

Regional Economics of Viticulture in Turkey in the Period 1970-2021

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How to cite: Akdemir, U., & Candar, S (2022). Regional Economics of Viticulture in Turkey in the Period 1970-2021. Viticulture Studies (VIS), 2(2): 55 – 71. <https://doi.org/10.52001/vis.2022.11.55.71>

Article History:

Received: 29.12.2021
Accepted: 07.04.2022
First online: 18.04.2022

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Keywords

Vitis vinifera L.
Statistics
Wine grapes
Table grapes
Raisins

Abstract

The Anatolian lands, which have been home to many civilisations throughout history, have significant potential in terms of natural, cultural and economic resources. However, as in many other areas, this potential is not fully exploited in viticulture and wine sector. This study examined the development of vineyard areas and grape production in the world and in Turkey over the last 51 years, assessing Turkey's contribution to grape production on the basis of regions and provinces. According to world statistics, Turkey is one of the leading countries in terms of production area and quantity of product. Turkey has 390.221 ha of vineyards and a total production of 3.670.000 tonnes of fresh grapes. These figures place the country 5th in the world in terms of vineyard area and 6th in terms of total production. Although Turkey has a good position in terms of raisin production and market share, one cannot speak of the same situation for table grapes, wine grapes and wine markets. Therefore, it is considered that for the development of production and marketing of grapes and wine products, a foreign trade policy should be developed rapidly.

Introduction

Knowledge about the domestication center of *Vitis vinifera* L. is increasing with research in biology, archaeology and history. However, the rich diversity of varieties/genotypes in Anatolia and recent literature confirm that present-day Turkey is one of the geographical areas where domestication first occurred (Arroyo-García et al., 2006; Ergül et al., 2011; Eyduvan et al., 2016; Karataş et al., 2014; Kök et al., 2018; Korkutal et al., 2018; Yılmaz et al., 2020; Teker, 2021).

Grapevine is the most cultivated fruit in the world and in Turkey. The suitability of climatic and ecological conditions and the enormous genetic diversity provide the country with the possibility of multipurpose cultivation (Kupe et al., 2021).

Fresh and processed grape products are important resources for growers of all sizes in

Turkey. *Vitis vinifera* L. is a species that can be grown economically in a large part of Turkish lands. In areas where common grapevine cannot be grown commercially, other species such as *Vitis labrusca* L. can be cultivated, providing economic value for domestic consumption. Therefore, fresh grapes and their products are an indispensable resource for producers of all sizes. Even in very humid regions such as the eastern Black Sea region, where *Vitis vinifera* L. cannot be grown economically, *Vitis labrusca* L. species provide opportunities for domestic consumption (Candar et al., 2021).

The way to maintain a millennia-old tradition such as viticulture and winemaking in Turkey, a country with an agrarian economy that aspires to an industrial economy, is to regain the ecological perspective and ensure economic sustainability. In the agricultural sector, the concept of sustainability encompasses the impact of everything that is done in the field of

production on the entire social and ecological environment, including the environment, the economy, workers' rights, human resources and society (Candar, 2021).

Sustainability in viticulture is a global strategy defined by the OIV in the context of systems of grape production and processing capable of producing quality products that incorporate structural and regional economic sustainability and take into account the needs of sensitive agriculture, risks to the environment, food safety and consumer health, and the appreciation of cultural, historical, ecological and landscape elements (OIV, 2008). In order to ensure the sustainability of agriculture while ensuring profitability, environmental health, and social and economic equity, the needs of future generations and the current population cannot be ignored (Mariani and Vastola, 2015). The only way to plan for the needs of future generations is to have an up-to-date database and comment on the statistics.

According to recent statistics, there is a total production of 3.670.000 tonnes of fresh grapes in Turkey under 39.021 ha area. A ratio of 50.60% of the total fresh grape production is evaluated as table grapes. The rate of dried grapes is 39.00% and the ratio of 10.40% is used substantially in wine and obtain various food products (TURKSTAT, 2022). When the grape varieties are analyzed according to their use, the production of table grapes is 1.856.929 tonnes on 204.748 ha of land and the production of raisins is 1.430.160 tonnes on 128.613 ha. The production of must and juices including grapes is 382.911 tonnes on 56.859 ha of vineyard area.

Raisins portion of this production amount mainly consists of Sultanina (*syn.* Sultani Çekirdeksiz) and Yuvarlak Çekirdeksiz seedless grape varieties. The main raisins varieties with seeds are Besni, Rumi, Kerküş, Dimrit, Sergi Karası and Antep Karası varieties. For table use, Sultanina grape varieties such as Superior Seedless, Trakya İlkeren, Michele Palieri, Red Globe and Crimson Seedless are cultivated. In addition to international wine varieties such as Cabernet Sauvignon, Merlot, Shiraz, and Sauvignon Blanc, autochthonous wine grape varieties such as Öküzgözü, Boğazkere, Kalecik Karası, Papazkarası, Emir and Narince are the varieties that largely meet the production of grapes for wine purposes. However, Turkey's

foreign market grape varieties are limited in number (Semerci et al., 2015).

Turkey is one of the most important viticulturist countries in the world with its vineyard area and grape production. But unfortunately, it has not been able to effectively exploit its potential in terms of acreage and production volume and turn it into an advantage outside of raisins on a world scale (Kıracı and Şenol, 2017). If we study the international markets, we can see that the countries with high wine quality and a developed wine sector have a high market share (Alço et al., 2018). Viticulture and wine culture, which have been practised in Anatolia for thousands of years, are not at the desired level due to many structural reasons, especially the religious and conservative way of life. Apart from this, some common structural problems can also be mentioned for all types of vine cultivation. In a study conducted in 2009, 29.37% of the grape growers cited excise tax practices (SCT) and the government's attitude toward the industry as the most important problem facing the industry (Güler Gümüş and Gümüş, 2009). This situation has since continued to worsen for both producers and consumers. The fact that the wine-growing areas in Turkey have not yet been fully surveyed is one of the most important problems hindering the development of viticulture. Again, the recent rise in exchange rates and the increase in the cost of foreign agricultural inputs are seen as a major issue for the coming years. The main problems arising from the technique of grape growing can be considered as incomplete application of techniques for different production purposes. The cultivation technique for wine grapes should be considered separately from the cultivation of table and dried grapes, taking into account the terroir elements, and different techniques should be applied depending on the variety. Treatments such as vineyard area selection, climatic characteristics, soil selection, rootstock, variety and clone selection, and canopy care should be determined differently for each production purpose. In recent years, the insufficient supply of rootstocks, scions and grafted saplings required for new vineyard plantings has led to problems in the viticulture sector.

