

Black Sea Basin ENI CBC programme 2014-2020

***“Local Development and Cross Border Cooperation in the area of
Agricultural Products and Traditional Food”
“LOC-FOOD”***

Study on the current situation of traditional products in Greece (*Designation, Market potential*)



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Definitions and Legislation at EU and country level

Products of specific quality have found protection under EU as well as National Greek legislation. The EU has developed two main instruments for protecting the origin of foodstuffs by way of intellectual property rights. The first is the Regulation No 1151/2012 (EU, 2012) on quality Schemes for Agricultural Products and Foodstuffs that permits the registration of protected geographical names, amended by the following Regulation (EU) 2017/625 of the European Parliament and of the Council (EU, 2017a), Commission Delegated Regulation 2019/478 (EU, 2019a) and Commission Delegated Regulation 2019/2127 (EU, 2019b). The above regulation with Regulation 664/2014 (EU, 2014a) and Regulation 668/2014 (EU, 2014c) represent the current legislation regarding legal regulation of geographical indications on the community level. These Regulations on quality Schemes for Agricultural Products and Foodstuffs cover all agricultural products and foodstuff for food consumption. For special products such as spirit drinks, aromatised wines or grapevine products more specific vertical regulations exist and those products benefit from an even broader scope of protection. Wines are regulated by Regulation No 1308/2013 (EU, 2013) whereas spirit drinks from Regulation (EC) No 110/2008 of the European Parliament and of the Council (EC, 2008).

The second is the Regulation (EC) No 207/2009 on the European Union trade mark replaced by 2017/1001 (EU, 2017b), that permits the registration of collective trademarks containing geographical names.

The products having unique characteristics that derive from their geographical origin and traditional preparation have their name protected under the EU and hence Greek legislation in order to best promote them. In general, recognition of specific products with a label helps both consumers and producers since it provides a guarantee to the former on the quality of the products that they consume and to the latter an extended market and recognition for their products.

In the EU there are three different systems that aim not only at the promotion but also at the protection of high-quality agricultural and processed products: PDO (Protected Designation of Origin), PGI (Protected Geographical Indication) and TSG (Traditional Specialities Guaranteed). For each of these quality systems, the EU has established a quality symbol. The use of these symbols on the packaging or labelling of food products bearing a protected name became compulsory for products originating in the EU but does not apply to products originating in third countries.

To obtain protected designation of origin (PDO) label (Figure 1) requires the following:



- The product comes from the specific area, place or country.
- The product quality or properties are significantly or exclusively determined by the geographical environment, including natural and human factors.
- The production, processing and preparation of the product takes place within the determined geographical area.

Figure 1. PDO label

To obtain protected geographical indication (PGI) label (Figure 2) requires the following:



- The product comes from specific area, place or country.
- The product has a specific quality, goodwill or other characteristic property, attributable to its geographical origin.
- At least one of the stages of production, processing or preparation of the product takes place in the area.

Figure 2. PGI label

The requirements to obtain traditional specialties guaranteed (TSG) label ([Figure 3](#)) differ from PDO and PGI since the quality scheme does not certify that the protected food product has a link to specific geographical area but are registered trade signs with a distinctive function. The product in order to be labelled with TSG must be of "specific character" and either its raw materials, production method or processing must be "traditional". Both terms "specific character" "traditional" are defined in Art. 3 of Regulation 1151/2012 ([EU, 2012](#)).



Figure 3.TSG label

Thus, in order to be registrable under the TSG scheme, the product must have been for at least 30 years on the domestic market or have a specific distinct traditional character which differentiates it from all others in its category, and that its raw materials, composition or method of production have been consistent for at least the above-mentioned period of time. Moreover, the registered product name can be used by only those producers who conform to the registered production method and product specifications.

Beside the three aforementioned systems, there are Optional Quality Terms (OQTs) to be applied voluntarily. Those quality terms refer to specific horizontal characteristics, with regard to one or more categories of products, farming methods or processing attributes which apply in specific areas. Such optional quality term is "mountain product" introduced to help producers in mountain areas to sell their products on the market more easily. The Commission Delegated Regulation (EU) No 665/2014 has established conditions of use of the optional quality term 'mountain product' ([EU, 2014b](#)).

Quality schemes are subject to a system of official controls at all stages of production, processing and distribution in order to verifying compliance with the product specification. Control bodies to be accredited in accordance with European standards (EN) and international standards (ISO) and Member States will collect a fee to cover the costs of control activities.

At national level (Greece) the National Legislation comprises the following Common Ministerial Decision (CMD):

- CMD 261611 (O.G. no.406/22.03.2007, issue B) Establishment of additional measures for implementation of Council Regulation (EC) 510/2006 of March 2006 and Commission Regulation (EC) 1898/2006 of 23 December 2006
- CMD 290398 (O.G. no 694/11-4-2008 issue B) amending the CMD 261611/2007
- CMD 318764 (O.G. no 1683/07-08-2008 issue B) amending the CMD 261611/2007
- CMD 3321/145849 (O.G. no 4980/08-11-2018 issue B) amending the CMD 261611/2007

Specifically, for wines the following are in force:

- Decision for the classification of OPAP-OPE wines. CMD 398549 (O.G. no.1277/04.10.2001, issue B) laying down detailed rules for the application of Commission Regulation (EC) No 1607/2000 as regards quality wines produced in specified regions.
- General rules for the use of the term "Local Wine" as a descriptive element for table wine (O.G. no. 1985/08.11.1999, issue B).
- Amendment of no. 392169/01.10.1999 of the CMD (O.G. no. 1985/08.11.1999, issue B) on general rules for the use of the term "Local Wine" as a descriptive element of table wine (O.G. no.1723/29.08.2007, issue B).

In Greece, since 01/06/2006, the control body is EL.G.O. DEMETER (formerly AGROCERT). It has the authorization to grant certification to enterprises, to carry out controls in cooperation with the Directorates of the Rural Development of the Prefectures, to ensure compliance with the specifications, to certify the products in question as well as to keep a register of the enterprises approved for the usage of PDO and PGI indications.

1. Country Profile: Greece

1.1. An overview at the physical and demographic aspects of the eligible area

Greece has a total area of 132,049 km² and an estimated population of 10,709,739. The GDP was \$209,853 billion and the mean unemployment rate was 17.3% during 2019 (Eurostat 2020). With a large percentage of its land comprised of hills and rugged mountains, Greece is one of the most mountainous countries in Europe. Its 13,676 km toothy-edged shoreline is deeply indented by dozens of gulfs. Greece is divided into 13 administrative regions (perifereies, singular - perifereia) and 1 autonomous monastic state (aftonomi monastiki politeia) (Figure 4).



Figure 4. The administrative regions of Greece.

The eligible project area in Greece consists of Central Macedonia and The Region of Eastern Macedonia and Thrace. The project area of “Kentriki Makedonia” Central Macedonia (Greek: Κεντρική Μακεδονία) has a total area 19,166 km² is the second most important region of the country in terms of population (1,873,777 inhabitants in 2019 and population density of 101.2

persons per square kilometre in 2019) (Eurostat, 2020). The region of Central Macedonia is situated in northern Greece, bordering with the regions of Western Macedonia (west), Thessaly (south), Eastern Macedonia and Thrace (east), and bounded to the north at the international borders of Greece with Republic of North Macedonia and Bulgaria (Figure 5). The region of Central Macedonia corresponds to the ancient Greek region of Lower Macedonia that included the centre of ancient Macedonia Aigai (Vergina) and Pella. The southern part is coastal and features the Thermaic, Toroneos, Singitic and Strymonic gulfs and the delta created by the large rivers Haliacmon, Axios, Loudias and Gallikos (Echedoros). The largest city and capital of the region is Thessaloniki followed by Serres, Katerini, Veria and Giannitsa.



Figure 5. Eligible area Central Makedonia (top) and Eastern Macedonia and Thrace (bottom).

Being watered by the rivers, it has developed both the primary and the secondary sector. The highest mountains are Mount Olympus (2,918 m, the highest mountain in Greece), Voras Mountains (2,524 m), Pierian Mountains (2,193 m), Vermio Mountains (2,065 m) and Mount Athos (2,033 m). There are four lakes in the region: Koroneia, Volvi, Doiran and Kerkini. The coasts are continuous, smooth, sandy and suitable for swimming favouring tourism. The Chalkidiki peninsula is Macedonia's most popular beach destination, combining 550 kilometres of sandy beaches with dense forests. The region is divided into seven regional units, Chalkidiki, Imathia, Kilkis, Pella, Pieria, Serres and Thessaloniki. These are further subdivided into 38 municipalities. Although geographically part of Central Macedonia, Mount Athos is not administratively part of the region.

The region of Eastern Macedonia and Thrace together with Central Macedonia, is supervised by the Decentralized Administration of Macedonia and Thrace based at Thessaloniki. The region of Eastern Macedonia and Thrace covers the northeastern edge of the country, including two major islands Thassos and Samothraki having a total area of 14,157.76 km² and a total population of 599 723 and density 42.8 persons per square kilometre in 2019 (Eurostat, 2020). The region is bordered to the west by the region of Central Macedonia and to the south by the Aegean Sea, and bounded to the north at the international borders of Greece with Bulgaria and to the east with Turkey. It can be divided into Macedonian territory, with regional units of Drama, Kavala and Thassos, and Thracian territory, that includes regional units of Xanthi, Rhodope and Evros (Figure 5). The capital of the region is Komotini, which by population is the fourth largest city, following Alexandroupoli, Kavala and Xanthi. Thrace is recognized for agricultural traditions such as cultivating tobacco, wheat and sunflowers. In the north of Thrace, located on the border with Bulgaria, are the Rhodopi Mountains, recognized for their important forest eco-systems. The region contains ancient Thrace as well as other ancient Greek cities located in the coastline. Eastern Macedonia and Thrace have a fairly cool climate due to the geographical position and the length of coastline. Territories in the proximity of the sea have mild Mediterranean climate and as one moves north the climate shifts to continental with temperatures reaching below zero in the northern parts of this region during winter and highs

30-35°C during summer. In the area there are two great rivers: Nestos and Evros. In the region different areas are designated Natura 2000 sites. In Drama regional unit there are the “Natura protected” peaks of Mount Falakro and the surrounding areas, considered of great importance for their unique climatic conditions and special botanical interest. Protected areas in Xanthi regional unit are the Mount Chaidou-Koula and its surrounding peaks, the Nestos River and the surrounding forest that are considered of great international importance for the aquatic ecosystem. Besides, in the coastal area there are located spectacular beaches especially those of Kavala and Thasos Island. In the region there are two large airports, "Alexander the Great", Kavala National Airport and “Democritus” the International Airport at Alexandroupolis.

1.2. The production system

In 2018, the Central Macedonia region showed a regional gross domestic product (GDP) of 24,607.53 million euros while the equivalent figure in Eastern Macedonia and Thrace was 6872.6 (Eurostat, 2020). The GDP per capita, in purchasing power standards (PPS), in 2019, was at 54% and 45% of the of the EU27 average for Central Macedonia and Eastern Macedonia and Thrace, respectively (Eurostat, 2020). The economic crisis drove the unemployment rate up to 24.7% for central Macedonia and 17.2% for Eastern Macedonia and Thrace in 2019.

In the region of Central Macedonia, during 2018 the number of employed persons reported was 681850. In 2019 there were 31.7% of people at risk of poverty or social exclusion when the mean value in Greece 30% whereas at-risk-of-poverty rate was 20.6% in the region compared to 17.9% in the country as a whole. In 2018, the region employed 68.8% in the tertiary sector, 16.5% in the secondary sector and 14.6% in the primary sector (Eurostat, 2020 <https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/region-kentriki-makedonia>, last accessed 29/10/2020). The most important service sectors in the region are financial services, transport and communications, recreational, tourism and transport services. The manufacturing sector is dominated by medium to low technology intensive sectors, such as the food industry, textiles and clothing, non-metallic mineral products and furniture where the majority of firms are SMEs. Larger companies are found in industries such

as metal production, chemicals and plastics. The main exporting sectors are those of textiles, food and drink, chemicals and plastics.

Due to the economic crisis, the GDP of the region of Eastern Macedonia and Thrace decreased by 28.4% between 2010 and 2018. It is ranked eighth among the 13 Greek regions and accounts for 3.9% of the national GDP (Eurostat, 2020) (<https://ec.europa.eu/growth/tools-databases/regional-innovation-monitor/base-profile/region-anatoliki-makedonia-thraki>, last accessed 29/10/2020). According to Eurostat, (2020), although the economic crisis (2008-2014) led to an increase in the unemployment rate from 8.8% to 24.3%, this trend was reversed in 2019 when the unemployment rate was 16.2%. These values range the region below the national average (17.3%) but above the EU average (6.3%) (Eurostat, 2020). Mostly affected sectors are those of trade and services, while the manufacturing and construction sectors are also severely affected. During 2019, the region's employed workforce were mainly in the tertiary sector (63.8%), followed by the primary sector (22%) and last in the secondary sector (14.5%) (Eurostat, 2020). The services sector during 2017 accounted for 71.5% of the regional gross value added (GVA), while the secondary sector share was 20.4%, and that of the primary sector was 8.1%.

1.3.Organic farming

Agricultural production

Organic farming in Greece has increased over the last few years (Figure 6). The increase in the total area cultivated with crops according to the organic farming regulations has increased compared to 2016 by 19.7%, 43.8% and 54.3% during the year 2017, 2018 and 2019, respectively. During 2019 a decrease of 18.7% in the area that is in transitional phase was observed.

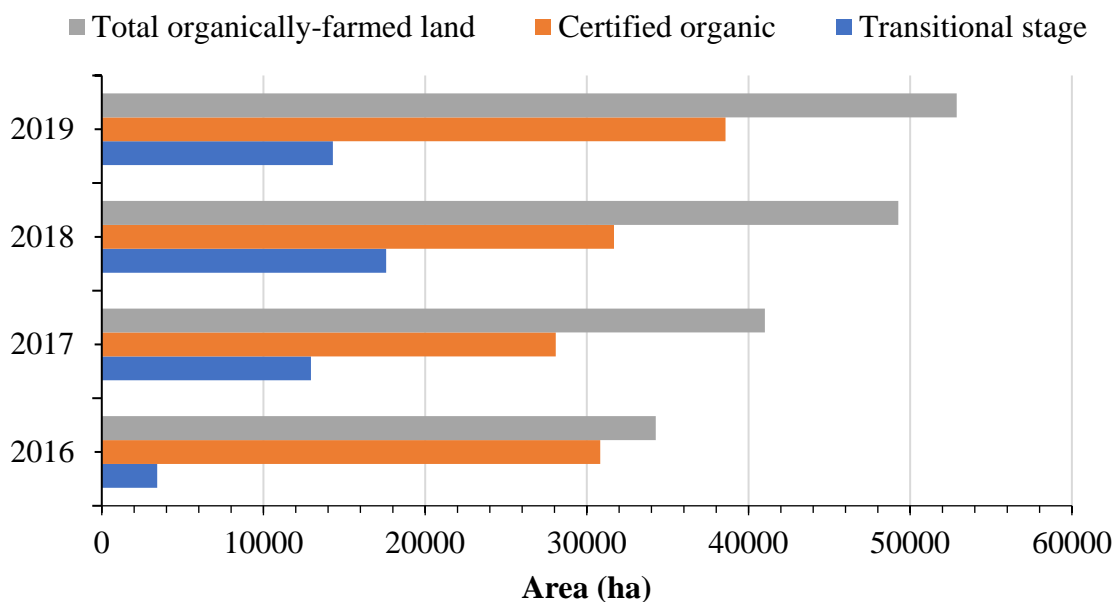


Figure 6. Cultivated area (cultivated areas and pastures) under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food (2020)).

The area of cereals that is cultivated under organic farming is shown in [Figure 7](#). There was a continuous decrease of 44.5% in the certified organic area cultivated with cereals from 2016 till 2018 followed by a slight increase of 8.6% during 2019.

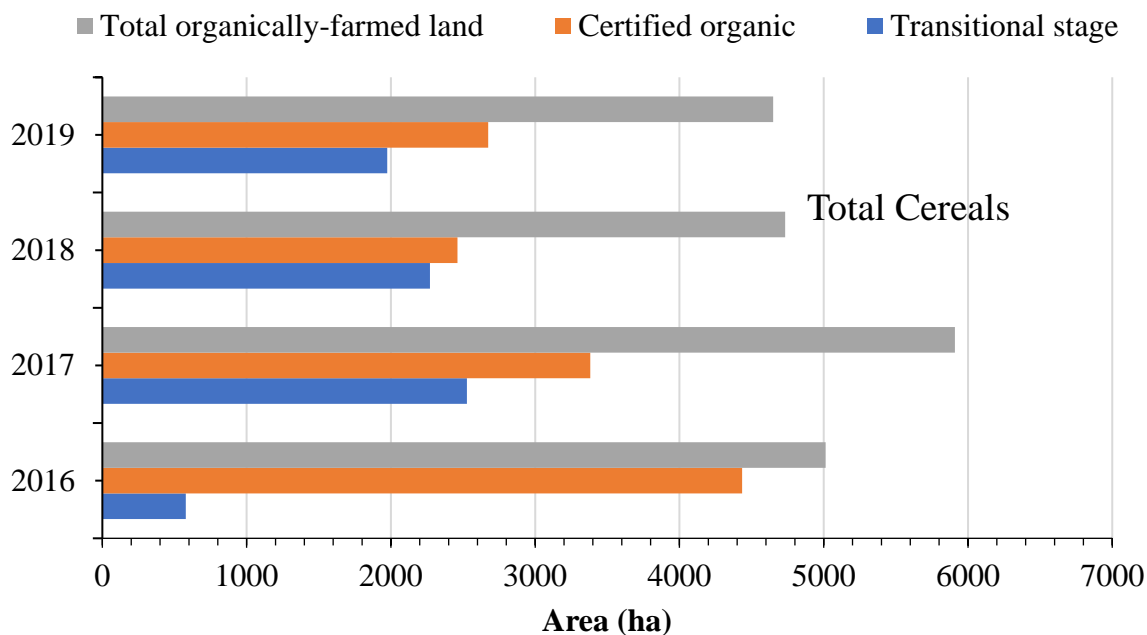


Figure 7. Cultivated area with cereals under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

The cereals cultivated are wheat, rye, barley, oat, maize, triticale and rice. The main cereal cultivated in 2019 was wheat with 35.7% of the total area cultivated with cereals, followed by maize, barley and oats (Figure 8).

