

THE DEVELOPMENT OF APRICOT PRODUCTION AND FOREIGN TRADE IN THE WORLD AND IN TURKEY

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Abstract

In this study, the apricot market situation in the world and Turkey was examined. The study used the 1980-2020 period data of FAOSTAT and TURKSTAT institutions. It was determined that apricot production in the world and Turkey increased due to the enlargement of the planted areas in the examined period. Turkey, Uzbekistan, Italy, Algeria, and Iran have the highest apricot production. Turkey ranked first for apricot production and planting areas, and apricot yield was below the world average of 7,942 kg per hectare. Spain, Turkey, France, and Italy are the countries that export the freshest apricots. Of the 406 thousand tons of apricot exports globally, 54.84 percent belong to Spain, 21.69% to Greece, and 6.45% to Turkey. In the export of dried apricots, Turkey ranks first with a share of 67.6%. The essential dried apricot importing countries are the USA, Russia, England, and Kazakhstan. The important countries to which Turkey exports fresh apricots are Iraq (49.6%), the Russian Federation (29.8%), and Syria (5.2%). The important countries to which Turkey exports dried apricots are the USA (11.1%), France (7.7%), and Germany (7.4%). In the periods discussed, Turkey's apricot planted area increased by 185%, 368% in production, and a 64% increase in yield. Accordingly, the expansion in planted areas affected the production increase more. Apricot production in Turkey is concentrated in Malatya, Mersin, Elazığ, Iğdır, and Isparta provinces. Most of the apricots produced in Malatya are offered for consumption in dried form. As a result, world apricot production increased with significant improvements in planted area and yield. In Turkey, this situation mostly affected output because of the developments in the planted areas. The yield level of apricots, whose fruit and seeds are used in many fields such as food, medicine, and cosmetics in Turkey, should be brought to the average world level and prevent fluctuations in prices.

Key words: apricot, production, foreign trade, Turkey, world

INTRODUCTION

Although apricot is from the Rosacea family, it is called *Prunus armeniaca* L. (*Armeniaca vulgaris* Lam.). It is native to China and a fruit variety that can be grown in many countries and adapt to different climate types [2].

Apricots, offered for consumption in various forms such as dried, frozen, and canned by the industry sector, in terms of mineral substances, vitamins, and fiber content, are very important for a balanced and healthy diet for individuals [12].

Apricot cultivation is widely practiced in Afghanistan, Iran, Chile, Argentina, the USA, Australia and countries with Mediterranean coasts. Worldwide, 2/3 of the production is carried out in the Mediterranean Region [8]. Apricot, a fruit of temperate climate types, is

a fruit variety that can be produced in a wide area by adapting to the climate types of different regions such as Central Asia, Russia, China, and Africa. It has a wide variety of varieties due to its ability to be grown from seed in different regions [6].

The most incurred cost elements for apricot production are spraying, irrigation, harvesting, and pruning. While the early variety of apricot cultivation positively affects the producer's income, the low yield due to adverse weather conditions directs the producers to reduce the cost elements to be incurred for the next production year [4].

Turkey has an important position in world apricot production and export. It ranks first in the world in production and export [9, 1]. Various economic studies have been carried out on apricots in Turkey. Such as [3] determined economic analyses of apricot in

Mersin. [5] examined the socio-economic characteristics of farms producing apricots in the province of İçel. [11] investigated the effect of using agricultural credits on the socio-economic indicators of apricot farmers in the Mut district of Mersin province. [13] reported that a significant part of the apricots produced in the district of Mut was evaluated in the domestic market and was mostly consumed fresh.

This study evaluated the development of apricot production, prices, and the import-export situation in Turkey and the world.

MATERIALS AND METHODS

The primary sources of this study was the data published by the Turkish Statistical Institute (TUIK) and the Food and Agriculture Organization (FAO). In addition, the data from a national and international thesis, articles, and reports about apricots were used. In this context, apricot planting areas, yields, production, and import-export data for 1980–

2020 in essential countries for apricot production and data on provinces in Turkey were evaluated. Simple index and percentage values were calculated for apricot production areas, quantities, and foreign trade data in the world and Turkey. The current prices of the products in question were converted to real values using the Producer Price Index (PPI; 2003=100) calculated by TURKSTAT[17].

RESULTS AND DISCUSSIONS

Apricots are produced in 78 countries around the world. In 1980, there was 1.73 million tons of apricot production globally, and in 2020, it doubled and increased to 3.72 million tons. The most important apricot producing countries were Turkey, Uzbekistan, Iran, Algeria, Italy, Afghanistan, and Spain. Turkey ranked first with 833,398 tons of apricot production, Uzbekistan was second with 529,109 tons, and Iran was third with 334,408 tons (Table 1).

Table 1. Production amount in major apricot producing countries (tons)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Turkey	160,000	202,000	300,000	250,000	530,000	860,000	450,000	650,000	760,000
Uzbekistan	-	-	-	55,000	68,000	170,000	325,000	384,079	426,000
Iran	55,000	100,823	85,474	208,299	249,700	275,578	388,049	345,801	309,908
Algeria	23,285	42,408	34,979	41,233	56,354	145,097	198,467	285,897	269,308
Italy	96,100	195,600	184,710	104,685	201,372	232,882	252,892	263,132	247,146
Afghanistan	47,500	40,700	36,030	37,500	42,840	49,623	66,560	67,995	83,500
Spain	113,800	150,664	119,600	138,700	142,498	137,167	78,715	86,880	118,114
Greece	96,000	131,329	113,211	42,810	83,634	73,613	62,705	66,790	79,457
Pakistan	35,768	53,800	81,000	190,634	125,889	197,239	190,174	189,420	178,489
Morocco	63,000	73,000	73,700	78,000	119,600	103,600	134,933	159,124	122,405
Other	1,044,103	1,038,561	1,160,406	941,846	1,243,123	1,381,168	1,155,947	1,312,877	1,267,440
World	1,734,556	2,028,885	2,189,110	2,088,707	2,863,010	3,625,967	3,303,442	3,811,995	3,861,767
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Turkey	780,000	278,210	696,100	730,000	985,000	750,000	846,606	833,398	520.87
Uzbekistan	480,000	547,000	606,000	569,000	532,565	493,842	536,544	529,109	962.02
Iran	380,032	241,569	252,000	239,712	330,553	314,012	329,638	334,408	608.01
Algeria	319,784	216,941	293,486	256,771	256,890	242,243	209,204	187,273	804.26
Italy	198,290	222,690	217,569	237,021	266,372	229,020	272,990	173,380	180.42
Afghanistan	90,000	90,000	87,686	17,894	131,816	109,086	129,363	131,788	115.81
Spain	131,800	136,446	153,667	139,605	162,872	176,290	145,830	128,700	113.09
Greece	74,718	90,038	94,799	94,630	113,782	108,600	118,340	125,640	130.88
Pakistan	177,630	170,504	172,933	165,918	141,721	107,986	94,410	97,045	271.32
Morocco	100,698	90,274	103,955	71,156	112,538	101,612	109,795	93,008	147.63
Other	1,356,800	1,257,336	1,274,292	1,679,659	1,756,741	1,258,047	1,250,162	1,086,225	104.03
World	4,089,752	3,341,008	3,952,487	4,201,366	4,790,850	3,890,738	4,042,882	3,719,974	214.46

Source: [7].