In this study, in addition to the current situation of the grapevine sector in Turkey in year of 2021, the production areas and volumes

were examined on a regional basis for the period including 1970–2021 years, and in the section on the economics of grapevine, a comparison and evaluation of the export-import figures of 1970 and 2020 were made.

Material and Methods

The basic data used in the study were obtained from the World Food and Agriculture Organization of the United Nations (FAO), the Turkish Statistical Institute (TURKSTAT), International Trade Center (ITC), Aegean Exporters' Associations (AEA) and World Intellectual Property Organization (WIPO). Within the scope of the study, previously prepared articles and reports on the subject and congress books were used.

Results and Discussion

Production and Area

Vineyard Area, Grape Production and Yield in the World (1970–2020)

According to FAO data, in 1970 there were 9 million hectares of vineyards in the world, the

total production is about 56 million tonnes and the average yield is 61.5 thousand hg/ha. Looking at the 50-year period from 1970 to 2020, the total area under vine has decreased by 23.53%, while the total production has increased by 39.49%, reaching 78 million tonnes thanks to a yield increase of 82.41% (Table 1).

Spain, which has 13.40% of the world's wine-growing area, is followed by France, China, Italy and Turkey. The country with the highest grape production is China, with a production of about 14.7 million tons. Turkey is in the 5th place in the world ranking with a share of 5.71% in the area under vines and in the 6th place with a share of 6.99% in grape production (Table 2).

Vineyard Areas And Grape Production In Turkey (1970–2020)

Turkey's vineyard area and grape production are shown in Table 3. According to the FAO data for the year 2022, Turkey has an area under vines of 400.998 ha. When the data for 1970–2020 is analyzed, Turkey's vineyard area has decreased by 52.55% in the 50-year period. This decline has been particularly marked since 1980. Grape production, on the other hand, reached 4.2 million tons during this period,

Table 1. Vineyard areas, grape production and grape yield in the World in the period 1970–2020

Years	Vineyard area (ha)	Index	Production (tonnes)	Index	Yield (hg/ha)	Index
1970	9.089.699	100,00	55.941.658	100.00	61.544	100.00
1980	9.217.058	101.40	66.493.546	118.86	72.142	117.22
1990	7.971.499	87.70	59.746.687	106.80	74.950	121.78
2000	7.254.103	79.81	63.552.548	113.61	87.609	142.35
2001	7.284.841	80.14	60.861.820	108.80	83.546	135.75
2002	7.340.595	80.76	61.164.639	109.34	83.324	135.39
2003	7.388.996	81.29	63.051.334	112.71	85.331	138.65
2004	7.285.772	80.15	67.207.814	120.14	92.245	149.88
2005	7.283.260	80.13	66.975.810	119.72	91.959	149.42
2006	7.311.740	80.44	66.982.603	119.74	91.610	148.85
2007	7.209.817	79.32	66.182.371	118.31	91.795	149.15
2008	7.116.165	78.29	66.586.392	119.03	93.571	152.04
2009	7.079.489	77.88	67.629.837	120.89	95.529	155.22
2010	6.971.118	76.69	66.655.262	119.15	95.616	155.36
2011	6.919.265	76.12	69.120.883	123.56	99.896	162.32
2012	6.916.865	76.10	68.906.631	123.18	99.621	161.87
2013	7.023.864	77.27	76.440.834	136.64	108.830	176.83
2014	7.021.943	77.25	73.829.734	131.98	105.141	170.84
2015	7.104.330	78.16	76.526.309	136.80	107.718	175.03
2016	6.899.088	75.90	74.412.397	133.02	107.858	175.25
2017	6.831.645	75.16	73.535.115	131.45	107.639	174.90
2018	6.865.979	75.54	80.047.687	143.09	116.586	189.44
2019	6.925.972	76.20	77.137.016	137.89	111.374	180.97
2020	6.950.930	76.47	78.034.332	139,49	112.265	182,41

(FAO, 2022)

Table 2. First 10 countries in vineyard areas and grape production in the world in year of 2020

Vineyard area in the world (ha)				Grape production in the world (tonnes)			
No	Countries	Vineyard area	Rate (%)	No	Countries	Production	Rate (%)
1	Spain	931.630	13.40	1	China	14.769.088	19.15
2	France	765.038	11.01	2	Italy	8.222.360	10.66
3	China	759.060	10.92	3	Spain	6.817.770	8.84
4	Italy	703.900	10.13	4	France	5.884.230	7.63
5	Turkey	400.998	5.77	5	USA	5.388.679	6.99
6	USA	372.311	5.36	6	Turkey	4.208.908	5.46
7	Argentina	214.798	3.09	7	India	3.125.000	4.05
8	Chile	200.906	2.89	8	Chile	2.772.561	3.59
9	Portugal	175.670	2.53	9	Argentina	2.055.746	2.67
10	Romania	175.590	2.53	10	South Africa	2.028.185	2.63
Total (First 10 countries)		4.699.901	67.62	Total (First 10 countries)		55.272.527	71.65
Total (World)		6.950.930		Total (World)		77.137.016	

(FAO, 2022)

Table 3. Vineyard areas, grape production and grape yield in Turkey

Years	Vineyard area (ha)	Index	Production (tonnes)	Index	Yield (hg/ha)	Index
1970	845.000	100.00	3.850.000	100.00	45.562	100.00
1980	820.000	97.04	3.600.000	93.51	43.902	96.36
1990	580.000	68.64	3.500.000	90.91	60.345	132.45
2000	535.000	63.31	3.600.000	93.51	67.290	147.69
2001	525.000	62.13	3.250.000	84.42	61.905	135.87
2002	530.000	62.72	3.500.000	90.91	66.038	144.94
2003	530.000	62.72	3.600.000	93.51	67.925	149.08
2004	520.000	61.54	3.500.000	90.91	67.308	147.73
2005	516.000	61.07	3.850.000	100.00	74.612	163.76
2006	513.836	60.81	4.000.063	103.90	77.847	170.86
2007	484.610	57.35	3.612.781	93.84	74.550	163.62
2008	482.789	57.13	3.918.442	101.78	81.163	178.14
2009	479.024	56.69	4.264.720	110.77	89.029	195.40
2010	477.786	56.54	4.255.000	110.52	89.057	195.46
2011	472.545	55.92	4.296.351	111.59	90.919	199.55
2012	462.296	54.71	4.234.305	109.98	91.593	201.03
2013	468.792	55.48	4.011.409	104.19	85.569	187.81
2014	467.093	55.28	4.175.356	108.45	89.390	196.19
2015	461.956	54.67	3.650.000	94.81	79.012	173.42
2016	435.227	51.51	4.000.000	103.90	91.906	201.72
2017	416.907	49.34	4.200.000	109.09	100.742	221.11
2018	417.041	49.35	3.933.000	102.16	94.307	206.99
2019	405.439	47.98	4.100.000	106.49	101.125	221.95
2020	400.998	47.45	4.208.908	109.32	104.961	230.36

