AGRICULTURAL PRODUCTION AND INTERNATIONAL TRADE: CATALCA DISTRICT AND TURKEY LEVEL (I. REPORT)

Asst. Prof. Nursen Ozturk[1], Prof. Dr. Omur Kocak[1]

[1]Istanbul University-Cerrahpasa, Faculty of Veterinary Medicine, Departmant of Animal Breeding and Husbandry

INDEX

Summary

In this report, the agriculture and animal husbandry production and their international trade were evaluated systematilcally in the scale of Catalca province of Istanbul and Turkey.

In 2020, the most yielded agricultural products in Catalca were corn silage(3.950 daa/kg), mangel (3.000 daa/kg), cabbage (3.000 daa/kg), and watermelon(3.000 daa/kg). In terms of animal production, 27.8 million liter cattle milk, 1.6 million liter buffaloe milk, 1.5 million liter sheep milk and 52 thousand liter goat milk were produced. Furthermore, 1 million tonnes cattle meat, 200 thousand tonnes sheep and goat meat, 72 thousand tonnes buffaloe meat, 180 thousand tonnes broiler meat ve 1.8 million tonnes eggs were produced.

In 2020, the share of agricultural trade in total trade were 2.3% for import and 5.3% for export. Trade balance for agricultural goods were determined as EUR 4.3 million. The edible fruits and vegetable category was the mostly exported. The Russian Federation was the highest trade partner for both import (EUR 1.5 million) and export (EUR 759 million).

The share of animal husbandry products' international trade in total international trade was 2.9% for import and 2.1% for export. Trade balance fort he animal husbandry products were negative in 2020 (EUR -3.2 million). In 2020, animals and vegetable fats and oils and their cleavage products were mostly exported. Djibuti was the most imported country from Turkey by EUR 155.5 million. Oil seeds and oleaginous fruit, industrial plants, straw and fodder was the mostly imported category. From Brazil EUR 721.8 million oil seeds and oleaginous fruit, industrial plants, straw and fodder was imported.

As a result, despite of all the challenges in 2020, agriculture sector had a trade surplus. However, animal husbandry sector had trade deficit. At this point, trade opportunities must be provided for the animal husbandry sector in order to increase its share in international trade. The planning agreements with Black Sea Basin countries would be beneficial for the Turkish animal husbandry sector.

1. Agricultural production

1.1. Agricultural production in Catalca district

Catalca is the largest district of Istanbul and it is located between Latitude: 41° 08' 35.66"; Longitude: 28° 27' 41.54" E'. It has an area of 1115.11 km^2 which is formed by 65% of forest (724 km^2), 29% of agricultural land (332 km^2), 6% (59 km^2) of residual land. According to the 2020 census, total population of Catalca is 74.975 person. 47% of the population are employed in agriculture and animal husbandry while 26% of it occupies in service sector and 9% of it is in trade (1). Age distribution of the population in agriculture and animal husbandry is reported as; 10% is between 18-30 years old, 25% is between 31-45 years old, 45% is between 46-60 years old and 20% of the population is above 61 years old. Education level of the population in agriculture and animal husbandry is reported as 50% has no literacy, 45% is primary school graduate, 4% is high school graduates and 1% of it is university graduates (2).

1.1.1. Distribution and capacity of agricultural enterprises

In Catalca district, there are 1088 agricultural enterprises which has the capacity of 158.000 daa in total. In Table 1, agricultural production is shown by the cultivation land, production level (tonne) and yield (kg/daa). Agricultural production data obtained through TSI online sources (3).

Table 1. Agricultural production in Catalca district in 2020

Grains			
	Cultivation land (daa)	Production level (tonne)	Yield (kg/daa)
Wheat	72.187	43.312	600
Barley	13.308	7.319	550
Oilseed Plants			
Sunflower	52.474	15.742	300
Canola	1.629	570	350
Animal Feed Plants			
Corn Silage	4.210	16,630	3.950
Clover (Green Grass)	540	648	1.200
Oat (Green Grass)	2.150	1,957	910
Mangel	6	18	3.000
Vegetables with Leaves			
Cabbage (White)	85	255	3.000
Lettuce	11	17,600	1.600
Curly Lettuce	98	156,800	1.600
Spinach	50	60,000	1.200

Leek	30	87	2.900
Purslane	22	35,200	1.600
Mint	2	1,2	600
Parsley	16	9,600	600
Garden rocket	14	17,500	1.250
Legume Vegetables			
Green bean	900	900	1.000
Broad beans	70	84	1.200
Peas	1.500	1.500	1.000
Tuber and Root Vegetables			
Radish	10	10	1.000
Fruits and Vegetables			
Watermelon	1.390	4.170	3.000
Melon	835	1.837	2.200
Tomato	900	2.250	2.500
Tomato (for Paste)	60	150	2.500
Cucumber	30	75	2.500
Paprika	70	70	1.000
Chilli pepper	200	200	1.000
Pumpkin	500	1.250	2.500
Zucchini	57	136,8	2.400
Eggplant	105	157,500	1.500
Soft Stone Fruits			
Peaches	56	120	150
Quince	28	60	200
Apple (Golden)	102	306	150
Apple (Starking)	20	48	120
Apple (other)	200	20	100

In Catalca district, grains, oilseed plants, animal feed plants, vegetables with leaves, legume vegetables, tuber and root vegetables, fruits and vegetables, soft stone fruits, are mainly produced. Wheat (72.187 daa), sunflower (52.474 daa) and barley (13.308 daa) are the major agricultural products considering the cultivation land. However, corn silage (3.950 daa/kg), mangel (3.000 daa/kg), cabbage (3.000 daa/kg), and watermelon (3.000 daa/kg) are the most yielded products in the district.

1.1.2. Agricultural product processing enterprises

There are 9 agricultural product processing enterprises which powered by 3, 4, 5, 20, 21, 24, 52, 87, and 5299 horsepower. Furthermore, there is an animal feed production enterprises with the capacity of 0.4 tonne/hour.

1.2. International trade of agricultural products

1.2.1. International trade of agricultural products in Turkey scale

In this section, the main agricultural goods covers four categories: (I) Edible vegetables and certain roots and tubers, (ii) Edible fruits and nuts, peel of melons or citrus fruits, (iii) Cereals, and (iv) Preparations of vegetables, fruits or other parts of plants. International trade data were obtained through publicly available online sources (4).