From 1980 to 2020, the country that increased its production the most (about ten times) was Uzbekistan. Algeria increased its production eight times, followed by Iran, which increased its production six times, Turkey five times,

and other countries that have also increased their production (Table 1).

Turkey constituted approximately 22.40% of the world's apricot production in 2020. Uzbekistan followed Turkey with 14.22%,

Iran with 8.99%, Algeria with 5.03%, Italy with 4.66%, and Spain with 3.46% (Figure 1).

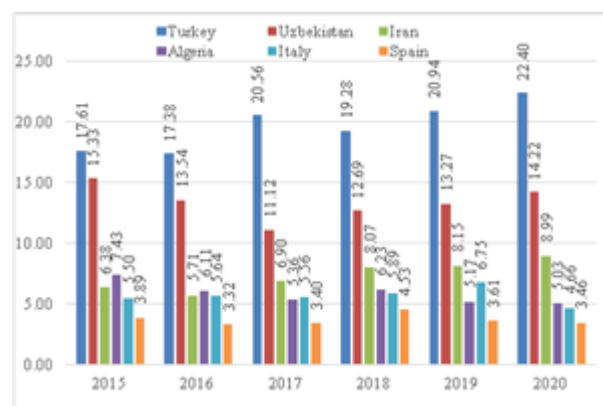


Fig. 1. Shares of major apricot producing countries in total production (%)

Source: Our calculation from FAOSTAT data [7].

While the total apricot planting area was 294,057 hectares in 1980, the total planting area increased by almost two times and

reached 562,475 hectares in 2020. The countries with the highest apricot planting areas were Turkey, Iran, Uzbekistan, Algeria, Spain, and Italy (Table 2).

When the world apricot planting areas were analysed on a country basis, in the 2020 period compared to the 1980 period; the planted areas expanded in Pakistan five times, China four times, Iran five times, Algeria and Uzbekistan about four times, and Turkey three times. In addition, apricot planting areas decreased by 19% in Japan, 7% in the Russian Federation and 6% in France (Table 2).

In the 1980-2020 period, the world apricot planting area and production increased in general. Between 1980 and 2020, the highest apricot production was experienced in 2017, with 4,790,850 tons of apricot production from 558,352 hectares (Figure 2).

Table 2. Apricot planted areas (ha) in important countries

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Turkey	44,075	47,250	49,595	70,805	89,800	92,700	108,053	112,079	114,052
Iran	14,000	16,504	11,877	26,045	28,692	40,794	81,290	40,567	35,461
Uzbekistan				12,000	17,000	24,000	35,500	39,286	41,804
Algeria	7,700	13,000	14,010	13,040	13,390	22,888	49,495	49,191	47,376
Spain	19,300	20,000	22,800	22,500	23,487	19,249	18,333	18,729	18,542
Italy	13,000	14,470	14,042	14,187	15,340	17,318	19,543	19,595	19,186
China				4,000	7,000	11,000	15,250	15,315	16,131
Afghanistan	6,820	5,750	5,115	5,150	5,754	7,223	8,320	8,320	8,350
Pakistan	3,218	4,900	6,400	11,596	12,909	28,884	29,648	29,634	27,536
Japan					17,400	17,800	16,900	16,600	16,400
Syrian Arab Rep.	12,732	10,100	10,100	11,216	12,420	13,330	13,700	13,746	13,801
Greece	6,300	7,425	6,370	4,669	5,427	5,697	5,802	6,144	6,259
France	13,000	12,692	13,759	15,704	14,992	14,160	13,797	13,269	12,743
Russian Fed.				16,000	18,000	19,000	11,000	11,000	11,000
Other	153,912	161,933	162,463	173,317	153,923	146,565	137,808	142,401	143,331
World	294,057	314,024	316,531	400,229	435,534	480,608	564,439	535,876	531,972
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Turkey	115,613	117,907	123,176	123,805	125,049	125,756	131,178	132,748	301.19
Iran	53,205	53,624	54,500	42,313	54,640	52,879	56,575	58,515	417.96
Uzbekistan	44,616	49,153	52,258	47,432	41,711	38,694	43,464	44,262	368.85
Algeria	46,893	38,590	38,857	38,239	44,307	32,578	30,861	29,719	385.96
Spain	20,300	18,451	18,822	20,353	21,002	20,570	20,240	19,780	102.49
Italy	18,999	19,093	18,718	17,370	17,363	17,810	17,910	17,810	137.00
China	16,825	17,442	17,953	17,407	17,601	17,654	17,554	17,603	440.08
Afghanistan	9,005	9,005	9,116	8,595	18,067	18,510	17,719	17,481	256.32
Pakistan	28,578	26,950	25,746	24,940	22,715	18,629	16,177	17,062	530.21
Japan	16,200	16,200	15,900	15,600	15,100	14,800	14,500	14,100	81.03
Syrian Arab Rep.	13,780	13,783	13,752	13,502	13,655	13,707	13,438	13,984	109.83
Greece	6,518	7,022	7,314	7,760	7,992	7,940	8,350	12,240	194.29
France	12,176	12,207	12,014	12,177	12,197	12,270	12,280	12,190	93.77
Russian Fed.	11,000	11,400	11,300	11,110	9,321	11,326	11,639	11,923	74.52
Other	143,461	142,774	142,410	139,345	137,632	140,279	141,311	143,058	92.95
World	557,169	553,601	561,836	539,948	558,352	543,402	553,196	562,475	191.28

Source: [7].