(FAO, 2022)

increasing by 9.32% from 3.85 million tons, mainly due to the 130.36% increase in yield, despite the decrease in vineyard area. The reasons for the significant increase in yield are the improvement of grape varieties used in production, the use of new varieties with high efficiency in production, the introduction of modern cultivation techniques, the increase in irrigated vineyards and the elimination of inefficient vineyards from production (Kiracı et al., 2013).

The first ten provinces with the highest share of grape production in Turkey are listed in Table 4. These provinces account for 67.36% of

Turkey's vineyard area and 71.28% of grape production. The provinces that share the top positions in grape production are Manisa, Mardin, Denizli and Mersin. The province of Manisa, which ranks first, accounts for 85.892 hectares, about 22% of Turkey's grape-growing areas and 1.3 million tons, 35.65% of the production volume.

According to TURKSTAT (2022), Table 5 lists the first 10 provinces in grape production by purpose of cultivation. For each individual purpose of production, the first 10 provinces have a large proportional share in the total grape production of Turkey. Manisa, the province with

Table 4. First 10 provinces in grape production in Turkey in year of 2021

No	Provinces	Vineyard area (ha)	Rate (%)	Production (tonnes)	Rate (%)
1	Manisa	85.892	22.01	1.308.370	35.65
2	Mardin	36.376	9.32	165.210	4.50
3	Denizli	34.161	8.75	324.974	8.85
4	Nevşehir	18.944	4.85	90.751	2.47
5	Mersin	17.834	4.57	343.308	9.35
6	Diyarbakır	17.168	4.40	100.727	2.74
7	Gaziantep	16.363	4.19	126.229	3.44
8	Kilis	12.798	3.28	51.685	1.41
9	Kahramanmaraş	12.513	3.21	33.702	0.92
10	Elazığ	10.825	2.77	71.076	1.94
Total (First 10 provinces)		262.872	67.36	2.616.032	71.28
Total (Turkey)		390.221	100	3.670.000	100

(TURKSTAT, 2022) *Sorted by vineyard area

Table 5. First 10 provinces for purpose of grape usages in Turkey in year of 2021

No	Provinces	Table (tonnes)	No	Provinces	Raisins (tonnes)	No	Provinces	Wine (Tonnes)
1	Mersin	318.649	1	Manisa	991.259	1	Denizli	84.523
2	Manisa	310.806	2	Denizli	83.521	2	Tokat	39.783
3	Denizli	156.930	3	İzmir	67.271	3	Nevşehir	38.076
4	Gaziantep	87.660	4	Mardin	57.859	4	Kilis	31.954
5	Mardin	86.929	5	Konya	39.927	5	Elazığ	29.247
6	Hatay	85.803	6	Gaziantep	32.318	6	Çanakkale	24.574
7	Diyarbakır	83.191	7	Nevşehir	26.382	7	Tekirdağ	20.534
8	Sakarya	61.026	8	Adıyaman	21.037	8	Mardin	20.422
9	İzmir	50.162	9	Karaman	20.600	9	Mersin	18.564
10	Adıyaman	45.304	10	Isparta	19.727	10	İzmir	16.143
Total (First 10 provinces)		1.286.460			1.359.901			323.820
Total (Turkey)		1.856.929			1.430.160			382.911

(TURKSTAT, 2022)

the largest vineyard area in Turkey, ranks first in the production of dried and table grapes. Denizli is the province where the most grapes are grown. Denizli also attracts attention by ranking second among the provinces for table grapes and dried grapes (Table 5).

Regional Distribution in Year of 2021 and Changes in the Period 1970-2021 of Grape Production and Vineyard Area by Use in Turkey

Turkey is divided into 7 geographical regions and 21 parts of the country, which are similar in terms of natural, human and economic characteristics within their borders. Therefore, the available data has been grouped and divided according to the provinces in the 7 geographical regions. When comparing the grape production of Turkey's geographical regions in year of 2021, the Aegean, Southeastern Anatolia, and Mediterranean regions are ranked at the top. While the Aegean and Southeast Anatolia

regions stand out for the production quantities of table, dried and wine grapes, the Mediterranean region stands out only for the quantity of table grape production (Table 6).

In 1970, in Central Anatolia, the region with the most intensive grape production in Turkey, 687 thousand tons of grapes were produced on a vineyard area of 2.32 million da. The Central Anatolia region is followed by the Southeast Anatolia, Aegean, Mediterranean, Marmara, Black Sea and Eastern Anatolia regions (Odabaş, 1980).

In the 51-year period from 1970 to 2021, the total vineyard area has decreased by 52.12%, while total production has increased by 6.22%. Table 7 shows that during the 51-year period, vineyard areas decreased in all geographic regions while it increased by 6.56% in the Aegean region. In the Mediterranean region and Eastern Anatolia, vineyard areas decreased, while grape production increased.