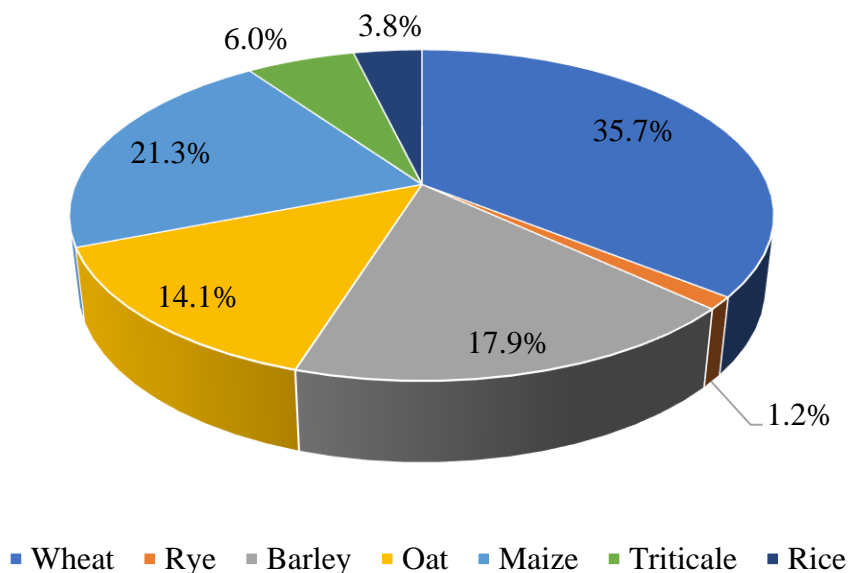


Figure 8. Percentages of total area of different cereals cultivated under organic farming in Greece during the year 2019 (data obtained from Hellenic Ministry of Rural Development and Food).

A 130.8% increase in the total area under organic farming cultivated with industrial plants from 2016 to 2017 was observed (Figure 9). During 2018 there was a slight decrease of 11.3% that is reverted with the increase of 13.1% observed during 2019 in the total area cultivated.

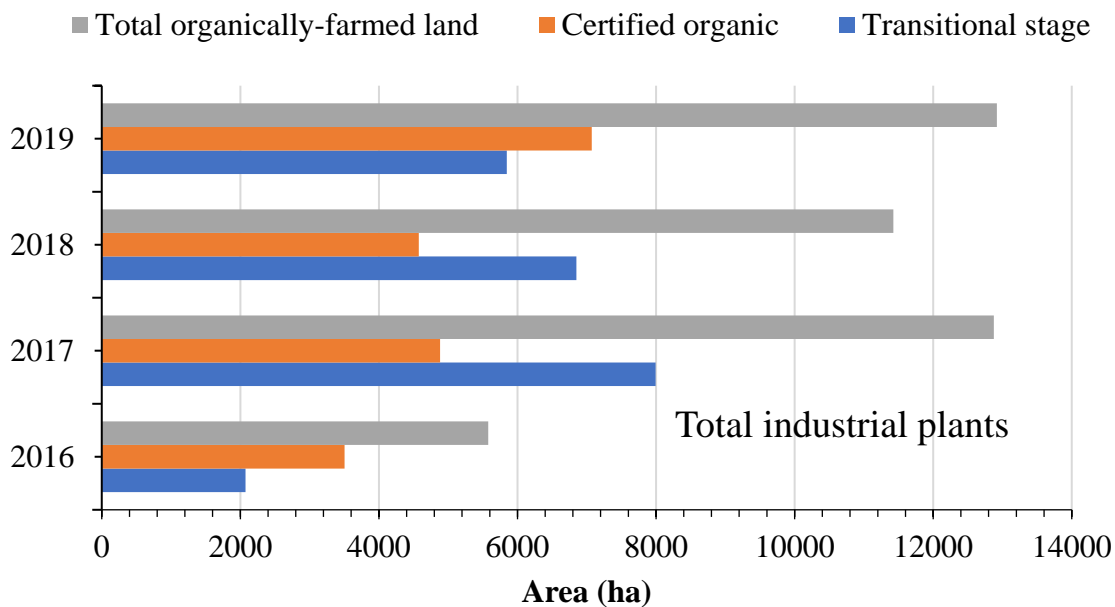


Figure 9. Cultivated area with industrial plants under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

The main Industrial plants produced during 2019 in Greece under organic farming are oil seeds, textile plants and aromatic and medicinal plants at 38.4%, 29.9% and 28% of the total production of industrial plants, respectively (Figure 10).

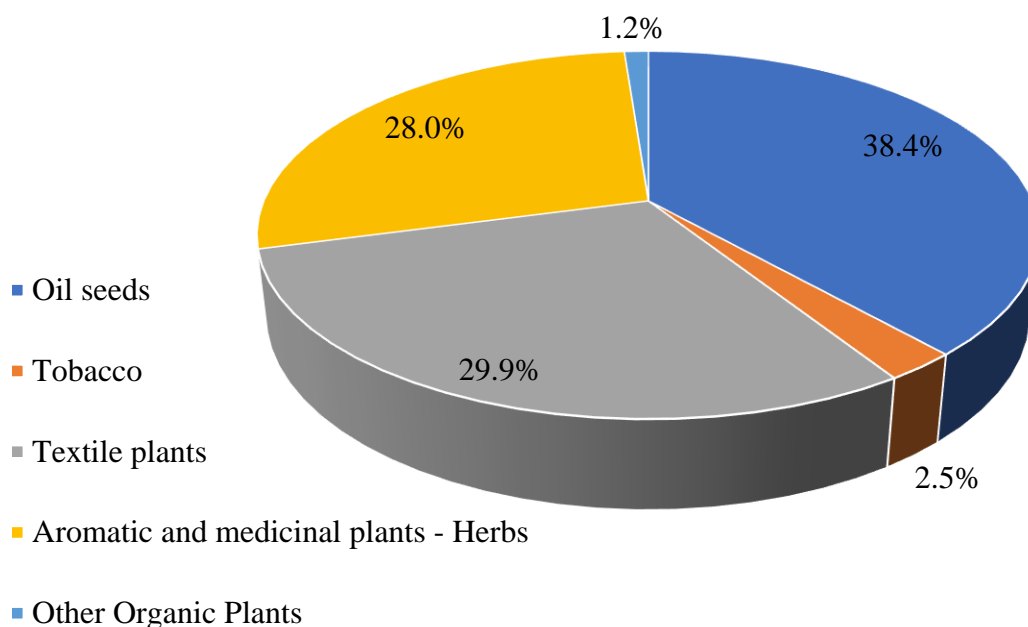


Figure 10. Percentages of total area of different industrial plants cultivated under organic farming in Greece during the year 2019 (data obtained from Hellenic Ministry of Rural Development and Food).

As observed in the [Figure 11](#) there is a clear trend to increase the total area cultivated with vegetables during 2016-2019. The increase observed during the years 2017, 2018 and 2019 is of 20.5, 24.0 and 26.1%, respectively. On the other hand, with the total area cultivated with fruit trees there is observed a slight decrease of 7.4% from year 2016 to 2017 ([Figure 12](#)). In the two successive years 2018 and 2019 there was an increase of 8.7% and 43.8%, respectively. Almost 70% of the total area cultivated under organic farming with fruit trees is cultivated with citrus fruits (34.1%), nuts (24.2%) and subtropical plants (18.8%) ([Figure 13](#)).

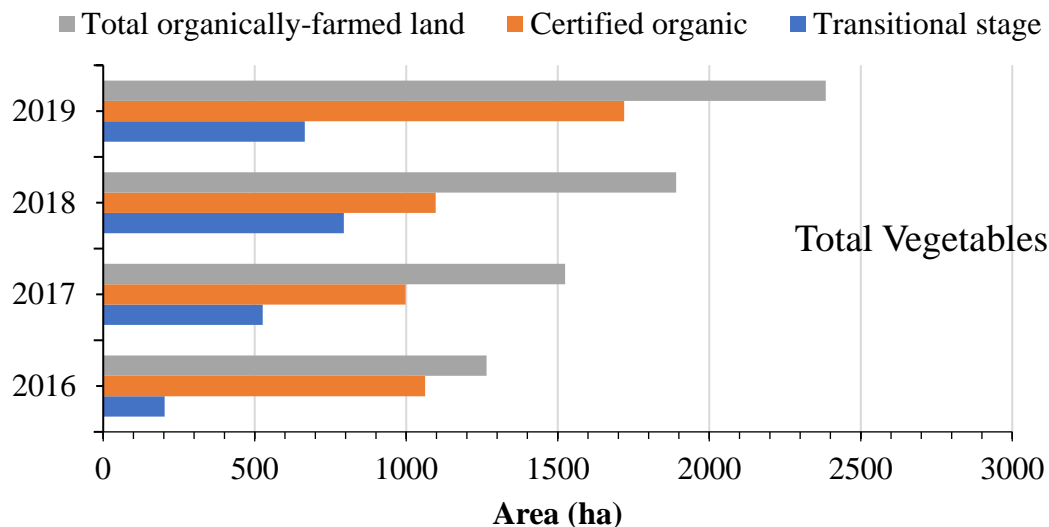


Figure 11. Cultivated area with vegetables under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

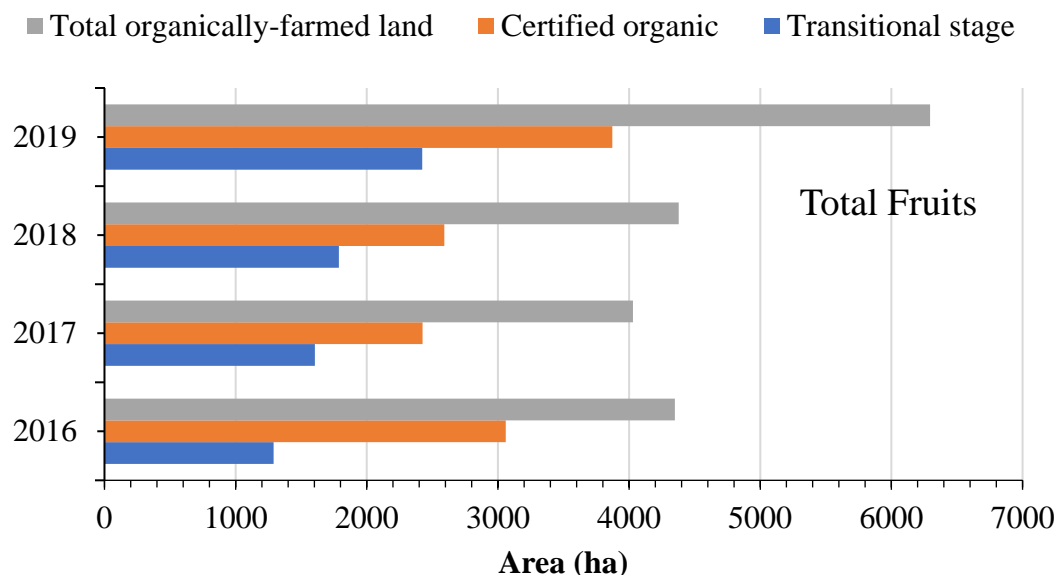


Figure 12. Cultivated area with fruit trees under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

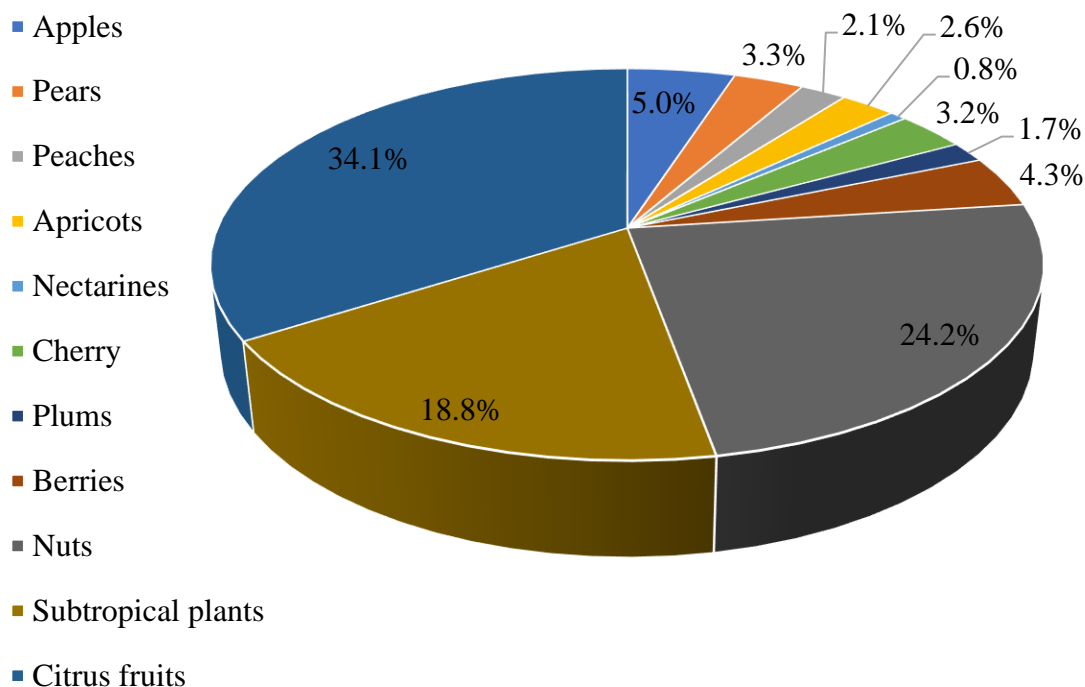


Figure 13. Percentages of total area of different fruit trees cultivated under organic farming in Greece during the year 2019 (data obtained from Hellenic Ministry of Rural Development and Food).

Animal husbandry

According to the data obtained from the Hellenic Ministry of Rural Development and Food there are reported in 2019, 142609 head of cattle (of which 16956 animals were for production of cow's milk), 4994 pigs, 1229684 sheep, 498219 goats and 258751 chickens raised on organic farms (Figure 14). The number of cattle raised under organic farming conditions increased continually from 2016 till 2019 but the highest increase, of 69.5% compared to the previous year, was observed during the year 2018. . During 2018 the highest increase in the number of

pigs, sheep, goats and chickens raised organically was also observed. After that little change was observed, and in the case of sheep a decrease of 5.4%.

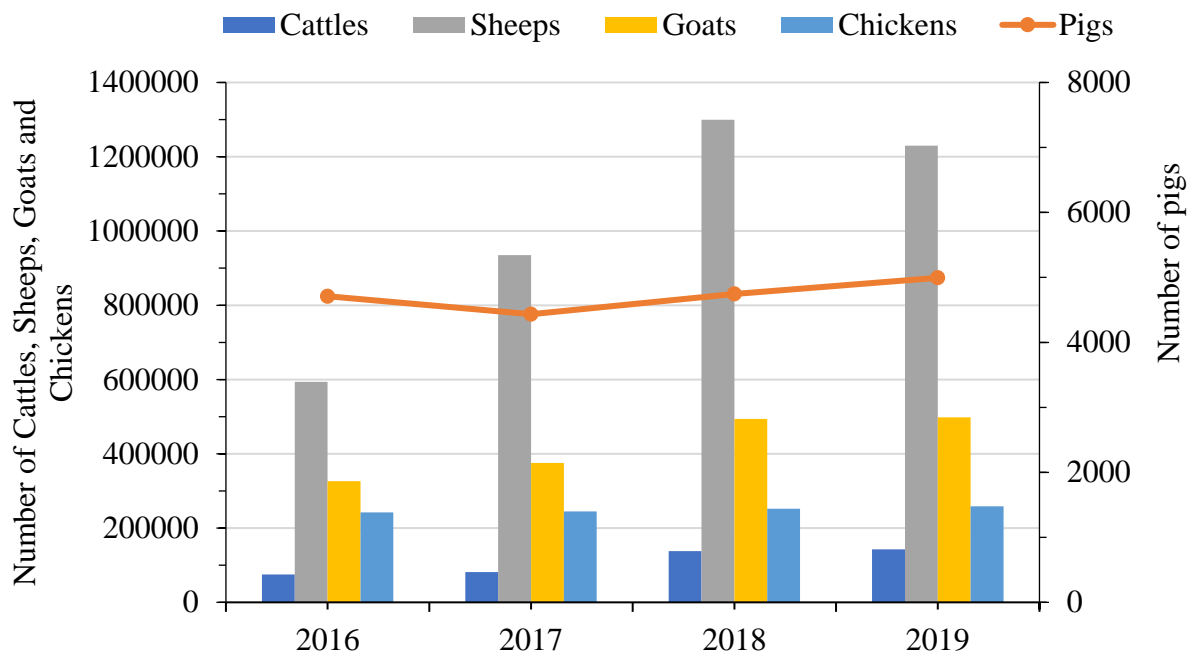


Figure 14. Number of animals (Cattle, Sheep, Goats, Pigs and Chickens) raised organically in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

Beside the variation in the animal heads grown under organic conditions the amount of products derived from animal production such as meat, milk and eggs increases continuously in the time frame from 2016 to 2019 (Figure 15). On the Contrary, aquaculture production under organic conditions after the increase of 32.3% observed from 2016 to 2017, shows a continuous decrease during 2018 (2.9%) and 2019 (12.7%) compared to the previous year.