In 2020, export values of main agricultural goods accounted for 5.3% of the total export values while it was 2.3% for import of main agricultural goods. The changes of export and import values as well as the trade balance for the main agricultural products were shown in Table 2. Exports were lowest in 2018 and highest in 2020 while imports were lowest in 2018 and highest in 2019. Turkey had a trade surplus for the last four years in agricultural goods.

Table 2. The changes of export and import values and the trade balance for the main agricultural products, billion Euro

	2017	2018	2019	2020
Import	4.4	4.2	5.6	5.5
Export	8.9	8.7	9.1	9.8
Balance	4.5	4.5	3.5	4.3

In Figure 1a. monthly change in export values of main agricultural goods was given. With the beginning of the autumn months export values of main agricultural goods are tend to increase sharply for the reporting years. On the other hand, in relation to the import values, due to the COVID-19, values decreased between April-July, by almost 50%. With the normalization period, import values were started to increased and reached to 6.4 billion Euro until December 2020.

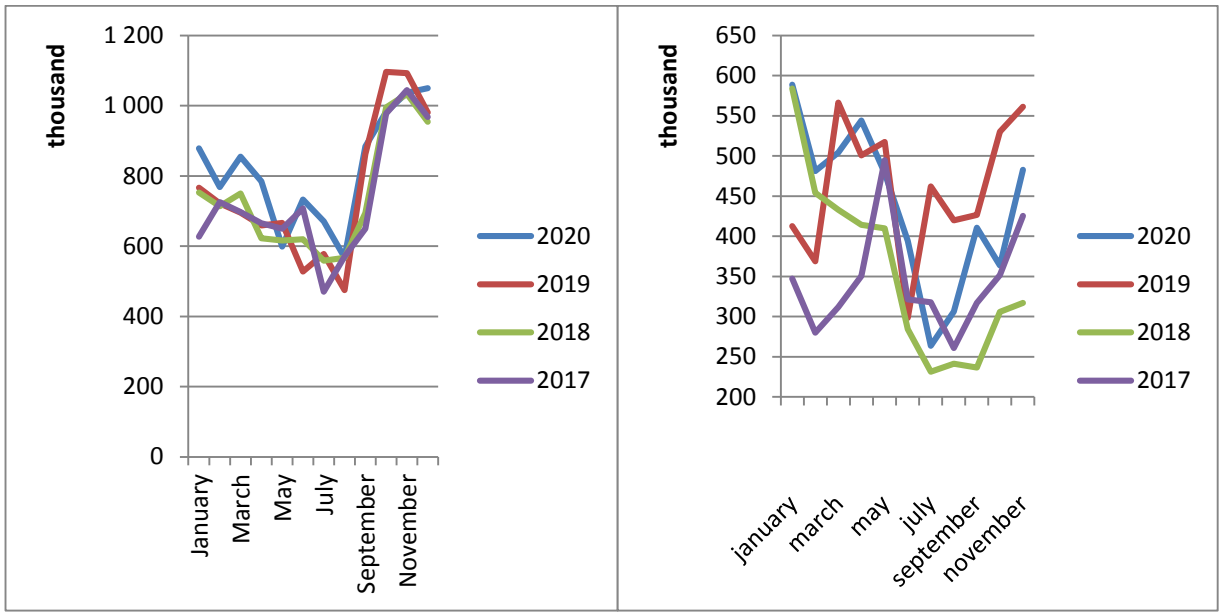

Figure 1a (left). monthly change in export values of main agricultural goods, thousand Euro

Figure 1b (right). monthly change in import values of main agricultural goods, thousand Euro

The share of the each exported agricultural goods is shown in Figure 2a. In 2020, Turkey exports of edible fruits and nuts, peel of melons or citrus fruits had almost halve share of the total export. This was followed by the preparations of vegetables, fruits or other parts of plants (26.5%), edible vegetables and certain roots and tubers (16.1%), and cereals (3.3%). In 2020, Turkey imports of cereals (71%) had the highest share.

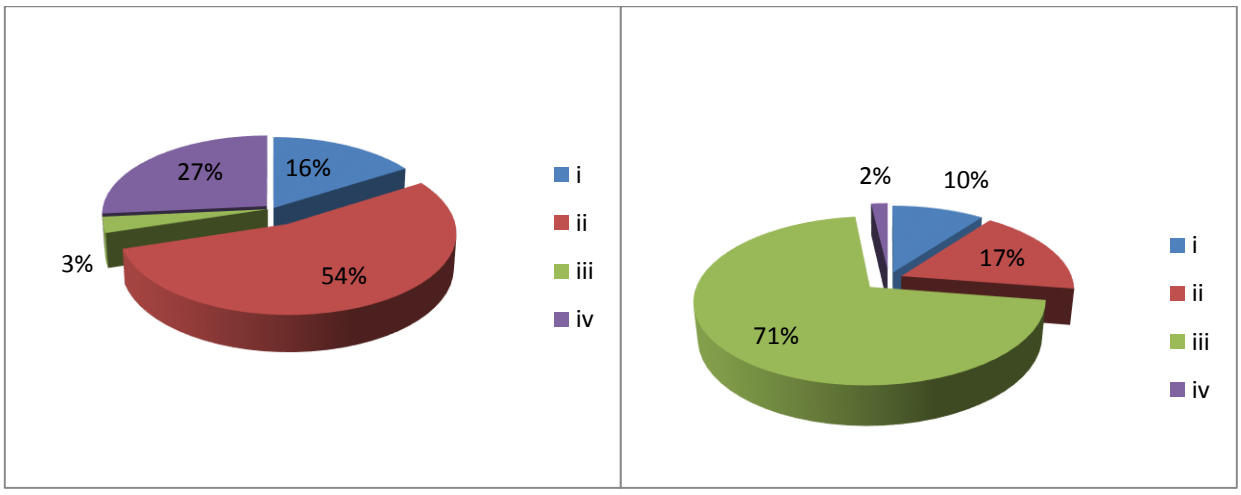

Figure 2a (right). The share of exported main agricultural goods in total agricultural export, 2020

Figure 2b (left). The share of imported main agricultural goods in total agricultural export, 2020

(I) Edible vegetables and certain roots and tubers, (ii) Edible fruits and nuts, peel of melons or citrus fruits, (iii) Cereals, and (iv) Preparations of vegetables, fruits or other parts of plants.