Table 6. Share in table, dried and wine grapes production of regions in Turkey in year of 2021

Region	Table		Wine		Raisins		Total	
	Vineyard area (%)	Production (%)	Vineyard area (%)	Production (%)	Vineyard area (%)	Production (%)	Vineyard area* (%)	Production (%)
Aegean	20.99	29.45	23.83	29.52	61.22	80.18	34.66	49.23
S.E Anatolia	29.94	18.88	25.91	17.79	23.47	10.2	27.22	15.38
Central A.	16.71	10.08	19.13	14.17	9.37	6.36	14.65	9.06
Mediterranean	19.27	29.02	2.03	5.16	5.3	3.03	12.15	16.41
Marmara	6.3	7.93	10.52	13.81	0.01	0.01	4.84	5.46
Eastern A.	5.37	3.6	8.88	9.12	0.63	0.22	4.32	2.86
Black Sea	1.42	1.03	9.7	10.44	0	0	2.16	1.61
Total	100.00	100.00	100.00	100.00	100.00	100.00	100.00	100.00

(TURKSTAT, 2022) *Sorted by vineyard area

Table 7. Changing in table, dried and wine grapes vineyard areas and production of regions in Turkey in 1970-2021

Region	1970		2021		Change 1970-2021	
	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)	Vineyard area (%)	Production (%)
Aegean	1.269.240	759.770	1.352.476	1.806.602	6.56	137.78
S.E Anatolia	2.310.270	1.037.682	1.062.222	564.609	-54.02	-45.59
Central A.	2.328.850	687.339	571.575	332.505	-75.46	-51.62
Mediterranean	896.530	359.229	474.270	602.099	-47.10	67.61
Marmara	710.740	389.425	188.855	200.282	-73.43	-48.57
Eastern A.	282.710	63.755	168.596	104.832	-40.36	64.43
Black Sea	350.880	158.031	84.217	59.071	-76.00	-62.62
Total	8.149.220	3.455.211	3.902.211	3.670.000	-52.12	6.22

(Odabaş, 1980; TURKSTAT, 2022) *Sorted by vineyard area

Aegean Region

The Aegean region has the largest vineyard area in Turkey with 1.386.883 da (as of 2021). It ranks first in grape production with 1.806.602 tonnes and covers 49.23% of Turkey's grape production (TURKSTAT, 2022).

In the Aegean region, 546.862 tonnes of table grapes are produced on an area of 429.672 decares, 113.025 tonnes of wine grapes are produced on an area of 135.472 decares and 1.146.715 tonnes of raisins are produced on an area of 787.332 decares (TURKSTAT, 2022).

In terms of vineyard area, the Aegean region ranks first in Turkey with a 28% share of the country's total vineyard area. Due to the quality of grapes and the high added value of raisins, the proportion of grapes used for wine production in this region is lower (Bekdemir and Aktaş, 2016).

Manisa is the province with the highest production in Turkey with about 1.3 million tonnes of grape production. The total production is 991.259 tonnes of raisins, 310.806 tonnes of table grapes and 6.305 tonnes of

wine grapes. Denizli, the second largest province in the Aegean region, covers most of the region's wine grape needs with 84.523 tonnes of grapes (Table 8).

The Sultani Çekirdeksiz and Yuvarlak Çekirdeksiz grape varieties are the most commonly used for raisin production in the Aegean region. For table use, again Sultani Çekirdeksiz and, grape varieties such as Superior Seedless, Trakya İlkeren, Michele Palieri, Red Globe and Crimson Seedless are grown. In recent years, varieties such as Mevlana, Siyah Sultaniye, Flame Seedless, Spil Karası and Manisa Pembesi have come to the forefront of consumption.

Important developments have also taken place in the wine production sector. Boutique wineries have been established on large areas in the districts of Denizli, Izmir and some districts of Manisa. Wine varieties produced in this region include Italian and French grape varieties such as Cabernet Sauvignon, Syrah, Nero d'Avola, Cabernet Franc, Merlot, Pinot Noir, Sangiovese, Petit Verdot, Sauvignon Blanc, Chardonnay and in limited areas Boğazkere, Bornova Musketi and Çal Karası. The Foça Karası and Emir varieties

should also be mentioned.

İzmir has been one of the largest international trade ports of the Eastern Mediterranean since the beginning of the 17th century. It was one of the largest international trade ports in the Eastern Mediterranean from the beginning of the 17th century. It was the most important instrument for the integration of the Ottoman Empire into the world economy and the entry of Ottoman agricultural production into the international market (Frangakis, 1985).

From the 18th century to the beginning of the 20th century, the export of grapes from Western Anatolia to Europe, then to America and Australia (Frangakis-Syrett, 2017) contributed to the development of viticulture in the Aegean region. Today, most raisins and table grapes exported are produced from the port of İzmir.

Urla Vineyard Road, inspired by the Thrace Vineyard Road project, the pioneer of oenotourism in Turkey, aims to change the stereotypical perception of 'sea-sand-sun tourism', to create an alternative tourist activity,

to extend the tourist season to a wider period, to adapt the potential of the Urla region to the region. The goal is to take advantage of this culture, to pass it on to future generations and at the same time to provide income to the locals, and this is the direction of the activities (Kasaroğlu et al., 2021).

Şirince is one of the best examples of rural tourism in Turkey. After the development of tourism in the village, wine houses, wine sales stores, stalls displaying hand knitting and souvenir stores were opened (Soykan, 2003).

Southeastern Anatolia Region

Southeast Anatolia region is the second largest region in Turkey with a vineyard area of 1.062.222 da. It ranks third in grape production with 564.609 tonnes, covering 15.38% of Turkey's grape production (TURKSTAT, 2022).

In the region of Southeast Anatolia, 350.663 tonnes of table grapes are produced on an area of 613.027 decares, 68.125 tonnes of

Table 8. Vineyard areas, grape production and yield in Aegean region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Manisa	207.770	310.806	6.390	6.305	644.759	991.259	858.919	1.308.370
Denizli	149.932	156.930	100.570	84.523	91.109	83.521	341.611	324.974
İzmir	41.383	50.162	16.399	16.143	46.258	67.271	104.040	133.576
Uşak	9.980	9.937	11.329	5.182	5.050	4.560	26.359	19.679
Aydın	11.884	12.213	160	193	83	57	12.127	12.463
Muğla	5.327	5.432	618	674	44	39	5.989	6.145
Kütahya	1.860	923	6	5	0	0	1.866	928
Afyon	1.536	459	0	0	29	8	1.565	467
Total	429.672	546.862	135.472	113.025	787.332	1.146.715	1.352.476	1.806.602