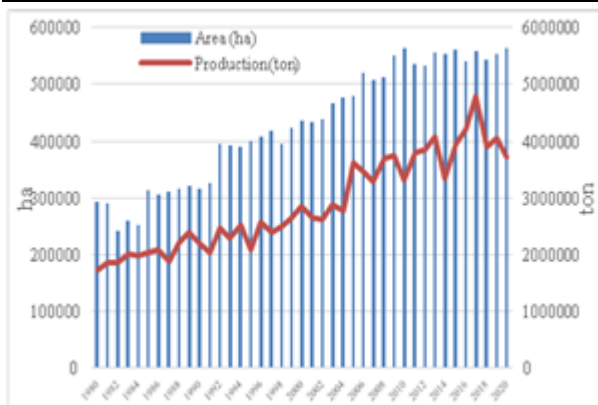


Fig. 2. Shares of major apricot producing countries in total production (%)

Source: [7].

Turkey constitutes approximately 24% of the world's apricot planting areas in 2020. Iran followed Turkey with 10%, Uzbekistan with approximately 8%, Algeria with 5%, and Italy and Spain with 3% (Figure 3).

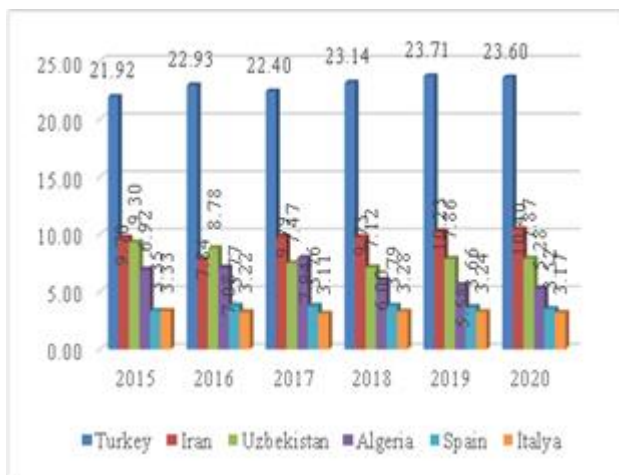


Fig. 3. Shares of important apricot producing countries in the world planted area (%)

Source: Our calculation from FAOSTAT data [7].

In the analysed period, the world average apricot yield per hectare in 1980 was 5,898 kg per hectare, and the country with the highest yield was Greece, with 15,238 kg per hectare, followed by Pakistan, with a yield of 11,150 kg per hectare, and Egypt, with a yield of 8,614 kg per hectare.

Turkey's yield was 3,630 kg per hectare. It was observed that there were fluctuations in apricot yield depending on natural conditions. The world average apricot yield per hectare in 2020 was 6,613 kg per hectare.

Egypt ranked first with a yield of 16,545 kg per hectare, Albania ranked second with

14,864 kg, and Jordan ranked third with 14,483 kg per hectare.

Romania, Turkmenistan, Uzbekistan, Argentina, Switzerland, and Greece were the other essential countries producing yields above the world average.

Turkey's yield was 6,278 kg per hectare (Table 3).

In the period under consideration, Albania's apricot yield experienced an increase of 8 times, Turkmenistan 4 times, Jordan 4 times, Uzbekistan about three times, and Turkey twice.

There was a 72.94% increase in apricot yield in Turkey and 12% in the world in 2020 compared to the 1980 period.

Apricot yields in Turkey increased in the examined period in general.

It happened in countries that experienced increased productivity and countries that experienced a decrease in productivity.

Greece experienced a decrease in yield by 33% and Switzerland by 24% (Table 3).

In the lead position in the apricot planting area, Turkey did not reach the desired yield level by remaining below the world average yield.

This situation did not change in 2020, and Turkey, which ranks first in production, remained below the average with a 6,278 kg per hectare yield.

The highest apricot yield in Turkey, which is above the world average yield, was experienced in 2005 at 9,277 kg (Figure 4).



Fig. 4. World and Turkey apricot yield development (kg per hectares)

Source: [7].

Table 3. Apricot yield per hectare in the world (kg/ha)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Egypt	8,661	10,952	14,271	18,250	12,624	9,733	14,854	15,470	16,121
Albania		1,887	4,381	1,813	2,018	5,000	12,668	13,000	14,718
Jordan	4,057	1,800	3,145	7,948	5,837	8,524	7,568	8,685	8,841
Romania		5,313	6,076	2,361	6,469	12,626	9,092	13,249	11,631
Turkmenistan				3,333	11,333	10,370	12,885	12,885	12,885
Uzbekistan				4,583	4,000	7,083	9,155	9,765	10,190
Argentina	4,828	6,094	5,536	5,692	11,034	11,064	11,027	11,099	11,166
Switzerland		142,857	92,453	85,305	133,430	85,731	118,868	140,269	126,340
Greece	15,238	17,687	17,773	9,169	15,411	12,921	10,808	10,871	12,695
Italy	7,392	13,518	13,154	7,379	13,127	13,447	12,940	13,429	12,882
Morocco		5,935	5,459	5,693	8,591	8,633	11,020	12,725	10,013
Afghanistan	6,965	7,078	7,044	7,282	7,445	6,870	8,000	8,173	10,000
Spain	5,896	7,533	5,246	6,164	6,067	7,126	4,294	4,639	6,370
Algeria	3,024	3,262	2,497	3,162	4,209	6,339	4,009	5,812	5,684
Turkey	3,630	4,275	6,049	3,531	5,902	9,277	4,165	5,799	6,664
Iran	3,929	6,109	7,197	7,998	8,7028	6,755	4,773	8,524	8,739
Pakistan	11,115	10,979	12,656	16,439	9,752	6,829	6,414	6,392	6,482
World	5,899	6,461	6,9160	5,219	6,574	7,545	5,853	7,114	7,259
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Egypt	14,600	15,467	15,675	15,597	15,804	16,524	16,999	16,546	191
Albania	13,968	12,938	15,241	15,932	15,460	15,249	14,296	14,864	788
Jordan	8,918	8,856	11,685	12,467	12,289	13,789	16,799	14,483	357
Romania	9,982	14,614	11,827	13,992	16,043	17,477	14,422	13,187	248
Turkmenistan	12,885	12,885	12,904	12,904	12,904	12,933	13,260	13,176	395
Uzbekistan	10,759	11,129	11,596	11,996	12,768	12,763	12,345	11,954	261
Argentina	11,234	11,311	11,414	11,502	11,484	11,443	11,482	11,510	238
Switzerland	11,959	15,001	11,797	12,834	6,413	12,710	12,169	10,904	76
Greece	11,463	12,822	12,961	12,195	14,237	13,678	14,173	10,265	67
Italy	10,437	11,663	11,624	13,645	15,341	12,859	15,242	9,735	132
Morocco	8,188	7,304	8,366	5,489	9,855	9,111	9,916	8,779	148
Afghanistan	9,995	9,994	9,619	2,082	7,296	5,893	7,301	7,539	108
Spain	6,492	7,395	8,164	6,859	7,755	8,570	7,205	6,507	110
Algeria	6,819	5,622	7,553	6,715	5,798	7,436	6,779	6,302	208
Turkey	6,747	2,360	5,651	5,897	7,877	5,964	6,454	6,278	173
Iran	7,143	4,505	4,624	5,665	6,050	5,938	5,827	5,715	145
Pakistan	6,216	6,327	6,717	6,653	6,239	5,797	5,836	5,687	51
World	7,340	6,035	7,035	7,781	8,580	7,160	7,308	6,614	112