Table 3 shows the 10 largest edible vegetables and certain roots and tubers exporters and importers. The total export value in this category was 1 billion Euro while the total import values was 3 million Euro. The three largest importers from Turkey were the Russian Federation (EUR 109.9 million), Germany (EUR 102.7 million) and Romania (EUR 81.2 million). Furthermore, in 2020 the three largest exporter to Turkey were Canada (EUR 192.5 million), Kazakstan (EUR 22.9 million) and the Russian Federation (EUR 18.9 million).

Table 3. The exporters and importers of edible vegetables and certain roots and tubers, 2020.

Importers		**Exporters**	
The Russian Federation	109.979.412	Canada	192.529.785
Germany	102.771.958	Kazakhstan	22.942.254
Romania	81.219.529	The Russian Federation	18.897.092
Iraq	76.920.942	China	17.591.432
Ukraine	51.226.616	Syria	10.545.378
Bulgaria	44.773.312	Holland	9.093.395
Sudan	40.578.962	Mexico	8.655.691
Israel	38.035.151	the USA	7.483.322
Syria	34.815.640	Argentina	5.911.771
Italy	33.737.648	India	5.366.795

In table 4. The import and export values of edible vegetables and certain roots in Black Sea Basin scale are shown. The share of Black Sea Basin countries in the export values of edible vegetables and certain roots and tubers was 30.4% while it was 6.4% for import. Turkey exported EUR 321.9 million edible vegetables and certain roots and imported EUR 21.9 million. The Russian Federation was the largest importer and exporter.

Table 4. The import and export values of edible vegetables and certain roots in Black Sea Basin scale

	Importers	**Exporters**
Greece	10.124.216	156.335
Romania	81.219.529	189.870
Bulgaria	44.773.312	28.537
Ukraine	51.226.616	2.424.664
Moldova	11.710.259	-
The Russian Federation	109.979.412	18.897.092
Georgia	12.898.337	13.028
Trade volume in Black Sea Basin scale	321.931.681	21.709.526

Trade volume in Turkey scale	1.058.529.074	340.813.091

The total export value for the edible fruits and nuts, peel of melons or citrus fruits was EUR 3.8 billion and the total import value was EUR 439.2 million. The 10 largest importer and exporter were shown in Table 5. The Russian Federation was the largest importer of edible fruits and nuts, peel of melons or citrus fruits by the share of 19.7%. On the other hand, the USA was the largest exporter to Turkey by 29.2% in this category.

Table 5. The exporters and importers of the edible fruits and nuts, peel of melons or citrus fruits, 2020

Importers		**Exporters**	
The Russian Federation	759.601.149	the USA	128.415.419
Germany	441.178.949	Ecuador	53.998.312
Italy	433.927.384	Vietnam	33.915.285
The United Kingdom	198.818.247	The North Cyprus Turkish Republic	25.338.284
Iraq	178.424.225	Chile	23.383.570
France	165.598.438	China	21.830.691
Ukraine	125.178.182	Iran	14.168.720
the USA	122.887.925	Australia	12.191.028
Holland	114.928.999	Saudi Arabia	9.447.380
Poland	113.839.378	Costa Rika	9.323.901

The total export value for the Black Sea Basin countries was EUR 1 billion and the total import value was EUR 13 million in the category of edible fruits and nuts, peel of melons or citrus fruits (Table 6). The share of the Black Sea Basin countries in total export values of edible fruits and nuts, peel of melons or citrus fruits was 26.6% and its share in import value was 3.1%. In 2020, the Russian Federation was the largest importer (EUR 759.6 million) and Ukraine was the largest exporter (EUR 8.4 million) to Turkey.

Table 6. The import and export values of edible fruits and nuts, peel of melons or citrus fruits in Black Sea Basin scale

	Importers	**Exporters**
Greece	15.387.453	1.136.161
Romania	70.198.833	152.303
Bulgaria	29.662.021	182.954
Ukraine	125.178.182	8.497.528
Moldova	12.073.571	2.635.487
The Russian Federation	759.601.149	919.014
Georgia	14.911.746	70.296

Trade volume in Black Sea Basin scale	1.027.012.955	13.593.743
Trade volume in Turkey scale	3.861.507.275	439.297.032

In 2020, Turkey exported EUR 72.6 million cereal while it imported EUR 2.8 billion. In Table 7, ten largest trade partners were shown for cereal import and export. Iraq was the largest importer by 29.2% and the Russian Federation was the largest exporter to Turkey by 54.5%.

Table 7. The exporters and importers of cereal, 2020

Importers		**Exporters**	
Iraq	12.557.652	The Russian Federation	1.506.423.742
Italy	8.808.175	Ukraine	326.656.202
Belgium	4.263.454	Canada	142.515.033
Hungry	3.755.380	Mexico	116.243.996
France	3.635.224	Romania	90.703.520
Germany	3.314.817	Lithuania	71.920.898
Israel	2.883.519	Syria	68.322.028
Syria	2.853.221	Bulgaria	67.031.656
Azerbaijan	2.763.499	Moldova	39.708.271
Iran	2.433.391	Spain	37.196.890

The share of Black Sea Basin countries in cereal export was 5.5% while its share in import was 74.5%. In Table 8, the trade traits was shown for each Black sea basin country. The Russian Federation was the largest origin of imports by 1 billion Euro while Romania was the Turkey's largest export destination for cereal.

Table 8. The import and export values of cereal in Black Sea Basin scale

	Importers	**Exporters**
Greece	77.509	27.856.697
Romania	2.223.093	90.703.520
Bulgaria	70.037	67.031.656
Ukraine	108.071	326.656.202
Moldova	1.284	39.708.271
The Russian Federation	237.256	1.506.423.742
Georgia	1.294.100	-
Trade volume in Black Sea Basin scale	4.011.350	2.058.380.088

Trade volume in Turkey scale	72.687.071	2.762.760.851

In 2020, the export value for the preparations of vegetables, fruits or other parts of plants category was reported to be EUR 2 billion and the import value was EUR 63 million. In Table 9, the ten largest exporter and importer was displayed. Germany was the largets exporter and importer for preparations of vegetables, fruits or other parts of plants in 2020 by the share of 24.1% for export and 3.6% for import.

Table 9. The exporters and importers preparations of vegetables, fruits or other parts of plants

Exporters		**Importers**	
Germany	473.730.732	Germany	12.273.312
The USA	154.772.613	China	4.241.742
Iraq	145.072.989	Spain	3.614.921
Holland	143.971.238	The USA	3.481.864
The UK	101.662.654	Holland	3.106.303
Italy	68.947.422	Hungry	3.072.719
France	65.258.944	Iran	2.827.521
Austria	60.277.018	Israel	2.551.313
China	58.288.810	Brazil	2.424.019
Belgium	47.982.037	The North Cyprus Turkish Republic	1.836.450

The share of Black Sea Basin Countries in export of preparations of vegetables, fruits or other parts of plants category was 6 % while its share in import was 2.9%. In Table 10, the trade information with Black Sea Basin Countries was shown.

