



„Agriculture is the bearing pole of the economy in rural areas of the Republic of Macedonia. The small family agricultural holdings are coping with challenges such as: low revenues, lack of land, lack of capital, weak bargaining power in the agri-food supply chains. The needs for modernization and accommodation to the national and EU standards, diversification of economic activities, flexibility and association, are crucial for achieving sustainability of those agricultural holdings. Reliable and up-to-date data, which reflect the conditions of the agricultural sector in the Republic of Macedonia, are necessary for leading constructive debates and undertaking measures and activities for realization of the strategic objectives in the agricultural sector.“

Ljupco Nikolovski

Minister of agriculture, forestry and water economy

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1. COUNTRY PROFILE

Geographical location: Southeast Europe – Balkan peninsula, bordered by Greece, Bulgaria, Serbia, Kosovo and Albania.

Terrain: a landlocked mountainous country.

Climate: continental and Mediterranean, mountainous.

Average rainfall: 742 mm

Total area: 25,713 km² (hilly-mountainous terrains 79.0%, flat terrains 19.1%, water surfaces 1.9%)

Population: 2,073,702

Municipalities 80

Number of settlements: 1.776

Population density: 80.6 inhabitants per km²

Rural population: 43%

Administrative division: 8 Planning Regions (Skopje, Pelagonija, Polog, East, Southeast, Notheast, Southwest and Vardar)



Regions	Population	Growth rate	Population density
Total	2073702	1.2	80.6
Vardar	152571	-0.9	36.6
Eastern	176262	-2.3	48.3
Southwestern	219740	0.7	63.8
Souteastern	173545	0.3	61.4
Pelagonija	230004	-3.0	47.3
Polog	320826	2.9	128.6
Northeastern	176169	1.1	73.7
Skopje	624585	4.0	332.7

Source: State Statistical Office

2. MACRO ECONOMIC FRAMEWORK

Share of the agricultural sector in the total employment, 2016: 17%

Indicator	Measured in	2012	2013	2014	2015	2016
GDP (in million eur)	EUR	7 585	8 150	8 562	9 072	9 723
GDP per capita (in EUR)	EUR	3 680	3 948	4 141	4 382	4 691
Share of the agricultural sector in GDP	%	9.1	10	10.1	9.7	9.1
Economic development (real GDP growth)	%	-0.5	2.9	3.6	3.9	2.9
Inflation	%	3.3	2.8	-0.3	-0.3	-0.2
Share of food, drinks and tobacco in the total household consumption	%	43.3	46.2	40.2	38.8	40.7

Source: State Statistical Office

3. AGRICULTURE

3.1 AGRICULTURAL LAND AND AGRICULTURAL HOLDINGS

Agricultural land: 49% of the total area of the country

Arable land: 41% of the total agricultural land

Number of individual agricultural holdings: 177,845

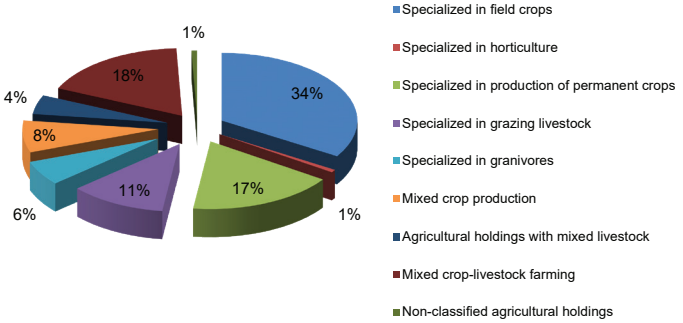
Number of business entities: 280

Agricultural land used per holding: 1.8 ha

Total agricultural land 2016 (in 000 Ha)	1,266
Land category	Area in 000 ha
Arable land and gardens	417
Orchards	16
Vineyards	24
Meadows	59
Pastures	750
Ponds, reeds and fisheries	-

Source: State Statistical Office

STRUCTURE OF AGRICULTURAL HOLDINGS



3.2 FORESTRY AND FOREST LAND

Typology of forests: out of the total area, 30% are high forests, while 70% are coppice forests

Structure of forests: deciduous, coniferous and mixed

Total forest cover: 1,001,665 ha (39% of the territory)

State-owned forests: 89%

Total forest mass: 74,343,000 m³

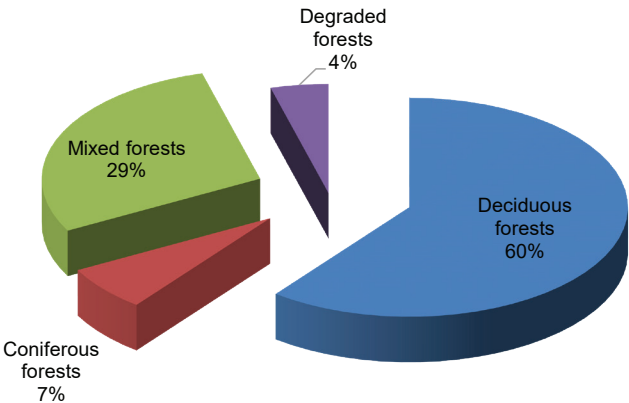
Total annual increase: 1,830,000 m³

Average annual increase: 2.02 m³/ha

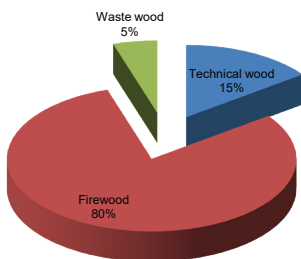
Planned annual wood cut: 1,300,000 m³

Gross cut timber 2016: 890,082 m³

FOREST COMPOSITION AND DISTRIBUTION



FELLED TIMBER BY ASSORTMENTS, 2016



3.3 WATER RESOURCES

Water surfaces: 488 km²

Natural tectonic lakes: 434 km²

Natural glacial lakes: 0.2 km²

Artificial lakes: 53.6 km²

Total water resources: 6.4 billion m³ in normal years, 4.8 billion m³ in dry years (72% in the basin of the River Vardar)

