yield was fixed only for buckwheat (27.8%), corn (13.3%), leguminous crops for grain (1.0%) and rape (7.0%) (Table 2.9). Upon Lithuania's entry into the EU, the average production of grain crops reached 3.4 t/ha and in 2004–2016, compared to 1990–2003, increased by 36%. The yield of cereal got increased by 38% (winter cereal by 43%, spring cereal by 29%). In EU-28 countries, the average yield of grain crops in 2004–2016 reached 5.1 t/ha. In Lithuania the yield of grain crops undergoes changes; in 2004–2016 the yield of cereals fluctuated about 20%. This shows that farms should not be aimed just at increasing the yield, but also at controlling it with the use of external risk management measures.

**Table 2.9. Yield of grain crops in 2012–2016, t/ha**

Kind of grain crops	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Grain crops	3,94	3,62	3,89	4,39	3,69	-6,3
cereals	4,02	3,68	3,98	4,56	3,85	-4,2
winter cereals	4,73	4,09	4,35	5,33	4,49	-5,1
wheat	5,17	4,56	4,81	5,71	4,74	-8,3
triticale	3,82	3,18	3,36	4,08	3,41	-10,7
rye	2,81	1,96	2,26	2,79	2,38	-15,3
barley	4,42	3,60	4,11	4,40	4,12	-6,8
spring cereals	3,27	3,22	3,75	3,69	3,04	-7,0
wheat	3,89	3,71	4,31	4,21	3,42	-12,1
barley	3,38	3,27	3,80	4,00	3,13	-7,4
triticale	2,91	2,88	3,12	3,08	2,56	-12,0
oat	2,31	2,24	2,42	2,55	2,19	-5,2
buckwheat	0,90	0,93	0,95	1,00	1,15	27,8
grain maize	6,10	7,37	6,06	4,81	6,91	13,3
other cereals	2,56	1,60	1,37	0,97	0,77	-67,1
dried pulses grain	1,89	1,91	2,20	2,29	2,04	1,0
Rapeseed	2,43	2,13	2,33	3,13	2,60	7,0

Source: Statistics Lithuania.

The lowest yield of winter cereal by counties was established in the Alytus County (2.4 t/ha), and the highest in the Šiauliai County (5.5 t/ha). In 2016, compared to 2015, the most considerable reduction in the yield of winter cereals (by more than 30%)



was fixed in Alytus and Marijampolė counties. The lowest yield of spring cereal was determined in Vilnius (2.1 t/ha), and the highest in the Marijampolė County (4.1 t/ha). In 2016, as compared to 2015, the most substantial reduction in the yield of spring cereal was fixed in Panevėžys and Kaunas counties (by 26.8% and 25.1%, respectively). The yield of leguminous plants was highest in Šiauliai and Marijampolė Counties (3.4 t/ha in each), and the lowest yield in the Vilnius County (1.7 t/ha).

The harvest of grain crops in Lithuania in 2016 amounted to 5709.7 thou. t. The harvested yield was by 12.4% lower than in 2015, even though it was higher than the average harvest in the past five years, and compared to the harvest in 2012 – by 20.5% higher (Table 2.10). Harvest reduction in 2016 was determined by the 16% decreased yielding capacity, even though the area under crops has increased by 5%. The major part of the harvest of grain crops (89%) consisted of cereals, of which 65.5% was winter cereal. Winter wheat accounted for 88.4% of the harvest of winter cereals, as compared to 2012, this share increased by 8.1 percentage points. The harvest of winter cereal in 2016, compared to 2015, has dropped by 12% due to the lower yield (16%). The harvest of spring cereal has declined by 24%. This was due to the yield reduction by 18% and the area under crops by 6%. The harvest of rape in 2016, as compared to 2012, got reduced by 38%, even though the yield was higher by 7%, the area under crops decreased by 42%. Cereals cultivated in farmers' and family farms in 2016 comprised 80% of the total harvest of cereal, and the grown rape – 69% of the total rape harvest.

**Table 2.10. Harvest of grain crops in 2012–2016, thou. t**

Kind of grain crops	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Grain crops	4737	4564	5324	6521	5710	20,5
cereals	4657	4475	5123	6067	5070	8,9
winter cereals	2810	2632	2120	3773	3321	18,2
wheat	2257	2125	1708	3272	2937	30,1
triticale	370	387	292	379	290	-21,6
rye	155	94	84	107	75	-51,7
barley	28	25	37	15	20	-29,6
spring cereals	1847	1843	3003	2294	1749	-5,3
wheat	742	747	1523	1109	862	16,2
barley	714	660	982	796	524	-26,7
triticale	65	66	103	89	39	-39,0
oat	164	165	184	163	153	-6,3
buckwheat	31	28	36	37	50	63,1
mixed cereals	50	55	58	42	35	-30,4
grain maize	79	121	115	56	85	7,5
other cereals	2	1	1	0	0	-93,3
Rapeseed	633	550	502	512	393	-38,0

Source: Statistics Lithuania.

**Purchase of grains in Lithuania.** In 2016, the amount of cereal grains purchased from cultivators in Lithuania was by 17.4% higher than in 2015, of which the amount of wheat was higher by 44.1%. Since harvest quality in 2016 was lower, the purchased amounts of food wheat, Class I and II, and feed wheat, Class III, went on decreasing. The amount of wheat, Class IV, and other wheat, purchased in 2016, was by 5.3 times higher than in 2015. The share of this wheat in 2016 made 39% of the total purchased amount of wheat, and in 2015 – 10.6%. Most of all in 2016, as compared to 2012, purchase of wheat, buckwheat and malt barley went on increasing. The most substantial decrease was in the purchase amounts of feed wheat, Class III, rye, Class I, and maize (Table 2.11).

**Table 2.11. Purchase of grains in 2012–2016, thou. t**

Kind of grain	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Grain, total	3092	2954	3240	3428	4025	30,2
wheat	2356	2209	2323	2484	3578	51,9
food wheat, class I	686	970	838	686	554	-19,2
food wheat, class II	852	794	865	1158	918	7,8
feed wheat, class III	818	433	620	375	328	-60,0
rye	79	46	29	39	32	-59,3
food rye, class I	35	21	16	22	14	-59,8
barley	337	357	573	439	285	-15,5
food barley	51	57	115	86	44	-13,3
malt barley	72	74	345	109	85	18,4
feed barley	214	226	112	243	156	-27,3
oats	20	27	32	29	19	-6,3
buckwheat	15	13	11	6	20	31,6
triticale	249	248	177	217	210	-15,5
maize	26	47	44	16	14	-46,4
Rapeseed	582	501	406	441	326	-44,0

*Sources: Statistics Lithuania; AIRBC data.*

A rich harvest of grain in northern and southern hemispheres in 2016, thus having increased stocks and supply of grain in the world, resulted in 30% lower purchase prices for cereals, as compared to the average global price over the past five years. In EU-28 countries the purchase price of cereals in 2016 was low and stable. According to the Food and Agriculture Organisation of the United Nations data, the record global wheat harvest in 2017 is forecast to be by 1.8% lower than in 2016, even though it should not exceed the last five-year average. The favourable meteorological conditions in winter and larger areas under crops in Europe should increase the wheat harvest in 2017, especially in the EU countries and Russia. The accumulated stocks and the rich harvest forecast next year will have a negative impact on the increase of purchase prices for grains.

According to AIRBC data, at the end of December 2016 the wheat purchase prices in EU countries fluctuated from 129 EUR/t (in Slovakia) to 179 EUR/t (in Belgium). In the corresponding period in 2015, the wheat purchase prices varied from 149 EUR/t (in Romania) to 175 EUR/t (in Belgium). The highest change in prices per annum was fixed in Slovakia (29%). The purchase price for grain in Lithuania in 2016 was lower by more than 30%, as compared to the price in 2012, by 20% lower than the past five-year average price and by 10% higher than the average purchase price in 2015. The lowest price in 2016, as compared to the last year, was the purchase price for wheat (more than 16%), and, as compared to the 2012 purchase prices, the price for triticale dropped most substantially (by more than 40%) (Table 2.12).

**Table 2.12. Average purchase price of grains in 2012–2016, EUR/t**

Kind of grain	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Grain, total	205	176	150	157	141	-31,2
wheat	208	179	154	160	134	-35,6
rye	176	136	117	114	110	-37,5
barley	200	178	140	144	128	-36,0
malt barley	226	213	172	167	158	-30,1
triticale	188	146	126	124	112	-40,4
oats	161	118	100	121	122	-24,2
buckwheat	297	267	263	415	389	31,0
maize	205	167	146	144	123	-40,0
Rapeseed	456	349	293	341	365	-20,0

*Source: Statistics Lithuania.*

**Processing.** According to the processing data of the Lithuanian Grain Processors' Association, the grain processing companies are extending their production not only in terms of quantity, but also are aiming to produce still greater amounts of products of high value added and of wider range, i.e. various porridges, pasta, fast food products, glucose syrup, gluten, protein fodder, probiotics for fodder, etc. Production of the national grain processing companies in 2016, compared to 2012, is on the increase, except for rye flour and rye bread. Comparing the production results of the past years with the last-year result, a decrease is seen in the production of rye flour (by 21%), pasta (12%), pie and bakery confectionery (6%), and rye bread (1%) (Table 2.13). In addition to the afore-mentioned products, of importance is the production of starch, gluten, and glucose syrup, making about 300 thou. t per annum. Mention should be made that Amilina AB is the only one in the Baltic region and one of the leading manufacturers of these products in Europe. The processing companies manufacture about 100 thou. t of malt, on the average. Viking Malt UAB in Lithuania is one of the largest manufacturers of this product in the Baltic and North European region.

**Table 2.13. Production of grain products in 2012–2016, thou. t**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Flour	341,9	365,5	394,8	482,5	510,1	49,2
wheat	315,7	342,3	370,8	457,6	490,3	55,3
rye	26,2	23,1	23,7	24,7	19,5	-25,5
Cereal groats	18,6	20,9	24,0	20,8	24,1	29,8
Fresh bread	121,3	121,1	126,5	123,8	127,2	4,9
rye bread	55,8	54,2	51,2	49,5	49,1	-12,0
other bread	65,5	66,9	75,3	74,3	78,1	19,2
Pastry and confectionery	22,4	23,2	24,7	24,2	22,7	1,3
Pasta	10,8	12,5	12,0	14,1	12,4	14,5
Prepared mixed animal feed	452,6	520,5	494,2	506,4	548,7	21,2

Source: Statistics Lithuania.

In 2016, if compared to 2015, the average wholesale prices of grain products went on increasing: confectionery products (7.5%), buckwheat (2.2%), other bread (1.4%), and rye flour (0.2%). Lower prices were for wheat groats (9.0%), rye bread (3.7%), wheat flour (3.6%), semolina (1.4%), and fresh bread (0.6%). In 2016, as compared to 2012, the higher prices were for: buckwheat (18.4%) and confectionery products (17.2%), the cheapest prices were for: rye flour (19.2%) and rye bread (7.2%) (Table 2.14).