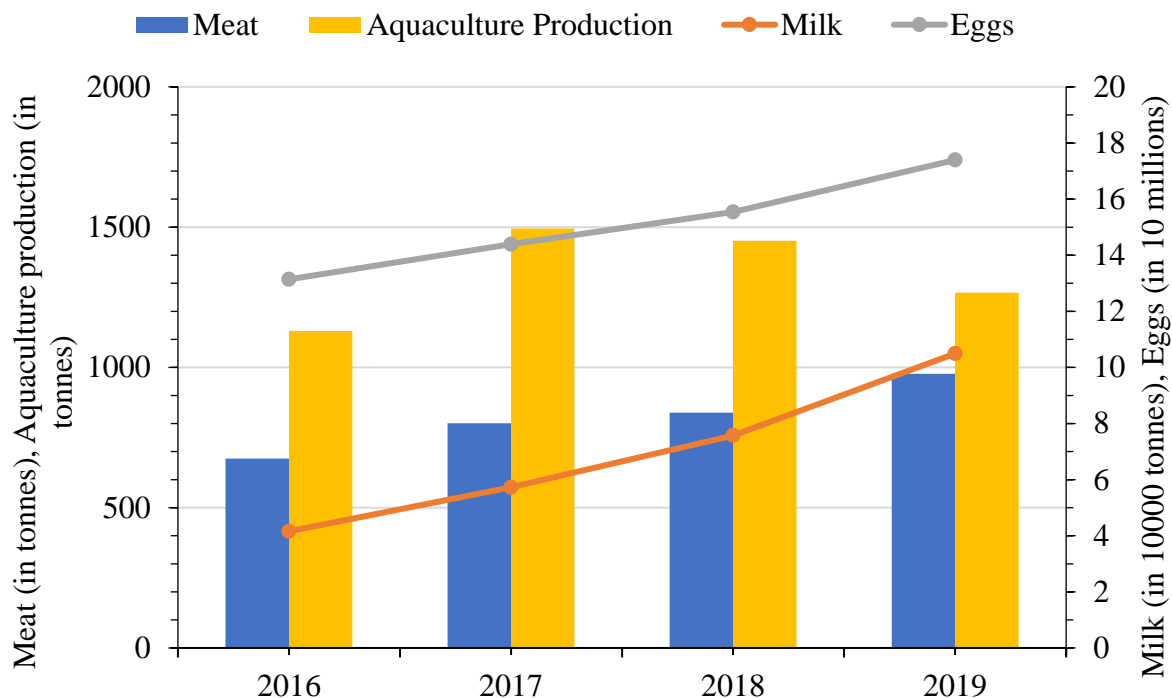


Figure 15. Quantities of animal products (meat, milk, eggs) and aquaculture products produced under organic farming in Greece during the years 2016-2019 (data obtained from Hellenic Ministry of Rural Development and Food).

The processing industry of agricultural products

During 2019 in Greece 1972 companies dealing with the processing of agricultural products were operating (Figure 16). After a decrease of 5.3% observed during the year 2017, the number of enterprises dealing with processing of agricultural products shows a continuous increase in the following years of 4.1 and 7.2% for years 2018 and 2019, respectively. The majority of enterprises are dealing with activities linked to the production of vegetable and animal fats and oils, processing and preservation of fruits and vegetables, production of other food products, production of soft drinks and wine production from grapes. These activities comprise almost 84% of all the processing activities during 2019. During 2019, it is observed

that the main increase compared to 2016 was in activities dealing with production of ready-made feed (170.6%), processing and preservation of fish, shellfish and molluscs (75.0%), production of dairy products (53.8%) (Figure 17). On the other hand, there was decrease in the number of enterprises dealing with wine production from grapes (10.1%), production of soft drinks (8.2%) and production of vegetable, animal fats and oils (7.0%).

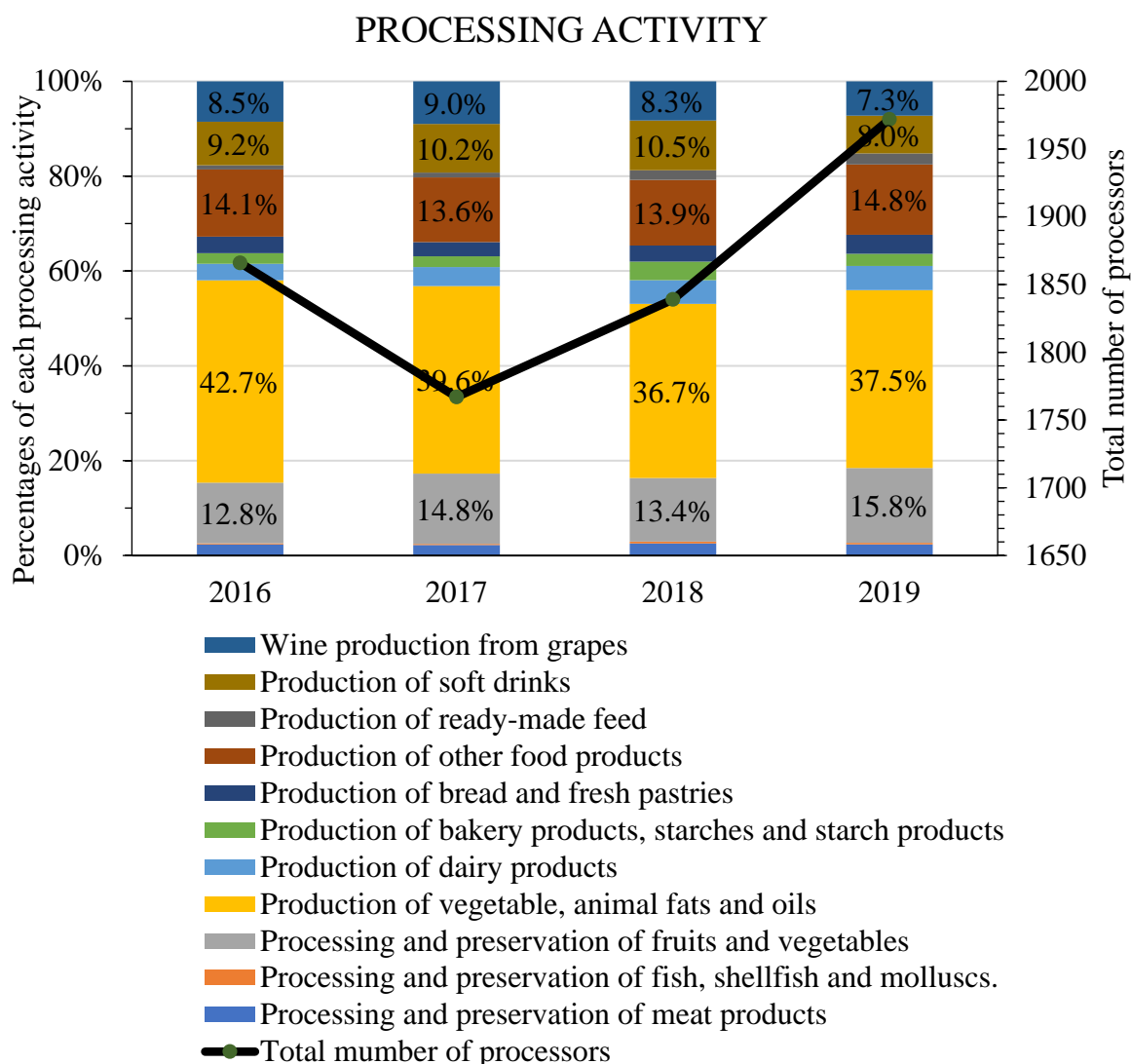


Figure 16. Number of enterprises and percentage of enterprises according to their activity dealing with processing of agricultural products during the years 2016-2019. (data obtained from Hellenic Ministry of Rural Development and Food)

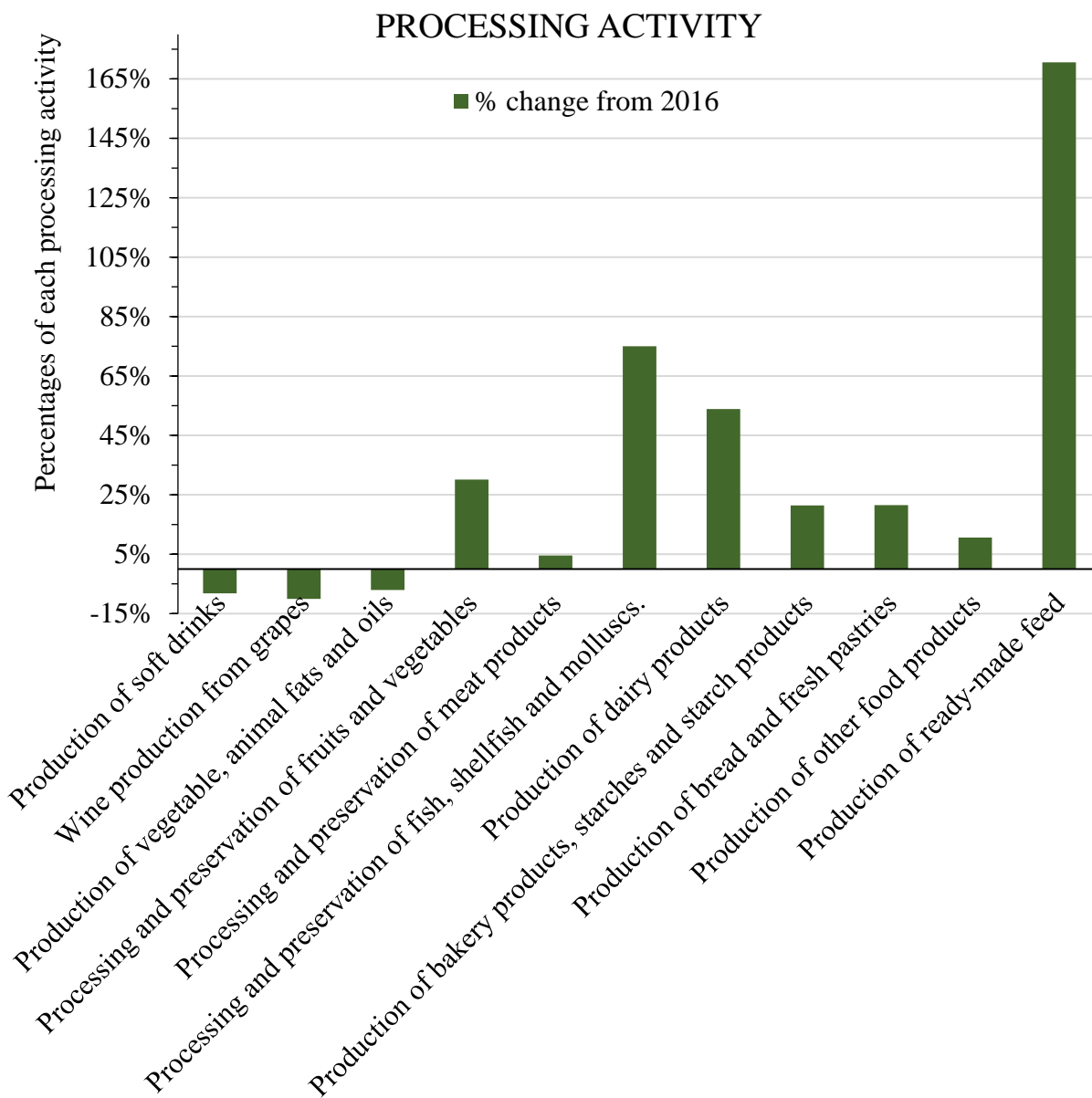


Figure 17. Percentage change in the number of enterprises dealing with processing of agricultural products during the years 2016-2019 according to the type of activity. (data obtained from Hellenic Ministry of Rural Development and Food)

1.4. Labelling of agro-products in Greece

Up to now in Greece, there are only 79 products (excluded wine and spirits) with PDO designation, 33 products with PGI designation, and only 1 with TSG designation. The distribution among the different classes of products is shown in Figure 18. The highest numbers of PDO labelled products are from Class 1.6. Fruit, vegetables and cereals fresh or processed (28), from Class 1.3. Cheeses (22) and from Class 1.5. Oils and fats (20). Similarly, the highest number of foods holding PGI label are from Class 1.6. Fruit, vegetables and cereals fresh or processed (18 representing 55% of total PGI products) and Class 1.5. Oils and fats (12 representing 36% of total PGI products). The only product that holds TSG label is from Class 1.6. Fruit, vegetables and cereals fresh or processed.

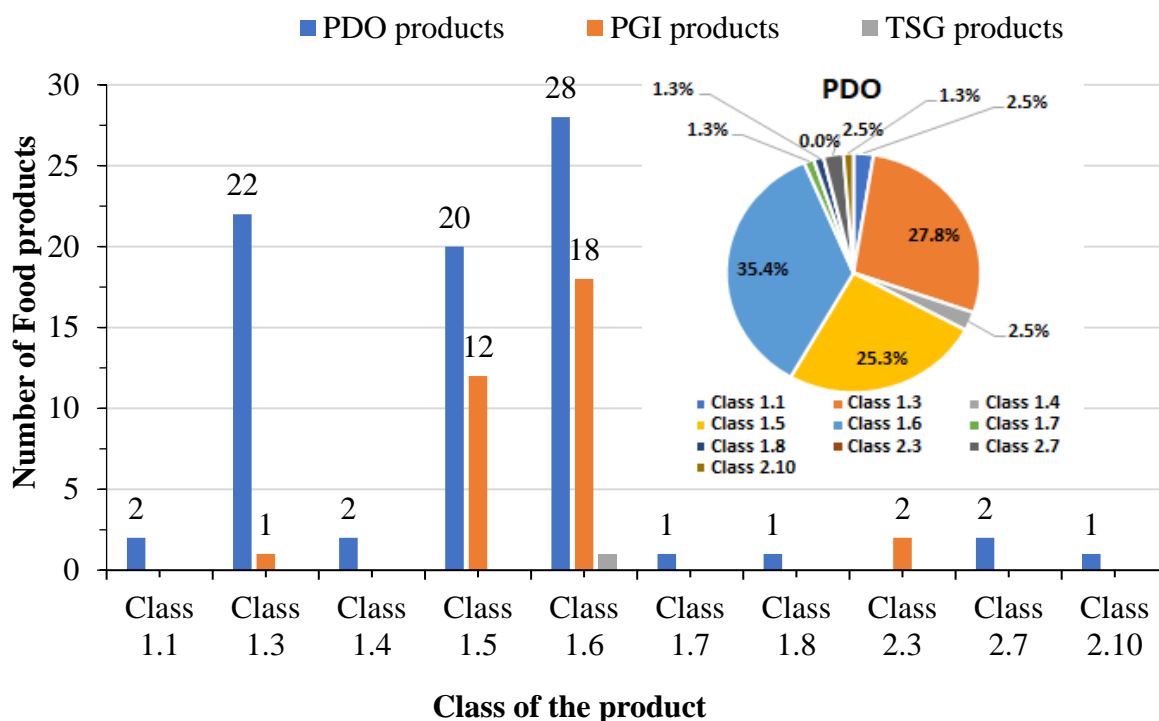


Figure 18. Distribution of Greek food products having a labelling (PDO, PGI, TSG) in different classes. Class 1.1 Fresh meat, Class 1.3. Cheeses, Class 1.4. Other products of animal origin, Class 1.5. Oils and fats, Class 1.6. Fruit, vegetables and cereals fresh or processed, Class 1.7. Fresh fish, molluscs, and crustaceans and products derived therefrom, Class 1.8. Other

products (spices etc.), Class 2.3. Bread, pastry, cakes, confectionery, biscuits and other baker's wares, Class 2.7. Natural gums and resins, Class 2.10. Essential oils (eAmbrosia, 2020).

Regarding the wine and spirits categories, Greece has obtained a total of 33 PDO and 129 PGI labels and no TSG label. All the PDO labels are from the wine category (Figure 19), whereas 114 PGI labels are from wine category and 15 belong to spirit category. No aromatized wine has gained till now any label.

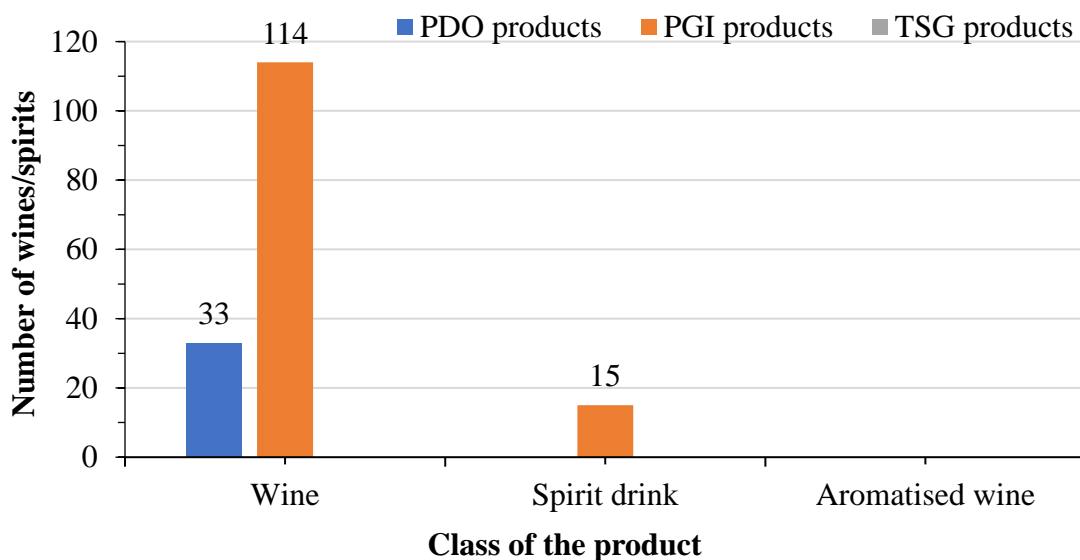


Figure 19. Distribution of Greek food products having a labelling (PDO, PGI, TSG) in different wines, spirit drinks and aromatized wine classes (eAmbrosia, 2020).

2. Panoramic view of regional production, certifications and traditional cooking recipes

2.1. Products of the eligible area

Cereals, Legumes, Industrial & Aromatic Plants

In [Figures 20 and 21](#) the cultivated area and the production of different crops during the period 2010-2018 in the region of Central Macedonia and Eastern Macedonia and Thrace are reported. In the region of Central Macedonia during 2018 a decrease of 32.3% of the harvested area cultivated with cereals was observed, resulting in a decrease in 36.7% of production compared with the year 2010 ([Figure 20a and 21a](#)). During 2018, the area cultivated with all the other crops was increased compared to the reference year 2010. The increase in the area cultivated resulted in an increase of the production of these crops. The area cultivated with legumes in 2018 was increased 455.2% compared to 2010 resulting in an increase of production of 376.9%. for the same time period, the cultivated area of annual forage crops and aromatic-medicinal plants was increased 121.5 and 138.8% resulting in a much higher increase of the production of 426.7% and 729.4%, respectively.

On the other hand, in the region of Eastern Macedonia and Thrace a reduction of 41.7% of the harvested area with cereals was observed, resulting in a decrease of 41.4% of the production compared with 2010. Although in 2018 the area harvested with olive and industrial plants was reduced by 13.8% compared to 2010, the production was still 3.1% higher than 2010 ([Figure 20b and 21b](#)). Aromatic and medicinal plant and energy crops showed the highest increase in harvested area (663.5 and 1308.1%, respectively) and production (3422.5% and 2135.9%, respectively) during 8 years (2010-2018).