Table 10. The import and export values of preparations of vegetables, fruits or other parts of plants in Black Sea Basin scale

	Importers	**Exporters**
Greece	24.681.698	130.036
Romania	30.414.550	98.586
Bulgaria	22.462.033	48.640
Ukraine	20.376.028	406.496
Moldova	1.448.929	-
The Russian Federation	14.176.132	723.662
Georgia	5.194.123	392.299
Trade volume in Black Sea Basin scale	118.753.493	1.799.719

Trade volume in Turkey scale	1.969.196.769	63.100.698

In Table 11, the export, import and trade balance data was shown for the last four years for Black Sea Basin scale. In accordance to this, Turkey had trade deficincy for the last three years for Black Sea Basin countries scale and this showed an increasing trend.

Table 11. Export, Import and Trade Balance information for agricultural goods in Black Sea Basin Scale, million Euro

	2017	**2018**	**2019**	**2020**
Export	1.099	1.120.	1.220	1.472
Import	1.025	1.500	1.814	2.095
Balance	75	-380	-593	-624

2. Animal production

2.1. Animal production in Catalca district

Cattle milk has a significant share in total milk production in Catalca district. In 2010, producers mostly used indigenios and cross breeds for the milk production. However, in 2015 with the begining of an increase in agricultural subsidies, producers started to use improved breeds in milk production. In accordance with that the milk production was increased almost four times and reached around 30 million tonnes. In 2017, the animal husbandry sector was affected by the economic crises and due to unsufficient milk to feed price ratio, producers had to close their enterprises and most of the animals ended up in slaughter. The decrease in animal number affected the milk production level. After 2017, the milk production was between 18-20 million tonnes. The changes in milk production between 2010-2019 can be observed for cattle, buffaloes, sheep and goat in Table 12.

Table 12. Changes in milk production in Catalca district, tonnes (x1000)

	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019
Cattle milk	16339	16361	17934	17967	18153	37578	37440	40785	30252	27782
Buffalo milk	329	362	365	366	379	374	379	1486	1701	1641
Sheep milk	447	453	479	511	546	2018	2027	2014	1673	1537
Goat milk	25	27	29	33	41	70	65	76	94	52

Buffaloe milk production was conducted mostly by the indegenious breeds. Between 2010-2016 the milk production was between 320-380 thousand tonnes and it increased up to 1.5-1.7 million tonnes after 2017. This improvement could be the reason of “Buffaloe selection by breeders” project which had been conducted in the region from 2011 (www.istanbulmanda.org).

Sheep breeding is mostly conducted for Slaughter festival and lamb fattening. The dominant sheep breeds are kivircik and merino. Therefor, the sheep milk production is not as significant as the cattle milk production. After 2015, the sheep milk production was reported to be between 1.5-2 million tonnes.

Goat milk production had a sharp increase between 2010-2018. However, in 2019 the goat milk production decreased almost by 50% to 52 thousand tonnes.

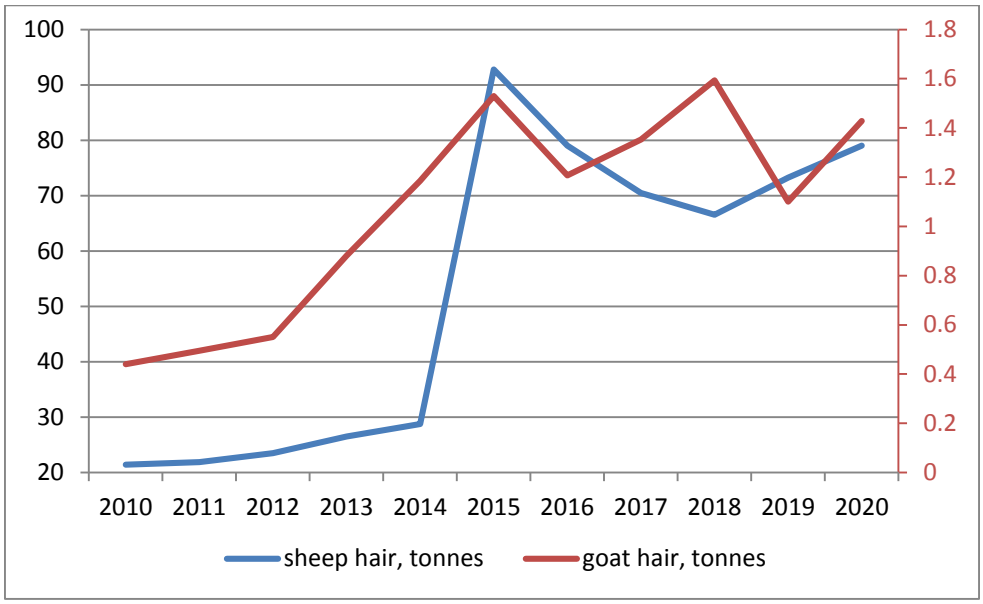

Figure 3. Changes in sheep (left panel) and goat (right panel) hair in Catalca district (*1000)

Sheep hair production increased from 28 thousand tonnes to 85 thousand tonnes since 2014 and following this the production level was around 65-80 thousand tonnes. There was a linear increase in goat hair production until 2015. However, after 2015 fluctuation had started and in 2020 goat hair production was reported to be 1.4 thousand tonnes.