**Table 2.14. Average wholesale prices of grain products in 2012–2016, EUR/t**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Wheat flour	319	330	315	296	286	-10,5
Rye flour	280	273	246	226	226	-19,2
Wheat groats	323	354	313	349	317	-1,8
Semolina	393	442	417	381	376	-4,3
Buckwheat groats	790	666	617	915	935	18,4
Fresh bread	915	961	894	863	858	-6,2
Rye bread	904	955	915	871	839	-7,2
Other bread	924	966	879	858	870	-5,9
Pastry and confectionery	2563	2643	2653	2796	3004	17,2

Source: Statistics Lithuania.

In 2016, comparing with 2012, highest-grade wheat flour alone was cheaper on the retail market (5.5%), whereas other products under analysis got up in price. If compared to 2015 prices, prices were lower for highest-grade wheat flour (1.6%) and wheat loaf bread (0.2%), whereas buckwheat and pasta prices went up by 13.6% and 1.8%, respectively (Table 2.15).

**Table 2.15. Average retail prices of grain products in 2012–2016, EUR/kg**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Wheat flour, best quality	0,72	0,72	0,70	0,69	0,68	-5,5
Rye bread	1,45	1,45	1,48	1,48	1,50	3,0
White bread made from wheat flour	1,58	1,61	1,62	1,60	1,60	1,3
Buckwheat groats	1,84	1,70	1,53	1,76	2,00	8,2
Pasta*	0,70	0,71	0,69	0,70	0,71	1,3

\*500 g.

Source: Statistics Lithuania.

**Balance.** In 2016, as compared to 2012, the harvest of grain was higher by 20.5%, even though the yielding capacity was lower by 6.3%, the areas increased by 29.3%. The accumulated stocks at the beginning of the year were largest during the reference period: in 2016 – even by 2.5 times larger than in 2012. Export of grain crops in terms of quantity went on increasing – in 2016, compared to 2012, increased by 1.8 times, and import got reduced by 36.7%. With areas under crops increasing, grain consumption for seed and in industry went up. It should be noted that provision with grain is high, reaching 287% in 2016. The consumer consumption fund accounted only for 6.1% of the gathered grain harvest, for export – 77% (Table 2.16).

**Table 2.16. Balances of grain and grain products in 2012–2016, thou. t**

Indicators	2012	2013	2014	2015	2016*	Change 2016, compared to 2012, %
Beginning stocks	1255,1	2035,6	2040,5	2249,6	3125,7	2,5**
Production	4736,5	4566,8	5324,1	6521,4	5709,7	20,5
Import***	477,0	425,4	487,8	338,3	302,1	-36,7
Total resources	6468,6	7027,8	7852,4	9109,3	9137,5	41,3
Export***	2438,3	2930,5	3556,9	3972,2	4401,2	80,5
Domestic uses	1994,7	2056,8	2045,9	2011,4	1989,1	-0,3
seeds	240,4	250,4	281,0	298,2	314,0	30,6
animal fodder	1141,6	1197,3	1161,6	1069,7	1030,1	-9,8
losses	54,0	52,2	68,1	92,0	79,9	48,0
industrial uses	203,9	206,0	181,4	196,0	216,8	6,3
human consumption	347,1	350,9	353,8	355,5	348,3	0,3
Per capita consumption, kg	116	119	121	122	122	5,2
Ending stocks	2035,6	2040,5	2249,6	3125,7	2747,2	35,0
Self-sufficiency level, %	237	222	260	324	287	50,0****

\* LIAE calculations. \*\*Times. \*\*\* In grain equivalent. \*\*\*\* Percentage points.

Source: Agriculture in Lithuania 2015. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658.

**Foreign trade in grain and grain products.** The key EU-28 exporters of cereal grains in 2016 were Romania, France and Germany, their export making, respectively, 27%, 21% and 16% of the total export of cereals. The main export markets of cereal grains were Algeria (15%), Saudi Arabia (14%), and Vietnam (9%). Of cultivated crops Lithuania in 2016 has largely exported wheat and meslin; they accounted for 92.8%. Comparing with the last year, export of these cereals has increased by 17 percentage points. Lithuania ranked sixth in EU-28 by wheat export. In 2016, compared to 2015, export of cereal grains in terms of quantity has increased by 10.8%, the value of export of cereal grains dropped by 0.2%, and the average price of export (169 EUR/t) was lower by 9.9%. During the referred period, exports of all cereal grains and their products under analysis (except wheat) declined. Export of barley reduced most substantially (88.7%), this being conditioned by the lower (by 34.2%) harvest of spring barley and the lower (by 35.1%) amount of purchased barley. Exports were also lower of rape (54.5%), rye (28.9%), rye flour (25.0%), cereal groats (11.1%) and wheat flour (6.6%). Comparing export in the year 2016 to 2012, it is seen that export of cereal grains and grain products has increased by almost twice, whereas of other cereals and rape went on decreasing. Export of milling products over the reference period went up, except rye flour 2.17).

**Table 2.17. Exports of cereal grains and grain products in 2012–2016, thou. t**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Cereal grains	2051,8	2498,5	3088,2	3164,8	3506,3	70,9
of which:						
wheat	1680,3	1936,7	2516,0	2398,6	3253,8	93,6
rye	81,3	30,0	17,8	27,3	19,4	-76,1
barley	101,6	278,4	320,5	403,0	45,7	-55,0
Rapeseed	420,0	369,5	279,2	419,2	190,9	-54,5
Milling products	190,2	213,1	206,0	251,4	251,0	32,0
of which:						
wheat flour	11,1	16,8	14,0	13,6	12,7	14,4
rye flour	4,2	1,2	0,6	1,2	0,9	-78,6
cereal groats	2,7	3,8	5,1	4,5	4,0	48,1

*Source: Statistics Lithuania.*

In 2016, export of Lithuanian cereal grains to EU countries increased by 10.7 percentage points and constituted 44.4% of the total cereal grains. The largest portion of export was shipped to EU countries: to Latvia 31.2% (comparing with 2015, the share of export increased by 2.9 percentage points), Spain 31.0% (reduced by 3.9 percentage points), the Netherlands 12.1% (increased by 8.4 percentage points) and Germany 11.5% (increased by 0.4 percentage points). If compared to 2015, the average price of export to EU countries was lower by 31.2 EUR/t (164.3 EUR/t). Cereal grains, exported to other third countries in 2016: Saudi Arabia 33.3%, Turkey 16.3%, and Kenya 5.4%. The share of export to the above-mentioned other third countries, as compared to 2015, got reduced to Saudi Arabia by 16 percentage points, to Kenya by



2 percentage points, and to Turkey increased by 7 percentage points. Price of export to third countries in 2016, as compared to 2015, decreased by 10.7 EUR/t and amounted to 173.3 EUR/t.

The largest portion of the milling products (74%) was shipped to EU countries, as compared to 2015, this portion decreased by 7.1 percentage points. The key export markets in 2016 were Poland, Finland and Latvia, exports, respectively, made 36%, 20% and 13% of the total milling products exported to the EU.

Imports of cereal grains in Lithuania in 2016, as compared to 2012, decreased by 49% and amounted to 182.8 thou. t, whereas import of the milling products increased by 18% (Table 2.18). In 2016, compared to 2015, import of cereal grains dropped by 10.7% and the average import price for cereal grains (244.4 EUR/t) was by 5 EUR/t lower than in 2015. Import of the milling products in 2016 was slightly higher than in 2015. Import of the milling products became cheaper, and, on the average, 388 EUR/t was paid, or by 58 EUR/t less than in 2015.

**Table 2.18. Imports of cereal grains and grain products in 2012–2016, thou. t**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Cereal grains	359,4	291,0	352,9	204,7	182,8	-49,1
of which:						
wheat	160,4	49,1	119,9	67,8	84,0	-47,6
rye	64,5	10,7	13,9	8,1	10,2	84,2
barley	34,5	55,9	37,3	8,6	6,1	-82,3
Milling products	53,7	58,9	64,2	62,5	63,4	18,1
of which:						
wheat flour	21,9	23,6	31,7	32,5	34,4	57,1
rye flour	10,3	13,1	6,4	3,8	9,4	-8,7
cereal groats	3,4	3,4	3,2	2,9	4,0	17,6

*Source: Statistics Lithuania.*

The major portion of imports of cereal grains was from EU-28: Italy (27%), Spain (22%), and the Netherlands (14%). The main exporting countries to the EU were Ukraine (33%), Canada (17%), and the United States of America (USA) (13%).

This survey provides a comparison of the five-year period changes. Attention should be focused on the fact that the year 2012 was the best during the period of 2008-2012 to crop cultivators due to favourable climatic conditions in Lithuania and high purchase prices on international stock exchanges: the richest harvest (4737 thou. t), the highest yielding capacity (3.94 t/ha), the largest procurement amount (3092 thou. t), and the highest purchase price (205 EUR/t). The year 2016 in Lithuania has been distinguished by unfavourable climatic conditions, determining a more scanty harvest and its worse quality. However, comparing the 2016 results with the last five-year average, it is seen that the yielding capacity of crops was lower just by 0.2%, the harvest of cereals was by 16.8% higher, the amount of purchased cereals was by 40.0% higher, and the purchase price was by 20% lower. The areas under crops are increasing, this witnessing this branch of farming being the choice by farmers. On the other hand,

according to the FADN data, net income per conditional family worker in the crop-growing farms was highest (EUR 19355) and by 2.1 times higher than the average in the farms, and by 3.4 times higher than in the dairying farms.

### 3.2. Milk

Milk production in 2015 comprised 17.2% of the total agricultural production and still ranks second after grain production. Its share, however, has been decreasing for more than one year and, if compared to 2012, was smaller by 2.3 percentage points.

Raw milk purchase prices that started falling in 2014, in the first-half-year of 2016 went on further declining. Within the entire period of membership in the EU, they have reached such level only at Lithuania's entry into the EU (2004–2006) and during the global financial crisis in 2009. A drop in the milk purchase prices that occurred during the global milk crisis (2014–in the first half of 2016) yielded results: in 2016, compared to 2015, milk purchase decreased, milk production was loss-making, therefore, the number of milk farms, especially of smaller ones, went on decreasing at a fast pace. Milk purchase prices in the second half of the year 2016 boosted rapidly. This was due to the end of the global milk crisis and emergence of a new player on the milk market (the processing company under agricultural cooperative Pienas LT), which has intensified competition for raw materials.

The year 2016 was better for milk processing companies than 2015: income of the major part of these companies got increased, and the profitability augmented by more than two times.

**Milk production and procurement.** In 2016, the milk yield amounted to 1756 thou. t, of which 80% was purchased for processing (Table 2.19). In comparison with 2015, milk production in 2016 increased by 1.0%, and, compared to 2012, reduced by 1.2%. Liquid milk purchase during 2016 decreased by 1.6%, and during five years increased by 4.1%.

**Table 2.19. Milk production and purchase in 2012–2016, thou. t**

Indicators	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Milk production	1778,1	1723,1	1795,1	1738,5	1756,0	-1,2
Milk purchase						
natural fatness	1359,9	1339,5	1435,5	1438,0*	1415,0*	4,1
basic fatness**	1638,0	1611,3	1730,6	1738,6	1734,0	5,9

\* 4,2 % milk fat, 3,31 % protein.

\*\* 3,4 % milk fat, 3,0 % protein.

Sources: *Agriculture in Lithuania 2015*. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658.