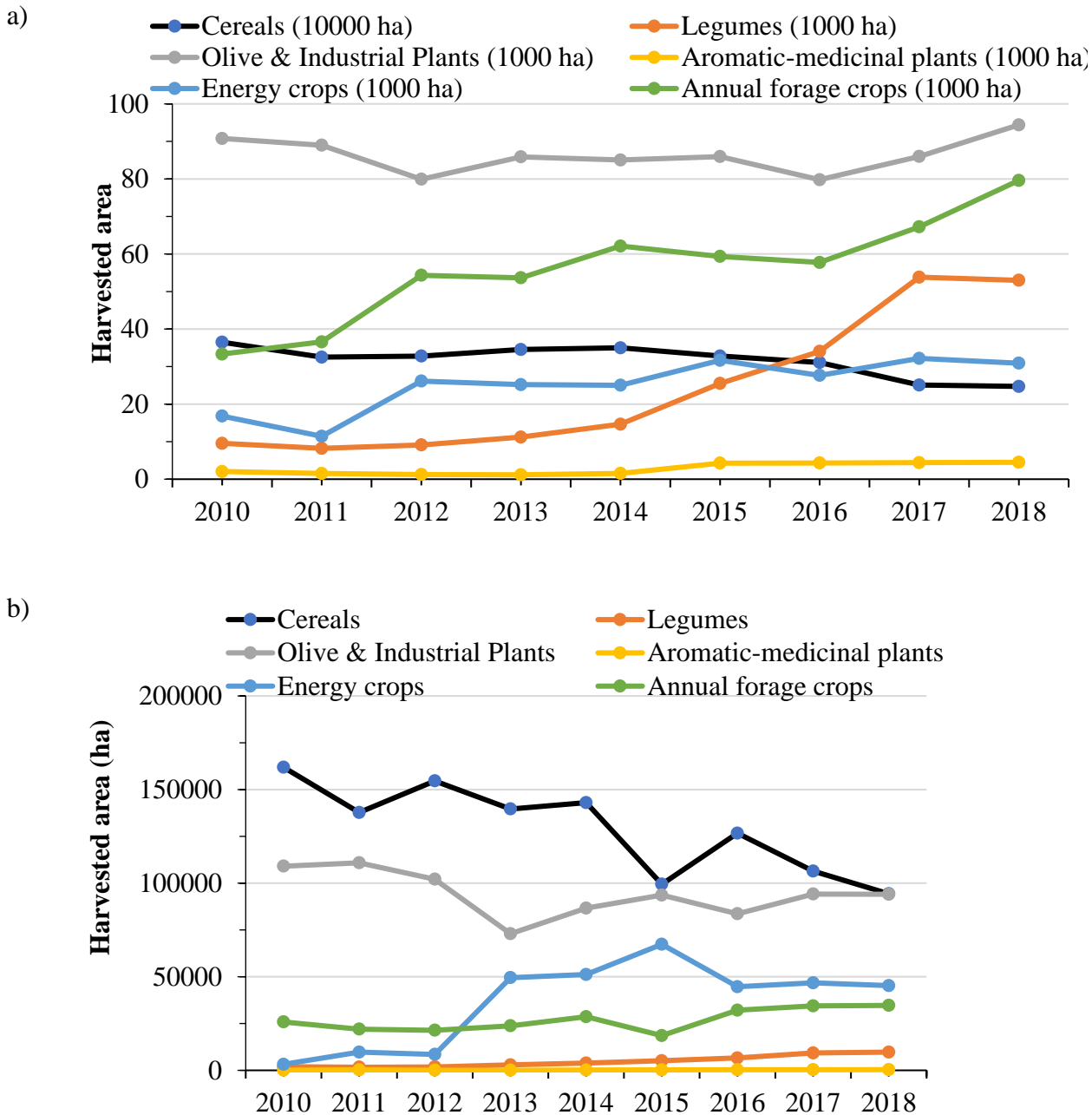


Figure 20. Harvested area with different crops during the years 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

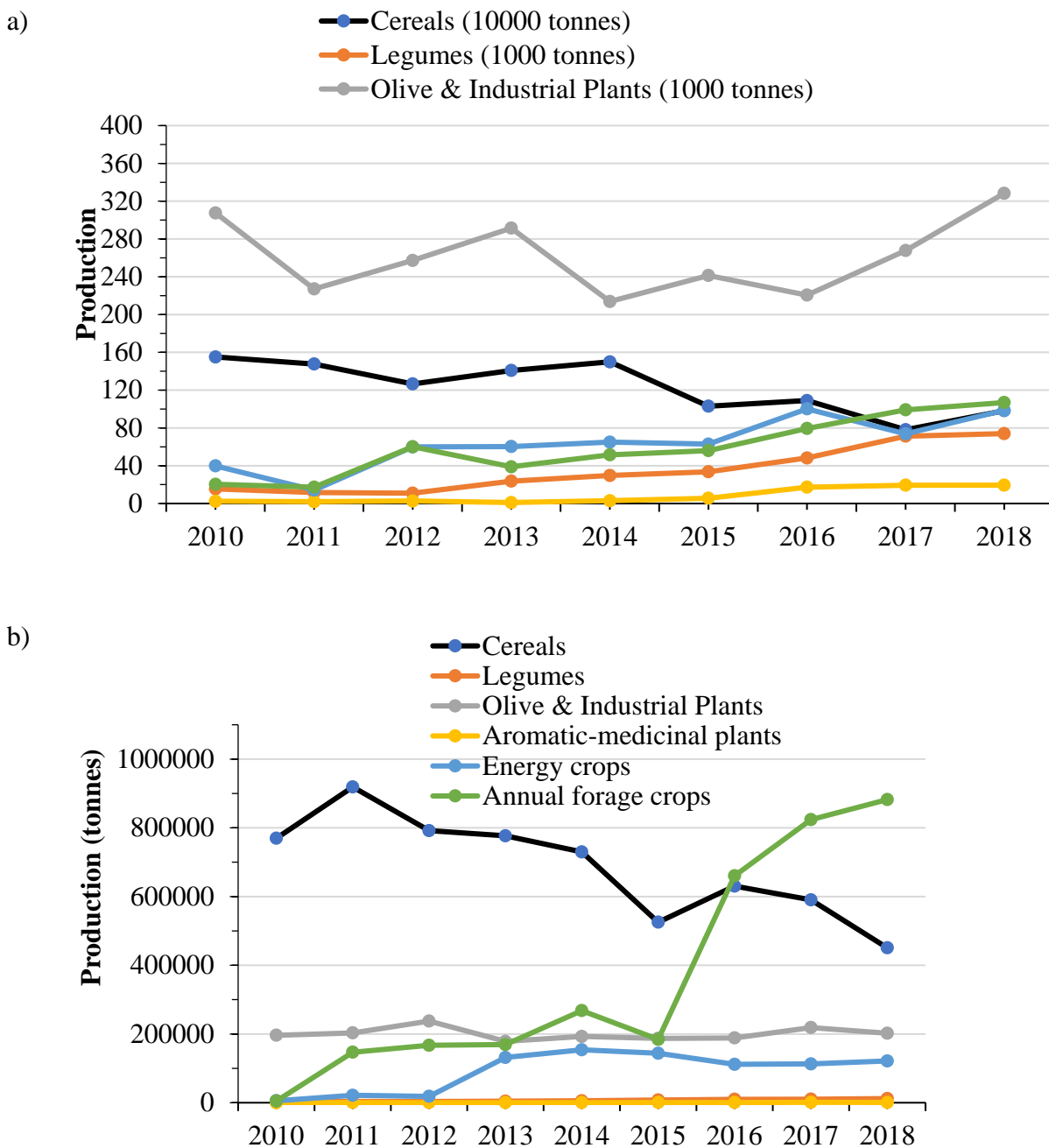
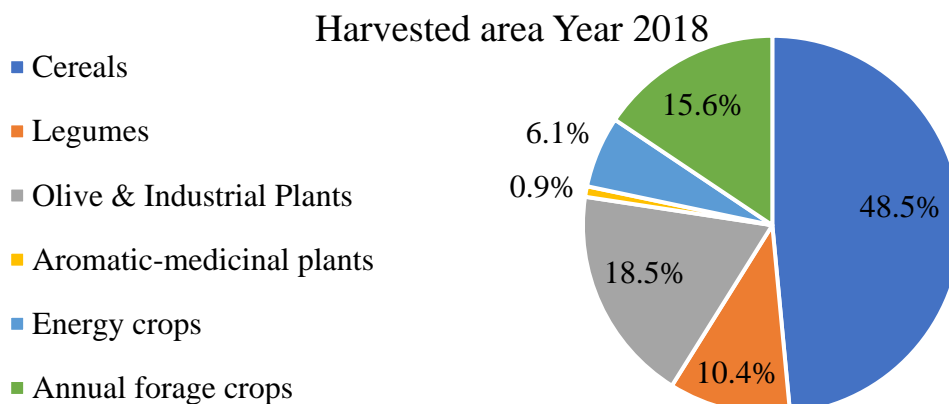


Figure 21. Production of different crops during the years 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

Based on the cultivated areas, in the region of Central Macedonia the main crops are Cereals, Olive & Industrial Plants, Annual forage crops and Legumes. Giving a closer look to the percentage distribution of the crops during the year 2018 (Figure 22a) it was observed that cereals represent the main crop produced in the region covering 48.5% of the area harvested but only of 38.2% of the production (Figure 23a). Olive & Industrial Plants and Forage crops, on the other hand, cover 18.5% and 15.6% of the area with a production of 12.8% and 41.6%, respectively. In the region of Eastern Macedonia and Thrace (Figure 22b) the main areas are cultivated with Cereals and Olive & Industrial Plants showing similar harvesting area. Although the annual forage crops cover the 12.5% of the total area harvested, it represents the main category of the production with 52.9% of the total production of the region (Figure 23b). Cereals cover 27% of the total production of the region followed by olive and industrial plant category.

a)



b)

Harvested area Year 2018

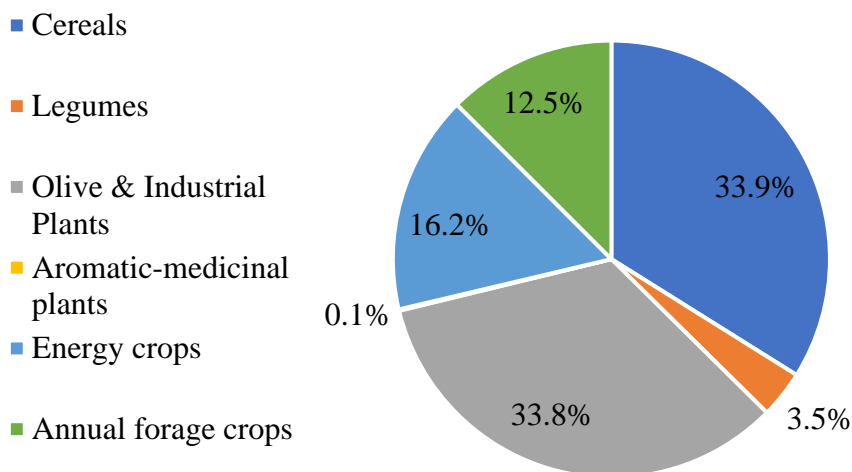
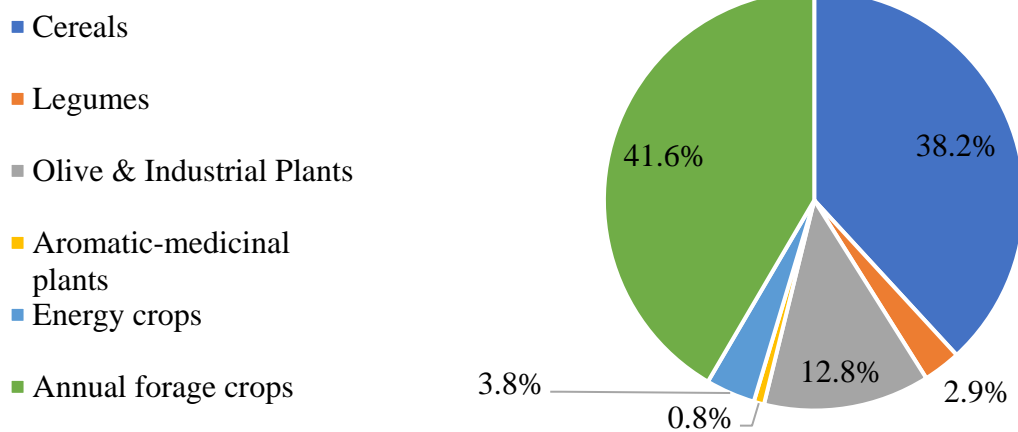


Figure 22. The percentage distribution of cultivated area with different crops during 2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b).(data obtained from Hellenic Ministry of Rural Development and Food)

a)

Production Year 2018



b)

Production Year 2018

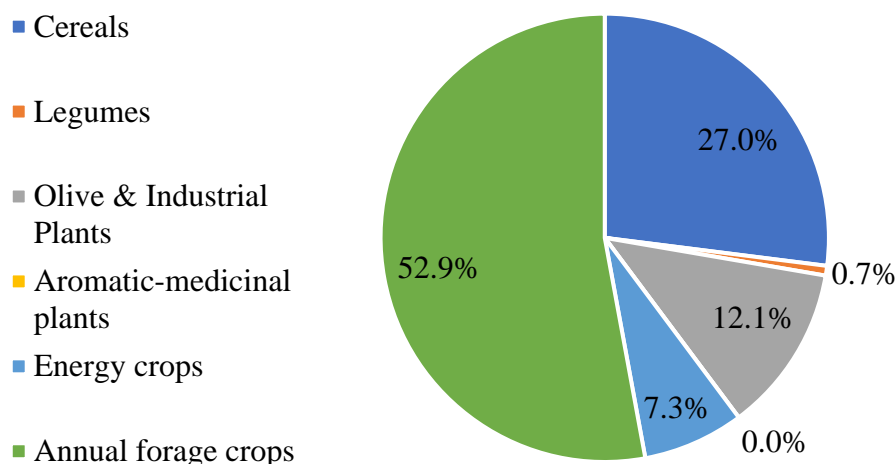
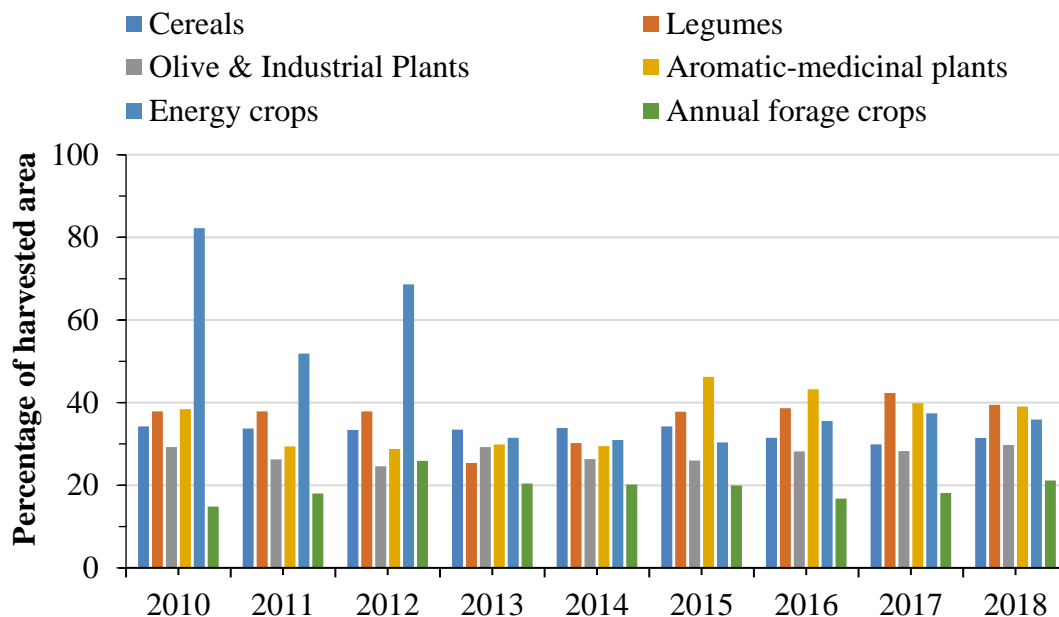


Figure 23. The percentage distribution of produced crops during 2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

The percentage of the area harvested as well as the production of crops in the region of Central Macedonia and Eastern Macedonia and Thrace compared to Greece is presented in [Figure 24 and 25](#). It is clear that till 2012, more than 50% of the area harvested with Energy crops in Greece was in Central Macedonia covering more than 81.8 and 62.0% of the total production of Greece ([Figure 24a and 25a](#)). In the following years this area is less than 36%. In 2018 Central Macedonia and Eastern Macedonia and Thrace contributed with 41.3% and 50.8% of the total production of Energy crops in Greece respectively, or 92.1% across the whole eligible project area. ([Figure 25](#)). Aromatic-medicinal plants represent another product that Central Macedonia produces in high amounts. The area harvested in Central Macedonia with aromatic plants represent 39% of the total area cultivated in Greece with these plants whereas the production represents 59.9% of the total aromatic plants produced in Greece. Legumes represent another important crop, with production in Central Macedonia region representing 42% of the production of legumes in Greece during year 2018. During 2018, in Eastern Macedonia and

Thrace region 21.8% of the olive and industrial plants in Greece was produced. The corresponding percentage in the region of Central Macedonia was 35.3%.

a)



b)