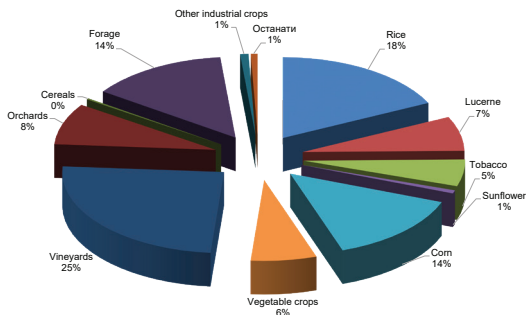
Total arable surface: 516,000 ha

Capacity of the hydro-melioration systems: 144,894 ha

IRRIGATED SURFACES IN 2016

Subsidiary/PE	Surface (ha)
Bregalnica – Kochani	8,311
Tikvesh – Kavadarci	7,759
PE Strezhevo – Bitola	6,981
Radovish Field - Radovish	753
Strumica Field – Strumica	1,591
South Vardar – Gevgelija	354
Kumanovo-Lipkovo Field – Kumanovo	559
Prilep Field – Prilep	888
Skopsko Pole	72
Total	27,268

STRUCTURE OF IRRIGATED CROPS



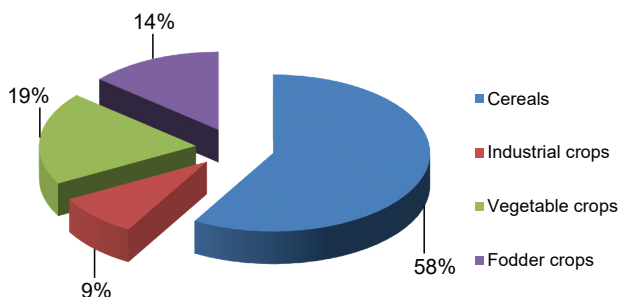
Source: Ministry of Agriculture, Forestry and Water Management, Water Management Authority

4. CROP PRODUCTION

Arable agricultural land: 516,644 ha (81% arable land and gardens, 12% meadows, 4% vinyards, 3% orchards)

Sown areas in 2016: 280,847 ha (67% of the areas with arable land and gardens)

STRUCTURE OF SOWN AREAS, 2016



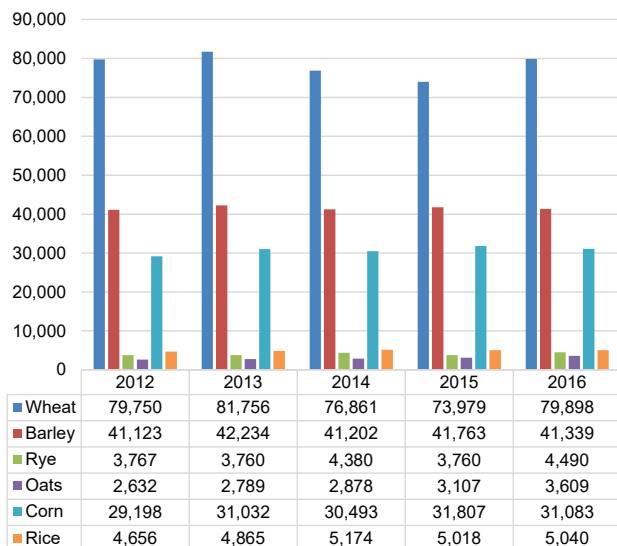
Source: SSO

4.1 CEREAL CROPS

Wheat purchased in 2016: 71,117 tons

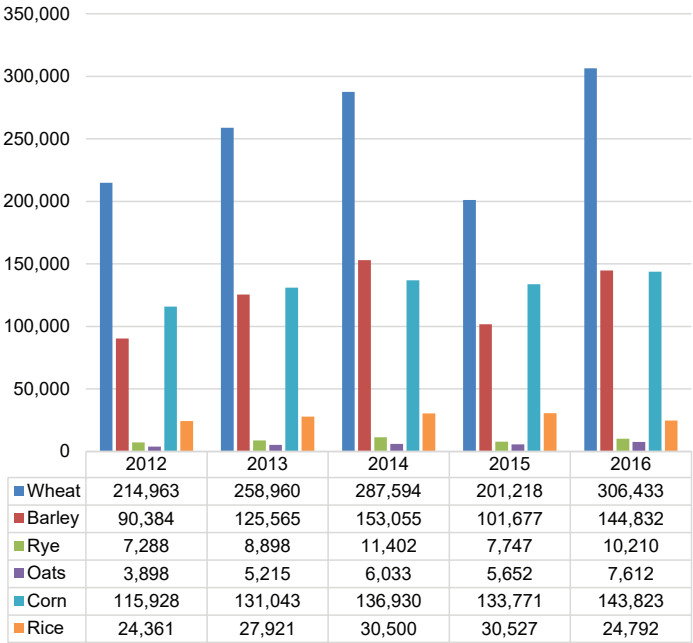
Average price of purchased wheat: 9.09 MKD/kg