(TURKSTAT, 2022) *Sorted by vineyard area

Table 9. Vineyard areas, grape production and yield in Southeastern Anatolia region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Mardin	177.906	86.929	52.435	20.422	133.414	57.859	363.755	165.210
Diyarbakır	145.125	83.191	13.840	9.444	12.710	8.092	171.675	100.727
Gaziantep	105.818	87.660	9.535	6.251	48.277	32.318	163.630	126.229
Kilis	3.842	1.588	71.407	31.954	52.728	18.143	127.977	51.685
Adıyaman	74.339	45.304	100	43	32.010	21.037	106.449	66.384
Batman	39.598	14.496	0	0	19.288	6.673	58.886	21.169
Şırnak	28.899	11.769	0	0	1.581	917	30.480	12.686
Siirt	23.002	11.824	0	0	0	0	23.002	11.824
Şanlıurfa	8.708	3.366	30	11	1.717	690	10.455	4.067
Hakkari	5.790	4.536	0	0	123	92	5.913	4.628
Total	613.027	350.663	147.347	68.125	301.848	145.821	1.062.222	564.609

(TURKSTAT, 2022) *Sorted by vineyard area

wine grapes are produced on an area of 147.347 decares, and 145.821 tonnes of raisins are produced on an area of 301.848 decares (TURKSTAT, 2022).

In the Southeast Anatolia region, Mardin ranks first with 165.210 tonnes of grape production, followed by Gaziantep, Diyarbakır and Kilis. While table grapes and dried grapes are produced in the whole Southeast Anatolia region, wine grapes account for about 61.82% of the total wine grape production in Kilis (Table 9).

Although the Southeast Anatolia region is an important in terms of its vineyard area and grape production, the cultivated grapevine *Vitis vinifera ssp. sativa* and the wild grapevine *Vitis vinifera ssp. silvestris* also have a rich source of grapes (Karataş et al., 2016).

While the grapes grown are used primarily to meet family needs, the remaining products; It is processed into local products such as fresh consumption, pulp, molasses, cuts, raisins and offered for sale in local markets (Ünal et al., 2021).

In the study carried out by Çarkır et al. (2017), all the producers in Mardin, Nusaybin grow grapes for table and raisins. In the region where wine grape production does not take place, the production rate as must & juices has been determined as 41%.

In the region; Kerküş, Mazrone, Olive (Rezaki), Raisin, Libdrej (Zeynebi), Black grape (Çakır et al., 2017), Imsebbek, Şepirze, Hasani, Kemisâbik, Bilbizeki, Karfuki, Hamrani (Sorani)

Mazrone, Karfuki, İmsebbek, Hasani, Bilbizeki, Şepirze, Zeyti grape varieties are grown, but Mazrone and Kirküş grape varieties are widely grown (Ünal et al., 2021).

Central Anatolia Region

According to 2021 data, the Central Anatolia region is the 2nd largest vineyard area in Turkey with 571.575 decares. In terms of grape production, region ranks 4th with 332.505 tonnes and covers 9.06% of Turkey's grape production (TURKSTAT, 2022).

In the region of Central Anatolia, 187.229 tonnes of table grapes are grown on an area of 342.224 decares, 54.248 tonnes of wine grapes on an area of 108.782 decares, and 91.028 tonnes of raisins on an area of 120.569 decares (TURKSTAT, 2022).

Nevşehir and Konya in the Central Anatolia region have more than half of the total grape production. While 38.076 tonnes of wine grapes are produced in Nevşehir, 39.927tonnes of dried grapes are produced in Konya (Table 10).

In Central Anatolia there are two centers of grape cultivation and wine production. The first one is Kalecik district, which is located in the countryside of Ankara province. The district is famous for its grape called Kalecik Karası, the district is known for its high quality wine grapes. Another important center for wine production in Central Anatolia is Cappadocia. Wine production

Table 10. Vineyard areas, grape production and yield in Central Anatolia region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Nevşehir	59.801	26.293	76.521	38.076	53.114	26.382	189.436	90.751
Konya	49.499	40.457	1.039	799	35.981	39.927	86.519	81.183
Kayseri	53.978	21.932	2.730	831	6.486	2.868	63.194	25.631
Karaman	15.100	10.305	4.640	2.797	22.230	20.600	41.970	33.702
Ankara	32.103	22.673	8.674	2.808	356	266	41.133	25.747
Niğde	31.700	11.480	520	233	2.080	774	34.300	12.487
Çorum	24.302	10.470	5.819	2.402	0	0	30.121	12.872
Yozgat	28.812	12.378	0	0	0	0	28.812	12.378
Kırıkkale	18.241	15.077	3.950	3.735	0	0	22.191	18.812
Aksaray	14.054	10.018	0	0	159	82	14.213	10.100
Kırşehir	8.381	3.294	1.819	1.462	163	129	10.363	4.885
Eskişehir	1.519	626	3.070	1.105	0	0	4.589	1.731
Çankırı	2.719	1.313	0	0	0	0	2.719	1.313
Sivas	2.015	913	0	0	0	0	2.015	913
Total	342.224	187.229	108.782	54.248	120.569	91.028	571.575	332.505

(TURKSTAT, 2022) *Sorted by vineyard area

has been going on for hundreds of years in this region, which is particularly suitable for growing quality grapes due to its volcanic soil structure (Köse and Çelik, 2017; Oyan and Akdağ, 2020).

Mediterranean Region

According to 2021 data, the Mediterranean region is the 4th region with the largest vineyard area in Turkey with 474.270 da. It ranks 2nd in grape production with 602.099 tonnes, covering 16.41% of Turkey's grape production (TURKSTAT, 2022).

In the Mediterranean region, 394.639 decares produce 538.954 tonnes of table grapes, 11.527 decares produce 19.765 tonnes of wine grapes, and 68.104 decares produce 43.380 tonnes of raisins (TURKSTAT, 2022).

Mersin, the leading grape producing province of the Mediterranean region, has 318.649 tonnes of table grapes and 18.564 tonnes of wine grapes with a total grape production of 343.308 tonnes. Kahramanmaraş and Isparta are ahead with their production of dried grapes (Table 11).

In early grape growing it is possible to harvest the grapes early and find buyers at high prices. The most suitable ecology for early grape varieties, which can be marketed more easily and at higher prices in Turkey, is the Mediterranean climate zone (Küpe, 2021). Early grape growing areas are concentrated in the Merkez and Tarsus districts of Mersin city (Çelik et al., 2000).