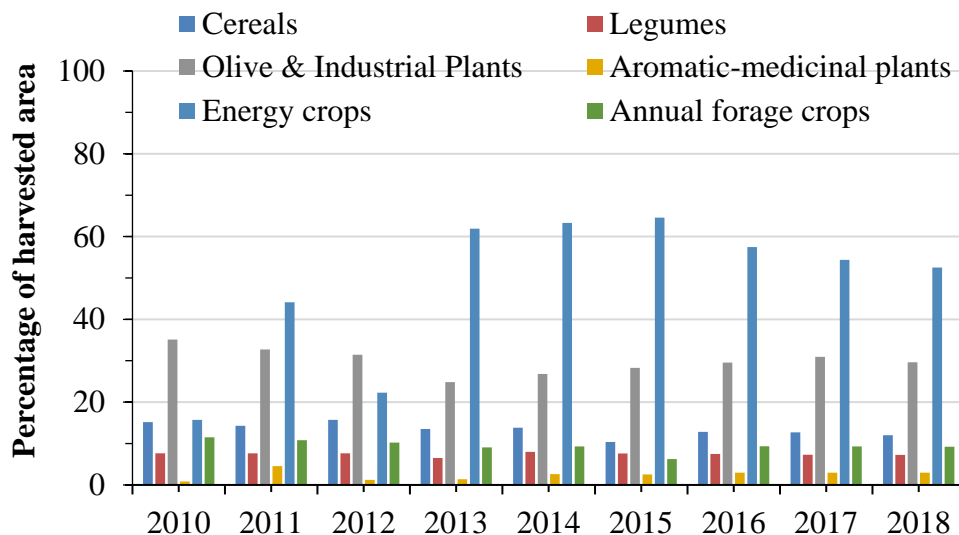


Figure 24. The percentage of cultivated area with different crops during the period 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b) compared to that

of total cultivated area of Greece. (data obtained from Hellenic Ministry of Rural Development and Food)

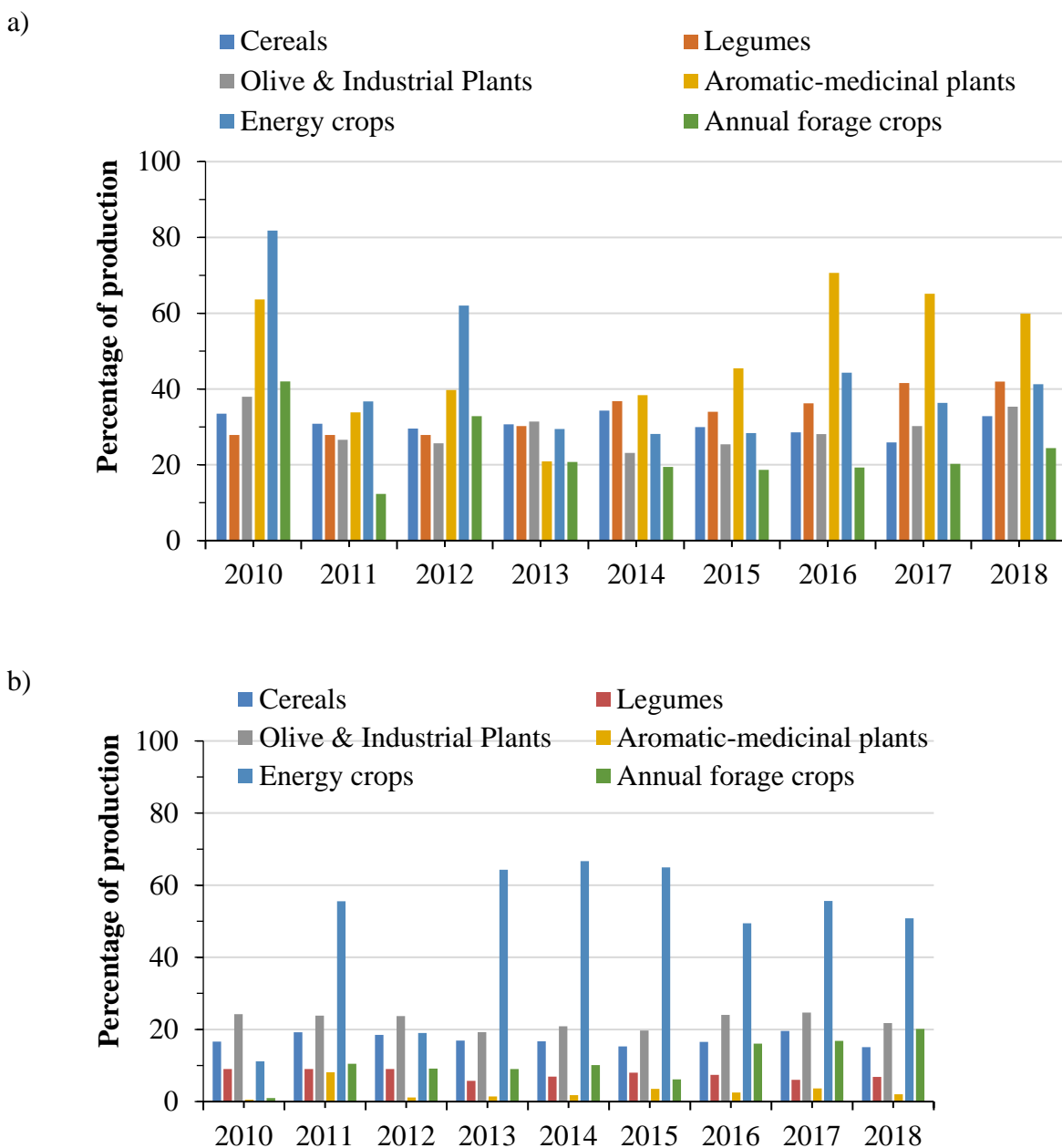


Figure 25. The percentage of produced crops during the period 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b) compared to that of total

cultivated area of Greece. (data obtained from Hellenic Ministry of Rural Development and Food)

Fruits and Vegetables

During 2018, in the region of Central Macedonia, the main harvested area with fruits is made of Stonefruit trees and Olive Trees covering 46.6% and 31.3% of the total area of the region cultivated with fruit trees (Figure 26a). The respective production percentage is 70.8% and 1.1% of the total production of fruits in the area (Figure 27a). During the period 2010 to 2018 there is observed a slight variation in the area cultivated with fruit trees and the respective production. A decrease in the area harvested compared to the year 2010 was observed only for Pomefruit trees, Grape for raisins and Olive Trees.

Vineyards represent the main culture in the region of Eastern Macedonia and Thrace (Figure 26b). The area cultivated by vineyards increased steadily from 2010 to 2015, and was 58.1% greater in 2018 compared to 2010. This increase of the area resulted in 69.3% increase in the production for the same period of time (Figure 26b). An increase of 64.1 and 49.0% was observed for Stonefruit and Pomefruit tree area, respectively, during the period 2010-2018 in the region of Eastern Macedonia and Thrace. The production of the associated fruits increased by 184.5 and 140.3%, respectively.

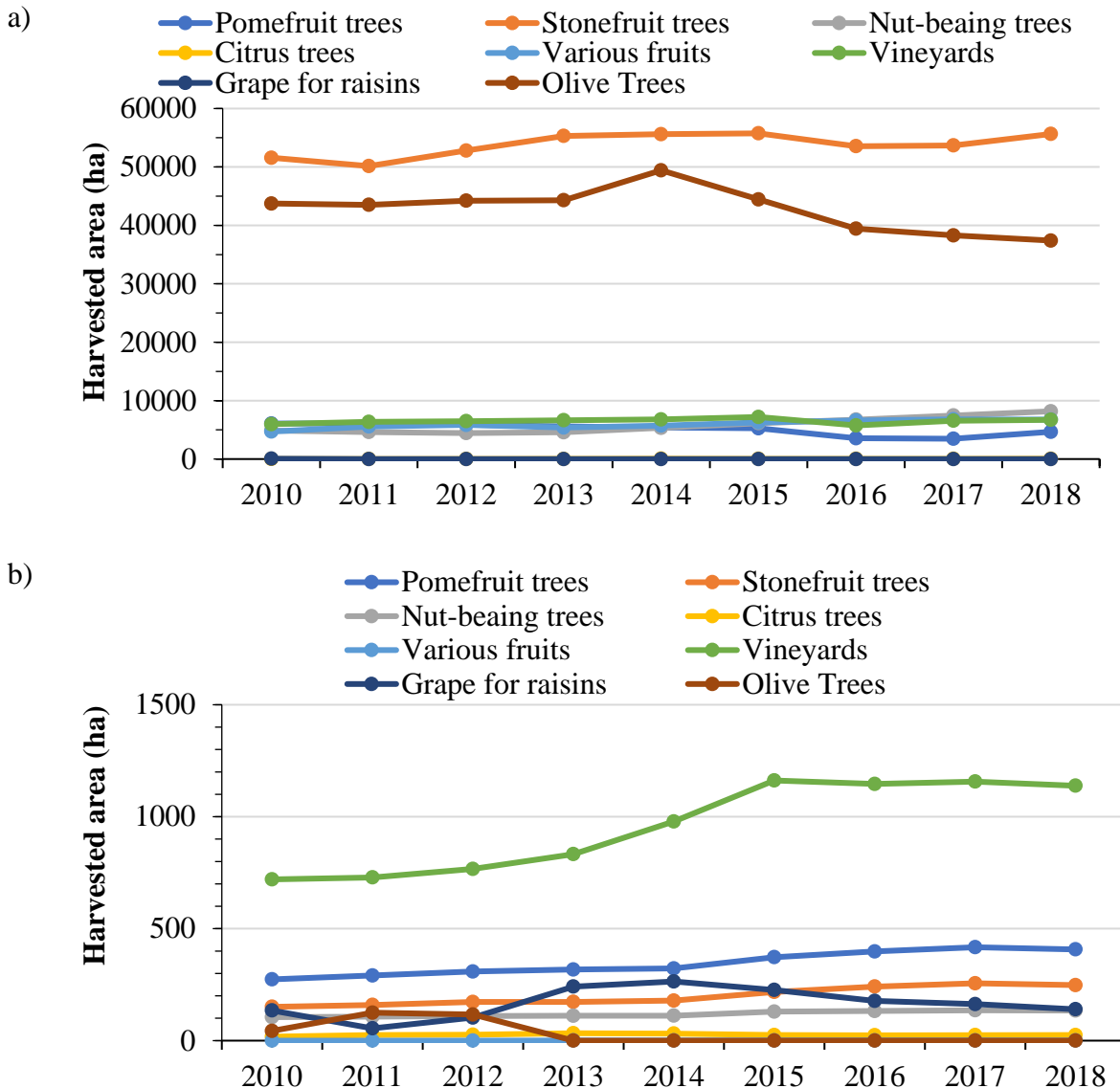


Figure 26. Harvested area with different fruits during the years 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

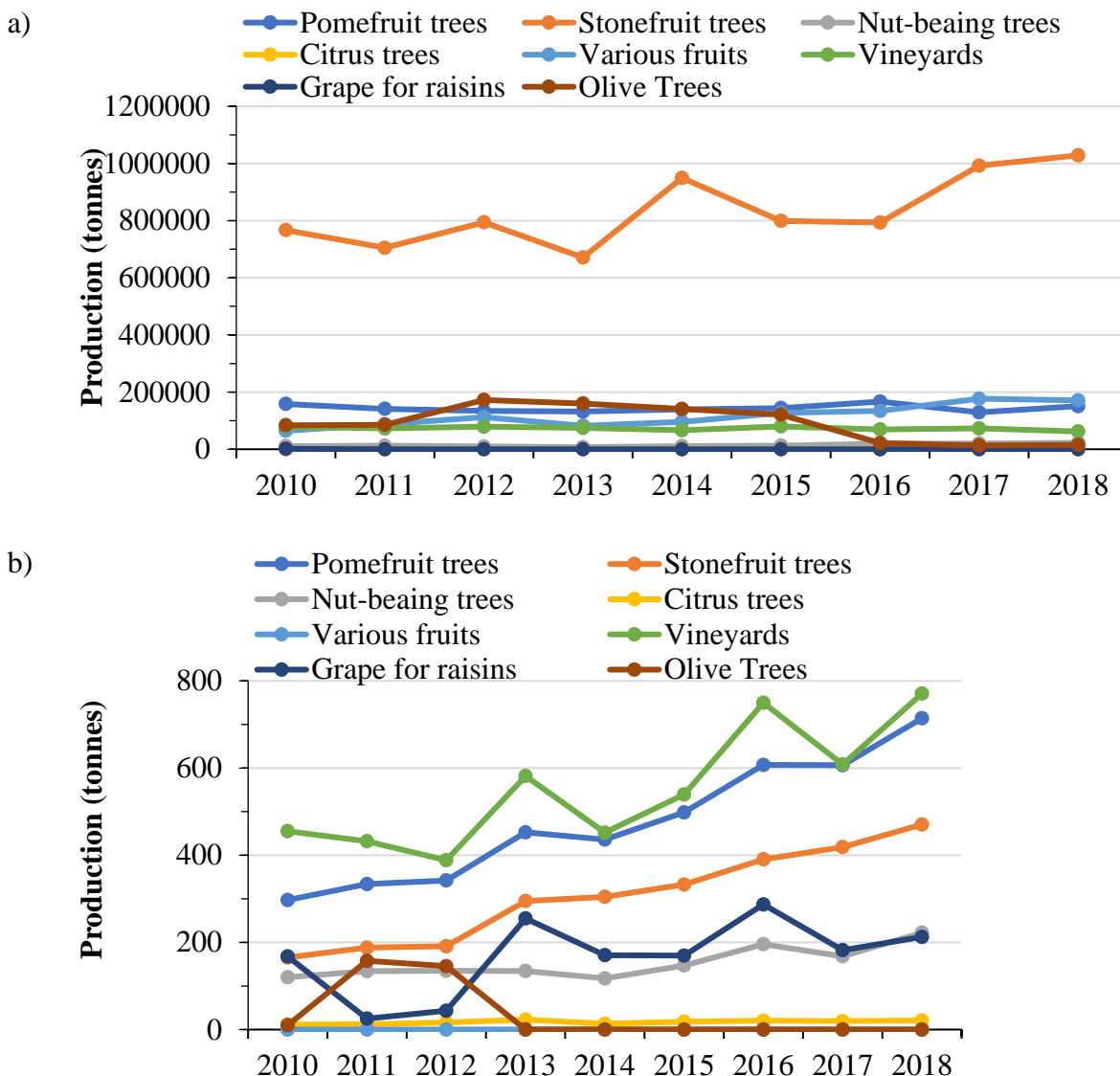


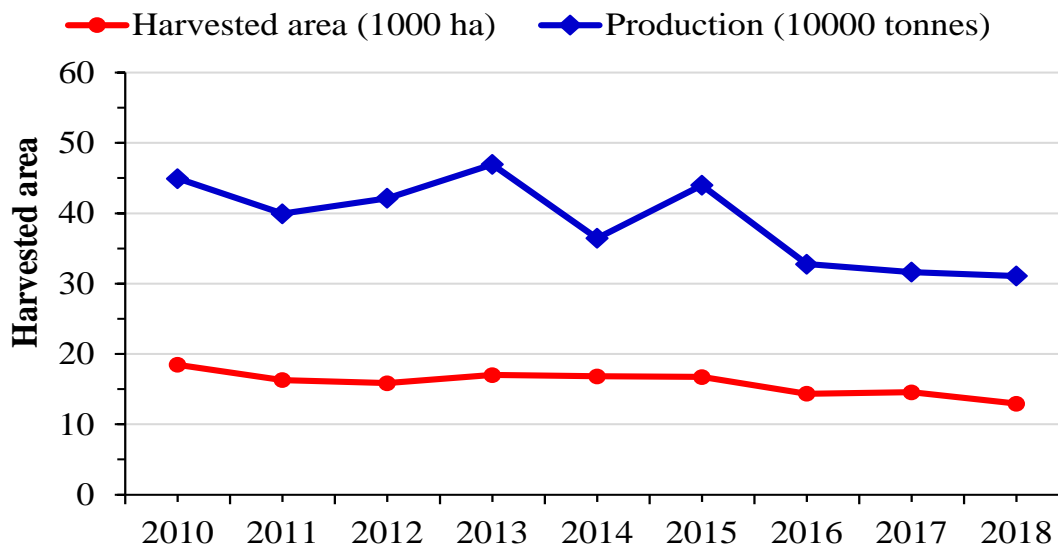
Figure 27. Production of different fruits during the years 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

The area harvested and the production of vegetables decreased by 29.9% and 30.8%, respectively in the year 2018 compared to the year 2010 (Figure 28a). The main vegetables harvested during 2018 are Spinach with 23.9%, Fresh beans with 12.1%, Watermelons with 6.9%, Lettuce with 6.2% and Cauliflower, Broccoli with 5.0% of the total area cultivated with

vegetables. Watermelons represent 24.4% of total volume of vegetables produced during 2018 and Spinach 11.1%.