*Agricultural and Food Market Information System. Milk Sector, Domestic market. – AIRBC, [2017-03-31].*

<<http://www.vic.lt/?mid=348&id=244751>>.



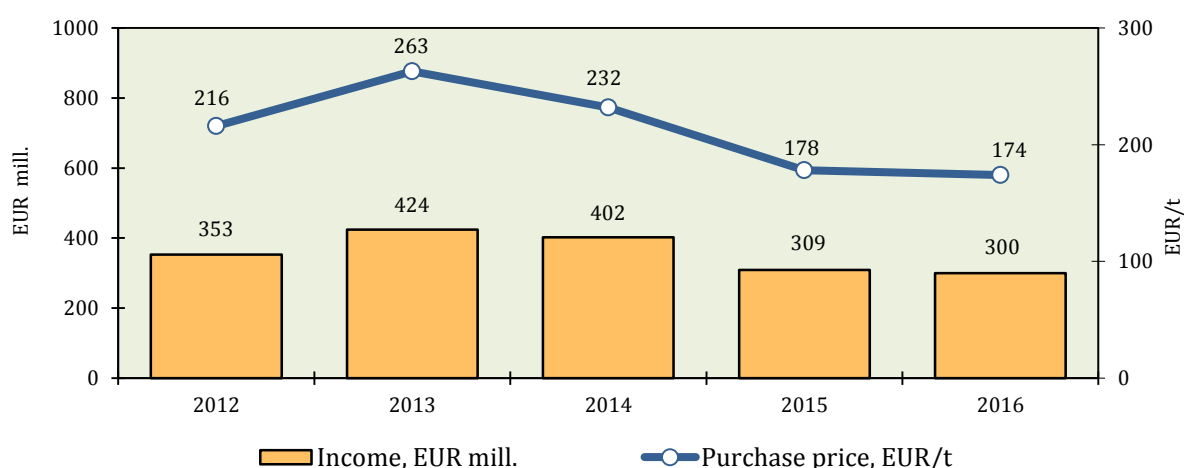
78.5% of milk in 2015 was produced in farmers' farms and family farms. During the reference period, however, the relative weight of agricultural companies and enterprises has been increasing. In 2012, the agricultural companies and enterprises produced 17.7% of milk and in 2015 – 21.5%.

Raw milk purchased in Lithuania is lacking for the processing enterprises; therefore, some portion of raw milk is imported from other countries. Import of raw milk in 2016 reached 350.2 thou. t and compared to 2015 increased by 4.7%. Compared to 2012, import of raw milk in 2016 dropped by 8%. Raw milk is imported from Latvia (66% of milk imported in 2016), Estonia (34%) and a very small amount from Poland. The average price of imported raw milk per tonne in 2016 was EUR 241.

During 2016, exports of raw milk amounted to 80.2 thou. t – by 14% less than in 2015. A decline in exports was due to the increased marketable milk production on the local market. The major portion of raw milk (93%) in 2016 was exported to Poland. Some 6.2 % was shipped to Latvia, 1.4% to Germany and 0.1% to Estonia. The average price of the exported raw milk was 264 EUR/t. Comparing to the year 2012; the amount of raw milk exported in 2016 was by 1.9% higher. The foreign trade balance of raw milk remained negative: in 2012 import was by 302 thou. t higher than export, and in 2016 by 270 thou. t.

In 2016, milk composition indicators have improved noticeably: the average fatness of the purchased milk was 4.2%, protein content 3.31%, whereas in 2012 fatness amounted to 4.15%, protein content 3.26%. Over the entire period of 2012–2015, fatness did not exceed 4.16%, protein content 3.28%. In 2012, 96.3% and in 2016, 95.9% of the total purchased milk complied with the EU veterinary and hygiene requirements.

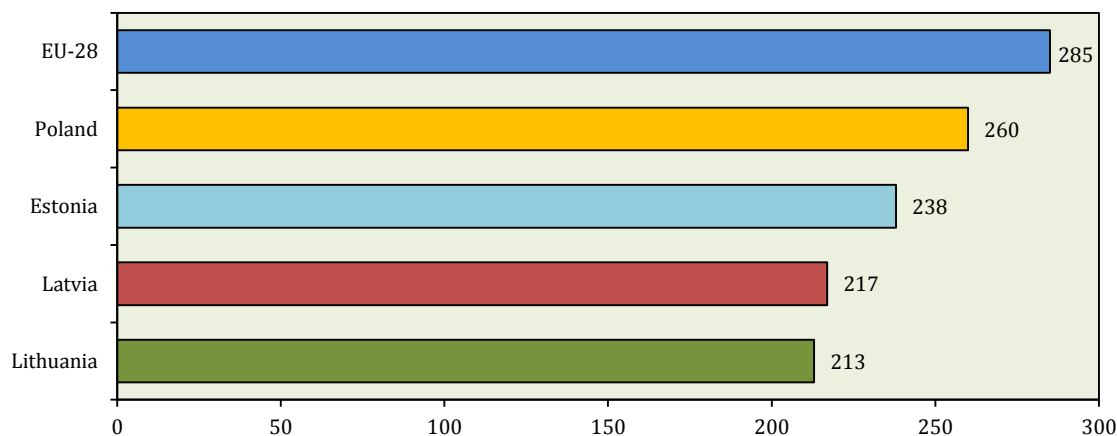
The milk purchase price within the reference period has fluctuated. In 2013, the average purchase price for milk of basic indicators that jumped up to 263 EUR/t reached the record price of all times. From the beginning of 2014 to the middle of 2016, it went on decreasing and only in the second half-year of 2016 it was increasing. In 2016, the purchase price milk of basic indicators reached 174 EUR/t (Fig. 2.9). Comparing to 2012, it has decreased by 19%. The average price for liquid milk per tonne in 2016 was 213 EUR/t.



**Fig. 2.9. Purchase price and income from sales of milk of basic indicators in 2012–2016**

Sources: *Agriculture in Lithuania 2015*. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658. *Agricultural and Food Market Information System. Milk Sector, Domestic market*. – AIRBC, [2017-03-31]. <<http://www.vic.lt/?mid=348&id=244751>>.

Tendencies of variation in milk purchase prices were similar to those as in other EU countries, whereas the range of their fluctuations in Lithuania was more abrupt and more profound. Milk purchase prices in Lithuania over the period of 2012–2016, except the year 2013, were lowest in the EU (Fig. 2.10). In 2013, Latvia alone was left behind.



**Fig. 2.10. Milk (natural fatness) purchase price in Lithuania and some other EU countries in 2015, EUR/t**

Sources: Agricultural and Food Market Information System. Milk Sector, Domestic market. – AIRBC, [2017-03-31]: <http://www.vic.lt/?mid=348&id=244751>;  
 EU milk prices – DG Agri. DairyCo [interaktyvus], [2017-04-05]: <http://www.dairyco.org.uk/resources-library/market-information/milk-prices-contracts/eu-milk-prices-dg-agri/#.WTV14dxRXbg>.

From 2012 to the end of 2016 the number of cow-keeping farms decreased by 33%: in 2012 they numbered 70.6 thousand, and in 2016 – 47.1 thousand (Table 2.20). In 2016, 61% of cow-keeping farms sold milk to purchasers. The remaining farms either sold their milked milk directly to consumers or were not commodity farms. The average dairy farm in Lithuania is among the smallest in the EU countries. In 2014, the number of cows per farm was 5.2. Smaller average dairy farms were only in Romania (2.2 cows) and in Bulgaria (5.1 cows). Milk production farms, however, are becoming larger in Lithuania. In 2016, as compared to 2012, the average dairy farm has increased by 36% – from 4.5 to 6.1 cows.

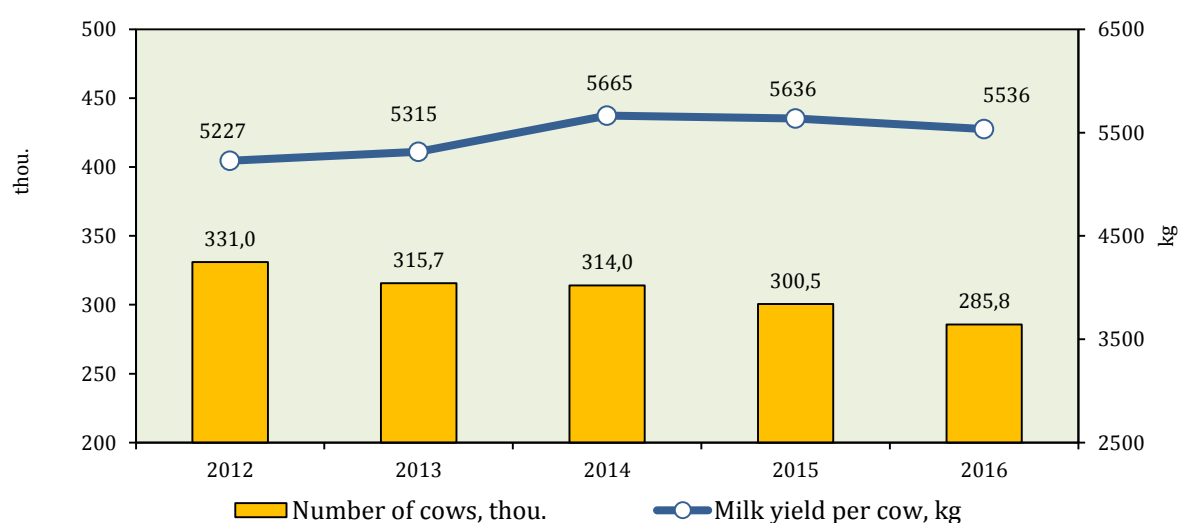
The process of enlargement of an average dairy farm takes place alongside the decline of small and medium-sized farms and the gradually increasing number of large farms. According to the data of the AIRBC (Agricultural Information and Rural Business Centre), the number of farmers keeping 1–9 cows is decreasing most rapidly: their number in 2016, as compared to 2012, has dropped by 35%. In 2016, however, 33% of the herd of cows has been still kept in the farms of that size. The number of farms keeping 50 and more cows is increasing most rapidly. During the five-year period their number increased by 78 (12%), and in 2016 the herd of cows kept here amounted to 26%. The number of farms of other sizes has also reduced, except for farms with 20–29 cows.