Mersin province is characterized by the cultivation of table grapes. The cultivation of greenhouse grapes is also of special importance. While Yalova İncisi, Alphonse, Lavallee, Tarsus Beyazı and Cardinal are the most widely grown

grape varieties, Tilki Kuyruğu is the latest variety (Cebeci, 2014). Ora and Victoria grape varieties have also expanded their acreage in recent years.

Greenhouse grape cultivation is a very profitable cultivation method compared to open field cultivation (Özkan et al. 2005). Although it varies depending on the year, it provides an average yield of 2–2.5 tons per decare (Bayazıt et al. 2021). Table grapes are exported from the port of Mersin, especially to Russia and surrounding countries.

Marmara Region

Marmara region is the 5th region in Turkey with the highest vineyard area, with 188.855 da in terms of vineyard area, according to 2021 data. In terms of grape production, it ranks 5th with 200.282 tonnes, covering 5.46% of Turkey's grape production (TURKSTAT, 2022).

In Marmara region, 147.281 tonnes of table grapes are produced on 128.920 decares, 52.867 tonnes of wine grapes on 59.796 decares and 134 tonnes of raisins on 139 decares (TURKSTAT, 2022).

Sakarya, Çanakkale, Bursa and Tekirdağ are the most important cities for grape production in the Marmara region. While the production of dried grapes is almost non-existent in the Marmara region, mainly table grapes are produced in all provinces except Tekirdağ and Çanakkale. These two provinces are characterised by a high production of wine grapes. The proximity of these cities to the European wine market brings advantages (Table 12).

In Thracian (European) part of Marmara region, wine grape varieties are grown, while on

Table 11. Vineyard areas, grape production and yield in Mediterranean region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Mersin	150.239	318.649	10.500	18.564	17.601	6.095	178.340	343.308
Kahramanmaraş	91.868	43.622	0	0	33.259	16.373	125.127	59.995
Hatay	47.928	85.803	130	76	0	0	48.058	85.879
Isparta	27.662	29.501	395	691	15.055	19.727	43.112	49.919
Adana	29.005	22.584	15	10	550	345	29.570	22.939
Burdur	26.459	12.591	123	59	1.639	840	28.221	13.490
Antalya	20.237	25.305	364	365	0	0	20.601	25.670
Osmaniye	1.241	899	0	0	0	0	1.241	899
Total	394.639	538.954	11.527	19.765	68.104	43.380	474.270	602.099

(TURKSTAT, 2022) *Sorted by vineyard area

Table 12. Vineyard areas, grape production and yield in Marmara region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Sakarya	48.062	61.026	0	0	0	0	48.062	61.026
Çanakkale	15.174	14.026	30.481	24.574	0	0	45.655	38.600
Tekirdağ	12.634	13.382	22.481	20.534	0	0	35.115	33.916
Bursa	26.252	37.696	0	0	0	0	26.252	37.696
Balıkesir	10.071	8.274	1.015	1.117	64	92	11.150	9.483
Bilecik	10.210	5.613	0	0	25	11	10.235	5.624
Edirne	2.006	1.632	3.107	4.321	0	0	5.113	5.953
Kırklareli	2.142	2.617	2.386	2.082	0	0	4.528	4.699
Kocaeli	2.110	2.737	0	0	50	31	2.160	2.768
İstanbul	134	146	326	239	0	0	460	385
Yalova	125	132	0	0	0	0	125	132
Total	128.920	147.281	59.796	52.867	139	134	188.855	200.282

(TURKSTAT, 2022) *Sorted by vineyard area

the Anatolian side, table grape varieties ripen in the mid- and late-season (Korkutal et al., 2019).

Tekirdağ, Edirne, Kırklareli and the Gallipoli district of Çanakkale form Thrace, while other provinces form the Anatolian part of Marmara region.

Thrace produces 20% of all wines produced in Turkey (Oyan and Akdağ, 2020). Tekirdağ in particular is a very suitable location for the production of quality wine with the presence and ecology of the grape varieties (Güngör and Güngör, 2005).

Şarköy region in Thrace is one of the most important wine growing centres in Thrace. Apart from Şarköy, viticulture and wine production are also intensively practised in areas such as Mürefte, Kırklareli, Edirne and Gallipoli. Efforts are being made to promote wine tourism by establishing "wine routes" in these areas (Köse and Çelik, 2017).

In Marmara region, Bozcaada in Çanakkale, Şarköy and Mürefte in Tekirdağ, Avşa in Balıkesir and İznik in Bursa are regions that have potential for wine tourism and can contribute to the country's tourism development (Türkben et al., 2012).

Eastern Anatolia Region

Eastern Anatolia region is the 6th region with the largest vineyard area in Turkey with 168.596 da in terms of vineyard area according to 2021 data. In terms of grape production, it ranks 6th with 104.832 tonnes and covers 2.86% of Turkey's grape production (TURKSTAT, 2022).

In Eastern Anatolia region, an area of 109.945 decares produces 66.844 tonnes of table grapes, an area of 50.511 decares produces 34.906 tonnes of wine grapes, and an area of 8.140 decares produces 3.082 tonnes of raisins (TURKSTAT, 2022).

In Eastern Anatolia region, grape production is concentrated in the provinces of Elazığ and Malatya. While Elazığ ranks first with 94.463 tons of grape production, it also attracts attention with its wine grape production (Table 13).

Only 20-25% of the total grapes produced in Elazığ are used for wine production, and a significant part of the remaining grapes must be marketed as table wine, must or in other forms (Yücel, 2015).

Malatya is one of the most important centers of fruit growing in Turkey. There are also many local grape varieties in the province, where the culture of viticulture dates back to ancient times. One of the local varieties grown in the province and having economic importance is 'Köhnü' (Ünal and Ergenoğlu, 2001; Çelik, 2006). Although the production of wine grape is low in Malatya, the wine grape variety 'Karamenüş' registered by Tekirdağ Viticulture Research Institute (TVRI) and belonging to Malatya is highly appreciated by experts and is reported to make a great contribution to the sector (Carbonneau et al., 2021).