AREAS UNDER CEREAL CROPS 2012 – 2016



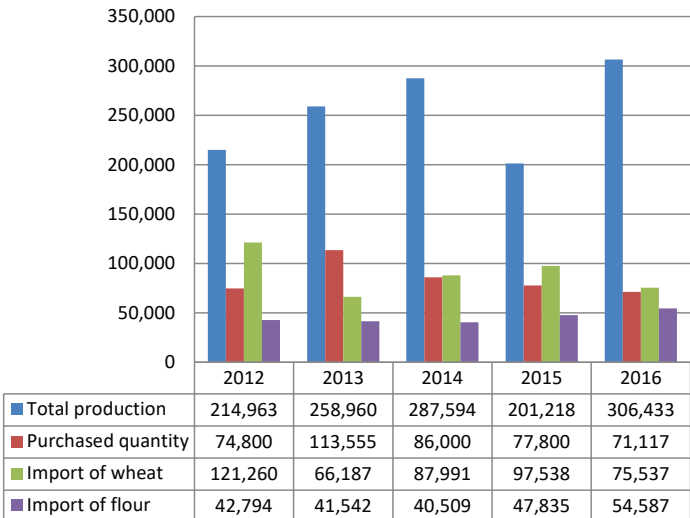
Source: MAFWE

VOLUME OF PRODUCTION IN TONS



Source: MAFWE

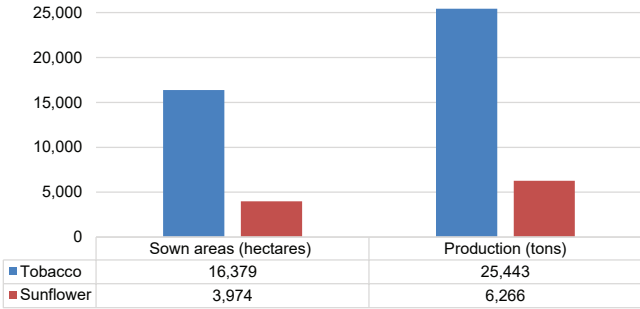
WHEAT AND FLOUR BALANCE 2012-2016, IN TONS



Source: MAFWE

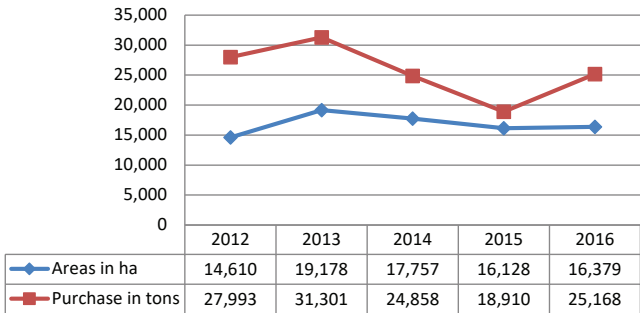
4.2 INDUSTRIAL CROPS

AREAS AND PRODUCTION OF INDUSTRIAL CROPS, 2016



Source: MAFWE

TREND OF AREAS AND PURCHASE OF TOBACCO



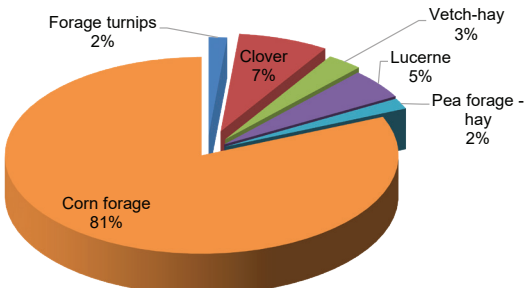
Source: MAFWE

4.3 FORAGE CROPS

Areas under forage crops in 2016: 39,000 ha

Production of forage crops in 2016: 238,017 tons

PRODUCTION OF FORAGE CROPS 2016



4.4 VEGETABLE CROPS

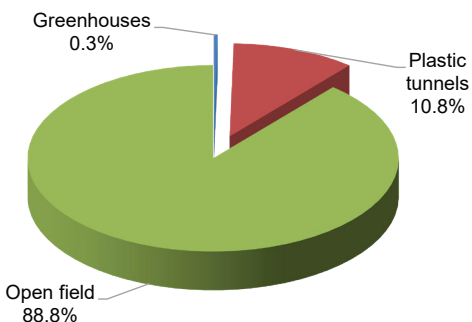
Areas under vegetable crops in 2016: around 52,000 ha (18.5% of the sown areas of arable land)

Production of vegetable crops: between 800 and 1,200 thousand tons

STRUCTURE OF VEGETABLE PRODUCTION 2016

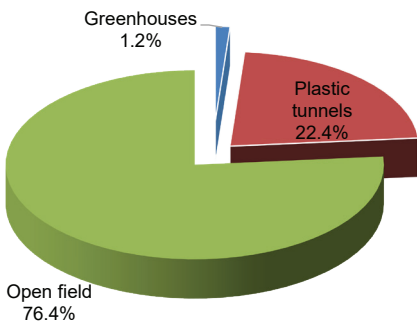
Type of vegetable production	Area in hectares	Structure in %	Production in tons	Structure in %
Greenhouse production	204	0.30%	15,489	1.2%
Plastic tunnel production	6,415	10.80%	277,426	22.4%
Open-air production	52,554	88.80%	947,525	76.4%
Total:	59,173	100%	1,240,440	100%

STRUCTURE OF VEGETABLE AREAS, 2016



Source: MAFWE

VOLUME OF VEGETABLE PRODUCTION, 2016



Source: MAFWE

Production of vegetables under plastic tunnels in 2016: 6,606 ha
Realized production: 277,426 tons

VEGETABLE PRODUCTION IN PROTECTED AREAS WITHOUT HEATING – PLASTIC TUNNELS

Crops	Sown areas (ha)	Expected production (t)	Harvested areas (ha)	Realized production (t)	Average yield (t/ha)	Conversion rate (%)
Tomatoes	1445	93,065	1,411	90,948	64	98
Potatoes	157	6,635	147	6,135	42	92
Peppers	1833	72,858	1,717	71,917	42	99
Hot peppers	45	1,767	43	1,74	40	98
Baby garlic	17	309	17	309	18	100
Scallions	37	703	37	702	19	100
Cabbage	2545	100,265	2,545	96,264	38	96
Zucchini	8	161	5	141	28	88
Radishes	2	2,53	2	2,75	1,375	109
Other crops	516	4,08	491	6,52	13	160
Total:	6,606	282,373	6,415	277,426	/	98