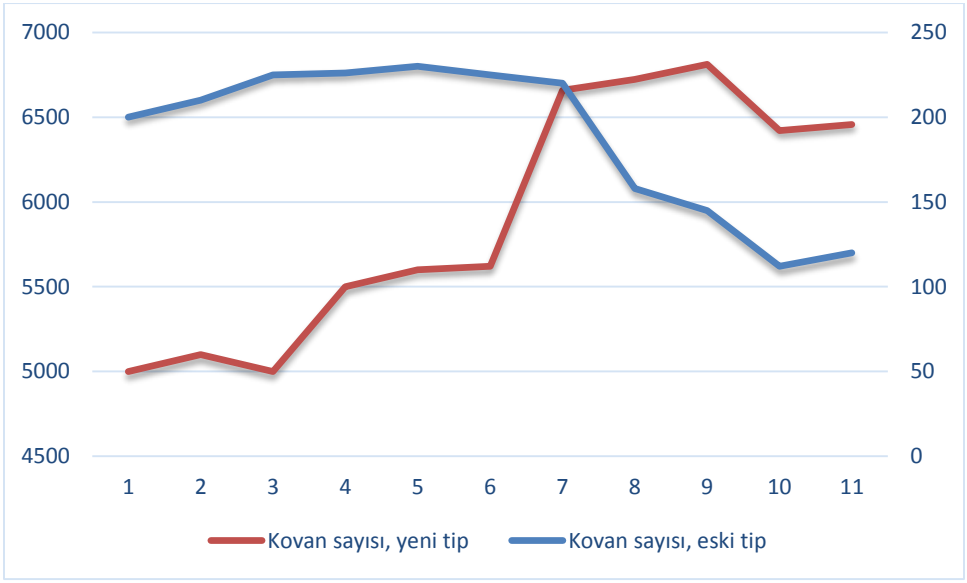

Figure 4. Changes in number of beehives in Catalca district. Red bar represets new type beehives (left panel) while blue bar represents old type beehives (right panel)

Bee production is mostly conducted by new type beehives. In the last decade, number of old type beehives decreased by 40%. In 2020, the number of old type beehives was reported to be 120 while new type beehives was 6456.

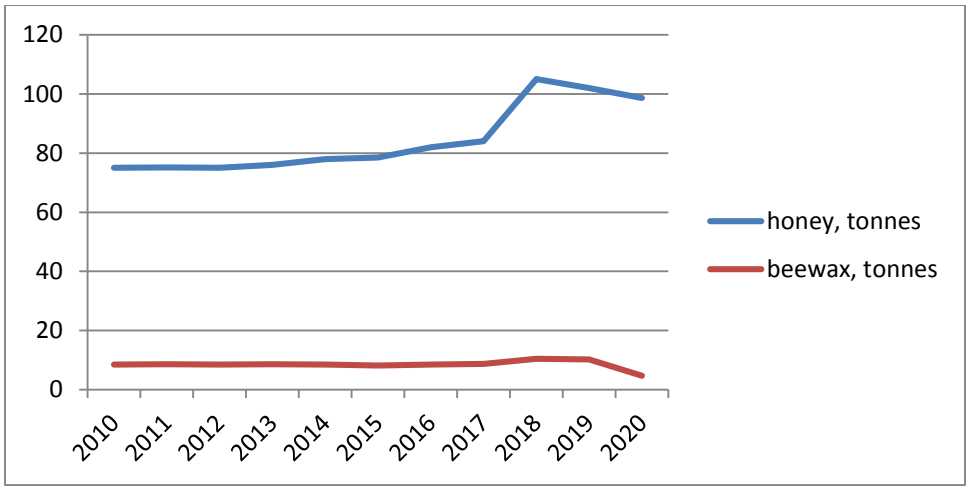

Figure 5. Changes in honey and beewax production, tonnes

Honey production changed between 75-85 tonnes during 2010-2017 and reached up to 100 tonnes in 2018. Furthermore, beewax production was 8-10 tonnes between 2010-2018 and in 2020 it decreased until to 4 tonnes.

In Table 13, the amount of other agricultural products was shown. Cattle meat production was highest (1 000 000 kg) which was followed by sheep and goat (200 000 kg) and buffaloe (72 000 kg). The share of red meat production was 87.6% in total meat production in the district. Furthermore, the amount of egg production was 1 800 000.

Table 13. Production of other animal products in Catalca

Production	Amount
Cattle meat (kg)	1.000.000
Sheep and goat meat (kg)	200.000
Chicken eggs (number)	1.800.000
Chicken meat (kg)	180.000

Buffalo meat (kg)	72.000

2.1.1. Distribution and capacity of animal husbandry enterprises

Number and share of the animal husbandry enterprises are displayed in Table 14.

Table 14. Number and share of the animal husbandry enterprises in Catalca district

Item (Enterprise)	Number (n)	Share (%)
Dairy Cattle	1 121	56.2
Cattle fattening	76	3.8
Sheep and goat	611	30.6
Poultry	42	2.1
Water buffaloes	83	4.2
Bee keeping	62	3.1
Total	**1 995**	**%100**

Considering this, dairy cattle farming had the highest share (56.2%) and it was followed by sheep and goat enterprises (30.6%). Poultry enterprises had the lowest share by 2.1%.

2.1.2. Animal product processing enterprises

Dairy processing plants forms the 50% of total processing plants while meat processing plants consists of 28.6% and egg processing plants 21.4%. Eventhough, bee husbandry had a share of 2.1% there are no apiculture processing plants in the district. In Table 15, the share and number of processing plants were displayed.

Table 15. Number and share of processing plants in Catalca district

Item (Enterprise)	Number (n)	Share (%)
Dairy processing plants	14	50,00
meat processing plants	8	28,57
Egg processing plants	6	21,43
Apiculture processing plants	0	0,00

Total	**28**	**100**

2.2. International trade of animal products

2.2.1. International trade of animal products in Turkey scale

In this section animal husbandry products was evaluated in as the following categories: (I) Live animal, (ii) Meat and edible meat offals, (iii) Dairy products, birds eggs, natural honey ext. (iv) Oil seeds and oleaginous fruit, industrial plants, straw and fodder, (v) Animals and vegetable fats and oils and their cleavage products, (vi) Residues and waste from the food industries, prepared animal fodder.

In 2020, the share of animal husbandry products export in total export value was 2.1% while it was 2.9% for import of animal husbandry products. The changes of export and import values as well as the trade balance for the animal husbandry are shown in Table 16. For the last four years, Turkey had trade deficiency considering animal husbandry products.

Table 16. The changes of export and import values and trade balance for the animal husbandry products, billion Euro

	2017	**2018**	**2019**	**2020**
Import	7.4	7.7	6.6	7.1
Export	3.5	3.7	3.7	3.9
Balance	-3.9	-4.0	-2.9	-3.2

In Figure 6a, monthly changes in animal husbandry products between 2017-2020 were displayed. Due to COVID-19, in June 2019 there was lowest export value for the last four years. In 2020, eventhough the seasonal fluctuations, in December the export values increased to the highest value for the last four years (407 thousand Euro).