Source: [7].

World Apricot Prices

The prices of products obtained due to agricultural activities vary more than the prices of products produced in other sectors. There may be fluctuations in the prices of agricultural products from year to year and even from season to season.

Changes in product supply or demand cause such fluctuations.

The fact that the supply-demand elasticity of these products is relatively low also causes excellent fluctuations in prices [10].

When the apricot prices per ton are analysed, the highest price in 2010 belongs to Austria at \$3,854. Israel followed Austria with \$3,566 and Japan with \$3,440.

Apricot prices in 2010 in Egypt, which ranks

first in fresh apricot yield, were \$522.

The highest price received by the farmer per ton in 2020 belongs to Japan, with an increase of 1.6 times and \$2,171. When the situation in Turkey was analysed, apricot prices, which were \$1,121 in 2010, decreased to \$562 in 2020.

When the apricot prices in 2020 were examined based on 2010, Iran experienced an increase of 60%, Japan 54%, France 26%, Austria 23%, Israel 22%, and Germany 5%. Spain's most critical exporter country experienced a price decrease of 14%, Switzerland and Greece by 5%, and Turkey decreased by 50% in 2020 compared to 2010 (Table 4).

Table 4. Apricot prices received by farmers per ton in major countries (\$)

Country	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Japan	3,440	3,720	4,511	1,882	1,815	1,680	2,644	3,492	2,655	3,770	5,300
Austria	3,854	3,759	4,299	4,037	4,514	3,906	3,910	3,679	4,703	3,150	4,744
Israel	3,566	2,285	1,739	2,960	3,386	3,089	3,654	2,445	4,768	3,184	4,366
Germany	-	-	3,323	3,585	2,939	2,733	2,146	3,221	2,835	2,260	3,495
Switzerland	2,618	3,176	3,052	3,301	2,795	2,664	2,694	2,854	2,454	2,415	2,503
France	1,718	1,692	1,309	1,924	1,358	1,358	1,738	1,527	1,723	1,448	2,176
Iran	1,350	1,086	1,374	1,499	2,027	1,236	984	865	1,082	1,571	2,171
Greece	945	1,234	723	907	1,027	682	587	593	791	654	901
Egypt	522	629	627	556	541	498	429	271	275	-	-
Turkey	1,121	1,015	672	618	1,017	959	759	546	476	521	562
Spain	918	1,037	922	1,063	931	888	957	839	779	688	794
Index (2010=100)											
	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020
Japan	100.00	108.14	131.13	54.71	52.76	48.84	76.86	101.51	77.18	109.59	154.07
Austria	100.00	97.54	111.55	104.75	117.13	101.35	101.45	95.46	122.03	81.73	123.09
Israel	100.00	64.08	48.77	83.01	94.95	86.62	102.47	68.56	133.71	89.29	122.43
Germany	-	-	100.00	107.88	88.44	82.24	64.58	96.93	85.31	68.01	105.18
Switzerland	100.00	121.31	116.58	126.09	106.76	101.76	102.90	109.01	93.74	92.25	95.61
France	100.00	98.49	76.19	111.99	79.05	79.05	101.16	88.88	100.29	84.28	126.66
Iran	100.00	80.44	101.78	111.04	150.15	91.56	72.89	64.07	80.15	116.37	160.81
Greece	100.00	130.58	76.51	95.98	108.68	72.17	62.12	62.75	83.70	69.21	95.34
Egypt	100.00	120.50	120.11	106.51	103.64	95.40	82.18	51.92	52.68	-	-
Turkey	100.00	90.54	59.95	55.13	90.72	85.55	67.71	48.71	42.46	46.48	50.13
Spain	100.00	112.96	100.44	115.80	101.42	96.73	104.25	91.39	84.86	74.95	86.49

Source: [7].

Developments in World Fresh Apricot Exports

When the amount of exported fresh apricots between 1980 and 2020 is examined, there were fluctuations in the amount of exports over the years. According to FAOSTAT 2020 data, 359,867 tons of fresh apricot exports were made worldwide. The leading countries

in exports were Spain, Turkey, and Uzbekistan. While Spain ranked first with 96,414 tons of apricot exports in 2020, Turkey, the leader in apricot production, ranked second with 64,694 tons of apricot exports, and Uzbekistan ranked third with 63,488 tons of exports (Table 5).