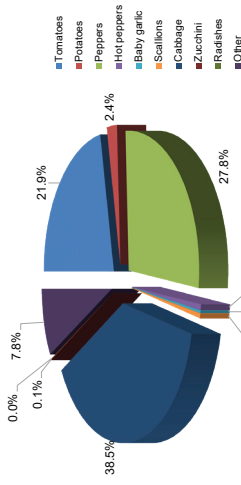
Source: MAFWE

Vegetable production in greenhouses in 2016: 202 ha
Total production in greenhouses 15,484 tons

AREAS AND PRODUCTION OF VEGETABLE CROPS IN GREENHOUSES

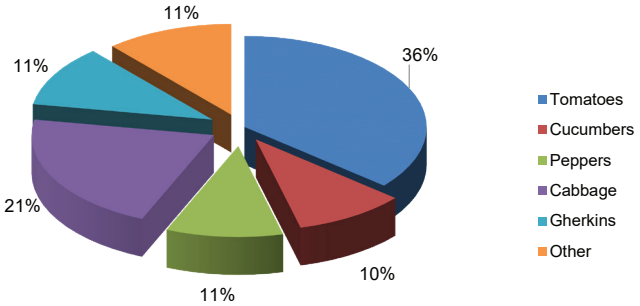
Crop	Sown areas (ha)	Expected production (t)	Harvested area (ha)	Realized production (t)	Average yield (t/ha)	Conversion rate (%)
Tomatoes	73	8000	73	8055	110	100.7
Cucumbers	20	2900	20	2844	142	98.1
Peppers	21	830	21	830	40	100.0
Cabbage	43	1290	43	920	21	71.3
Gherkins	22	2225	21	2075	99	93.3
Other crops	23	765	23	760	33	99.3
Total	202	16010	201	15484	/	96.7

STRUCTURE OF PLASTIC TUNNEL AREAS, 2016



Source: MAFWE

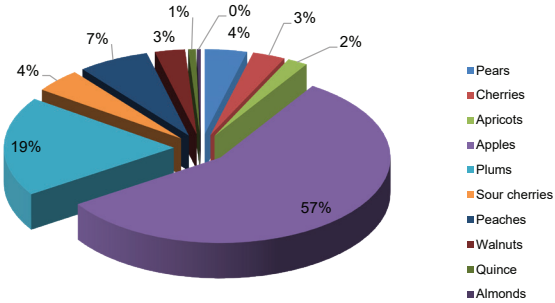
STRUCTURE OF AREAS UNDER GREENHOUSES, 2016



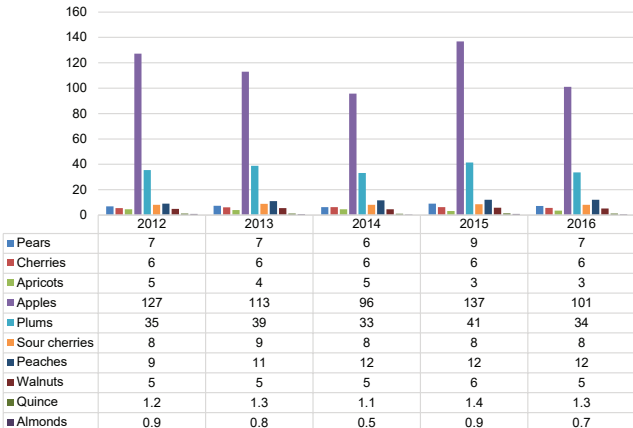
4.5 FRUIT PRODUCTION

Areas under fruit plantations: 16,000 ha
 Total fruit production: 178,000 tons

FRUIT PRODUCTION IN 2016, TONS



TRENDS IN FRUIT PRODUCTION 2012 – 2016 (IN 000 TONS)



4.6 VITICULTURE AND WINE PRODUCTION

Geographic areas - vineyards for quality wine production: 16

Share of different wine grape varieties in the areas under vineyards:

70% (white varieties: 40%, red varieties: 60%)

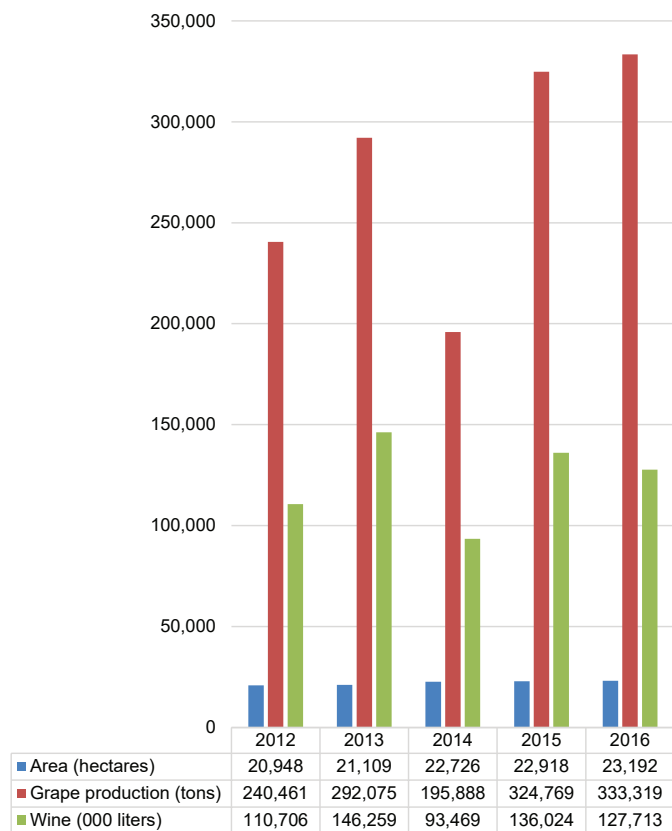
Red wine varieties with highest share: Vranec and Kratoshija