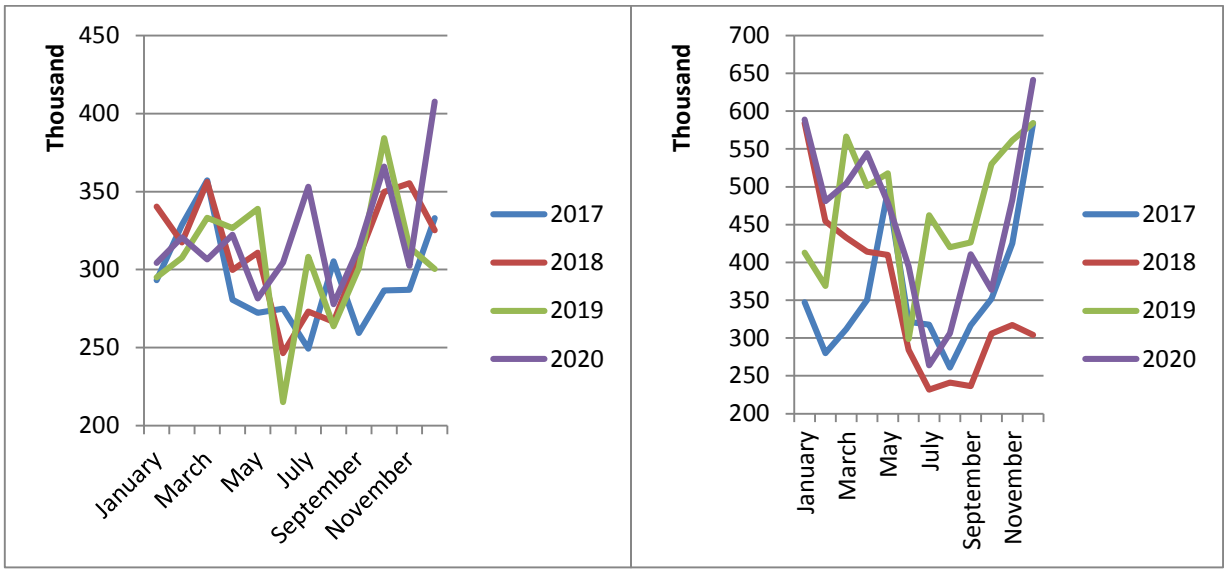

Figure 6a (left). Monthly change in export values of animal husbandry products, thousand Euro

Figure 6a (right). Monthly change in import values of animal husbandry products, thousand Euro

In Figure 8a, the share of each exported animal husbandry products in total animal husbandry products export is shown. Animals and vegetable fats and oils and their cleavage products had highest share in export by 40%. In figure 8b, the share of each imported animal husbandry products in total animal husbandry products import is shown. Oil seeds and oleaginous fruit, industrial plants, straw and fodder (37%), residues and waste from the food industries, prepared animal fodder (28%), animals and vegetable fats and oils and their cleavage (25%) were imported mostly in 2020.

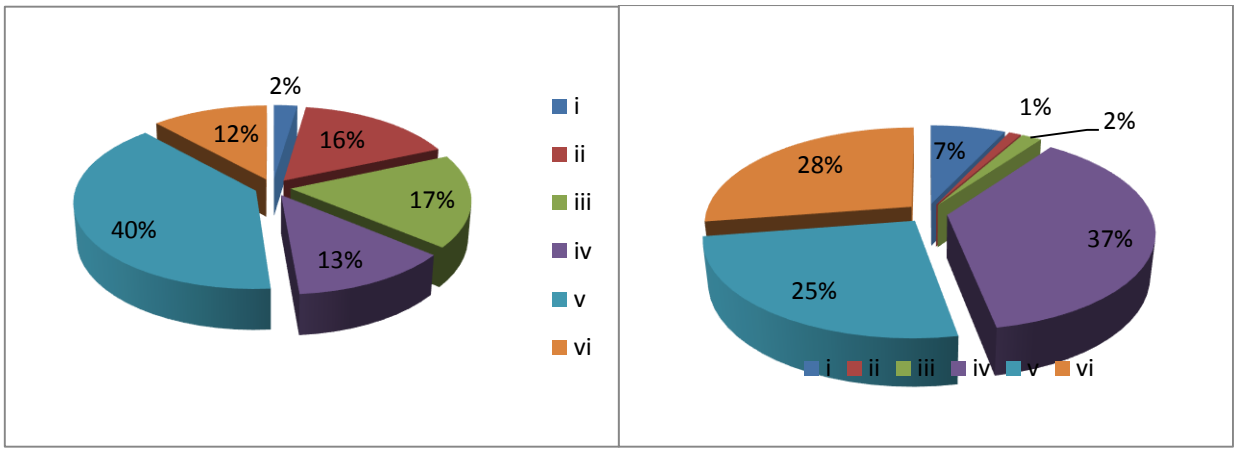

Figure 8a. Share of each exported animal husbandry product category in total animal husbandry products export, 2020

Figure 8b. Share of each imported animal husbandry product category in total animal husbandry products import, 2020

(I) Live animal, (ii) Meat and edible meat offals, (iii) Dairy products, birds eggs, natural honey ext. (iv) Oil seeds and oleaginous fruit,industrial plants,straw and fodder, (v) Animals and vegetable fats and oils and their cleavage products, (vi) Residues and waste from the food industries, prepared animal fodder.

Table 17, shows the 10 largest live animal exporters and importers. The total export value for this category was 72 million Euro while the total import value was 394 million Euro. The three largest importers from Turkey were Syria (EUR 23.1 million), Lebenon (EUR 13.6 million) and Iraq (EUR 11.2 million). Furthermore, in 2020 the three largest exporter to Turkey were Brazil (EUR 95.4 million), Uruguay (EUR 79.5 million) and Hungry (EUR 41.3 million).

Tablo 17. The exporters and importers of live animal, 2020

Importers		**Exporters**	
Syria	23.074.607	Brazil	95.358.034
Lebenon	13.613.597	Uruguay	79.506.120
Iraq	11.152.132	Hungry	41.296.587
Qatar	9.838.763	Czechia	39.968.758
Azerbaijan	6.882.369	Spain	29.427.860
Georgia	1.700.968	Romania	19.396.751
The North Cyprus Turkish Republic	1.171.071	Irland	18.063.219
Kuwait	1.050.326	Germany	17.504.321
Turkmenistan	580.128	Slovakia	13.177.379
Albania	549.828	Bulgaria	8.364.214

*Only the trade information of top ten countries were displayed

In Table 18, the import and export values of live animal in Black Sea Basin scale are shown. The share of Black Sea Basin countries in export values of live animal was 2.9% while it was 14.3% for import. Turkey exported EUR 2.1 million live animal and imported EUR 56.3 million. Romania was the largest exporter to Turkey while Georgia was the largest importer from Turkey.