**Table 2.20. Dairy farms by number of cows in 2012 and 2016  
(at the end of the year)**

Number of cows per farm	Number of farms			Number of cows, thou.		
	2012	2016	change 2016, compared to 2012, %	2012	2016	change 2016, compared to 2012, %
1-2	50686	30602	-39,6	63,7	39,1	-38,6
3-9	14752	11644	-21,2	68,2	54,7	-19,8
10-19	2732	2320	-15,1	37,0	31,5	-14,9
20-29	971	1010	4,0	23,1	24,1	4,3
30-49	782	744	-4,9	29,4	28,3	-3,7
50-99	445	488	9,7	30,2	33,4	10,6
>=100	231	266	15,2	64,7	74,3	14,8
<b>Total</b>	<b>70599</b>	<b>47074</b>	<b>-33,3</b>	<b>316,4</b>	<b>285,4</b>	<b>-9,8</b>
<b>Average per farm, heads</b>				<b>4,5</b>	<b>6,1</b>	<b>35,6</b>

Sources: AIRBC, [2016-04-06]: < [http://www.vic.lt/uploads/file/06\\_ukiu130101\\_pagal\\_gyvas\\_karvs11.pdf](http://www.vic.lt/uploads/file/06_ukiu130101_pagal_gyvas_karvs11.pdf)>;  
< [http://www.vic.lt/uploads/file/07\\_ukiu130101\\_pagal\\_gyvus\\_karvs21.pdf](http://www.vic.lt/uploads/file/07_ukiu130101_pagal_gyvus_karvs21.pdf)>;  
< [http://www.vic.lt/uploads/file/08\\_ukiu130101\\_pgl\\_gy\\_kar22.pdf](http://www.vic.lt/uploads/file/08_ukiu130101_pgl_gy_kar22.pdf)>;  
< [http://www.vic.lt/uploads/file/06\\_ukiu170101\\_pagal\\_gyvas\\_karvs11.pdf](http://www.vic.lt/uploads/file/06_ukiu170101_pagal_gyvas_karvs11.pdf)>;  
< [http://www.vic.lt/uploads/file/07\\_ukiu170101\\_pagal\\_gyvus\\_karvs21.pdf](http://www.vic.lt/uploads/file/07_ukiu170101_pagal_gyvus_karvs21.pdf)>;  
< [http://www.vic.lt/uploads/file/08\\_ukiu170101\\_pgl\\_gy\\_kar22.pdf](http://www.vic.lt/uploads/file/08_ukiu170101_pgl_gy_kar22.pdf)>.

According to the data of the Lithuanian Department of Statistics, from 2012 to the end of 2016, the number of dairy cows decreased by 45.2 thousand (Fig. 2.11). Their number was consistently decreasing throughout the whole reference period. In 2016, as compared to 2015, the number of cows reduced by 4.9%. This was the highest decrease rate per annum in the number of cows within the reference period.


**Fig. 2.11. Number of dairy cows and milk yield per cow in 2012-2016  
(at the end of the year)**

Sources: Agriculture in Lithuania 2014. Vilnius: Statistics Lithuania, 2015. ISSN 2029-3658; Statistics Lithuania.

The average productivity per cow in Lithuania in 2016 was 5536 kg. The productivity of cows within the period of 2012–2014 has been increasing: in 2014, as compared to 2012, the milk yield per cow increased by 8.4%. However, in 2015 and 2016 the milk yield of cows went on decreasing. This was impacted by the considerably reduced milk purchase price due to a global milk crisis. At the existence of such price, the milk producers had no funds to retain and increase the milk yield. In 2016, as compared to 2014, it dropped by 2.3%. The average milk yield of cows under control during the control period of 2015–2016 reached 7277 kg – by 2.4% more than in 2014–2015 and by 8.6% more than in 2011–2012. During the control period of 2015–2016 49.7% of all dairy cows were under control in the country.

**Manufacturing of dairy products.** The dominant position in the milk processing sector of Lithuania belongs to the five groups of milk processing companies: Rokiškio sūris AB, Pieno žvaigždės AB, Žemaitijos pienas AB, Vilkyškių pieninė AB, and Marijampolės pieno konservai UAB. The first four groups of companies during the reference period of 2012–2016 generated about 70-80% of the total income from sales in the milk processing sector. The said groups of companies are also the main exporters of dairy products. In 2016 one more enterprise, belonging to the agricultural cooperative Pienas LT, joined the milk processing activities, being able to process 650 t of milk per day. In 2016, it still has not operated at full capacity and just manufactured products that were usual for the milk industry in Lithuania, whereas since 2017 the manufacture of dry products of high added value intended exclusively for export markets has been started. Other milk processing companies are smaller, even though some of them are also exporting the large part of their products.

All Lithuanian milk processing companies and their subsidiaries have implemented the EU sanitary and hygiene requirements for food production and are entitled to export their products to EU countries. 16 milk processing companies and their subsidiaries had permits for exporting their products to Russia, and 9 to Belarus.

The reviving global economies after the global crisis within the period of 2012–2014 created conditions for increasing dairy product sales (Table 2.21). However, in 2015, as compared to 2014, due to the diminished global demand in dairy products and Russia's embargo imposed on imports of dairy products from the EU, sales dropped by 21% and comparing with 2012 by 13%. With an increase in the global demand for dairy products in 2016, as compared to 2015, the sale of dairy products went up by 7.2%, whereas comparing to 2012, still was lower by 6.9%. Export during the five-year period has dropped by 13%.

**Table 2.21. Key indicators of the milk processing industry in Lithuania in 2012–2016**

Indicators	2012	2013	2014	2015	2016
Number of milk processing enterprises & subsidiaries	31	32	33	34	36
Sales of dairy products and dairy products with vegetable oils, EUR mill.	868,2	939,7	959,8	754,3	808,3
share in total output of the food industry, %	30	31	31	25	26
Export income of milk processing companies, EUR mill.	458,2	541,0	558,5	379,3	400,0
share in total income from sales of dairy products and dairy products with vegetable oils, %	53	58	58	50	49

Sources: *Production of commodities 2012–2016*. Vilnius: Statistics Lithuania. ISSN 1648-5777; *Industrial production - Statistics Lithuania*. [2017-03-28]. <<http://osp.stat.gov.lt/statistiniu-rodikliu-analize1>>; *State Food and Veterinary Service* [2017-02-23]. <<http://vetlt1.vet.lt/vepras/>>.

The key trend in the specialisation of the milk processing industry in Lithuania is the production of cheeses. These products also prevail in the export structure. Production of the larger part of dairy products in 2016, as compared to 2012, went on increasing. Due to the noticeably augmented price on the foreign market, butter production increased in particular (60.4%), followed closely by ice-cream production 58.4%. Production of not-processed cheese dropped most significantly (47.3%), whereas with the augmentation of the production of fresh cheeses by 28.9%, the total production of cheese got reduced just by 13% (Table 2.22). In 2016, as compared to 2015, manufacture of ice-cream and fresh cheeses went up (by 33.7% and 32.2%, respectively). Production of not-processed cheese has dropped most considerably – by 21%.

**Table 2.22. Production of main dairy products in 2012–2016, thou. t**

Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Drinking milk	100,3	100,7	110,2	93,0	109,5	9,2
Sour milk, kefir	35,3	37,1	37,8	37,8	37,3	5,7
Yoghurt	16,6	19,7	19,5	18,2	17,3	4,2
Sour cream & mixes	29,1	27,9	27,1	25,8	24,5	-15,8
Curd	28,2	27,4	24,1	20,4	21,3	-24,5
Butter and other milk fats	10,6	11,5	16,3	13,9	17,0	60,4
Fresh cheese	40,1	35,3	42,1	39,1	51,7	28,9
Unprocessed cheese	49,3	51,4	37,8	32,9	26,0	-47,3
Dried milk and whey products	39,0	41,2	49,3	47,7	55,3	41,8
Ice cream, mill. l	23,8	29,3	30,8	28,2	37,7	58,4
Canned dairy products	22,8	13,3	16,2	13,8	13,6	-40,4

*Sources: Production of commodities 2012–2016. Vilnius: Statistics Lithuania. ISSN 1648-5777.*

**Domestic market in dairy products.** Consumption of milk and milk products in milk equivalent per capita in Lithuania in 2015, as compared to 2012, increased by 4.0%. During the period of 2012–2016, consumption of certain dairy products, manufactured industrially, fluctuated and was highest in 2016. This was due to the increased purchasing power of the average monthly net wages for dairy products (Table 2.23). The purchasing power also went up as a result of higher wages and lower prices for dairy products which in 2016 were lower comparing to 2015 and 2012.

The overall Lithuanian wholesale market of dairy products in 2016 amounted to EUR 508 million. In comparison with 2012, it has augmented by 2.8%. The major part of dairy products sold on the domestic market has been manufactured in Lithuania. Nevertheless, the share of imports has a tendency towards increasing. In 2012, the imported dairy products accounted for 17% of the total dairy products sold on the Lithuanian market (excluding raw milk import), and in 2016, like in 2015, for 20%.

Imports of dairy products from other EU countries comprised 99%. Here the neighbouring countries are predominant: from Poland 43% of dairy products, from Latvia 16%, and from Estonia 11%. Cheeses, fermented and acidified dairy products, concentrated milk and sweet cream are dominating in the structure of imports of dairy products. In 2016, the total amount of imported dairy products (including ice-cream,

lactose and casein, but excluding raw milk) made EUR 99.8 million, or by 17% more than in 2012. The volumes of products sold by Lithuanian producers of dairy products on the domestic market in 2016 amounted to EUR 408 million, and, if compared to 2015, got increased by 8.9%, and, comparing to 2012, have reduced by 0.4%.

**Table 2.23. Changes in consumption of milk and dairy products and factors influencing consumption in 2012–2016**

Products	2012	2013	2014	2015	2016	2016, compared to 2012, %
Per capita consumption of milk and dairy products, kg						
Milk and dairy products (in milk equivalent)	303	307	312	315	n. d.	...
Cheese*	18,7	20,4	17,3	18,9	20,2	8,0
Butter*	4,3	3,9	3,0	3,4	4,1	-4,7
Sour milk products*	29,5	31,1	28,8	28,1	31,5	6,8
Drinking milk*	31,5	32,5	33,2	31,7	34,7	10,2
Purchasing power of average monthly net wages and salaries						
Butter, kg	71	72	72	83	93	31,0
Sour cream, 20–30 % fat content, kg	176	177	176	195	214	21,6
Curd, 5–9% fat content, kg	133	132	132	152	174	30,8
Milk, 2,5% fat content, l	658	694	675	757	833	26,6
Average retail price of milk and dairy products, EUR/kg						
Butter	6,76	6,96	7,31	6,69	6,44	-4,7
Milk, pasteurised, 2,5% fat content, EUR/l	0,73	0,72	0,78	0,73	0,72	-1,4
Sour cream, 20–30% fat content	2,72	2,83	3,00	2,84	2,81	3,3
Curd, 5–9% fat content	3,60	3,78	3,98	3,64	3,44	-4,4

\* Own-produced and consumed products and direct sales excluded.

Sources: *Production of Commodities 2012–2016*. Vilnius: Statistics Lithuania. ISSN 1648-5777;  
*Economic and Social Development in Lithuania, Latvia and Estonia 2012–2016*. Vilnius: Statistics Lithuania. ISSN 2029-5936;  
*Agriculture in Lithuania 2015*. Vilnius: Statistics Lithuania, 2015. ISSN 2029-3658;  
*Main Indicators of Economic and Social Development.2017/01*. Vilnius: Statistics Lithuania. ISSN 2029-364X [2017-04-08].  
<http://osp.stat.gov.lt/services-portlet/pub-edition-file?id=22022>; *Data of Statistics Lithuania*.

The wholesale prices for dairy products by Lithuanian producers sold on the domestic market at the beginning of 2012 went on decreasing, whereas already from September 2012 to the middle of 2014 they were increasing. Later, though fluctuating, they had a tendency of decreasing and again started rising from September 2016. Throughout 2016, the wholesale prices of dairy products have increased by 1.4%, and in December 2016, as compared to December 2011, the wholesale prices for dairy products by Lithuanian producers sold on the domestic market have increased by 3.4%.