White wine varieties with highest share: Smederevka, Zhilavka, Chardonnay, Riesling, Sauvignon blanc

Table grapes with highest share: Afus-Ali, Cardinal, Italian Muscat, Hamburg Muscat, White Winter

Number of wineries: 74

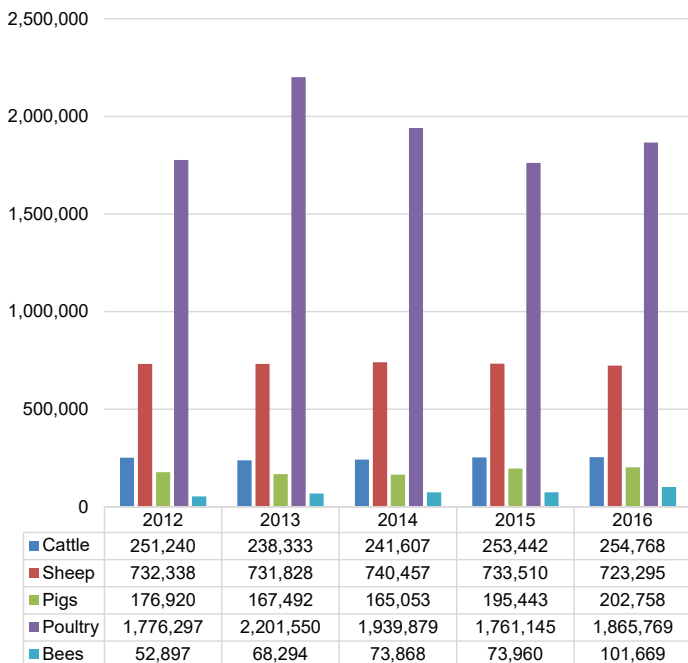
PRODUCTION TRENDS 2012 – 2016



Source: *SSO; **MAFWE

5. LIVESTOCK FARMING

TREND IN LIVESTOCK FARMING 2012 - 2016



Source: MAFWE Veterinary Administration

Breed structure of cattle: dairy breeds of cattle and dual purpose beef breeds

% of dairy cattle: 49%

Cow milk production, 2016: 403,044 tons

Beef production, 2016: 3,962 tons

Breed structure of sheep: Pramenka sheep (the Ovchepolka and Sharplaninka breed and cross breed between the Wurttemberg breed (for meat) and the Awassi breed (for milk)

Sheep milk production, 2016: 41,066 tons

Sheep meat production, 2016: 3,737 tons

Breed structure of pigs: Landrace (Belgian, Danish, Swedish and German), Large Yorkshire, Duroc

Pork production, 2016: 12786 tons

Poultry meat production, 2016: 1,509 tons

Egg production, 2016: 178 million eggs

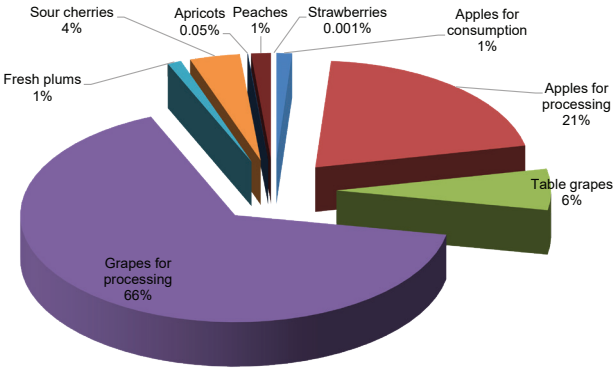
6. FRUIT AND VEGETABLE PROCESSING INDUSTRY

Number of legal entities – processing facilities registered in the Food and Veterinarian Agency: 167

Quantity of fruit purchased by processing facilities, 2016: 108,213 tons

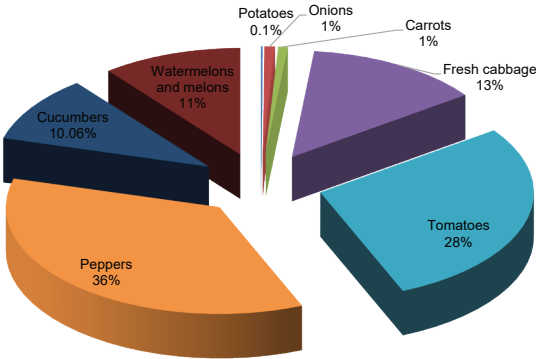
Quantity of vegetables purchased by processing facilities, 2016: around 69,000 tons