"Besni Üzüümü" is one of the special products that have gained brand value in Turkey. It is intensively cultivated in the surrounding regions, especially in Besni district. It is exported

Table 13. Vineyard areas, grape production and yield in Eastern Anatolia region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Elazığ	62.997	41.829	45.257	29.247	0	0	108.254	71.076
Malatya	24.993	12.171	4.315	4.732	7.040	2.401	36.348	19.304
Erzincan	9.495	5.402	0	0	0	0	9.495	5.402
Bitlis	4.665	2.463	0	0	1.100	681	5.765	3.144
Muş	3.715	2.399	0	0	0	0	3.715	2.399
Tunceli	1.823	1.463	939	927	0	0	2.762	2.390
Bingöl	1.600	717	0	0	0	0	1.600	717
Van	505	264	0	0	0	0	505	264
Iğdır	90	97	0	0	0	0	90	97
Erzurum	62	39	0	0	0	0	62	39
Total	109.945	66.844	50.511	34.906	8.140	3.082	168.596	104.832

(TURKSTAT, 2022) *Sorted by vineyard area

Table 14. Vineyard areas, grape production and yield in Black Sea region in Turkey in year of 2021

Province	Table		Wine		Raisins		Total	
	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area (da)	Production (tonnes)	Vineyard area* (da)	Production (tonnes)
Tokat	11.440	7.707	54.774	39.783	0	0	66.214	47.490
Amasya	7.646	5.786	382	186	0	0	8.028	5.972
Kastamonu	5.190	2.323	0	0	0	0	5.190	2.323
Artvin	2.025	1.218	0	0	0	0	2.025	1.218
Bolu	1.230	852	0	0	0	0	1.230	852
Karabük	747	734	7	5	0	0	754	739
Samsun	519	359	0	0	0	0	519	359
Rize	196	88	0	0	0	0	196	88
Sinop	40	14	0	0	0	0	40	14
Zonguldak	16	10	0	0	0	0	16	10
Giresun	2	2	0	0	0	0	2	2
Bartın	2	3	0	0	0	0	2	3
Düzce	0	0	1	1	0	0	1	1
Total	29.053	19.096	55.164	39.975	0	0	84.217	59.071

(TURKSTAT, 2022) *Sorted by vineyard area

to many countries, with European countries in the first place (Çiçek et al., 2018).

Black Sea Region

The Black Sea region is the smallest vineyard area in Turkey with 84.217 decares. It ranks 7th in grape production with 59.071 tonnes, which is 1.61% of Turkey's grape production (TURKSTAT, 2022).

In the Black Sea region, 19.096 tonnes of table grapes and 39.975 tonnes of wine grapes are produced on an area of 28.900 decares, while there is no raisin production.

Grape production in the Black Sea region is very low compared to other regions. While Tokat is the leading province of the region with 47.490 tonnes of grape production, it has 39.783

tonnes of wine grape production (Table 14).

The production of pickled grapevine leaves has been intensively practiced in Turkey, especially in the provinces of Manisa and Tokat, since ancient times. The commercial return of grapevine leaves is quite high. The demand for fresh and pickled grape leaves is increasing rapidly in Turkey (Göktürk et al., 1997; Cangi et al., 2017). Grapevine leaves are produced for commercial purposes mainly from Sultani Çekirdeksiz, Narince and Yapıncak grape varieties (Gülcü, 2010; Cangi and Yağcı, 2012; Çelik, 2013).

Producers in the Tokat region usually value the remaining grapes after collecting brine leaves as wine grapes, which is a wrong cultivation method.

Grapevine Economics in Turkey

Viticulture is worth about \$45 billion worldwide. About \$34 billion of this economy is wine, \$9 billion is table grapes and \$1.6 billion is raisins. While Turkey has a 31.3% share in raisin exports with \$514 million, it is unable to realise its potential in table and wine grape exports. Turkey's table grape exports amount to 157 million dollars and imports to only 249 thousand dollars, while its share in the world table grape market is only 1.8%. Turkey's wine exports amount to about 7 million dollars and imports to 12 million dollars. Turkey, which has a negative wine trade balance, has a share of only 0.02% in the world wine market, which can be seen as the main reason for a share of only 1.5% in total world grape exports (Table 15).

While Turkey did not import any grapes in 1970, grapes worth about 23 million USD were

exported. In 2020, total grape exports increased by 2,825.72% and reached approximately 678 million USD, while table grape exports increased by a maximum of 9,730.39% (Table 16).

Although viticulture is practised in many countries, the areas under vine have declined in recent years. The main reason for this is the increase in olive-growing areas, which are an alternative to vineyards (Bashimov, 2017). Especially in the European Union (EU) countries, olive cultivation is encouraged by various price and foreign trade policies. As a result, olive groves have steadily expanded compared to vineyards (Aktaş and Tan, 2007).

The United Kingdom ranks first in world raisin imports, with imports of \$215 million, followed by Germany, the Netherlands and India. The top 10 countries in raisin imports account for 58% of world raisin imports. For wine imports, the United States ranks first with about \$5.8

Table 15. Grape import and export values according to usage in Turkey in year of 2020

	Turkey		World	Turkey
	Import (1000 usd)	Export (1000 usd)	Export (1000 usd)	Share in %
Table Grape	249	157.885	8.950,825	1.8
Dried Grape	49.978	514.029	1.639,896	31.3
Wine	12.197	6.851	34.210,308	0.02
Total	62.424	678.765	44.801,029	1.5

(ITC, 2021)

Table 16. Grape export of Turkey in year of 1970-2020

	Turkey		
	Export (1000 usd) in 1970	Export (1000 usd) in 2020	Change in %1970-2020
Table Grape	1.606	157.876	9,730.39
Dried Grape	21.125	513.983	2,333.06
Wine	467	6.850	1,366.81
Total	23.198	678.709	2,825.72

(FAOSTAT 2022)

Table 17. First 10 importer countries for purpose of grape usages in the world in year of 2020

No	Countries	Table (1000 usd)	No	Countries	Raisins (1000 usd)	No	Countries	Wine (1000 usd)
1	USA	1.887,761	1	UK	215.976	1	USA	5.877,939
2	Germany	801.559	2	Germany	171.021	2	UK	4.443,667
3	Netherlands	800.127	3	Netherlands	107.959	3	Germany	2.986,586
4	UK	680.976	4	India	102.448	4	Canada	1.974,379
5	China	642.814	5	Japan	844.36	5	China	1.827,259
6	Hong Kong, China	548.004	6	Canada	66.353	6	Japan	1.566,018
7	Canada	445.217	7	France	61.023	7	Netherlands	1.488,632
8	Russia	360.625	8	Turkey	49.978	8	Switzerland	1.240,083
9	Indonesia	273.268	9	Australia	47.223	9	Belgium	1.129,877
10	France	219.607	10	Brazil	42.627	10	Russia	1.092,549
Total (First 10 country)		6.659.958			949.044			23.626.989
Total (World)		9.913.008			1.634.636			35.023.368

(ITC, 2021)

billion, while the United Kingdom has \$4.4 billion and Germany about \$3 billion in wine imports. The top three countries in table grape imports are the United States of America with 1.8 billion dollars, Germany with 801 thousand dollars and the Netherlands with 800 thousand dollars (Table 17).