**Export of milk and milk products.** Balance of Lithuania's foreign trade in milk and milk products in 2012–2016 was positive: in 2012 exports surpassed imports by EUR 360.4 million, and in 2016 by EUR 261.7 million. And even though the volumes of both exports and imports have dropped over the period of 2012–2016, exports, however, got decreased more – by 21%, imports – just by 8.5%.



Export of milk and milk products went on increasing in 2012–2014, in 2015 it slowed down and was lowest during the entire period under analysis, whereas in 2016 it has somewhat revived. Exports of milk and milk products (including ice-cream, lactose and casein) in 2016 amounted to EUR 445.9 million. Cheese and curd accounted for 43% of the total exports, not-concentrated milk and sweet cream for 27%, butter and other milk fats for 8%. Shipment of raw milk comprised 4.8% of the total exports of milk and milk products. In 2016, as compared to 2012, an increase of exports was only of casein (14 times), butter and ice-cream (by 2 times each), not-concentrated milk and sweet cream (13.5%). The most considerable decline was in exports of whole milk powder (90.3%), skimmed milk powder (66.3%) and yoghurt (69.4%) (Table 2.24).

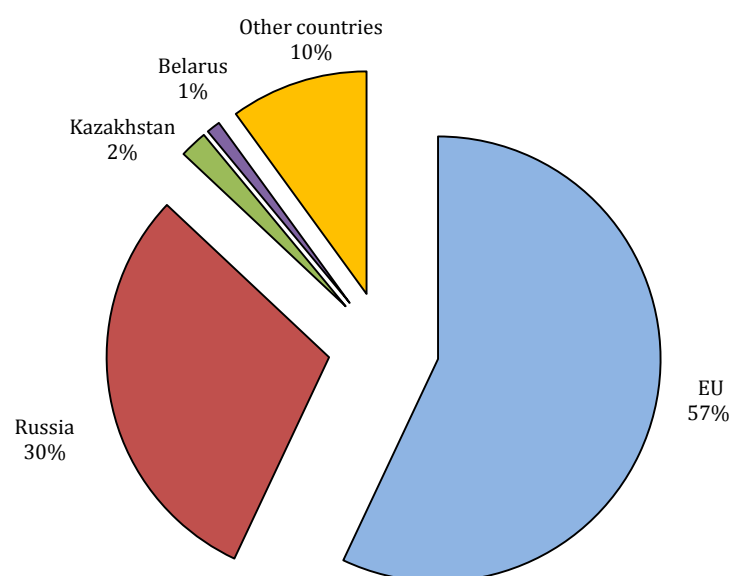
**Table 2.24. Exports of milk and dairy products in 2012–2016, EUR mill.**

CN code	Products	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
0401	Milk & cream, not concentrated	104,4	142,9	140,1	113,4	118,5	13,5
0402	Milk & cream, concentrated	83,8	82,0	93,0	40,7	32,8	-60,9
040210	Skimmed milk powder	58,5	66,4	79,5	28,2	19,7	-66,3
040221	Whole milk powder	7,2	2,5	0,5	0,5	0,7	-90,3
040291	Condensed milk without sugar	6,2	1,2	3,2	3,3	4,9	-21,0
040299	Condensed milk with sugar	11,8	11,9	9,6	8,8	7,4	-37,3
0403	Fermented or acidified milk & cream	15,3	20,3	16,7	8,2	9,7	-36,6
040310	Yogurt	7,2	9,9	8,0	1,7	2,2	-69,4
0404	Whey & products consisting of natural milk constituents	33,4	43,0	31,8	20,9	22,0	-34,1
0405	Butter & other fats & oils derived from milk, dairy spreads	17,0	24,1	31,0	21,8	34,2	101,2
0406	Curd & cheese	276,3	270,6	255,9	186,2	189,3	-31,5
040610	Fresh cheese & curd	126,4	123,7	121,3	104,9	110,3	-12,7
040690	Other cheese	145,4	141,3	129,5	77,0	74,1	-49,0
210500	Ice cream	15,8	21,4	26,3	27,3	30,1	90,5
350110	Casein	0,0	0,0	0,0	0,0	0,7	1410
170211-19	Milk sugar	15,6	13,7	14,4	8,9	8,5	-45,5

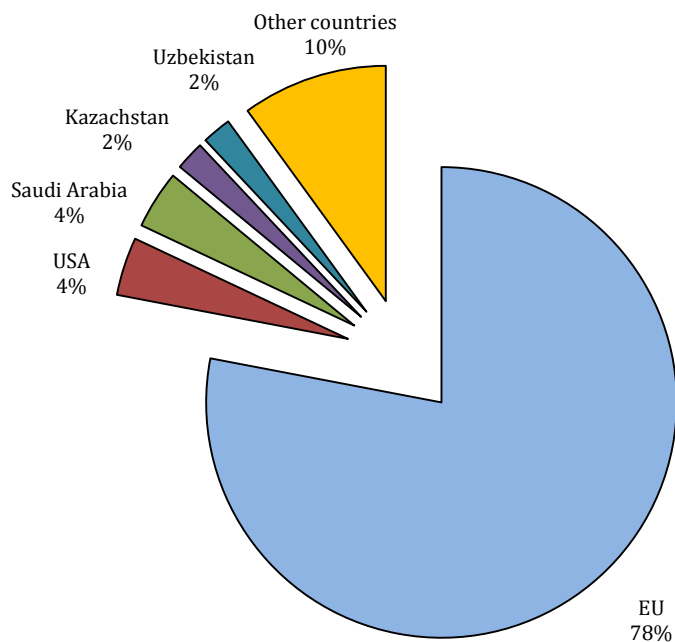
Source: Statistics Lithuania.

The main countries for export of dairy products in 2016 were the EU countries. Of third countries, somewhat larger portion of dairy products was shipped to the USA and Saudi Arabia. As a result of an embargo on food products, imposed in August 2014 by Russia, the share of milk and milk products exported to this country reduced noticeably: from 30% in 2012 to 0.7% in 2016 (Fig. 2.12). The share of milk and milk products exported to the EU countries increased by 21 percentage points. Searching for new markets for the products that have been previously exported to Russia, larger

amounts of dairy products began to be shipped to the countries which formerly constituted a very small share of exports as well as to new markets.



2012



2016

**Fig. 2.12. Structure of the export of milk and dairy products by country group in 2012 and 2016**

Source: Statistics Lithuania.



Prices of exported dairy products prior to the middle of 2012 went on reducing, whereas later until the end of 2013 began rising. Since 2014 they began dropping again and started increasing only in the middle of 2016. In December 2016 as compared to December 2011 prices for exported milk and milk products increased by 17.4%.

**Market regulation measures.** In Lithuania, like in the entire EU, the common market organisation measures for milk and milk products and until 31 March 2015 the milk production quota system have been in operation.

In 2004, the total amount of national milk production quota of 1647 thou. t was approved for Lithuania: 1280 thou. t of sales for processing and 367 thou. t for direct consumption. From the quota period of 2006–2007 (the quota year would start on 1 April and continue until 31 March of the following year) it has been increased by 57.9 thou. t, from the quota year of 2008–2009 by 2 % – up to 1739 thou. t, each subsequent year being augmented by 1 %. The granted quota was sufficient and did not restrict the commercial milk production (Table 2.25). From April 2015 the EU milk production quota system was cancelled.

**Table 2.25. Fulfilment of national milk production quota in 2011–2015, %**

Quota year	Quota for processing	Quota for direct consumption
2011–2012	80	54
2012–2013	79	51
2013–2014	79	50
2014–2015	85	53

Source: AIRBC [2017-04-12]. <<http://www.vic.lt/?mid=298>>.

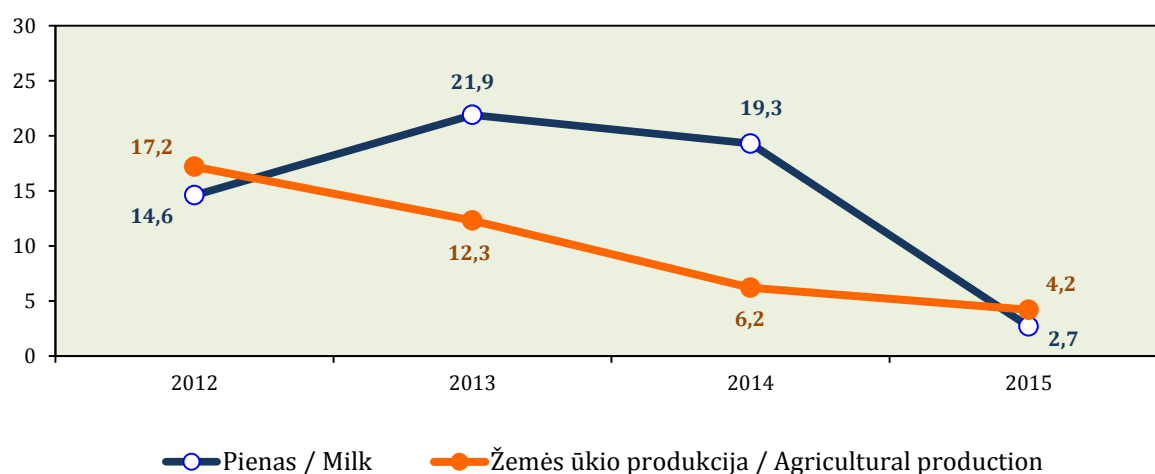
In 2012, EUR 27.7 million of additional decoupled national direct payments were calculated to milk producers for milk. In 2013 EUR 4.0 million of the decoupled transitional period national support for milk was calculated, and in 2014 EUR 19.3 million. In addition, in 2014, a special support for milk of EUR 12.3 million was granted. In 2015, the transitional period national support for milk amounted to EUR 18.25 million and additionally EUR 28.1 million of the temporary support to milk producers who suffered losses from an import embargo imposed on milk products by the Russian Federation and EUR 22.3 million of the coupled support for dairy cows was allocated. The transitional period national support for milk in 2016 comprised EUR 17.21 million, and the coupled support EUR 24.94 million. Additionally, support amounting to EUR 1.4 million was assigned to farmers in October–December 2013 and in November 2016 – January 2017, as compared to the same last-year periods, during which amounts of milk sold for processing have been reduced.

Of the common market organisation measures for milk and milk products, in the period of 2012–2016 intervention purchases, private storage of skimmed milk powder, butter and cheese were used, as well as consumption of milk products in educational establishments under the programme “Milk for Children” was supported. In 2015, 8896 t and in 2016, 26065 t of skimmed milk powder were purchased to intervention warehouses. In 2014, applications for private storage of 2.841 t of skimmed milk powder, 139 t of butter and 170 t of cheese, in 2015, 5049 thou. t of skimmed milk

powder and 1816 t of butter, and in 2016, 1232 t of butter were satisfied. According to the programme “Milk for Children”, the support amounting to EUR 4.75 million in 2012, EUR 5.79 million in 2013, EUR 3.05 million in 2014, EUR 3.55 million, and throughout 2016 EUR 3.27 million was disbursed.

**Economic indicators.** Pursuant to the FADN data relating to the respondent farms, the net profitability (net profit and production subsidies per one EUR of sales income from agriculture, including VAT deduction) at farmers’ farms, the main revenue thereof was income derived from milk, amounted to 26% in 2012, and subsidies exclusive to 4.0% of losses. In 2015, the net unprofitability reached 8.6%, subsidies inclusive, and 59.4% of losses, subsidies exclusive.