QUANTITY OF PURCHASED FRUIT, 2016



Source of data: State Statistical Office

QUANTITY OF PURCHASED VEGETABLES, 2016



Source of data: State Statistical Office

BREAKDOWN OF THE PROCESSING OF FRUITS AND VEGETABLES BY YEARS

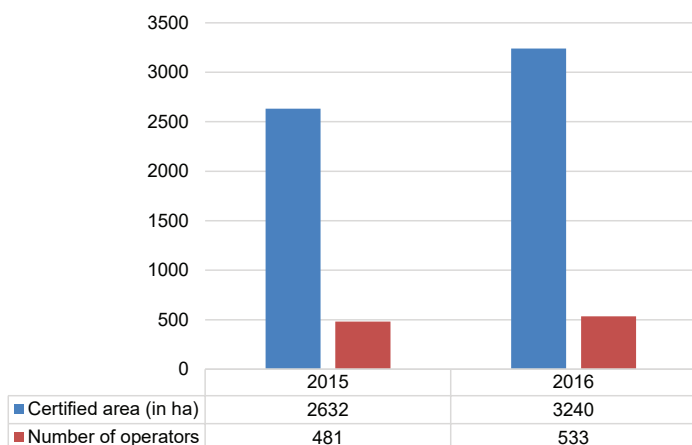
Fruit and vegetable processed products	2012	2013	2014	2015	2016
Compotes, from one and from several types of fruit / t	-	1	-	-	-
Fruit and vegetable juice mixes / hl	193,566	137,206	143,783	129,220	133,620
Non-concentrated juices from other types of fruits or vegetables; unfermented, without the addition of alcohol / hl	14,338	48,051	44,239	50,558	53,913
Apple juice / hl	36,260	26,095	29,525	27,031	29,708
Other concentrated fruit or vegetable juices and syrups, not mentioned elsewhere / hl	30,384	23,278	15,902	14,972	13,536
Pasteurized ajvar / t	11,596	7,246	8,593	6,626	11,027
Potatoes, prepared or preserved, including chips (other than frozen, dried, prepared or preserved otherwise than by vinegar or acetic acid) / t	443	555	1,326	2,496	2,729
Vegetables, frozen, including parboiled / t	69	1,308	1,251	1,746	1,306
Pasteurized peppers / t	691	1,167	1,132	1,542	1,239
Pasteurized gherkins / t	758	436	1,920	1,579	916
Pasteurized beetroots / t	673	795	1,657	967	792
Pasteurized chilli peppers / t	985	818	1,033	729	752
Sauerkraut (pickled cabbage), prepared or preserved otherwise than by vinegar or acetic acid, not frozen / t	357	288	275	414	701
Peanuts, prepared or preserved, not mentioned elsewhere / t	563	651	654	680	669
Mushrooms and truffles, prepared or preserved otherwise than by vinegar or acetic acid / t	1,652	1,549	1,625	1,054	659
Vegetable stew, not frozen / t	792	254	603	1,026	653
Fruits and nuts, cooked or uncooked, frozen / t	762	1,369	989	1,070	584
Other vegetables and mixed vegetables, prepared or preserved otherwise than by vinegar or acetic acid, unfrozen / t	99	143	227	193	401
Pasteurized mixed salads / t	394	209	307	143	345
Other pasteurized vegetables (peas, string beans, etc.), fruits and nuts and other part of food plants, prepared or preserved in vinegar or acetic acid / t	-	56	11	18	110
Jam / t	40	66	41	60	93
Tomato juice / hl	-	-	-	50	90
Mixed jam / t	-	1	10	33	55
Dried potatoes in the shape of flour, starch, flakes, granules and pellets / t	50	48	56	47	48
Tomato puree, concentrated / t	-	-	-	69	36
Raisins / t	29	29	30	29	25
Tomato juice / t	-	-	-	5	9
Tomato puree, non-concentrated / t	145	161	156	8	9
Walnuts and similar nuts, prepared or preserved, including mixes, not mentioned elsewhere / t	12	19	20	1	3
TOTAL	294,658	251,799	255,365	242,366	254,028

Source: MAFWE

In accordance with the data from the SSO, the export of fruit and vegetable processed products in 2017 marked an increase of about 7,198 tons, or 24% in comparison to 2011.

7. ORGANIC PRODUCTION

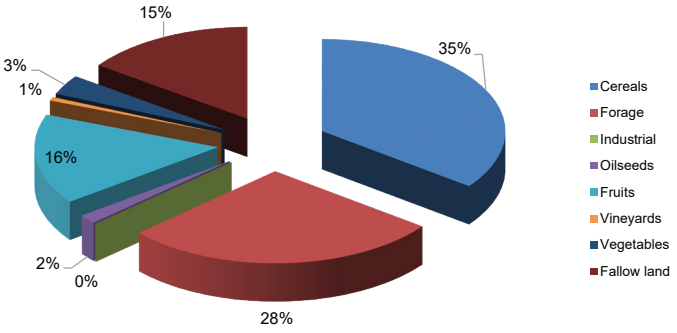
NUMBER OF ORGANIC FARMS AND CERTIFIED AREA 2015 - 2016



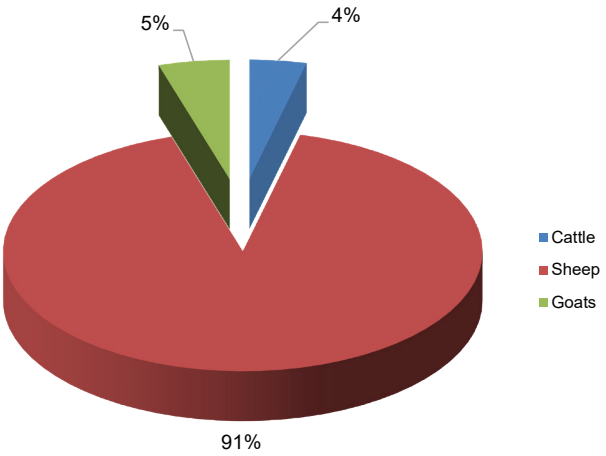
Source: MAFWE

Organic vegetable production						
Type/crop	2015			2016		
	In transition (ha)	Organic (ha)	Total (ha)	In transition (ha)	Organic (ha)	Total (ha)
Cereal	187.29	417.13	604.42	358.82	579.58	938.40
Forage	231.65	745.68	977.33	209.60	539.38	748.98
Industrial	-	-	-	-	-	-
Oilseed	82.7	20.86	103.56	10.00	32.84	42.84
Fruit	220.28	179.91	400.19	178.01	244.13	422.14
Vine	49.71	26.68	76.39	11.29	6.25	17.54
Vegetable	42.36	41.52	83.88	53.23	39.94	93.17
Fallow	103.28	539.01	642.29	171.69	230.45	402.14
Organic livestock production						
Type of livestock	2015			2016		
	in transition	organic	total no.	in transition/ha	Organic	total no.
Bovine animals	1,606	1,574	3,180	1,594	1,723	3,317
Sheep	34,243	35,764	70,007	32,577	46,087	78,664
Goats	1,235	2,777	4,012	1,278	2,864	4,142