Table 5. Export amount of important countries in fresh apricot exports (tons)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Spain	14,574	24,429	11,589	55,460	52,209	39,064	29,157	31,655	42,458
Turkey	181	2,571	1,641	681	3,689	9,844	25,845	28,489	56,302
Uzbekistan					1,288	11,827	20,551	26,629	14,262
Greece	28,535	26,128	12,321	10,523	12,317	14,901	16,868	14,597	25,868
Italy	7,817	10,141	13,166	11,690	15,310	14,432	22,570	20,333	31,442
Afghanistan	0	0	7	500	4,100	5,001	4,092	3,573	3,239
France	1,470	7,579	21,931	24,327	38,462	57,777	47,875	48,606	58,668
Kazakhstan				7	1,715	1,918	369	303	96
Kyrgyzstan					5,735	3,086	14,408	13,567	18,469
Armenia				218	129	690	1,971	6,573	12,318
Other	21,172	17,723	35,220	30,215	45,332	48,871	71,411	69,723	72,064
World	73,749	88,571	95,875	133,621	180,286	207,411	255,117	264,048	335,186
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Spain	61,793	56,491	79,835	79,318	89,318	109,297	93,379	96,414	662
Turkey	41,583	26,692	55,337	37,166	63,530	70,698	67,631	64,694	35,742
Uzbekistan	58,260	26,879	40,000	49,487	22,801	42,664	58,024	63,488	4,929
Greece	15,945	16,948	10,014	16,190	24,680	23,931	23,017	21,544	76
Italy	15,643	25,326	24,597	24,724	44,609	26,603	48,161	16,913	216
Afghanistan	8,728	7,075	4,822	7,066	7,004	782	18,181	15,448	220,686
France	45,304	63,364	52,539	42,174	56,411	28,276	21,768	11,409	776
Kazakhstan	356	325	472	4,198	3,787	8,434	9,088	11,386	
Kyrgyzstan	17,600	-	1,995	850	2,233	2,654	6,099	5,900	103
Armenia	20,524	1,734	16,510	3,160	3,905	7,215	3,667	4,820	2,211
Other	72,738	71,693	67,878	67,396	87,740	147,262	144,657	47,851	226
World	358,474	296,527	353,999	331,729	406,018	467,816	493,672	359,867	488

Source: [7].

While world fresh apricot exports were 73,749 tons in 1980, world fresh apricot exports increased approximately five times and reached 359,867 tons in 2020. When the developments in the export of fresh apricots were examined, the most considerable increase in 2020 compared to 1980 was in Afghanistan, increasing 2,207 times. Turkey follows Afghanistan with 357 times and Uzbekistan with 49 times. One of the essential apricot exporters, Spain, experienced an increase of approximately 6.61 times in 2020 compared to 1980 (Table 5).

Considering the change in the export rate of fresh apricots, the total amount of apricots produced in the world in 1980 was 1,734,556 tons, and 73,749 tons of this amount, 4.25% of the production, were exported. Greece produced 96,000 tons of apricots and exported 29% of it, or 28,535 tons, making it the country that exports the freshest apricots. Spain followed Greece with 12.81%, Italy with 8.13%, and France with 1.86%. On the other hand, Turkey exported 181 tons, or 0.11% of the apricots produced at 160,000 tons, and exported at a meagre rate in 1980. A total of 3,719,974 tons of apricots were produced in the world in 2020, of which

359,867 tons (9.67%) were exported. Kazakhstan and Kyrgyzstan made a breakthrough this year. Kazakhstan 49.31%, Kyrgyzstan 21.88%, Spain 74.91%, Greece 17.15%, Italy 9.75%, France 13.29%, Turkey 7.76% and Uzbekistan 12%.

According to Trade Map data (2022) [16], Turkey exported 69,959 tons of fresh apricots to 67 countries in 2021. The main export countries were the Russian Federation (53.53%), Iraq (24.46%), Germany (5.67%), Ukraine (5.39), Romania (2.77%), and the United Arab Emirates (1.83%).

Developments in World Fresh Apricot Export Value

Apricot exports are an essential source of income for countries in good standing in apricot production. According to their type and quality, apricots are sold abroad to provide foreign currency inflows to countries. While world fresh apricot exports were 48 million USD in 1980, they increased to 454 million USD in 2020. Countries with high export values of fresh apricots include Spain, Turkey, Uzbekistan, and Greece. With 21.86 million USD in 1980, Greece had the highest export value (Table 6).

Table 6. Export values of important countries in the export of fresh apricots (1,000 \$)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Spain	7,967	14,396	12,345	69,193	37,752	46,516	49,799	55,836	69,520
Turkey	118	1,007	813	461	2,543	10,111	26,641	28,936	41,613
Uzbekistan				-	1,828	11,704	28,113	31,820	15,729
Greece	21,861	18,502	18,317	14,034	8,669	14,486	22,498	18,573	25,087
Italia	6,616	6,029	14,867	17,522	12,520	17,289	36,630	36,817	47,048
Afghanistan	0	0	4	90	600	641	2,455	1,793	1,584
France	1,936	5,488	31,688	46,623	46,791	89,295	105,601	105,983	107,552
Kazakhstan				1	354	571	166	166	21
Kyrgyzstan					315	435	4,260	5,141	12,178
Armenia				174	129	186	1,255	6,223	10,283
Other	9,507	8,040	21,275	32,659	39,504	60,395	108,467	115,128	120,997
World	48,005	53,462	99,309	180,757	151,005	251,629	385,885	406,416	451,612
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Spain	122,861	108,769	127,110	126,486	123,286	168,875	131,550	170,067	2,135
Turkey	42,444	27,420	39,236	24,310	44,188	41,008	38,093	55,627	47,141
Uzbekistan	54,277	24,269	30,000	26,375	20,308	48,353	67,325	49,170	2,690
Greece	22,029	21,452	11,683	15,636	16,509	21,443	18,569	23,759	109
Italia	36,889	45,207	42,067	40,943	56,319	43,131	63,344	35,579	538
Afghanistan	3,678	5,885	4,437	6,536	7,069	813	12,453	11,001	275,025
France	111,845	118,961	94,889	84,458	83,224	50,598	36,565	29,247	1,510
Kazakhstan	111	51	15	65	76	1,636	2,940	298	29,800
Kyrgyzstan	10,100	-	1,430	551	1,785	2,018	2,912	953	302
Armenia	14,847	1,505	5,322	1,923	1,571	5,041	5,232	3,864	2,221
Other	119,293	115,323	94,998	97,973	108,425	120,143	107,394	74,460	783
World	538,374	468,842	451,187	425,256	462,760	503,059	486,377	454,025	946

Source: [7].

In 2020, this value was 23.76 million USD. One of the most important exporters of fresh apricots, Spain had an export value of 7.97 million USD in 1980 and ranked first with 170 million USD in 2020. Turkey was second with 55 million USD, and Uzbekistan was third with 49 million USD in export value (Table 6).

Compared to the 1980–2020 period, in 2020, the world's export value has increased nine times. The highest increase in export value was realised in Afghanistan, with a 2750x increase in value. Turkey follows Afghanistan with an increase of 471 times and Kazakhstan with an increase of 298 times. In Spain, which was the largest exporter of fresh apricots, there was a 21-fold increase (Table 6).