Similar to Central Macedonia, in the region of Eastern Macedonia and Thrace there was a decrease in both area cultivated with fresh vegetables and their production (Figure 28b). During the period 2010 – 2018, the area was decreased 24.7% followed by a decrease of 27.9% in the production. In the region of Eastern Macedonia and Thrace the main cultivated fresh vegetables are spinach and asparagus with 17.4 and 17.6% of the total area cultivated. Total area cultivated with tomato during 2018 was 6.8% whereas the production was 22.5% of the total production of fresh vegetables in the region.

a)



b)

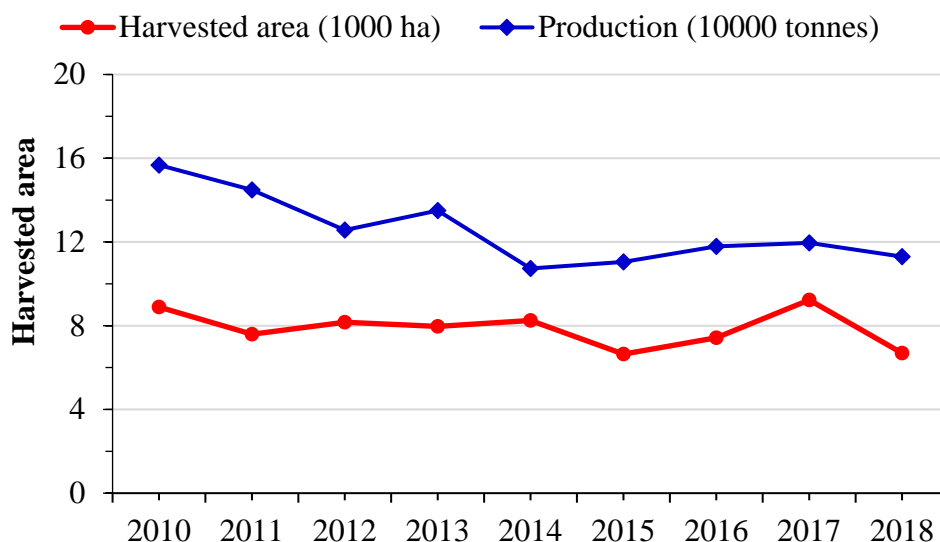
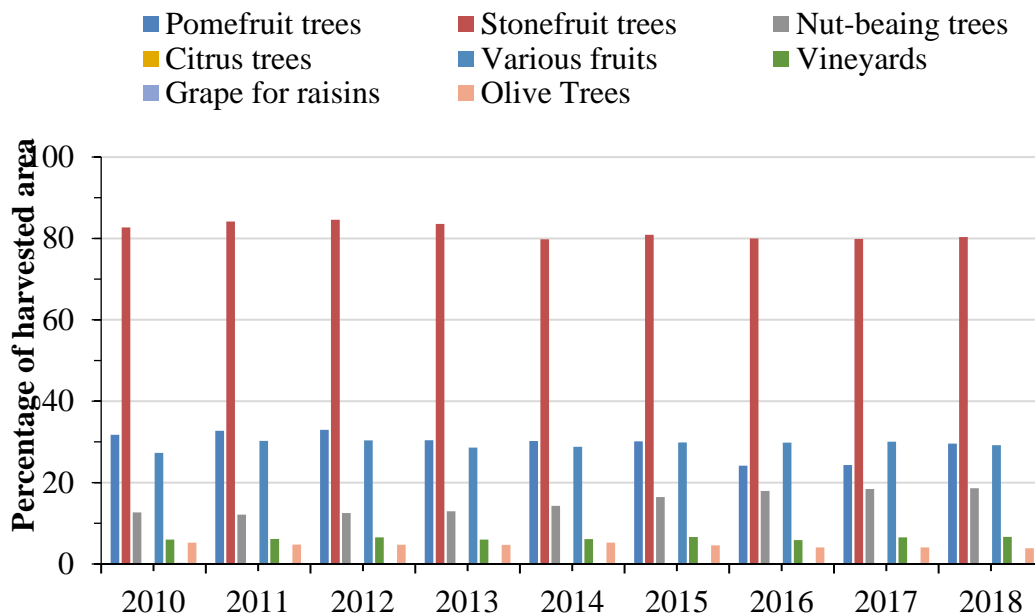


Figure 28. Harvested area with different vegetables and production during the years 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b). (data obtained from Hellenic Ministry of Rural Development and Food)

The contribution of the region of Central Macedonia and Eastern Macedonia and Thrace to the area harvested and production of fruits and vegetables of Greece during time period 2010-2018 is shown in [Figures 29, 30 and 31](#). During 2018, Central Macedonia produced 26.5% of fruits produced in Greece whereas the Eastern Macedonia and Thrace only 0.04%. The 80% of area harvested with Stonefruit trees is found in Central Macedonia covering 80% of the total stone fruits produced in Greece. The Pomefruit trees, Varios fruits category and Nut-beaing trees produced in Central Macedonia cover 40.0%, 39.2% and 21.6% of the total production in Greece, respectively. Moreover, this region contributes in more than 16% of the harvested area and more than 10% of the Greece production in vegetables ([Figure 31](#)). On the other hand, the production volume of fresh vegetables in Eastern Macedonia and Thrace is very low, less than 0.01% of the total for Greece.

a)



b)

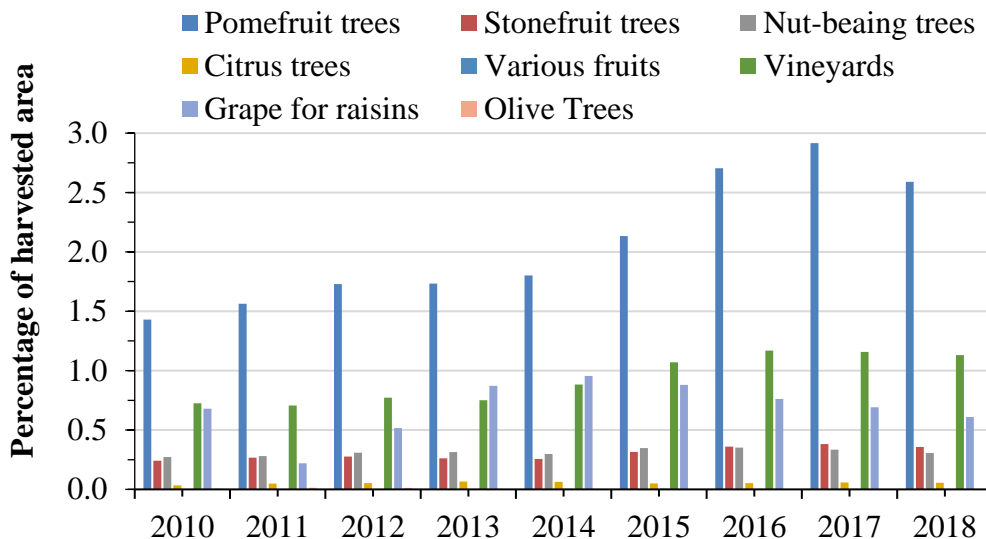
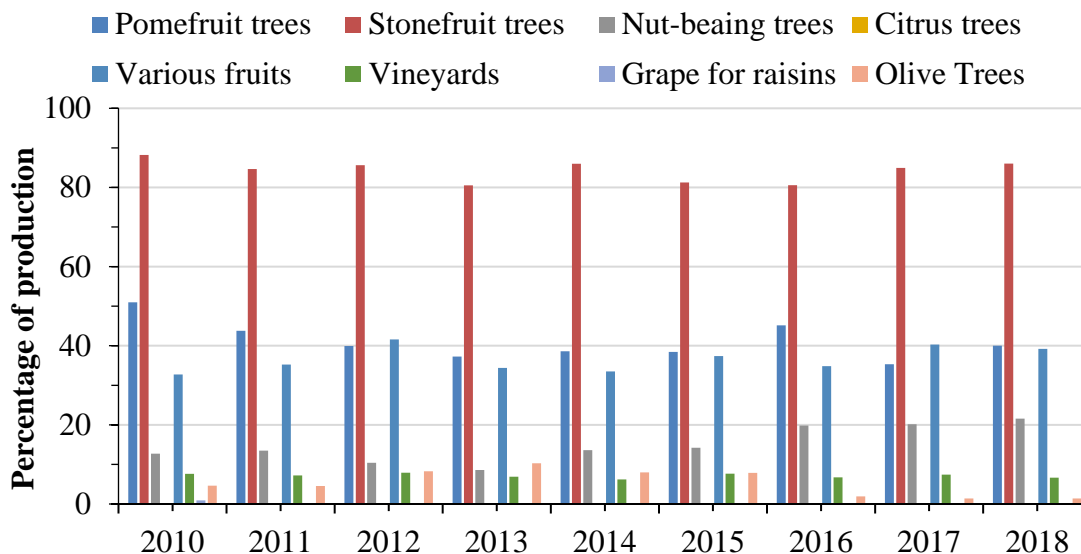


Figure 29. The percentage of harvested area with different fruits trees during the period 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b) compared to that of total cultivated area of Greece. (data obtained from Hellenic Ministry of Rural Development and Food)

a)



b)

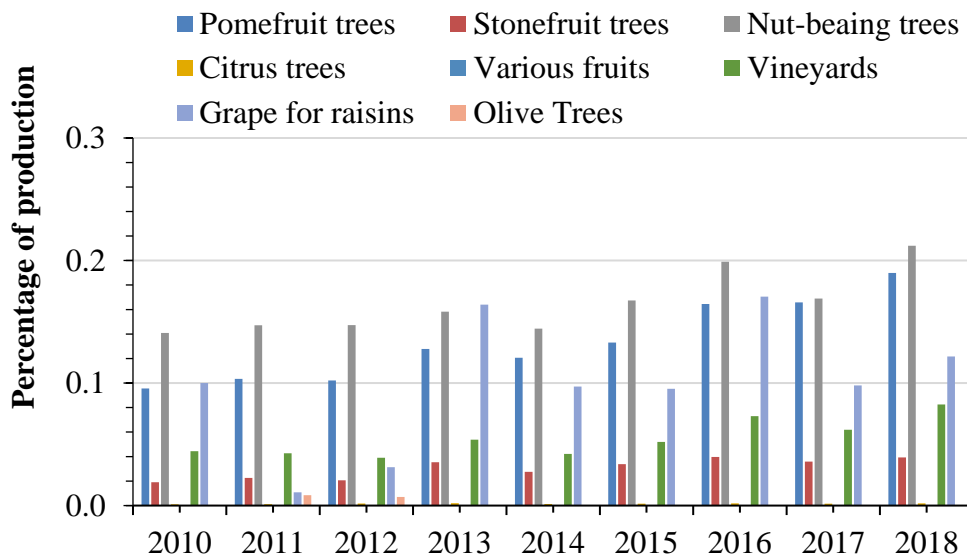


Figure 30. The percentage of produced fruits during the period 2010-2018 in the region of Central Macedonia (a) and Eastern Macedonia and Thrace (b) compared to that of total cultivated area of Greece. (data obtained from Hellenic Ministry of Rural Development and Food)

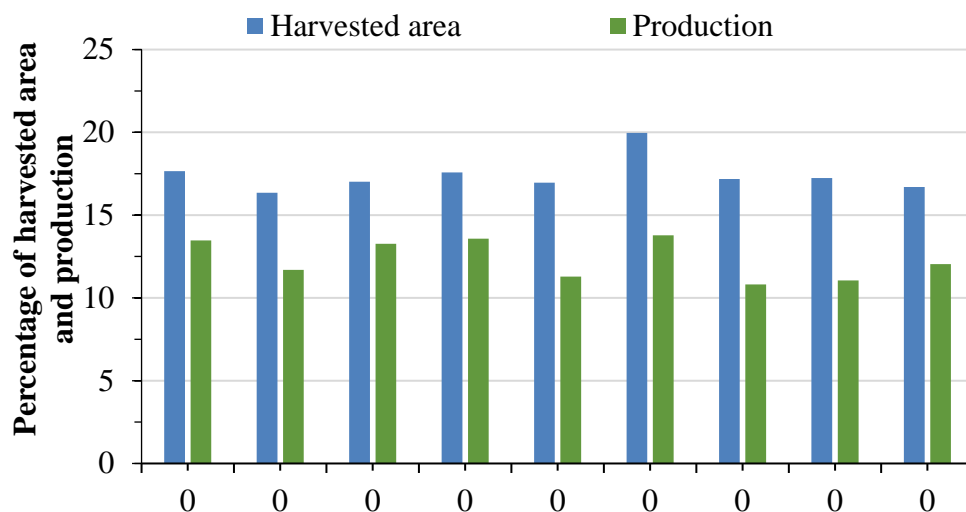


Figure 31. The percentage of harvested area and produced fresh vegetables during the period 2010-2018 in the region of Central Macedonia compared to that of total cultivated area of Greece. (data obtained from Hellenic Ministry of Rural Development and Food)

It is observed that in the region of Central Macedonia the values of fruit reaches 969.4 million euros representing 54.1% of the total value for the plant production in the region and 34.3% of the value for the fruits of Greece (Figure 32). In the region of Eastern Macedonia and Thrace the value of industrial plants in 2018 was 276.5 million euros, the plant culture production with the highest value in the region (43.1% of the total production value). Cereals and industrial plants show values of 252.06 and 240.16 million euros, representing 15.9 and 15.2% of the plant production value of the region of Central Macedonia. On the other hand, the potatoes produced in Eastern Macedonia and Thrace represent 24.2% of the value of this crop in all of Greece.

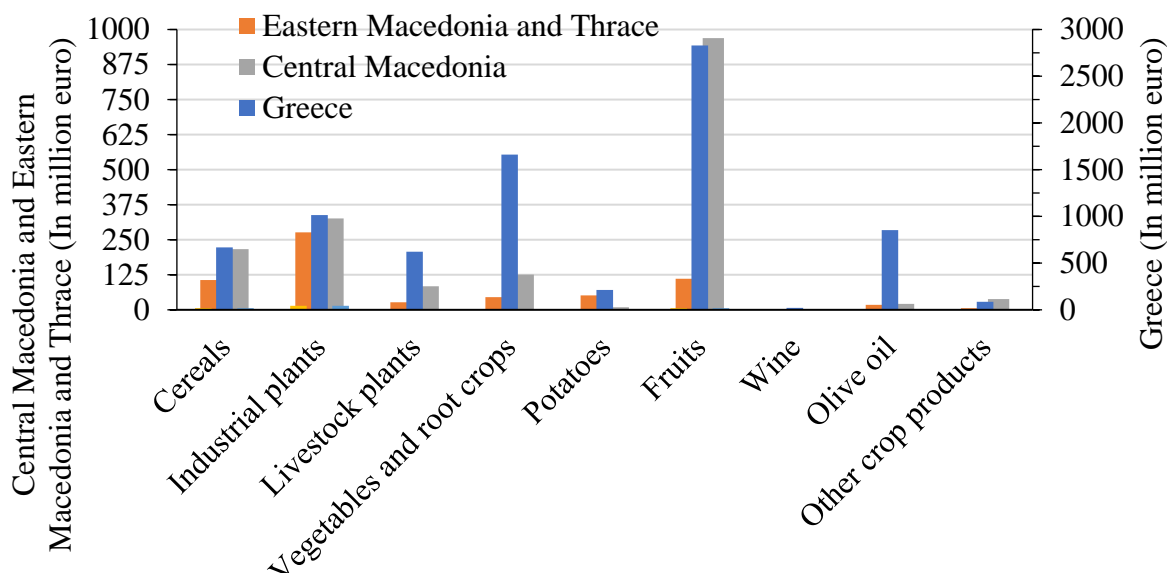


Figure 32. The value (in millions of euros) of plant production during 2018 in the region of Central Macedonia and Eastern Macedonia and Thrace compared to that of Greece. (data obtained from ELSTAT).

Animals and their products

In [Figure 33](#) the data obtained from Agricultural Financial Accounts of Central Macedonia, Eastern Macedonia and Thrace and Greece for the category of animal production (animals and animal products) are reported. According to ELSTAT (Hellenic Statistical Authority) during 2017 the animal production in the region of Central Macedonia represented 20.8% of the animal production of Greece. This value represents a high level of production at country level, and is similar to the respective value for the plant production (20.1%). The animals represent 41.6% whereas the animal products represent the remaining 58.4% of the total animal production of the Central Macedonia. At country level, these values are 53.4 and 46.6% for the animals and animal products, respectively. The animal production in the region of Eastern Macedonia and Thrace represented only 8.1% of the animal production of Greece during 2017.

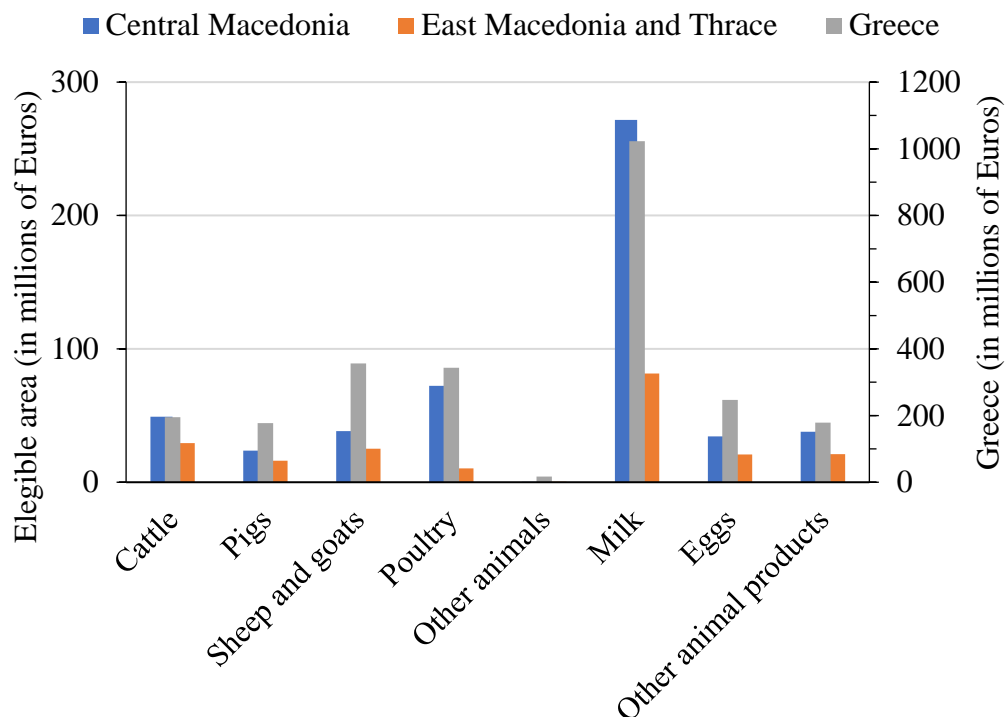


Figure 33. The value (in millions of euros) of animal production during 2017 in the region of Central Macedonia and Eastern Macedonia and Thrace compared to that of Greece. (data obtained from ELSTAT).

2.2. Labels in the Region

Products (PDO, PGI or TSG)

The products of the region that hold a label are summarized in the [Table 1](#). There are only 10 products that have obtained PDO labelling and 5 the PGI in the region of Central Macedonia and Eastern Macedonia and Thrace. Four of the products belong to the cheese category, 6 are fruits & vegetables and 5 are of olive and olive oils category. Among them only the products belonging to the cheese category cover all the entire region, the oils-olives belong to the

Chalkidiki and Thasos whereas the Fruits & Vegetables to Imathia and Drama region. At the moment no product of the region has gained TSG labelling.