STRUCTURE OF ORGANIC CROP PRODUCTION



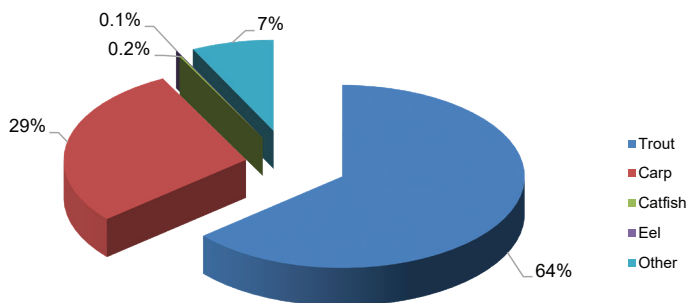
STRUCTURE OF ORGANIC LIVESTOCK PRODUCTION



8. FISHERY

PRODUCTION STRUCTURE IN FISH FARMS, 2016

Type of fish	2014	2015	2016
	Total/kg.	Total/kg.	Total/kg.
Trout	834,456	822,205	1,142,840
Carp	355,442	381,400	513,819
Catfish	5,187	521	3,207
Eel	3,869	794	905
Other	124,621	106,005	130,953
Total	1,323,575	1,310,131	1,791,724



Source: Ministry of Agriculture, Forestry and Water Economy

9. TRADE WITH AGRICULTURAL PRODUCTS

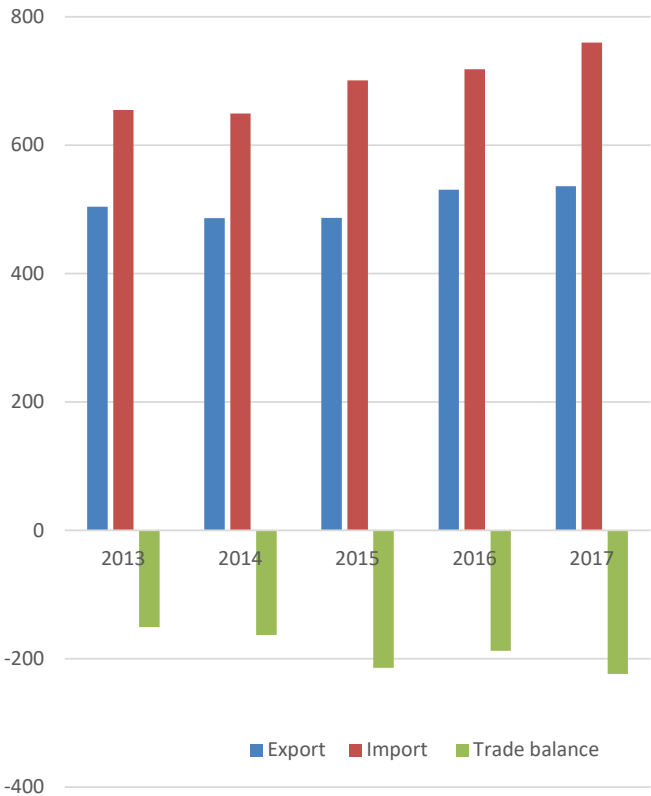
Member of: the World Trade Organisation (WTO), the Central European Free Trade Agreement -CEFTA.

The share of agri-food and fish products in the total export for 2017: 10.7%

The share of agri-food and fish products in the total import for 2017: 11.1%

Most important partner in the trade with agri-food and fish products: EU 28

TRADE WITH AGRI-FOOD AND FISH PRODUCTS FOR THE PERIOD 2013 - 2017



BREAKDOWN OF TRADE IN AGRI-FOOD AND FISH PRODUCTS BY COUNTRIES 2016-2017 (IN MILLION EUR)

Country	Export			Import			Trade balance					
	2015		2016		2015		2016		2016		2017	
	Value	Share %	Value	Share %	Value	Share %	Value	Share %	2016	2017		
Albania	19,6	3,69%	16,7	3,11%	4,4	0,61%	5,9	0,78%	15,2	10,8		
Bosnia and Herzegovina	27,6	5,20%	27,5	5,13%	30,6	4,26%	32,2	4,24%	-3	-4,7		
Serbia	73,5	13,85%	64,1	11,95%	155,8	21,70%	169,4	22,30%	-82,3	-105,3		
Kosovo	44,2	8,33%	44,5	8,30%	5,3	0,74%	7,1	0,93%	38,9	37,4		
Montenegro	13,1	2,47%	14,5	2,70%	1,2	0,17%	1,4	0,18%	11,9	13,1		
Moldova	0,5	0,09%	0,6	0,11%	1,1	0,15%	1,2	0,16%	-0,6	-0,6		
CEFTA-Total	178,5	33,65%	167,9	31,31%	198,4	27,63%	217,2	28,59%	-19,9	-49,3		
EU-28-Total	258,5	48,73%	270,6	50,47%	355,3	49,48%	369,4	48,62%	-96,8	-98,8		
Turkey	2,4	0,45%	4,1	0,76%	23,1	3,22%	24,9	3,28%	-20,7	-20,8		
Brasil	1,6	0,30%	0,3	0,06%	36,8	5,13%	37,3	4,91%	-35,2	-37		
USA	33,1	6,24%	26,8	5,00%	4,9	0,68%	7,7	1,01%	28,2	19,1		
Others	56,4	10,63%	66,5	12,40%	99,5	13,86%	103,3	13,60%	-43,1	-36,8		
TOTAL, entire world	530,5	100%	536,2	100%	718	100%	759,8	100%	-187,5	-223,6		