The shares of Spain, Turkey, Uzbekistan, Greece, Italy, and Afghanistan are the five essential countries that have a say in fresh apricot exports by selling the apricots they produce to foreign markets in the last five years are given in Figure 7. Accordingly, Spain has a share of over 25% in the analysed period. There was much variation in the shares of Turkey, Greece, Uzbekistan, Italy

and Afghanistan. Uzbekistan's share rate, which has increased in general, decreased in 2020 and took a share of 10.83%. Looking at Turkey, while it had a share of 8.70% in 2015, this ratio increased to 12.25% in 2020 (Figure 5).

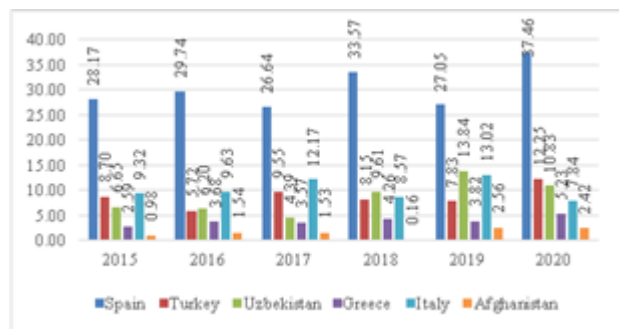


Fig. 5. Shares of major fresh apricot exporting countries (%)

Source: Our calculation from FAOSTAT data [7].

World dried apricot export situation

Turkey is the first country that comes to mind for dried apricots. For many years, Turkey alone met more than half of the world's dried apricot exports (Table 7).

Table 7. Export volumes of important countries exporting dried apricots (tons)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Turkey	8,599	10,977	32,411	50,836	70,252	96,019	92,687	90,321	101,588
Kyrgyzstan				-	729	0	550	127	329
Uzbekistan				-	4,489	1,674	3,673	9,407	6,550
Tajikistan									
Myanmar									
Afghanistan	0	0	65	242	1,900	1,715	5,646	5,165	3,629
Belarusian				-	8	5	59	3	19
Spain	915	1,210	237	188	63	133	626	349	1,053
Germany	371	343	707	1,002	841	1,721	2,052	1,773	1,957
Netherlands	111	180	564	623	788	1,477	3,048	2,686	1,261
ABD	0	0	1,240	1,473	1,893	1,171	1,693	1,514	1,708
Greece	0	0	0	83	446	351	81	108	1,178
Other	1,127	2,096	4,247	4,803	9,348	10,810	8,299	13,897	19,052
World	11,123	14,806	39,471	59,250	90,757	115,076	118,414	125,350	138,324
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Turkey	112,429	77,850	65,267	78,755	94,989	93,797	100,270	88,062	1,024
Kyrgyzstan	300	126	317	269	3,290	4,124	8,602	13,033	1,788
Uzbekistan	1,689	4,510	5,426	7,230	10,889	7,453	9,035	11,778	262
Tajikistan		32,637	20,381	20,896	15,587	10,904	8,048	11,110	34
Myanmar		410	613	9,123	300	0	615	5,721	1,395
Afghanistan	7,001	3,057	6,614	2,943	15,156	43,693	4,789	5,403	8,312
Belarusian	216	282	202	2,378	2,638	3,673	4,160	3,008	37,600
Spain	1,695	2,378	2,338	2,311	2,163	5,057	2,478	2,877	314
Germany	2,628	2,362	1,509	1,430	1,407	1,078	1,419	1,941	523
Netherlands	1,315	2,474	1,189	1,091	1,436	1,649	1,669	1,705	1,536
ABD	1,631	1,775	1,189	1,390	1,583	1,070	1,343	1,389	112
Greece	441	586	139	215	513	330	1,110	333	401
Other	17,928	17,848	14,533	8,939	9,085	8,578	8,492	7,929	703
World	147,273	146,295	119,717	136,970	159,036	181,406	152,030	154,289	1,387

Source: [7].

While the world's dried apricot export amount was 11,123 tons in 1980, it increased by 13 times and reached 154,289 tons in 2020.

While Turkey was in first place with 8,599 tons of apricot exports in 1980, this situation did not change in 2020, and it took first place by exporting 88,062 tons of apricots. Kyrgyzstan followed Turkey with 13,033 tons, Uzbekistan with 11,778 tons, and Tajikistan with 11,110 tons (Table 7).

When the developments in the exports of dried apricots were examined, the most significant increase in 2020 compared to 1980 was in Belarus, with 376 times. Afghanistan followed Belarus with an increase of approximately 83 times and Kyrgyzstan with an increase of approximately 17 times. In Turkey, there was an increase of 10 times (Table 7). According to 2020 data, Turkey makes 74% of the world's dried apricot exports. Turkey was followed by Belarus with a share of 27.11% and Afghanistan with a share of 5.99%.

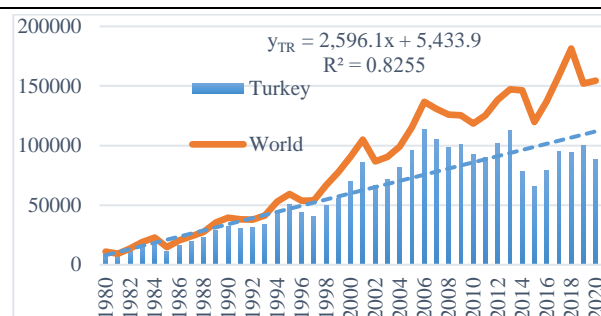


Fig. 6. Development of dried apricot exports in the world and Turkey (ton)

Source: Our calculation from FAOSTAT data [7].

While the world's dried apricot export value was 31.47 million USD in 1980, this value increased to 405.37 million USD in 2020. The countries with the highest export value of dried apricots from 1980 to 2022 were given in Table 8. The countries with the highest export value of dried apricots worldwide continue to be Turkey, Uzbekistan, Afghanistan, and Tajikistan. While Turkey's export value was 24.14 million USD in 1980, this value increased to 260.27 million USD in 2022 (Table 8).