Table 1. Products in the region of Central Macedonia and Eastern Macedonia and Thrace that hold a labelling. (data obtained from Hellenic Ministry of Rural Development and Food and eAmbrosia (2020))

PRODUCT	REGISTERED NAME	PGI (ΠΓΕ)/PDO (ΠΟΠ)	SPECIFICATIONS	Regional unit
Oils - olives	Agoureleo Chalkidikis - Αγουρέλαιο Χαλκιδικής	P.D.O.	Official Journal L 169, 21.06.2013 C294/2012	Chalkidiki
	Prasines Elies Chalkidikis – Πράσινες Ελιές Χαλκιδικής	P.D.O.	Official Journal L 132, 23.05.2012 C190/2010	
	Galano Metaggitsiou Chalkidikis – Γαλανό Μεταγγιτσίου Χαλκιδικής	P.D.O.	Official Journal L 252, 29.09.2015 C143/2015	
	Throumpa Thassou /Θρούμπα Θάσου	P.D.O.	Official Journal L 163, 02.07.1996	Thasos
	Thassos/ Θάσος	PGI	Official Journal L 148, 21.06.1996	
Fruits & Vegetables	Kerassia Tragana Rodochoriou - Κεράσια τραγανά Ροδοχωρίου	P.D.O.	Official Journal L 22, 24.01.1997 317729/18.01.94 (ΦΕΚ 23/18.01.94)	Imathia
	Rodakina Naoussas - Ροδάκινα Νάουσας	P.D.O.	Official Journal L 15, 21.01.1998 317735/18.01.94 (ΦΕΚ 23/18.01.94)	
	Aktinidio Pierias – Ακτινίδιο Πιερίας	PGI	Official Journal L 318, 22.11.2002 C76/2002	
	Patata Kato Nevrokopiou/ Πατάτα Κάτω Νευροκοπίου	PGI	Official Journal L 82, 26.03.2002	Drama
	Fassolia kina Messosperma Kato	PGI	Official Journal L 15, 21.01.1998	

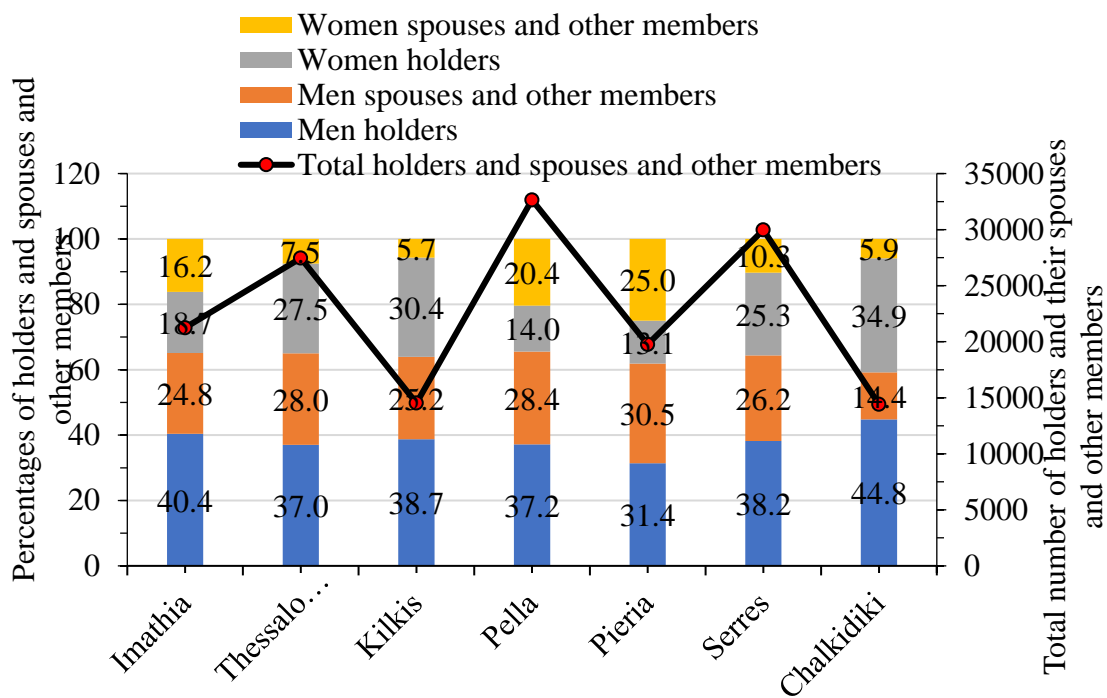
	Nevrokorίου /Φασόλια κοινά μεσόσπερμα Κάτω Νευροκοπίου/			
	Fassolia Gigantes Elefantes Kato Nevrokorίου /Φασόλια γίγαντες ελέφαντες Κάτω Νευροκοπίου/	PGI	Official Journal L 15, 21.01.1998	
Cheeses	Batzos - Μπάτζος	P.D.O.	Official Journal L 148, 21.06.1996 313057/17.01.94 (ΦΕΚ 25/18.01.94) 313057/17.01.94 (ΦΕΚ 101 B'/16.01.94)	Thessaloniki, Chalkidiki, Kilkis, Pella, Imathia, Pieria
	Feta - Φέτα	P.D.O.	Official Journal L 277, 15.10.2002 313025/11.01.94 (ΦΕΚ 8/11.01.1994)	Serres, Thessaloniki, Chalkidiki, Kilkis, Pella, Imathia, Pieria Rhodope, Drama, Evros, Thasos, Kavala, Xanthi
	Kasseri - Κασέρι	P.D.O.	Official Journal L 174, 13.07.2000 L148/1996 313027/11.01.94 (ΦΕΚ 8/11.01.94) 379116/19.07.2000 (ΦΕΚ 949 B'/31.07.2000)	Serres, Thessaloniki, Chalkidiki, Kilkis, Pella, Imathia, Pieria, Drama, Thasos, Kavala, Xanthi
	Manouri - Μανούρι	P.D.O.	Official Journal L 148, 21.06.1996 313028/11.01.94 (ΦΕΚ 8/11.01.94)	Thessaloniki, Chalkidiki, Kilkis, Pella, Imathia, Pieria

2.3. Land holders and agricultural food production profile of Central Macedonia

The last data revealing the Agricultural and Livestock Holdings in the region of Central Macedonia reported from the Hellenic Statistical Authority (ELSTAT) are of the year 2016. The total number of holders in the Central Macedonia region are 96318, representing 14.1% of the total number of holders in Greece. Almost 62.9% of those are men and 37.1% are women. The number of women holders are slightly higher than that in the national level, 37.1% vs 34.8%. This percentage is higher if taking into account that the data reported from ELSTAT for the region of Central Macedonia include the data from the autonomous region of Agio Oros. In the region of Eastern Macedonia and Thrace there are 51579 landholders, representing 7.5% of the total number of landholders in Greece. Almost 59.4% of the landholders in this region are men.

In addition to the number of agricultural and livestock holders in the region of Central Macedonia, 63718 other persons are also involved with these activities increasing by 66.2% the number of persons dealing with farming activities. The total number of holders varied among the different regional units of Central Macedonia (Figure 34a) and Eastern Macedonia and Thrace (Figure 34b). In the Central Macedonia region, the highest number is observed in Pella and the lowest in Chalkidiki whereas in the Eastern Macedonia and Thrace region the highest number is observed in Rhodope and the lowest in Thasos. The percentage of holders and their spouses and other members also varies among the regional units of the two regions. In Chalkidiki the highest number of male holders was recorded due to the inclusion in this regional unit of the data linked to the Agio Oros autonomous region.

a)



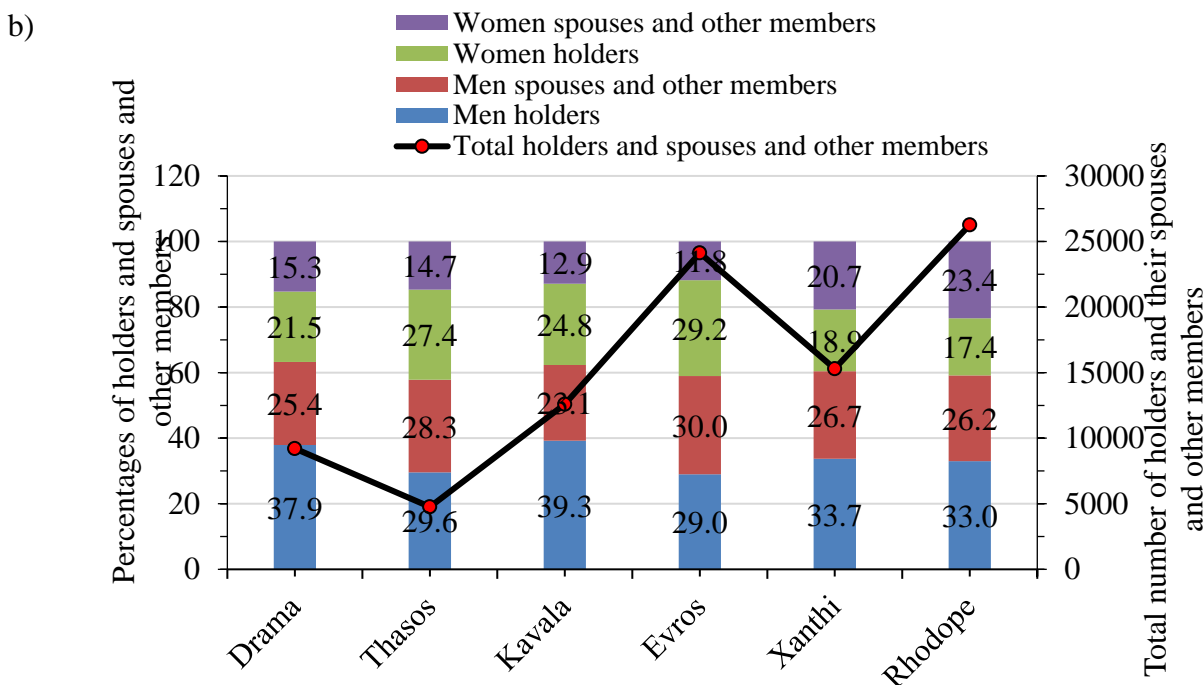


Figure 34. The percentage and total number of holders including spouses and other members categorized by sex and regional units of Central Macedonia (a) Eastern Macedonia and Thrace (b) and during year 2016. In the Chalkidiki is included Agio Oros (data obtained from ELSTAT)

Besides the individuals dealing with the agriculture in the area, agricultural cooperatives are also reported. These cooperatives are involved with agricultural production and operate in the local topical (village) level. In the region of Central Macedonia, a great number of agricultural cooperatives are operating. The total number (according to the data obtained from Hellenic Ministry of Rural Development and Food) accessed in November 2020) is 86, representing 14.4% of the total number of agricultural cooperatives in Greece. In the region of Eastern Macedonia and Thrace only 26 cooperatives are operating. The number of agricultural cooperatives in different regional units of Central Macedonia decrease in the following order: Imathia (28), Pella (21), Serres (10), Chalkidiki (10), Pieria (9) and Thessaloniki (8). In the

region of Eastern Macedonia and Thrace the number of agricultural cooperatives increases in the following order: Xanthi (2), Thasos, Drama and Rhodope (3), Kavala (7) and Evros (8).

The In the region of Central Macedonia there are 12 Women's Agrotourism Cooperatives dealing with traditional products as well as agrotourism whereas in the region of Eastern Macedonia and Thrace 14. A more detailed information is shown in the following [Table 2](#). Four of the women's associations are located in the regional unit of Thessaloniki, four in that of Pella, two in the regional unit of Chalkidiki, and of one in each of the regional units of Serres and Kilkis. In the region of Eastern Macedonia and Thrace the higher number of women's associations is found in Evros (7) then in Drama (5) and Xanthi (2). The main feature of these associations is that they prepare their products based on the traditional recipes and very good quality raw materials. These associations are run exclusively by women, who are engaged in the agricultural sector. These are village women aged 30-60 on average, who wanted to provide income to their families. Everything they produce is handmade, prepared by themselves. Their products can compete with those of the supermarket, with a great difference being that their raw material is of very high quality. This due to the personal contacts, their knowledge and possibility that these women have to meet the producer of raw materials that lives and works in their proximity.

Table 2. Women's associations in the region of Central Macedonia and Eastern Macedonia and Thrace. (data obtained from Hellenic Ministry of Rural Development and Food)

	Name	Regional unit
	<i>Central Macedonia</i>	
1	Women's Agricultural Cooperative of traditional products "AgiosAntonios"	Thessaloniki
2	Women's Agricultural Cooperative of Kalamos "Kypseli"	Thessaloniki
3	Women's Agricultural Cooperative of Anatolikou "Balmada"	Thessaloniki

4	Women's Agricultural Cooperative of Melisohoriou “Ayge”	Thessaloniki
5	Women's Productive Cooperative of Arnissas “O Boras”	Pella
6	Agritourism Cooperative of Arxaggelou “I Paradosi”	Pella
7	Women's Agritourism Cooperative of Arxaggelou Pellas	Pella
8	Women's Agritourism Cooperative of traditional products of Polykarpis, Pella region	Pella
9	Women's Products Agritourism Craft Cooperative	Serres
10	Women's Agritourism Cooperative of Varvaras, Chalkidikis “Dryades”	Chalkidiki
11	Women's Agricultural Cooperative of Taxiarchis “En Gevesthai”	Chalkidiki
12	Women's Agricultural Cooperative of Aiginiou “I Armonia”	Kilkis
<i>Eastern Macedonia and Thrace</i>		
1	Women's Agritourism Cooperative Kokkinogion Dramas "O. Maaras"	Drama
2	Women's Agricultural Cooperative Bathitopou “Oi Oresibies”	Drama
3	Women's Agricultural Cooperative “I Sinergasia” Paranestou Dramas	Drama
4	Women's Agricultural Cooperative Kalou Agrou Dramas “I Kaloagritissa”	Drama
5	Women's Agricultural Cooperative Bathytou “Oi Orbiliotisses”	Drama
6	Women's Agritourism Cooperative Trigonou “GAIA”	Evros
7	Women's Agritourism Cooperative Peplou “Akritisses”	Evros

8	Women's Agritourism Cooperative Lyras "Neromylos"	Evros
9	Women's Agritourism Cooperative Ladias "I Gerakina"	Evros
10	Women's Productive Cooperative Loutron "Xana"	Evros
11	Women's Agritourism Cooperative "Axiokersa"	Evros
12	Women's Agricultural Cooperative of Samothrakis "Niki"	Evros
13	Women's home-technical development cooperative of Kotylis	Xanthi
14	Women's productive eco-technical development cooperative of Sartron	Xanthi

2.4. Enterprises dealing agriculture and food

In [Table 3.1](#) and [3.2](#) the number of legal units, turnover and employees for all sectors of economic activity as a whole and for the sector of agriculture, forestry and fisheries in different regional units of Central Macedonia and Eastern Macedonia and Thrace during year 2017 are presented. In the region of Central Macedonia 16% of the number of legal units of Greece are located and these are responsible for 10.3% of the turnover and 12.8% of the employees in the country. On the other hand, 11% of the number of legal units of Greece are located in different regional units of Eastern Macedonia and Thrace and these are responsible for only 4.3% of the turnover and 7.8% of the employees in the country.

The agriculture, forestry and fisheries category accounts for 38.5% of the number of legal units of the Central Macedonia region compared to 36.5% of those of the whole country. In the Eastern Macedonia and Thrace, the agriculture, forestry and fisheries category accounts for 31.9% of all the activities in this region. Activities of agriculture, forestry and fishery category are responsible for the 5.1% of the total turnover of the region and employ 17.4% of the total employees. According to statistical business register of 2017 (ELSTAT), during 2017 there was

an 11% increase in the legal units dealing with agriculture, forestry and fishery compared to 2014 but the increasing trend was reversed (-2.7%) from year 2016 to year 2017. This decrease during 2017 resulted in a decrease of the turnover 3.7% and employment 10.8% compared to 2016.

Agriculture, forestry and fishery activities employ 6.6% of the working people in the regional unit of Thessaloniki, which represents the lowest level in the region of Central Macedonia. On the other regional units of this region, the percentage of the number of the people employed in these activities is much higher and increases in the following order: Chalkidiki (25%), Pieria (29.4%), Imathia (35.2%), Serres (38.4%), Pella (43.2%). These numbers in the regional units of Central Macedonia (except of Thessaloniki) are much higher than the percentage of the whole region (17.4%). On the other hand, the forestry and fishery activities employ more than 11.7% of the working people in the Eastern Macedonia and Thrace region increasing in the following order: Thasos (11.7%), Drama (23.7%), Xanthi (26.2%), Kavala (26.6%), Evros (33.2%) and Rhodope (44.4%).

The turnover of agriculture, forestry and fishery activities varies among the regional units. The percentage of this category of activities of the total turnover of the region increases in the following order for the region of Central Macedonia: Thessaloniki (2.5%), Chalkidiki (9.3%), Pieria (12.4%), Imathia (13.2%), Pella (13.8%), Serres (15.2%). In the region of Eastern Macedonia and Thrace the total turnover of agriculture, forestry and fishery activities increases in the following order: Thasos (2.7%), Xanthi (10.0%), Kavala (10.1%), Evros (11.6%), Drama (12.0%), and Rhodope (15.8%).

In the region of Central Macedonia there are 2327 legal units dealing with food production on an industrial level whereas in that of Eastern Macedonia and Thrace much less, only 907 units (Table 4.1 and 4.2). These activities represent only 1% of the total activities in the region of Central Macedonia and employ 4.1% of the total employees of the region having 8.1% of the total turnover. On the other hand, in the Eastern Macedonia and Thrace the activities dealing with food industry represent only 0.6% of the total activities in the region and employ 1.7% of the total employees of the region having 4.3% of the total turnover.

The number of employees in the Food industry sector in the region of Central Macedonia represent 4.1, 11.2, 6.0, 5.0, 3.3 and 4.2% of the total number of the employed in all the activities of the respective regional units of Thessaloniki, Kilkis, Pella, Pieria, Serres, and Chalkidiki. In the Eastern Macedonia and Thrace, the number of employees in the Food industry sector increases in the following order: Thasos (1.6%), Rhodope (1.9%), Drama (2.7%), Xanthi (2.8%), Evros (3.8%) and Kavala (3.7%).

Table 3.1 Number of legal units, turnover and employees for all sectors of economic activity as a whole and for the sector of agriculture, forestry and fisheries in 2017 in the region of Central Macedonia (Data ELSTAT).

	All the activities			Agriculture, forestry and fisheries		
	Nr of legal units	Turnover (in thousands of euros)	Nr of employees	Nr of legal units	Turnover (in thousands of euros)	Nr of employees
<i>Greece</i>	1415370	288216951.9	4178199	515930	7523939.86	504856
<i>Central Macedonia</i>	226830	29671664.11	534918	87268	1499844.1	93295
<i>Regional units</i>						
<i>Thessaloniki</i>	103844	20779628.03	307145	19404	509264.5	20268
<i>Imathia</i>	21741	1771959.53	41462	12607	233411	14585
<i>Kilkis</i>	4482	1136559.25	15528	x	x	x
<i>Pella</i>	27231	1606254.32	44056	17712	220944.05	19019
<i>Pieria</i>	19401	1079653.89	35287	9875	134205.57	10358
<i>Serres</i>	29941	1611586.21	46381	18778	245711.61	17797
<i>Chalkidiki</i>	20190	1686022.88	45059	8892	156307.37	11268

Note: x = confidential information

Table 3.2 Number of legal units, turnover and employees for all sectors of economic activity as a whole and for the sector of agriculture, forestry and fisheries in 2017 in the region of Eastern Macedonia and Thrace (Data ELSTAT).