Source: SSO

IMPORT, EXPORT AND TRADE BALANCE OF AGRI-FOOD PRODUCTS BY GROUPS OF PRODUCTS FROM THE CUSTOMS TARIFF FOR 2017

Commodity code	Title	EXPORT			IMPORT			Trade balance	
		2017			2017			2017	
		Quantity in tons	Value in 1,000 EUR	share %	Quantity in tons	Value in 1,000 EUR	Share %		
01	Live animals	1,249	2,264	0.4%	713	3,097	0.4%	-834	
02	Meat and edible meat offal	2,825	10,945	2.0%	63,937	106,964	14.1%	-96,019	
03	Fish and crusta-ceans, molluscs and other aquatic invertebrates	867	2,355	0.4%	5,884	12,375	1.6%	-10,020	
04	Milk and dairy pro-duce; birds' eggs; natural honey;	10,672	9,521	1.8%	34,491	45,874	6.0%	-36,353	
05	Edible products of animal origin, not specified or included elsewhere	134	178	0.0%	1,412	1,947	0.3%	-1,769	
06	Live trees and other plants; bulbs, roots and the like; cut flowers	7,105	14,653	2.7%	12,017	7,559	1.0%	7,094	
07	Edible vegetables and certain roots and tubers	134,964	60,049	11.2%	34,713	17,357	2.3%	42,692	
08	Edible fruit and nuts; peel of citrus fruit or melons	108,518	42,601	7.9%	64,657	42,165	5.5%	436	
09	Coffee, tea, maté and spices	1,616	3,988	0.7%	9,366	26,811	3.5%	-22,823	
10	Cereals	27,351	6,175	1.2%	163,952	30,212	4.0%	-24,037	
11	Products of the mill-ing industry; malt; starches; inulin; wheat gluten	1,395	828	0.2%	75,024	21,154	2.8%	-20,326	
12	Oil seeds and oleag-inous fruits; miscel-laneous grains, seeds and fruit; in-dustrial or medicinal plants	8,788	4,122	0.8%	15,301	18,142	2.4%	-14,020	

13	Lac; gums, resins and other vegetable saps and extracts	50	346	0.1%	167	1,981	0.3%	-1,635
14	Vegetable plaiting materials	0	0	0.0%	181	48	0.0%	-48
15	Animal or vegetable fats and oils and their cleavage products	7,630	6,304	1.2%	56,113	50,237	6.6%	-43,933
16	Preparations of meat, of fish or of crustacean or mol-luscs	5,512	11,001	2.1%	12,131	34,273	4.5%	-23,272
17	Sugars and sugar confectionery	3,676	7,907	1.5%	103,330	45,696	6.0%	-37,789
18	Cocoa and cocoa preparations	4,707	10,778	2.0%	12,387	42,195	5.6%	-31,417
19	Preparations of ce-reals, flour, starch or milk; pastry-cooks' products	37,594	66,177	12.3%	26,267	47,092	6.2%	19,086
20	Preparations of vegetables, fruit, nuts	37,215	47,632	8.9%	22,757	31,433	4.1%	16,199
21	Miscellaneous edible preparations	12,409	22,789	4.2%	21,617	67,647	8.9%	-44,859
22	Beverages, spirits and vinegar	103,799	59,290	11.1%	68,869	38,314	5.0%	20,976
23	Prepared animal fodder	6,579	811	0.2%	70,926	24,883	3.3%	-24,073
24	Tobacco and manu-factured tobacco substitutes	29,900	139,155	26.0%	7,486	37,550	4.9%	101,604
Other agricultural products out-side Chapter 24 of the Customs tariff		4,563	6,362	1.2%	2,904	4,831	0.6%	1,531
Total Export and Import of agri-food products with the ENTIRE WORLD		559,118	536,230	100%	886,604	759,839	100%	-223,608

Source of data: SSO
Data processing: MAFWE

10. FINANCIAL SUPPORT TO AGRICULTURE AND RURAL DEVELOPMENT IN 2016

REALIZED BUDGETARY SUPPORT TO AGRICULTURE, MILLIONS OF EUROS

	2011	2012	2013	2014	2015
MEASURES FOR MARKET SUPPORT AND DIRECT SUPPORT TO PRODUCERS	60.2	81.4	88.8	103.5	102.1
Market support measures	2.4	3.1	0.7	0.5	-
Direct support measures to producers	57.8	78.3	88.1	103.0	102.1
STRUCTURAL MEASURES AND MEASURES FOR RURAL DEVELOPMENT	11.6	16.0	12.5	16.3	20.9
Improving the competitiveness of the agri-food sector	10.1	14.8	11.0	6.7	19.7
Providing environmental and social benefit	1.4	1.0	0.4	0.8	0.0
Support to the rural economy and population	0.1	0.2	1.0	8.8	1.1
Other measures for rural development	0.0	0.1	-	-	-
OTHER MEASURES IN AGRICULTURE	7.3	7.4	8.0	9.4	8.8
Research, development, advisory and expert services	0.9	1.2	1.2	1.5	1.3
Food safety and quality control	5.5	5.2	5.6	6.1	6.2
Other measures of general support	0.9	1.0	1.2	1.8	1.3
TOTAL BUDGETARY SUPPORT TO AGRICULTURE	79.2	104.9	109.3	129.2	131.8

Source: Volk et al (2017), *Monitoring of agricultural policy developments in the Western Balkan countries*, European Commission, JRC, (updated figures February 2018)