Milk production was one of the more profitable branches of farming at agricultural companies and enterprises in 2013–2014 (Fig. 2.13). Milk production profitability in 2013 was by 9.6 percentage points higher than the average profitability of agricultural production sales, and in 2014 by 13.1 percentage points. Nevertheless, in 2012, for the first time from the year 2000, the average agricultural production profitability has outperformed the milk production profitability by 2.6 percentage points. In 2015, the average agricultural milk production profitability by 1.5 percentage points was ahead of the milk agricultural production profitability, which reached 2.7%. Fluctuations in milk purchase prices had the major impact on the profitability of milk production in 2012–2015.



**Fig. 2.13. Profitability (without subsidies) of milk and total agricultural production in agricultural companies and enterprises in 2012–2015, %**

Sources: Official statistical forms of agricultural companies and other agricultural enterprises 2012–2015. – AIRBC [2017-03-29. <http://www.vic.lt/?mid=533>].

The average cost price of sold milk production in agricultural companies and enterprises in 2012 amounted to 219 EUR/t, if calculated by reckonable weight, and in 2015 decreased to 210 EUR/t, i.e. by 4.1%. The cost price of liquid milk in 2015 was 256 EUR/t.

The operation of the four major groups of Lithuanian milk processing enterprises, enrolled in the lists of the Nasdaq Vilnius Stock Exchange, was profitable during the period of 2012–2016 (Table 2.26). In 2016, the net profitability, comparing with 2012, increased by 1.4 percentage points.

**Table 2.26. Net profitability of major dairy enterprises in 2012–2016, %**

Indicator	2012	2013	2014	2015	2016
Net profitability	3,9	3,1	1,4	2,3	5,3

Šaltinis: NASDAQ OMX, [2017-04-14]: <<http://www.nasdaqomxbaltic.com/market/?pg=reports>>.

In 2012–2013, the profitability of the processing enterprises has been increased due to the augmented global prices for milk products, even though a certain impact on the profitability in 2013 had the banned export of milk products to Russia at the end of the year. In 2014, the profitability decreased as a result of the fall in prices for exported milk products and an import embargo on food products announced by Russia in August. In 2015, even though global prices for milk products went on further reducing and Russia's embargo was not lifted, the noticeably reduced milk purchase prices helped the processing enterprises to generate a higher profit. In 2016, as compared to 2015, the profitability of processing companies increased by more than twice, since the milk product prices have boosted from the middle of the year, and the raw milk purchase prices have been more noticeably raised only from the third quarter of the year.

### 3.3. Meat

The sector of animal husbandry in Lithuania since 2014 has been recognised as a priority branch of agriculture, as livestock breeding is not only labour-consuming but also less profitable than plant growing. That fact is confirmed by a gap between income generated by plant growing and livestock-farming products. The number of cattle heads and pigs is decreasing. Exception makes beef cattle, sheep-breeding and poultry farms. Beef cattle and sheep breeding are stimulated by various payments, poultry breeding – by the increasing consumption. Livestock-breeding is confronted with a lot of problems. The global milk crisis and an embargo imposed by Russia alone inflicted losses to more than one livestock-breeding farm. Priority that has been given to animal husbandry by the Government should accelerate the restoration of the positions lost and promote tackling of the problem issues.

**Livestock-breeding.** During the period of 2012-2016, the number of cattle, dairy cows and pigs decreased, whereas that of poultry and sheep went up (Table 2.27). The declining purchase prices for cattle and milk have not stimulated an increase in the number of cattle and dairy cows, whereas the herd of beef cattle got increased by almost two times.

**Table 2.27. Number of livestock and poultry in 2012–2016 (at the end of the year), thou.**

Kind of animals	2012	2013	2014	2015	2016	Change 2016, compared to 2012, %
Cattle	729,2	713,5	736,7	722,6	694,8	-4,7
of which dairy cows	331,0	315,7	314,0	300,5	285,8	-13,7
Pigs	807,5	754,6	714,2	687,8	663,9	-17,8
Poultry	9085,6	9761,6	10218,4	9369,6	10098,9	11,2
Sheep	82,8	99,6	123,8	147,1	163,6	97,6

Source: Statistics Lithuania.

**Cattle.** During the period of 2012-2016, the number of cattle decreased by almost 5% and of dairy cows by 14%, whereas the number of beef cattle and cross-bred cattle breeds increased even by 65%. At the end of the year, they constituted 24% of the total number of cattle.

According to the data of the Agricultural Information and Rural Business Centre, at the end of the year 2016, cattle in Lithuania was raised in 57.5 thousand farms, i.e. by almost 30% less than five years ago (Table 2.28). The average size of a farm is not big. On the average, 12 head of cattle were raised per farm (in the EU countries in 2013 – 38). The smaller farms are just in Romania and Bulgaria. The largest number of cattle is raised by Šilalė, Šilutė and Kelmė farmers.

**Table 2.28. Farms by number of cattle in 2012 and 2016 (at the end of the year), thou. heads**

Number of cattle per farm, heads	2012		2016	
	number of farms	number of cattle	number of farms	number of cattle
1–2	42,8	59,6	26,1	36,8
3–5	18,3	68,0	13,0	49,1
6–10	9,1	68,9	7,8	59,5
11–20	5,1	73,5	4,7	67,6
21–30	1,8	44,9	1,8	45,3
31–50	1,6	61,4	1,7	67,2
51–100	1,2	83,4	1,4	96,6
101–150	0,4	44,3	0,4	53,9
>=151	0,4	180,1	0,5	216,1
<b>Total</b>	<b>80,7</b>	<b>684,0</b>	<b>57,5</b>	<b>692,1</b>
<b>Average per farm, heads</b>		<b>8,5</b>		<b>12,0</b>

Source: AIRBC data.

In Lithuania over the period of 2011–2015, the number of farms where up to 5 head of cattle are kept decreased by 36%. The average size per farm during the period of five years increased by 41%. The number of farms with more than 20 head of cattle increased.

In the period of 2012–2016, the number of pedigree beef cattle has increased by 65%. At end of 2016, in Lithuania, 167.8 thousand head of beef cattle, including 35.9 thousand head of pedigree cattle, were raised. Of pedigree cattle, most popular are Limousine, Angus, Aubrac, and Charolais breeds. Cross-bred cattle breeds are raised most numerously (79%).

**Pigs.** By the end of 2016 in Lithuania 663.9 thousand of pigs were raised, of which pedigree sows amounted to 48.8 thousand (Table 2.29). During 2012–2016, the number of pigs decreased by 17.8%, and a herd of pedigree pigs by 8%. Pig breeders in 2016 raised about 1.2 million pigs, of which 300 thousand were exported, and 875 thousand were slaughtered. From the beginning of 2014, African swine fever that spread from Belarus was fixed in Lithuania; it persisted in Lithuania throughout 2016. Restrictions related to this disease had an impact on pig rearing and prices.

**Table 2.29. Number of pigs in 2012 and 2016 (at the end of the year), thou.**

Group of pigs	2012	2016	Change 2016, compared to 2012, %
Pigs, total	807,5	663,9	-17,8
piglets, under 20 kg	140,4	124,4	-11,4
piglets, 20 to 50 kg	220,8	173,8	-21,3
pigs for fattening, 50 to 80 kg	219,0	168,3	-23,2
pigs for fattening, 80 to 110 kg	113,9	100,3	-10,9
pigs for fattening, over 110 kg	49,0	47,3	-3,5
breeding sows	64,4	48,8	-24,2
boars	0,9	0,7	-22,2

*Source: Statistics Lithuania.*

Two thirds of pigs are raised in the companies and enterprises. The average number of pigs per farm in Lithuania, however, is one of the lowest – 28 pigs (EU average – 66). Three fourths of pigs are kept in the farms possessing pigsties for more than 1 thou. pigs. The EU segment survey, conducted in 2013, showed that among the largest farms, numbering more than one thousand, the largest are in Lithuania (14.2 thou. units). By pig number per area unit Lithuania was among the countries rearing the lowest number of pigs.

**Table 2.30. Number and percentage of farms and pigs in 2016  
(at the end of the year)**

Number of pigs per farm	Number of:		Structure, %	
	farms	pigs	farms	pigs
1-10	21560	71178	97,9	11,4
11-100	390	7965	1,8	1,3
101-500	26	5699	0,1	0,9
501-1000	12	9111	0,1	1,5
>1000	38	528850	0,2	84,9
Total	22026	622803	100,0	100,0
Average per farm, heads		28,3		

Source: AIRBC data.

**Sheep.** Over the period of 2012–2016 the number of sheep increased almost 2 times. According to the data of the Agricultural Information and Rural Business Centre, at the end of 2015, 146 thou. sheep were raised in 10.4 thou. farms (Table 2.31), on the average, 16 sheep in each farm. The Ministry of Agriculture encouraged breeding of sheep in those farms where pig breeding was banned.

**Table 2.31. Farms by number of sheep in 2012 and 2016 (at the end of the year), heads**

Number of sheep per farm	2012		2016	
	farms	sheep	farms	sheep
1-2	1892	2831	2383	3613
3-5	1486	5727	2412	9395
6-10	1087	8312	2055	16027
11-20	824	12049	1757	25809
21-30	316	7858	711	17672
31-50	279	10833	587	22789
51-100	140	9870	376	25620
101-150	40	4905	97	11924
>=151	49	20948	90	31057
Total	6113	83333	10468	163906
Average per farm		14		16

Source: AIRBC data.

According to the data of the Department of Statistics, during 2015 the number of slaughtered sheep amounted to about 34.5 thousand, of which 82% was slaughtered in domestic slaughterhouses. The largest number of sheep is raised by farmers in Alytus, Anykščiai, Zarasai and Vilnius districts.

**Poultry.** By the end of 2016 the number of poultry raised in Lithuania amounted to 10 098.9 thousand, of which hens accounted for 98% (Table 2.32). Laying hens comprised more than one third. Within the five-year period, the number of hens got increased by 12.5%, the number of ducks decreased considerably (62%), somewhat less than that of turkeys, geese and other poultry. During 2016, the number of geese and laying hens has increased (by 60% and 7%, respectively).

**Table 2.32. Number of poultry in 2012 and 2016, thou.**

Poultry	2012	2016	Change 2016, compared to 2012, %
Hens, total	8812,9	9916,8	12,5
of which laying hens	3388,2	3432,8	1,3
Geese	16,5	13,4	-18,8
Ducks	42,5	16,0	-62,4
Turkeys	205,9	146,2	-29,0
Other	7,8	6,4	-17,9
Total	9085,6	10098,9	11,2

Source: Statistics Lithuania.

According to the data of the Department of Statistics, throughout the year 2016, poultry slaughter amounted to 56 million head. Poultry were mostly raised in poultry breeding farms in Vilnius and Kaunas districts.

**Meat production.** By preliminary data, animal and poultry carcass meat, produced in 2016 in all farms, amounted to 267.0 thou. t. As compared to 2012, meat production increased by more than 15% (Table 2.33).