	All the activities			Agriculture, forestry and fisheries		
	Nr of legal units	Turnover (in thousands of euros)	Nr of employees	Nr of legal units	Turnover (in thousands of euros)	Nr of employees
<i>Greece</i>	1415370	288216952	4178199	515930	7523940	504856
<i>Eastern Macedonia and Thrace</i>	156025	12332104	324337	49813	758594	54314
Regional units						
<i>Rhodope</i>	21281	1008107	34049	15289	158976	15117
<i>Drama</i>	11692	1332264	26306	5157	160513	6231
<i>Evros</i>	21530	1392009	39100	12936	161343	12974
<i>Thasos</i>	3752	238066	7428	1239	6320	868
<i>Kavala</i>	16380	1558641	41322	7195	157295	11000
<i>Xanthi</i>	14018	1141020	30988	7997	114146	8124

Table 4.1 Number of legal units, turnover and employees for Food Industry and Distilleries in the region of Central Macedonia during 2017 (Data ELSTAT).

Regional units	Food industry			Distilleries		
	Nr of legal units	Turnover (in thousands of euros)	Nr of employees	Nr of legal units	Turnover (in thousands of euros)	Nr of employees
<i>Thessaloniki</i>	1156	1246866	12559	43	46422	397
<i>Imathia</i>	x	x	x	21	21501	197
<i>Kilkis</i>	116	290291	1738	17	758	17
<i>Pella</i>	262	261727	2660	9	1284	14
<i>Pieria</i>	219	217320	1774	11	11114	64
<i>Serres</i>	300	175520	1526	24	6947	101

<i>Chalkidiki</i>	274	225215	1884	37	35570	340
<i>Central Macedonia</i>	2327	2416940	22141	162	123596	1130

Note: x = confidential information

Table 4.2 Number of legal units, turnover and employees for Food Industry and Distilleries in the region of Eastern Macedonia and Thrace during 2017 (Data ELSTAT).

Regional units	Food industry			Distilleries		
	Nr of legal units	Turnover (in thousands of euros)	Nr of employees	Nr of legal units	Turnover (in thousands of euros)	Nr of employees
<i>Rhodope</i>	131	44,626	663	10	40,417	207
<i>Drama</i>	153	72901.35	713	22	18,678	217
<i>Evros</i>	212	202,241	1,490	27	20,478	172
<i>Thasos</i>	40	4,913	116	6	9	5
<i>Kavala</i>	205	159,391	1,536	28	12,374	97
<i>Xanthi</i>	166	52,098	871	8	1,114	13
<i>Eastern Macedonia and Thrace</i>	907	536,170	5,389	101	93,068	711

2.5. Traditional cooking recipes of the region

The region of Central Macedonia is famous for the production of a great number of dishes. The label "Macedonian Cuisine" exists in the region (Figure 35). This mark is intellectual property of the Region of Central Macedonia and is awarded to those companies that apply for a relevant protocol and successfully pass the evaluation procedures that are applied.



Figure 35. Macedonian cuisine label.

The delicacies marked with this label are prepared with raw materials included in the Agricultural Products Basket of the Region of Central Macedonia. These delicacies are prepared following the traditional methods and traditional recipes. Each company that operates legally within the geographical boundaries of the Region of Central Macedonia has the right to apply for its certification and receive the appropriate label. In order to maximize the reliability of the certification functions, the Region of Central Macedonia assigns the control of the functions to an independent committee, where all the interested parties are represented. Thus, the Impartiality Committee has access to all the functions of the certification mechanism and controls the correct application of the procedures provided by its operating system. Below a selection of indicative recognised dishes of the Central Macedonia region according to the General Directorate of Agriculture Economics and Veterinary of Region of Central Macedonia (Region of Central Macedonia., 2020) are presented.

Although the autonomous monastic state is reported as an autonomous region that is not administratively part of Central Macedonia, the presence of the Holy Mount Athos community in the region represents the cradle that continues to maintain the gastronomical traditions of the monastic communities throughout Greece and abroad. The tasty monastery recipes are numerous and mostly vegetarian, prepared using many vegetables and fruits mostly grown in

their gardens. They reflect the strict fasting regime of the monks. These recipes represent simple, healthy food (Monastiriaka - Mount Athos., 2020).

The second region of eligible area, the Eastern Macedonia and Thrace, has also a very unique gastronomy developed through the centuries. The island of Thassos is recognized for its throubes olives and Thassos olive oil and its own variety of honey. Drama regional unit is famous for the deli meats, mastic halvah and a number of exceptional wines. Xanthi is well-known for the production of Kasseri cheese and sweets such as syrupy Seker pare, saragli, tulumba and milk-burek. The diet in Eastern Macedonia and Thrace is fairly meat-heavy. A few of the most popular local dishes are tzigerosarma, a veal suet encased dish of spiced lamb haslets; kavourma, boiled beef chunks set in jelly and the traditional spit-roasted suckling pig, common in central Greece.

Stuffed mussels (Μύδια γεμιστά πολιτικά – Appetizer) – Central Macedonia



Ingredients

24 large mussels (with the shell)
some wine for steaming mussels
1 cup olive oil
5 onions medium chopped
5 tablespoons rice
juice of half a lemon
30 gr. dried grapes
30 gr. pine nuts
for the filling: salt, pepper, allspice,
cumin, a little sugar

Preparation

Clean, rinse and drain the mussels. Steam them in a saucepan with a little wine, until their shells open. Brown the pine nuts in 3 tablespoons of oil, add the onion and sauté the mixture. Then add the rice, lemon juice and all the other ingredients, except the rest of the oil.

Remove the filling from the heat. Put a spoonful of the prepared mixture in each mussel, close them and tie them tightly with thread like a package. Place them in a wide saucepan, put a fireproof dish on top and pour the remaining oil with half a glass of water. Cover the saucepan and simmer for 40 minutes. Remove the thread and serve.

Prasokeftes (Πρασοκεφτές) – Appetizer – Central Macedonia



Ingredients

2 kg of leeks
1-2 eggs
50 gr. Pulverized toasted bread
Grated kefalotyri cheese
Salt Pepper

Preparation

Clean wash and cut the leeks removing the green part. Boil them squeeze and mash them in a mixer. Mix in a bowl the leeks with the eggs, salt, pepper, kefalotyri and pulverized toasted bread. The mixture should not be too tight. Shape as round meatballs and then flatten them. Fry them in hot corn oil on both sides. Put them on an absorbent paper. The leek meatballs are served hot or cold.

Pita Pispilita (Πίτα Πισπιλίτα) – Central Macedonia



Ingredients

1 kg of maize flour
2 kilos of green vegetables of your liking
250 gr. coarsely chopped feta cheese
1 cup of trachana
½ liter oil
butter

Preparation

In a buttered baking pan spread half the maize flour over its entire surface. Wash and finely chop the green vegetables (χόρτα) and throw them in the baking pan without draining them. Add feta trachana and oil that were mixed well previously. Cover the green vegetables with the rest of the maize flour and let the pie to "stand" for 1 hour until the flour is soaked. Then bake it in the oven at 180°C until obtain a golden-brown colour.

Grivadi with spinach (Γριβάδι με Σπανάκι) – Central Macedonia



Ingredients (for 4 persons)

4 portions grivadi (common carp)
3/4 kg spinach
4-5 spring onions dill
1 cup rice
1 can peeled tomatoes

Preparation

Blanch the spinach. Sauté the spring onion and as soon as it starts to change colour add the tomatoes and the spinach. Add salt pepper the dill the rice and about 3/4 cup water. Mix all the

ingredients and place them in a pyrex baking tray. Coat the fish in flour and place it on top of the spinach. Bake at 220°C until the fish is done and has a nice red colour.

Bougatsa (Μπουγάτσα) - Dessert – Central Macedonia

Bougatsa (Greek: μπουγάτσα) is a Greek breakfast pastry (sweet or salty) consisting of either semolina custard cheese or minced meat and spinach filling between layers of phyllo dough baked and served hot believed to originate from Serres. The name comes from the Byzantine Greek πογάτσα (pogátsa) from the ancient Roman panis focacius; c.f. Italian focaccia. Although very popular all over Greece it is more common in the region of Central Macedonia. In Northern Greece bougatsa is a favorite snack for every hour time of the day. The taste varies between regions of Greece. In Veria is very sweet and full of cream while in Thessaloniki it is crunchy and less sweet.



Ingredients (for 4 persons)

1 packet of puff pastry

cinnamon powdered sugar

For the cream:

1 cup flour $\frac{3}{4}$ cup sugar

4 eggs 1 vanilla $\frac{1}{2}$ liter of milk

1 cup butter

a pinch of salt

Preparation

In a saucepan mix well the flour sugar vanilla and eggs. In another pan where milk is boiling add the mixture of the ingredients of the first saucepan and let boil under low heat for a few minutes until the cream thickens. Grease a pan with butter and spread one sheet of puff pastry. Pour the cream on and spread the other well buttered sheet on top. Turn the edges inwards lightly carve the puff pastry top sheet and bake in a medium heated oven for 45 minutes. After baking sprinkle with powdered sugar and cinnamon.

Akanes (Ακανέζ) (gliko) - Dessert – Central Macedonia

Akanes is a Greek sweet similar to loukoumi only that it is flavoured with fresh goats milk butter rather than fruit essences. Although made exclusively in the regional unit of Serres it is available in delicacy shops throughout Greece.



Ingredients

- 1 water glass goat butter
- 1 water glass corn starch
- 2 water glass sugar
- 1 tea cup chopped almonds
- 2 ½ water glass water
- 1 tablespoon lemon juice

Preparation

Soak the almonds in boiling water, peel and dry them. Crush them in a mortar. Use 3 tablespoons from the butter to roast the chopped almonds. Put the rest of the butter, sugar, and two glasses of water in a saucepan and boil the mixture. In the meantime, with half glass of water dissolve well the starch. Once the mixture in the pot has boiled remove from the heat and add the starch the roasted almonds the lemon and stir until it thickens. Leave it to cool divide it into balls and shape them. Coat with powdered sugar.

Pilaf with anchovies from Kavala – (Πιλάφι με γαύρο από την Καβάλα) – Eastern Macedonia and Thrace

(http://www.visitgreece.gr/el/gastronomy/regional_cuisine/traditional_cuisine_prefecture_of_kavala)

The local food of Kavala is dominated by fish, seafood and products of livestock and agricultural production of the area. Here the traditional recipes of the locals are combined with the influences from the cuisine of the refugees from Pontus, Asia Minor and Cappadocia.



Ingredients

For each portion :

- 3 anchovies cleaned of bones, open
- 1 cup boiled rice
- 3 chopped onions
- grated carrot
- spoons of grated walnut
- 1 tablespoon chopped dill
- 1/2 cup olive oil

Preparation

Sauté the spring onions and carrot in oil. Remove from the heat and add the rice. Mix well and add the grated walnut and dill. Place the anchovies in a pan (preferably clay) and in the centre pour the whole mixture with the rice. Bake for 10 minutes in the oven. When it is ready to serve, turn the pan over in a plate.

Tzigerosarma from Thrace – (Τζιγεροσαρμάδες από τη Θράκη) – Eastern Macedonia and Thrace

(http://www.visitgreece.gr/el/gastronomy/recipes/tzigerosarmades_from_thrace)

By the word "tzigeria" in Thrace they mean the entrails of the lamb and by the word "sarmades" the dolmades.



Ingredients

lamb or goat liver
bolies (is thin lacy membrane that surrounds the internal organs of some lamb)
500 g fresh onions
little dill
several mint leaves
1/2 cup rice
butter for deep frying
a little salt, pine nuts, raisins
freshly ground pepper

Preparation

Boil the liver and chop it finely. Finely chop the onions and herbs. Melt a little butter and fry the liver. Add the onions and herbs and fry for another 3 minutes. Add the rice, pine nuts, raisins, salt and pepper. Pour bolies into cold water to which you have added a little vinegar, rinse it with cold water, stretch it to open it and cut it into square pieces. Place the pieces of the bolies one by one on the kitchen counter. Put a little from filling in the centre of each piece and wrap in packets. Place them in a lightly buttered pan and bake at 200°C for about 1 hour. Just before serving, add to the tzigerosarma the juice of one lemon.

Spoon sweet walnut of Thassos – (Καρυδάκι γλυκό Θάσου) – Eastern Macedonia and Thrace

(http://www.visitgreece.gr/el/gastronomy/regional_cuisine/traditional_cuisine_prefecture_of_kavala)

Represents a traditional recipe used as dessert, full of aroma and taste.



Ingredients

50 medium nuts.
1 tablespoon sour
900 grams of sugar
300 grams of glucose
300 grams of honey
20 cloves

Preparation

Use 50 medium fresh young green walnuts. Peel them and then pierce them lengthwise with a thick knitting needle. After washing them, boil them for three minutes, remove the water and repeat this procedure 3 times. During the fourth time add 1 tablespoon of sour in the water and after boiling for 3 minutes drain them. Prepare the syrup with the sugar, glucose and honey. Pour the walnuts into the syrup and boil for 5 minutes. Leave them at rest for 24 hours and boil again for 4 minutes together with the cloves.

3. Challenges and prospects of the traditional food sector of the eligible area

Being a rather flexible analysis technique, SWOT matrices are used in order to identify needs, general objectives and specific provisions and, more specifically, the strategy that will be pursued by the present Project. The SWOT analysis (Table 5) highlights the strengths and weaknesses of a system (endogenous factors) which can be modified by the proposed interventions, as well as the opportunities and threats (external factors) that derive from the context and which, at least in the short term, are not easily modifiable.

Table 5. SWOT analysis of the agro-food sector of the eligible region.

	Positive	Negative
	<u>STRENGTHS</u>	<u>WEAKNESS</u>
Internal	<ul style="list-style-type: none"> • Voluntary certification systems • Natural and cultural treasures • Tourist destination • ITC services • Urban and transport infrastructure • Academic-R&D infrastructure • High qualified and skilled work force, especially in Tourism and Agriculture • Production tradition • Consolidated cooperative realities • Diversified agricultural systems • Breeds and native varieties of agricultural interest • Presence of permanent pastures • High natural biodiversity 	<ul style="list-style-type: none"> • Network • AGRI-FOOD chains • Qualification of the labour force • Ability to cooperate • Low valorisation of productions • Lack of stable chain relations • Organizational and logistic inefficiencies • Fragmentation of the AGRI-FOOD industry • Reduction of the presence of fauna in the agricultural areas • Reduction of agricultural presence • Low level of processing of agricultural products • Gastronomic Tourism • Local breeds at risk of extinction • Not exploration of breeds and native varieties of agricultural interest

External	<u>OPORTUNITIES</u>	<u>THREATS</u>
	<ul style="list-style-type: none"> • Certification systems • New emerging needs • ICT and basic services • Technological development and R&D transfer • Growth in demand for quality products • Development of sustainable agriculture • Regulatory framework in support of the enhancement of biodiversity • Recognition of the value of agricultural landscapes • Tourism and third sector • Public support in crop insurance 	<ul style="list-style-type: none"> • Reduction of national financial resources • Negative effects of the economic crisis on dynamics of Agri-Food consumption • Growing production costs • Health, production and market risks • Growing contractual power of the Great Organized Distribution (GOD) • Globalization of markets • Reduction of agricultural income • Increase in raw material costs • Plant health, environmental and food emergencies • Negative impacts of climate changes • Undifferentiated tourism • Excessive bureaucracy • Depopulation

The agriculture forestry and fishery activities represent a source of employment in the eligible region. In five regional units Imathia, Serres, Pella, Rhodope and Evros these activities are responsible for more than 33% of employed people of the region. This indicates the importance of these activities to the life of the people in these regions since they represent a source of employment and therefore of earnings. But on the other hand, the turnover of these activities represents only less than 15.8% of the total turnover of all the activities on the regional level. Thus, the current situation leaves plenty of room for improvement of the agricultural activities. The very low number of units that deal with food processing represent another problem in the region. Taking into account the great number of products produced in the region, processing of these products in the region could be another possibility that could increase employment in the region.

The data related to the Central Macedonia and Eastern Macedonia and Thrace revealed that the eligible region, although it is an important supplier of the Greek economy with agricultural



products, has till now obtained labels for only 15 for these products. This could help the producers to improve income earning opportunities in rural areas of the region.

In addition, in the region traditionally a great number of local varieties were cultivated but during the last decades the number has decreased significantly, representing a weakness. Traditional (local) varieties have adapted to the climate and soil and have the opportunity to produce seeds for the following year. The discovery of these traditional varieties and their promotion will be of great help not only to the local farmers but also will protect the genetic diversity of the region. The local varieties of crops are varieties that are traditionally cultivated in an area and, due to their adaptability, can contribute significantly to the sustainable and environmentally friendly exercise of agricultural activity, as well as to consolidation of the local economy in rural areas, improving the environmental biodiversity and contributing to the diversification of agricultural production. EU rural development policy provides significant support for the conservation of traditional varieties of crops and the protection of biodiversity. Indeed, the conservation of habitats, environmentally valuable landscapes and biodiversity is a key objective of EU rural development policy. Thus, this EU strategy represents an opportunity for recognizing and protection of traditional varieties.

Moreover, a great number of local traditional products are consumed in the region. Some of these products are produced mainly by women's cooperatives that need to be promoted and get a TSG labelling. Getting a labelling for the products could help not only increase the recognition but also to increase earnings and protect the local tradition.

The last effort made from the Region of Central Macedonia was the development of the criteria and the procedure for awarding of the Macedonia Cuisine label for those dishes prepared with recipes that have deep roots in local traditions born through centuries of history and using the local products. This represents an opportunity for the region that aims to support and organize Gastronomic Tourism, local producers as well as the restaurateurs in order to increase their earnings. The selection of dishes that this Project will promote will be based in part on the Macedonia Cuisine database.

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