Table 18. The importers and exporters of live animal in Black Sea Basin scale

	Importer	**Exporter**
Romania	28.000	19.396.751
Bulgaria	-	8.364.214
Ukraine	4.377	390.909
Georgia	1.700.968	-
The Russian Federation	332.993	7.947
Trade volume in Black Sea Basin scale	2.066.338	56.311.695
Trade volume in Turkey scale	72.467.426	394.084.291

The ten largest importer and exporter of meat and edible meat offals were shown in Table 19. The total export value was EUR 461.4 million and the total import values was EUR 25.6 million. Iraq was the largest importer (EUR 249 million) of meat and edible meat offals by the share of 54%. On the other hand, Bosnia and Herzegovina was the largest exporter (EUR 13 million) to Turkey by 51.1 % in this category.

Table 19. The exporters and importers of meat and edible meat offals, 2020

Importers		Exporters	
Iraq	249.009.142	Bosnia and Herzegovina	13.098.723
Hong Kong	43.952.104	Serbia	10.311.003
Libya	27.545.639	Iraq	1.928.132
Congo	14.352.260	The North Cyprus Turkish Republic	190.897
Suudi Arabia	11.344.402	Kyrgyzstan	73.301
Georgia	10.920.923	Georgia	15.481
United Arab Emirates	10.665.107	France	7.981
Qatar	9.466.734		
Democratic Republic of the Congo	7.815.443		
Oman	6.449.099		

*Only the trade information of top ten countries were displayed

In 2020 for Black Sea Basin scale, the total export values for meat and edible meat offals were EUR 11.2 million. The Russian Federation and Georgia were the only importers while Georgia was the only exporter (EUR 15 481 million) to Turkey.

The 10 largest importer and exporter of dairy products, birds eggs, natural honey ext., were shown in Table 20. In 2020, total export value was EUR 509.5 million while total import value was EUR 92.9 million. Iraq was the largest importer (EUR 86.2 million) of dairy products, birds eggs, natural honey ext. by the share of 16.9%. On the other hand, the UK was the largest exporter (EUR 29.2 million) to Turkey by 31.4% in this category.

Table 20. The exporters and importers of dairy products, birds eggs, natural honey ext., 2020

Importers		Exporters	
Iraq	86.237.220	The United Kingdom	29.158.370
United Arab Emirates	55.012.123	Irland	17.936.383
Suudi Arabia	49.401.624	The North Cyprus Turkish Republic	14.518.430
Syria	41.754.907	Canada	3.503.817
Kuwait	40.566.185	Polond	3.358.090
Qatar	28.022.291	The USA	3.055.458
Oman	22.070.310	Holland	2.925.349
Bangladesh	14.185.917	Germany	2.170.611
Egypt	13.355.584	Italy	2.157.028
Germany	12.790.512	Uruguay	2.110.451

*Only the trade information of top ten countries were displayed

In Table 21, the import and export values of dairy products, birds eggs, natural honey ext. in Black Sea Basin scale were shown. The share of Black Sea Basin countries for the export values of dairy products, birds eggs, natural honey ext. was 2.1% while 0.3% for import. Turkey exported EUR 10.7 million dairy products, birds eggs, natural honey ext and imported EUR 291 thousand. Bulgaria was the largest exporter to Turkey while the Russian Federation was the largest importer from Turkey.

Table 21. The importers and exporters of dairy products, birds eggs, natural honey ext. in Black Sea Basin scale

	Importer	**Exporter**
Greece	18.744	-
Romania	1.823	2.059
Bulgaria	43.421	173.214
Ukraine	14.704	75.620
Moldova	3.124	-
Georgia	3.623.385	-
The Russian Federation	6.966.026	40.339
Trade volume in Black Sea Basin scale	10.671.227	291.232
Trade volume in Turkey scale	509.521.243	92.946.552

The ten largest importer and exporter of oil seeds and oleaginous fruit, industrial plants, straw and fodder were shown in Table 22. Total export value was EUR 280.9 million while total import value was EUR 2 billion. The Russian Federation was the largest importer of dairy products, birds eggs, natural honey ext. by the share of 11.3%. On the other hand, Brazil was the largest exporter to Turkey by 36.6 % in this category.

Table 22. The exporters and importers of oil seeds and oleaginous fruit, industrial plants,straw and fodder, 2020

Importers		Exporters	
The Russian Federation	31.610.802	Brazil	721.824.920
Germany	31.276.996	The Russian Federation	300.796.848
Ukraine	18.674.892	Ukraine	250.413.457
The USA	17.845.987	China	113.062.688
Holland	12.226.459	Nigeria	89.253.768
Romania	12.165.163	Chad	55.874.564
Greece	10.951.412	Sudan	50.582.001
Azerbaijan	10.500.438	Moldova	48.914.076
Algeria	10.420.206	Bulgaria	36.231.742
Hungry	8.518.586	Romania	32.589.205

*Only the trade information of top ten countries were displayed

In Table 23, the import and export values of oil seeds and oleaginous fruit, industrial plants, straw and fodder in Black Sea Basin scale were shown. The share of Black Sea Basin countries for the export values of oil seeds and oleaginous fruit, industrial plants, straw and fodder was 29.6% while it was 34% for import. Turkey exported EUR 83.1 million oil seeds and oleaginous fruit, industrial plants, straw and fodder and imported EUR 670.6 million. The Russian Federation was the largest importer and exporter for oil seeds and oleaginous fruit, industrial plants, straw and fodder.

Table 23. The import and export values of oil seeds and oleaginous fruit, industrial plants, straw and fodder in Black Sea Basin scale

	Importer	Exporter
Greece	10.951.412	882.485
Romania	12.165.163	32.589.205
Bulgaria	6.478.894	36.231.742
Ukraine	18.674.892	250.413.457
Moldova	2.289.893	48.914.076
Georgia	950.518	748.256
The Russian Federation	31.610.802	300.796.848
Trade volume in Black Sea Basin scale	83.121.574	670.576.069
Trade volume in Turkey scale	280.892.131	1.974.840.714

The ten largest importer and exporter of animals and vegetable fats and oils and their cleavage were shown in Table 24. Total export value was EUR 999.3 million while total import value was EUR 1.2 billion. Djibouti was the largest importer of animals and vegetable fats and oils and their cleavage by the share of 15.6%. On the other hand, The Russian Federation was the largest exporter to Turkey by 34.7% in this category.