### 2.33 lentelė. Mėsos (skerdenos) gamyba 2012–2016 m., tūkst. t

Table 2.33. Meat production (carcasses) in 2012–2016, thou. t

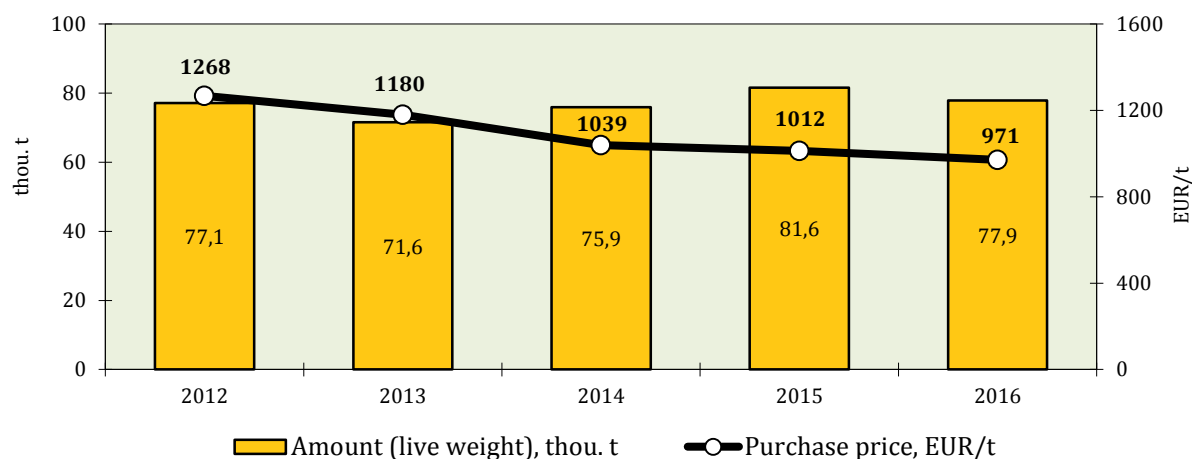
Mėsos rūšys / Kind of meat	2012	2013	2014	2015	2016*	Pokytis / Change 2016, palyginti su compared to 2012, %
Mėsa, iš viso / Meat, total	231,2	243,8	253,0	270,1	267	15,5
iš jos: / of which:						
kiauliena / pig meat	92,8	101,5	99,5	99,1	85	-8,4
paukštiena / poultry meat	88,3	95,8	104,0	115,4	122	38,2
galvijiena / beef	48,6	45,3	48,1	53,9	52	7,0
aviena / sheep meat	0,7	0,8	0,8	1,1	1	42,9

\* LIAE calculation.

Source: Agriculture in Lithuania 2015. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658.

In 2016, the purchased animals and poultry amounted to 283.5 thou. t (live weight), by 2.2% more than in 2015. Over the period of 2012–2016, the purchase price for cattle decreased by almost one-fourth (Fig. 2.14).



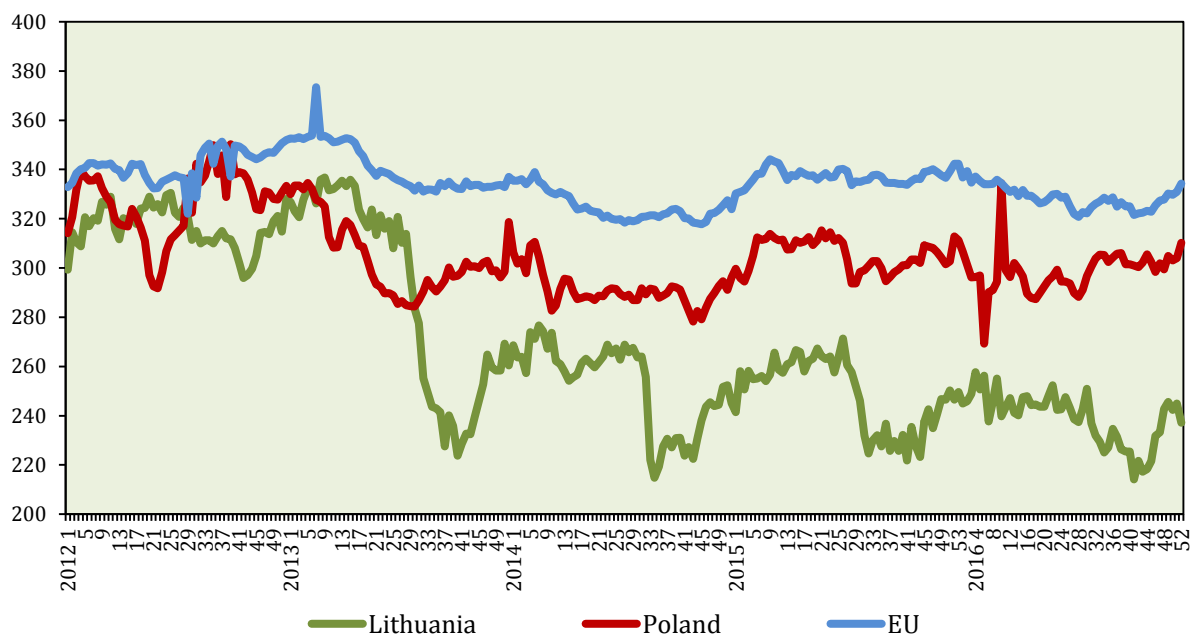


**Fig. 2.14. Amounts purchased and average prices of cattle in 2012–2016**

Sources: Statistics Lithuania; AIRBC. data.

In December 2016 the cattle purchase price in Lithuania was by 0.5% lower than over the same period in 2015. This cattle purchase price was higher in almost half of EU countries than a year ago. The largest increase in price was in Romania, Latvia and Germany. The most considerable decrease in price was fixed in Bulgaria and the United Kingdom. The average purchase price in Lithuania was by 25% lower than the average price in the EU.

Seasonal prevalence has a considerable impact on price fluctuations in Lithuania in the second half of the year when the supply of cattle is much higher than the demand. Price deviations in Lithuania in 2013–2016 from the EU and Poland are especially noticeable in the autumn period (Fig. 2.15).

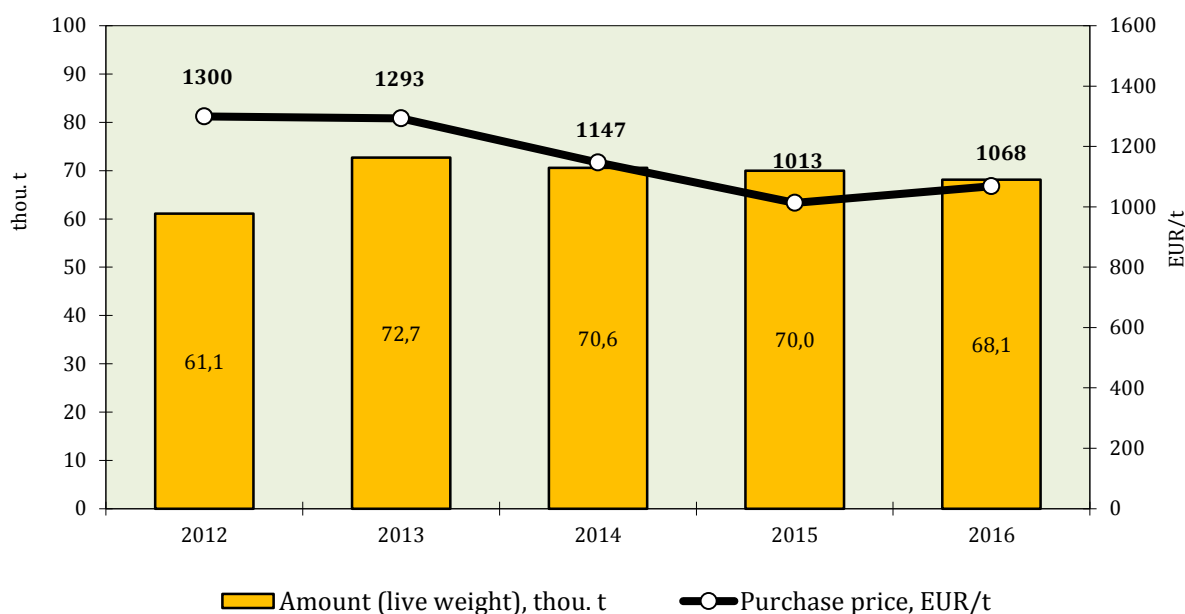


**Fig. 2.15. Purchase price of beef (carcass grade O2) in Lithuania, Poland and EU average in 2012–2016, EUR/100 kg**

Source: EC data. .



During 2016, slaughterhouses and meat processing enterprises have purchased 68.1 thousand pigs which were raised in farms (live weight). In 2016, the average purchase price of live pigs was by 18% lower than in 2012, but by 5% higher than a year ago (Fig. 2.16).

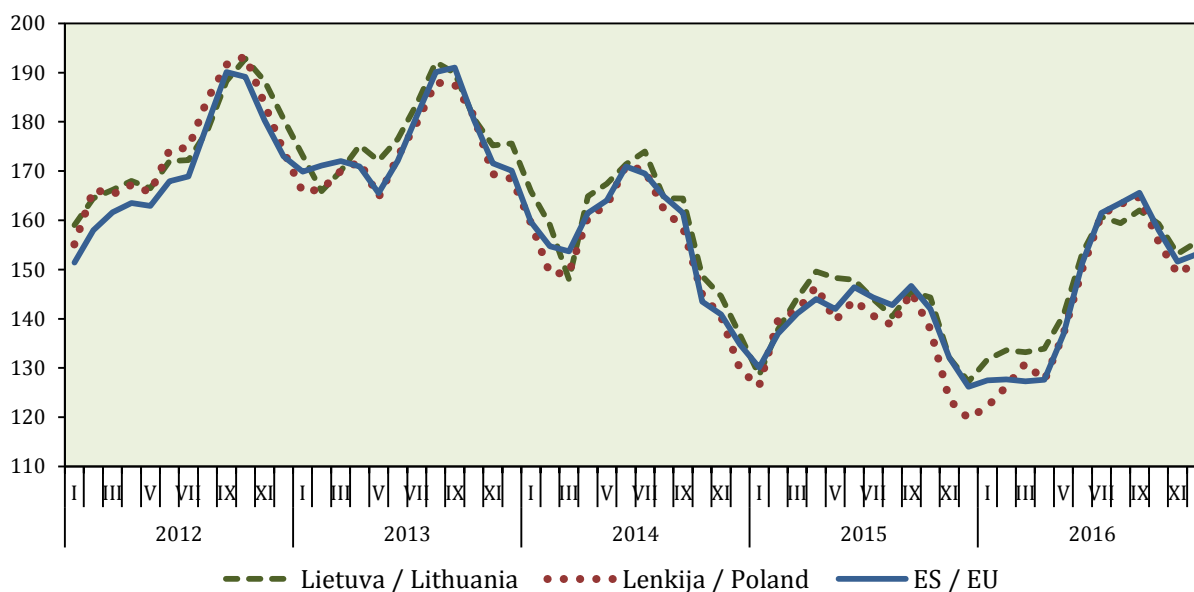


**Fig. 2.16. Amounts purchased and average prices of pigs in 2012–2016**

Source: Statistics Lithuania.