Table 8. Export values of important dried apricot exporting countries (1,000 \$)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Turkey	24,147	31,442	71,927	99,147	110,379	179,735	350,602	360,907	296,615
Kyrgyzstan	-	226	0	324	102	463	400	89	331
Uzbekistan				-	2,165	1,070	5,407	8,146	6,213
Tajikistan									
Myanmar									
Afghanistan	0	0	77	300	2,400	2,747	9,982	8,193	9,357
Belarusian				-	32	8	47	12	53
Spain	2,509	2,473	932	542	173	210	1,235	1,034	2,096
Germany	883	533	2,070	2,897	2,194	6,894	10,607	11,923	10,807
Netherlands	261	316	1,340	1,585	1,685	4,664	5,434	6,702	5,103
ABD	0	0	3,925	5,814	6,426	5,271	7,313	7,418	8,640
Greece	0	0	0	132	663	1,464	408	431	1,465
Other	3,668	3,800	12,702	16,230	20,469	36,911	38,038	45,413	41,776
World	31,468	38,790	92,973	126,971	146,688	239,437	429,473	450,268	382,456
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Turkey	314,134	344,297	302,689	288,793	266,879	253,351	255,989	260,278	1,078
Kyrgyzstan	203	2,490	2,588	4,484	7,029	1,953	3,129	1,891	837
Uzbekistan	2,753	10,256	10,332	8,123	10,494	7,387	8,506	16,992	785
Tajikistan		15,043	7,104	4,626	3,729	2,842	3,268	4,628	31
Myanmar		1,953	3,129	1,891	26		145	847	43
Afghanistan	16,365	11,092	11,403	6,454	32,362	38,835	15,625	10,972	14,249
Belarusian	265	349	173	1,350	1,684	2,701	3,317	3,175	9,922
Spain	3,684	4,580	4,091	4,386	3,318	7,389	3,383	4,765	190
Germany	13,145	15,639	11,208	9,152	8,050	6,119	7,161	9,176	1,039
Netherlands	4,967	7,110	6,335	5,267	5,728	6,259	5,905	7,084	2,714
ABD	8,109	9,884	7,829	8,023	8,711	4,877	6,493	5,544	141
Greece	664	950	498	789	873	751	1,673	804	609
Other	41,097	41,701	41,037	33,998	31,674	37,646	34,183	37,024	1,009
World	405,386	465,344	408,416	377,336	380,557	370,110	348,777	363,180	1,154

Source: [7].

When the foreign exchange input development of the countries exporting dried apricots is analysed based on 1980, the world dried apricot export value increased approximately 12 times in 2020. The highest export value development was realised in Afghanistan with approximately 143 times. Belarus experienced an increase of 99 times and the Netherlands 27 times. In Turkey, the export value of dried apricots has increased approximately 11 times (Table 8).

According to Trade Map data (2022) [16], Turkey exported dried apricots to 112 countries in 2021. The main export countries and their export shares are USA 17%, France 8%, Germany 8%, United Kingdom 6%, Russian Federation 5%, and Australia 5%.

World fresh apricot import status

When the change in the amount of world fresh apricot imports was analysed, while the total amount of fresh apricots in the world was 78,345 tons in 1980, it increased by 4.5 times to 349,750 tons in 2020. When the fresh apricot imports of the countries were examined, it was seen that Germany ranked

first with 22,923 tons of apricot imports in 1980. By 2020, the Russian Federation imported the most apricots, with 67,874 tons. Germany followed Russia with 46,654 tons and Kazakhstan with 35,614 tons of fresh apricot exports. When Turkey's imports of fresh apricots were analysed, there was no fresh apricot import in 1980, but 51 tons of fresh apricots were imported in 2000. This amount was 129 tons in 2020 (Table 9).

When the developments of the countries in the import of fresh apricots in the 1980–2020 period were examined, it was seen that there had been an increase in the number of imported apricots over the years. While the number of fresh apricot imports increased four times in the world in 2020, the highest fresh apricot import increase was realised in Kazakhstan with 1978 times. Ukraine followed with an increase of approximately 1635 times, Romania with a rise of 78 times, and Pakistan with an increase of roughly times. Looking at Turkey, there has been an increase of approximately 2.5 times.

Table 9. Import amount of important countries in fresh apricot (tons)

Country	1980	1985	1990	1995	2000	2005	2010	2011
Russian Federation	-	-	-	-	10,215	32,923	54,850	61,915
Germany	22,923	25,003	29,787	36,650	42,782	50,192	45,702	44,282
Kazakhstan	-	-	-	18	1,495	30	5,000	17,682
France	9,503	10,238	5,200	17,385	14,371	10,297	11,087	10,736
Iraq								
Italy	13,232	12,825	11,081	20,793	27,782	20,441	16,036	23,782
Pakistan	852	1,710	632	341	4,146	4,923	1,224	5,351
Austria	9,535	8,588	12,286	8,170	10,718	14,872	14,226	11,468
Saudi Arabia	4,185	2,906	9,039	7,678	7,924	3,625	5,500	6,191
Romania	-	-	-	110	332	2,147	1,369	2,643
Turkey	0	0	0	0	51	7	9	9
Ukraine	-	-	-	-	-	5	2,725	2,547
Other	18,115	26,018	30,031	41,471	54,976	74,016	69,903	73,421
World	78,345	87,288	98,056	132,616	174,792	213,478	227,631	260,027
	2013	2014	2015	2016	2017	2018	2019	2020
Russian Federation	68,259	36,799	43,203	32,736	51,667	52,999	50,368	64,874
Germany	56,680	59,928	59,321	56,842	70,266	59,930	62,242	46,654
Kazakhstan	57,887	37,447	7,965	32,370	15,458	30,102	36,663	35,614
France	21,007	17,393	20,321	20,362	20,773	22,653	17,100	21,258
Iraq	-	-	18,956	22,776	32,931	37,672	35,887	20,519
Italy	26,342	28,116	32,205	22,890	21,901	20,141	16,140	18,037
Pakistan	3,102	6,960	6,519	1,206	13,804	25,369	17,831	14,992
Austria	11,933	9,318	11,525	13,309	18,422	13,469	15,404	12,041
Saudi Arabia	7,037	4,291	8,213	9,298	10,235	8,380	9,256	10,808
Romania	2,751	3,647	3,124	4,592	9,297	7,179	9,771	8,583
Turkey	1	1	13	5	45	36	96	129
Ukraine	3,792	2,582	842	992	3,120	2,106	7,529	8,176
Other	85,394	102,978	101,166	97,440	130,882	111,876	129,612	88,025
World	344,185	309,460	313,373	314,818	398,801	391,912	407,899	349,710

Source: [7].

When the shares of fresh apricot importing countries in terms of total apricot imports in 2020 are analysed, Russia has 19%, Germany 13%, Kazakhstan 10%, Iraq and France 6%, Italy 5%, Pakistan 4%, and Turkey 0.04%.