Although Turkey is close to European, Russian and Middle Eastern markets, it is unable to exploit its export potential for wine. Moreover, Turkey, which exported 4.119 tonnes of wine grapes in 2020, is expected to reach 3.833 tonnes in 2024, a decrease of 5.73%. (Güler et al, 2021). To see that branding is one of the most important factors for wine exports, it is enough to compare the wine brands of France and Italy, which occupy the first two places in wine exports, with the wine brands of Turkey (ITC, 2020). According to WIPO (2021), the number of active wine brands whose property rights belong to France is 14.631, while in Italy it is 13.918 and in Turkey only 195. There are 4.461 active wine brands of French origin, 2.071 of Italian origin and 64 of Turkish origin. Italy's 527 and France's 437 are geographically labelled wines, while the absence of a geographical indication in Turkey indicates that Turkey has not yet become a wine brand and this is not reflected in exports.

In terms of table grape exports, Turkey, which has the same harvest season as Northern Hemisphere countries that are importers, can increase its exports by giving priority to the production of early or late table grape varieties. Turkey exported about 153 thousand tonnes of Sultanina (syn. Sultani Çekirdeksiz), 8.5 thousand tonnes of Superior Seedless and 6 thousand tonnes of table grapes in 2020. Comparing the export data of 2019 and 2020 based on volume, Sultanina has increased by about 39% and Red Globe by 40%, while Superior Seedless has decreased by about 30% (Table 18). Red Globe, the 3rd variety most exported by Turkey, stands out because it is a late harvest variety. Turkey exported 2.1 thousand tonnes of 6 thousand tonnes of Red Globe to Russia and 1.8 thousand tonnes to Ukraine in 2020. Only 72 tonnes of Red Globe were exported to European Union member countries (AEA, 2022).

According to AEA data, table grape exports increased by 33.56% and reached 206 million dollars in 2021. Sultanina variety increased 37.48% to \$160 million, while Red Globe variety increased 161.73% to \$12 million. The prices of the top three cultivars per kg in 2021 are Superior Seedless is \$0.83, Sultanina is \$0.79, and Red Globe is \$0.78, while the average price is \$0.77.

Table 18. Export table grape varieties in Turkey in years of 2019-2021

Variety	2019		2020		2021	
	Export quantity (tonnes)	Export Value (1000 usd)	Export quantity (tonnes)	Export Value (1000 usd)	Export quantity** (tonnes)	Export Value (1000 usd)
Sultanina*	110.657	76.662	153.509	116.509	203.282	160.179
Red Globe	4.239	2.634	5.952	4.591	15.437	12.015
Superior Seedless	12.122	9.067	8.451	7.014	8.451	7.014
Yalova İncisi	5.251	4.110	5.908	4.507	8.004	6.076
Razaki	2.574	1.220	4.347	2.610	4.477	2.678
Antep Karası	1.418	881	2.462	1.624	2.645	1.719
Cardinal	670	369	957	318	2.041	893
Emperor	3.348	2.904	732	538	810	617
Tilki Kuyruğu	0	0	0	0	608	165
Tarsus Beyazı	277	175	273	171	342	184
Ergin Çekirdeksizi	1.586	1.246	1.823	1.418	257	200
Perlette	160	148	70	68	157	99
Suqraone	17	15	2	1	63	31
Uslu	98	77	21	15	24	16
Hatun Parmağı	38	49	21	17	22	18
Others	15.503	12.321	14.766	11.165	19.560	14.180
Total	157.957	111.878	199.293	150.566	266.178	206.086

(AEA, 2022) *Sultanina and Thompson Seedless calculated together **Sorted by export quantity

Conclusion

This review not only provides information on the approximately 50 years of viticulture economy in Turkey, but also discusses the regional distribution of grape production and vineyard area by use in Turkey during the same period. In the grapevine economics in Turkey section, export-import comparisons were made between 1970 and 2020.

The vineyard areas of the world's and Turkey's have also declined significantly after 1980. Turkey produces 3.670.000 tonnes of grapes, of which 49.23% is produced in the Aegean region, 16.41% in the Mediterranean region and 15.38% in the Southeast Anatolia region.

Turkey ranks first in the world in raisin exports and its market share is 31.3%.

Although a significant share of table grape production and export (1.8%) is taken, it cannot be said that the potential is fully exploited. The reason could be the lack of varieties suitable for the export market, quality and residue problems resulting from cultivation techniques. Another problem is that although table grape varieties are grown in almost all regions and provinces, the products cannot be produced to export market standards due to organisation, transport, marketing problems and lack of branding, and the production is consumed in the domestic market and within the family.

As in the rest of the world, interest in single varietal wines and autochthonous wine grapes is increasing in Turkey. Although the large genetic diversity and changing market demand offer advantages for wine grapes, it is apparent that this situation cannot be realised.

The share in the wine market is still only 0.02%.

Besides all the technical, structural and organisational problems, the fact that Turkey does not have a specific policy for the development of grape production is a phenomenon that prevents the exploitation of its potential. The foreign trade policy for the marketing of grapes and grape products should also be clearly defined without wasting time.

Nevşehir in Cappadocia, Bozcaada in Çanakkale, Şirince, Çeşme (Alaçatı) and Foça in İzmir, Şarköy and Mürefte in Tekirdağ, Pamukkale in Denizli, Avşa in Balıkesir and İznik in Bursa have potential in terms of wine tourism. These regions can contribute to the country's tourism development. Adapting structures such as the wine destinations of Thrace and Urla to these regions by combining them with other social and cultural activities can increase both viticulture and tourism revenues.

Acknowledgments

The authors would like to thank all editors, reviewers who read and contributed to the final version of the text.

Conflicts of Interest

The authors declare no conflict of interest.

Author Contribution

Author UA compiled the data of statistics and economy. Both authors made critical revision of the manuscript for intellectual content. Both authors read and approved the final manuscript.

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