The tendencies of purchase prices for pigs on the markets of Lithuania and EU countries are similar (Fig. 2.17). In the EU countries in December 2016 the average purchase prices of grade E pig carcasses were by 21% higher, on the average, than in 2015. Prices have increased considerably after the two-year interval. The highest purchase prices for grade E pigs were in Malta, Cyprus, and Bulgaria, and lowest – in the Netherlands, Belgium, and Spain. The highest annual increase in prices was in Portugal and Latvia, whereas only in Sweden and Malta they dropped. In Lithuania the purchase price for pigs (grade E) was by 1.6% higher than the EU average.

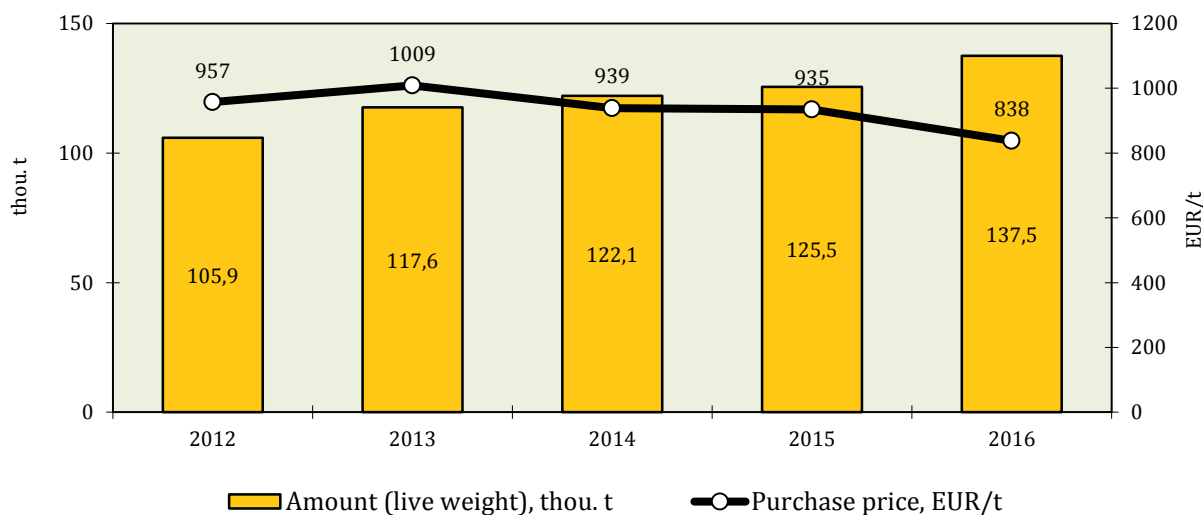
In 2016, 59 million head of poultry were slaughtered (by 18% more than in 2015). In 2016, the average purchase price for poultry meat was by 10% lower than in 2015 and by 12% lower than in 2012 (Fig. 2.18). This was impacted by the poultry meat price decrease in the whole of EU and poultry meat consumption increase in Lithuania. In 2016, as compared to 2015, the chicken meat wholesale price in the EU got reduced by 5%. Increase in chicken meat prices was fixed only in five EU countries: Sweden, Greece, France, Germany, and Malta.



**Fig. 2.17. Purchase prices of pigs (carcass grade E) in Lithuania, Poland and EU average in 2012–2016, EUR/100 kg**

Source: EC data.

The average wholesale prices of chicken carcasses in Lithuania in 2016 were ranked fourth among the cheapest EU countries. As compared to the average in the EU, the wholesale price of chicken meat was by 20% lower. The chicken carcasses on the Lithuanian wholesale market was by 9.2% lower than in Latvia and by 20.4% lower than in Estonia. Meanwhile, the wholesale chicken meat price in Poland was lowest in the EU and was by 16% lower than in Lithuania.



**Fig. 2.18. Amounts purchased and average prices of poultry in 2012–2016**

Source: EC data.

**Domestic market.** According to the Department of Statistics, in 2016, sales of meat and meat products on the domestic market amounted to 235.8 thou. t for EUR 0.5 billion (Table 2.34). In terms of value it was by 6% less than a year ago. The lower sale of chicken, cattle and pig carcasses was fixed. During the five-year period, consumption of unprocessed beef and pig meat decreased considerably. More than half of the sales (52%) consisted of unprocessed meat and poultry. The population consumed almost exclusively the products of local manufacture. Just about 7% of the products were imported.

**Table 2.34. Sales of meat and meat products in the domestic market in 2012 and 2016**

Products	2012		2016	
	thou. t	mill. EUR	thou. t	mill. EUR
Meat and sub-products	119,2	254,7	74,3	143,4
Poultry meat and sub-products	54,6	79,2	49,0	79,5
Meat products	100,7	252,1	96,0	243,0
Imported meat products	21,2	38,7	16,5	45,2
Total	295,7	624,7	235,8	511,1

Source: Statistics Lithuania.

During the period of 2012–2016, meat consumption per capita in the country went on increasing. According to the LIAE calculations, in 2016, per capita consumption per annum in Lithuania was 90 kg of meat and meat products (including Category I and II offal) (Table 2.35). Pig meat and poultry meat remain the mostly consumed sorts of meat (they exceed the EU average), even though we are importing the larger portion of pig meat.

**Table 2.35. Per capita consumption of meat products in 2012–2016, kg**

Meat by kind	2012	2013	2014	2015	2016*
Meat, total	73	77	83	88	90
of which:					
beef	4	4	4	5	5
pork	44	47	49	50	50
poultry	23	23	26	29	31
sub-products, category I and II	2	3	4	4	4

\* LIAE calculation.

Source: Agriculture in Lithuania 2012–2015. Vilnius: Statistics Lithuania, 2013–2016., ISSN 2029-3658.

**Foreign trade.** The balance of Lithuanian foreign trade in meat and livestock in 2016 was positive (Fig. 2.19). The export value of meat increased by 2.1%, while that of import by 2.4%. Over the period of 2012–2016, export of pig meat decreased most considerably, whereas export of poultry meat and live animals and import of poultry meat increased. Increase in exports of pig meat was impacted by the decreasing number of pigs kept and the spreading African swine fever.



**Fig. 2.19. Foreign trade in meat and livestock in 2012–2016, EUR mill.**

Source: Statistics Lithuania.

Export of poultry meat and beef in 2016 made the major portion (Table 2.36). Poultry sold to EU countries accounted for 92%. Poultry meat was mostly purchased in the Netherlands (32%), Latvia (17%), Estonia and France (13% each). Of non-EU countries, mention is to be made of Vietnam (2%) and Hong Kong (1.4%). Poultry export geography covers 38 countries.

**Table 2.36. Meat\* exports by kind in 2012–2016, thou. t**

Meat by kind	2012	2013	2014	2015	2016**
Meat, total	118,6	128,1	131,5	136,1	130,0
of which:					
beef	30,0	25,4	29,5	33,5	30,0
pork	27,6	35,7	22,3	27,6	14,0
poultry	44,3	50,9	52,7	56,3	53,0

\* Meat products in meat equivalent.

\*\* LIAE calculation.

Sources: Agriculture in Lithuania 2015. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658; Statistics Lithuania; Statistics Lithuania.

Export of beef meat in terms of value was the same as of poultry meat. Sale of beef meat to the EU countries totalled 90%. The major portion of exports went to Italy (23%), the Netherlands (14%), Sweden and Denmark (12% each). Beef meat export geography covers 36 countries.

Exports of live animals increased most of all during the year (by 31%). The major part of exports consists of cattle (of which 41% – calves up to 8 months; 49% of the total animal export income) and pigs (42%). Highest purchase of cattle was by Poland (49%), Italy (21%), and Spain (9%). The largest amount of pigs was sold in Poland (80%).

Throughout 2016, highest imports to the country were of pig meat (57% of the total import of meat) and poultry meat (25%) (Table 2.37). One-third of pig meat was imported from Poland, much less from Germany (14%), Belgium (13%), and Spain (9%). Import of poultry meat by value was by half less, mostly from Poland (77%).

**Table 2.37. Meat\* imports by kind in 2012–2016, thou. t**

Meat by kind	2012	2013	2014	2015	2016**
Meat, total	131,7	141,1	145,2	150,1	148,0
of which:					
beef	2,3	2,4	2,2	2,3	2,5
pork	85,4	90,6	84,1	91,8	85,0
poultry	32,3	35,0	36,1	38,7	37,0

\* Meat products in meat equivalent.

\*\* LIAE calculation.

Sources: *Agriculture in Lithuania 2015*. Vilnius: Statistics Lithuania, 2016. ISSN 2029-3658; *Statistics Lithuania*; *Statistics Lithuania*.

The increasing prices for non-food products and services in our market may have an impact in the short term on the meat sector where animal purchase prices have not changed for a long time. There exist some reasons for it, since the EU found the complementary markets for selling of beef meat and pig meat. Meat consumption is increasing in the world. Demand is increasing more rapidly than supply of animals. Optimism in this sector is quite promising, whereas a question arises whether our animal breeders could take advantage of it.

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## SUMMARY

In 2016 the sector of agriculture, forestry and fisheries accounted for 3.3% of the gross value-added created in the Lithuanian economy, made up more than 19.4% of the total country's export.

In 2016 the export of agricultural and food products totalled EUR 4.4 billion (by 2.0% less than in 2015), while the import amounted to EUR 3.4 billion (by 5.0% less). Since 2004 the balance of foreign trade in agricultural and food products was positive, in 2016, as compared to 2015, increased by EUR 88 million and totalled EUR 978 million.

Aiming to increase the competitiveness of agriculture, to support farmers' income, to reduce social exclusion between rural and urban population, to save the environment, the economic entities are supported from the EU and national budgets. In 2016 the funds for agriculture made up EUR 1069.9 million.

In 2012–2016 the number of agricultural entities by category was changing unevenly. In 2016, as compared to 2012, the number of registered farmers' farms went up by 7.7% and, as compared to 2015, increased by 0.1%. The average farm size of agricultural entities that declared UAA in 2016 was 21.2 ha, or by 3.5% larger than in 2015 and by 21.1% more than in 2012.

In 2016 the certified organic area in Lithuania occupied 225.5 thousand hectares, or was by 42.7% larger than in 2012. The average size of a certified farm (including fishery farms) increased from 82.4 ha (in 2015) to 88.8 ha (in 2016).

The composition of the total land area by its intended purpose was almost stable. The largest share occupied agricultural land (52.4%) and forests (33.4%).

Changes in rural employment structure should be considered as the most important event of recent years in Lithuania's rural life. In 2012, 28.0% of rural working population were employed in agriculture, forestry and fisheries. Lately, however, when the economic situation has improved, the share of the population employed in agriculture has went down while the share of the population involved in services has augmented. In 2016, 23.2% of the employed rural population were involved in agriculture, hunting, forestry and fisheries.

In 2016, as compared to 2012, the number of very small, small and medium enterprises in rural areas increased by 39.6% and reached 13.9 thousand (nearly 80% of which made up very small enterprises).

One of the main future challenges of the development of agriculture and food sector remains the increase of labour productivity, which still lags behind the EU-28 average. Such a need is determined by stiff competition in international markets.

The overall trend in rural and urban population decline in Lithuania remains. At the beginning of 2016, the rural population made up 945.3 thousand, i. e. it was by 13.3 thousand less than in 2015 and by 52.7 thousand (or by 5.3%) less than in 2012.