Table 24. The exporters and importers of animals and vegetable fats and oils and their cleavage products, 2020

Importers		**Exporters**	
Djibouti	155.506.778	The Russian Federation	427.423.957
Iraq	100.931.047	Malaysia	412.764.251
Libya	77.139.981	Ukraine	62.022.794
Syria	60.373.418	Syria	49.256.808
The USA	56.460.053	Bosnia and Herzegovina	44.344.347
Yemen	42.931.981	Indonesia	43.981.438
Iran	41.099.233	Norway	32.640.419
Algeria	32.398.512	Bulgaria	20.925.584
India	28.019.877	Chile	19.070.770
Isreal	23.217.529	Georgia	18.560.951

*Only the trade information of top ten countries were displayed

In Table 25, the import and export values animals and vegetable fats and oils and their cleavage products in Black Sea Basin scale were shown. The share of Black Sea Basin countries for the export values of animals and vegetable fats and oils and their cleavage products was 1.3% while it was 44.4% for import. Turkey exported EUR 12.5 million animals and vegetable fats and oils and their cleavage products and imported EUR 547.6 million. Bulgaria was the largest importer (EUR 5.1 million) and The Russian Federation was the largest exporter (EUR 427.4) for animals and vegetable fats and oils and their cleavage products.

Table 25. The importers and exporters of animals and vegetable fats and oils and their cleavage products in Black Sea Basin scale

	Importer	Exporter
Greece	188.441	948.752
Romania	1.843.878	5.180.332
Bulgaria	5.131.118	20.925.584
Ukraine	229.882	62.022.794
Moldova	23.755	12.560.531
Georgia	4.392.821	18.560.951
The Russian Federation	735.773	427.423.957
Trade volume in Black Sea Basin scale	12.545.668	547.622.901
Trade volume in Turkey scale	999.299.122	1.233.510.729

The ten largest import and export partners for residues and waste from the food industries, prepared animal fodder are shown in Table 26. Total export value was EUR 215.7 million while total import value was EUR 1.4 billion. Syria was the largest importer of residues and waste from the food industries, prepared animal fodder by the share of 19.8%. On the other hand, in import The Russian Federation was the largest partner by 22.9% in this category.

Table 26. The exporters and importers of residues and waste from the food industries, prepared animal fodder, 2020

Importers		Exporters	
Suryria	42.697.491	The Russian Federation	311.167.854
Iraq	32.314.703	Ukraine	198.145.392
The USA	20.611.094	The USA	154.036.648
Tunisia	12.839.343	Argentina	111.308.102
Turkmenistan	9.022.291	Morocco	85.855.283
Samsun Free Zone	8.892.175	Bulgaria	73.737.517
Egypt	5.814.673	Brazil	58.522.920
Vietnam	5.373.372	Italy	44.063.776
Isreal	5.112.327	France	42.631.062
Qatar	4.943.373	Georgia	23.748.863

*Only the trade information of top ten countries were displayed

In Table 27, the import and export values of residues and waste from the food industries, prepared animal fodder in Black Sea Basin scale are shown. The share of Black Sea Basin countries for the export of

residues and waste from the food industries, prepared animal fodder was 3.4% while it was 46.3% for import. Turkey exported EUR 7.4 million residues and waste from the food industries, prepared animal fodder and imported EUR 629.7 million. The Russian Federation was the largest importer (EUR 2.1 million) from Turkey and exporter (EUR 311.2) to Turkey for residues and waste from the food industries, prepared animal fodder.

Table 27. The import and export values of residues and waste from the food industries, prepared animal fodder in Black Sea Basin scale

	İhracat	**İthalat**
Greece	1.997.456	3.864.749
Romania	771.751	8.329.705
Bulgaria	578.809	73.737.517
Ukraine	33.244	198.145.392
Moldova	32.410	10.680.930
Georgia	1.798.739	23.748.863
The Russian Federation	2.142.503	311.167.854
Trade volume in Black Sea Basin scale	7.354.912	629.675.010
Trade volume in Turkey scale	215.709.383	1.360.371.485

In Table 28, the export, import and trade balance data was shown for the last four years for Black Sea Basin scale. In accordance to this, Turkey had trade deficincy for the last four years for Black Sea Basin countries scale.

Table 28. Export, Import and Trade Balance information for animal husbandry products in Black Sea Basin Scale, million Euro

	2017	**2018**	**2019**	**2020**
Export	105	99	116	127
Import	1 800	1 394	1 760	1 876
Balance	-1 695	-1 295	-1 644	-1 749

3. SWOT ANALYSES

STRENGTHS	**WEAKNESSES**
Geopolitical location of Turkey	Inadequate productivity per animal
Being EU's 5th largest trading partner, export market abd providers of imports	Insufficient number of animals per farm
Ecological diversity throughout the country	The majority of agricultural enterprises not being able to use new technology
Presence of various medicinal and aromatic plants in the natural environment	Poor quality of pastures
Having the youngest and fastest growing population in Europe	Unsuitable climate that does not allow the use of pastures throughout the year
Having suitable areas for agriculture	Insufficient irrigation resources and high irrigation costs
	Inadequate subsidies for the livestock sector
	Inadequate research and development studies to improve the livestock sector
OPPORTUNITIES	**THREATS**
Being a EU neighboor country	Fluctuations in the exchange rate
Having 315 Geographical Indicated goods	The negative impact of the Covid-19 pandemic on the economy
Increase in consumer demand on products that obtain from good farming and organic farming practises	Endemic animal diseases
	Political instability present in the Middle East market
	Countries with low production costs dominating the international market
	Urbanization

SOURCES

1- Çatalca municipality report, 2020.
http://www.sp.gov.tr/upload/xSPStratejikPlan/files/81mW8+Catalca_20-24_SP.pdf

2- Tarım ve Orman Bakanlığı İlçe Müdürlüğü Verileri, 2021

3- Turkish Statistical Institution, https://data.tuik.gov.tr/Kategori/GetKategori?p=Tarim-111

4- TUIK, International Trade Statistics- https://biruni.tuik.gov.tr/disticaretapp/disticaret.zul?param1=21&param2=4&sitcrev=0&isicrev=0&sayac=5802