Developments in World Fresh Apricot Import Value

While world fresh apricot imports were approximately 64 million USD in 1980, they increased to 473 million USD in 2020. Countries with high world fresh apricot import values continue to be Germany, the Russian Federation, France, Kazakhstan, and Italy. The country with the highest fresh apricot import value in 2020 was Germany, with 102 million USD. Russia followed Germany with 57 million USD, and France with 35 million USD. When Turkey's fresh apricot import value is examined, it was

realised as 3 thousand dollars in 2000 and 110 thousand dollars in 2020, while there was no import value in 1980 (Table 10).

When the development of fresh apricot import values in the 1980-2020 period of the countries is examined, there has been a 7-fold increase in import values in the world in 2020. The highest fresh apricot import value increase was realised in Kazakhstan, 3652 times. Ukraine followed Kazakhstan with a 1954-time increase, Romania with a 393-time increase, and Pakistan with a 40-time increase. Looking at Turkey, there has been an increase of approximately 37 times (Table 10). When the share of fresh apricot importing countries in total apricot import value in 2020 was analysed, Germany had 22%, the Russian Federation 12%, France 7%, and Turkey 0.2%.

Table 10. Import value of important countries in fresh apricot import (1,000 \$)

Country	1980	1985	1990	1995	2000	2005	2010	2011	2012
Russian Feder.				0	9,790	25,965	72,302	74,370	73,782
Germany	18,676	15,268	41,704	55,661	42,219	70,521	94,236	95,603	105,371
Kazakhstan				4	169	10	3,900	13,782	20,467
France	9,448	6,373	6,856	24,243	12,737	14,821	19,657	18,763	26,779
Iraq									
Italy	12,143	6,244	14,245	30,376	24,957	26,600	27,344	38,328	27,571
Pakistan	288	441	106	52	557	672	677	953	5,532
Austria	6,246	4,099	9,957	10,117	10,453	21,479	30,232	27,248	27,396
Saudi Arabia	1,665	1,420	2,623	7,663	5,784	1,490	3,792	4,451	4,651
Romania	-	-	-	28	87	644	814	2,193	2,159
Turkey	0	0	0	0	3	4	4	7	55
Ukraine	-	-	-			4	2,731	2,065	12,563
Other	15,701	18,210	37,361	60,484	60,648	104,780	148,504	144,608	172,462
World	64,167	52,055	112,852	188,628	167,404	266,990	404,193	422,371	478,788
	2013	2014	2015	2016	2017	2018	2019	2020	Index (1980=100)
Russian Feder.	70,859	45,232	36,344	18,342	44,747	42,014	49,447	57,390	586
Germany	133,307	122,377	109,088	109,246	109,275	112,254	100,908	102,776	550
Kazakhstan	52,668	33,571	12,879	18,891	13,889	30,718	24,636	14,610	365,250
France	44,055	35,184	36,011	36,251	31,015	35,895	23,675	35,312	374
Iraq			7,409	8,008	14,258	14,521	10,791	9,768	132
Italy	46,596	41,223	43,516	30,870	21,188	23,555	16,503	26,430	218
Pakistan	2,956	6,384	8,491	944	10,168	11,207	13,459	11,552	4,011
Austria	28,471	20,541	22,267	24,494	24,409	24,144	21,042	24,601	394
Saudi Arabia	4,539	3,988	7,110	7,536	7,325	5,893	6,934	7,559	454
Romania	2,224	2,813	3,344	4,494	7,552	7,609	8,536	10,993	39,261
Turkey	1	1	13	6	23	30	121	110	3667
Ukraine	4,578	2,644	895	1,003	2,601	2,142	8,398	7,816	195,400
Other	179,285	202,559	169,265	164,170	186,395	177,987	177,612	164,418	1,047
World	569,539	516,517	456,632	424,255	472,845	487,969	462,062	473,335	738

Source: [7].

Turkey Fresh Apricot Production

Turkey Fresh Apricot Production, Planting Area and Yield

Apricot is a fruit produced in almost every province except the high springs of the Eastern Anatolia region (which has harsh

winters) and the eastern parts of the Black Sea region (which are pretty humid) [14].

Turkey ranks first in the world in apricot production and planting and twenty-eighth in apricot yield. According to the data of TUIK for the year 2021, the total area where fruits,

beverages, and spices are produced is 35 million decares. The apricot production area is 1.34 million decares. When the change in the apricot production area is examined in the period from 2004 to 2021, it is seen that there is an increase of approximately 50% in 2021 compared to 2004. The total number of fruiting and non-fruiting trees in 2004 was 13 million. From 13 million in 2004, the total number of trees increased by 60% to 21 million in 2021. There were also fluctuations in apricot yield from year to year. In 2005, there was an increase of approximately three times compared to the previous year. The highest yield between 2004-2021 was obtained this year with 72 kg. The yield per tree was 45 kg in 2021. When the apricot planting area and production change were examined, there was an increase in the apricot production area over the years. Although there was an increase in the production area, it was seen that there were fluctuations in the production amount. These fluctuations were due to climatic conditions and newly planted

trees. The adverse situation experienced by apricots during the flowering period due to late spring frosts adversely affects production and yield (Figure 7).

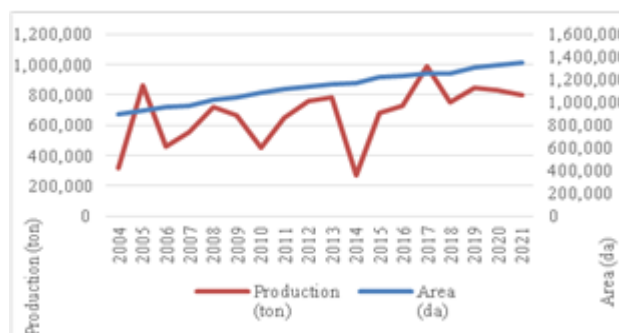


Fig. 7. Apricot production area and production amount in Turkey (2004-2021)

Source: [17].

Malatya is the first city that comes to mind when apricot is mentioned in Turkey. Approximately 50% of apricot production is realised by Malatya province. 90% of the apricots produced in this province are used for drying.

Table 11. Apricot area, production and yield of some important provinces in Turkey

		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
Malatya	Area (decare)	742,800	754,320	768,000	801,100	810,970	808,197	798,366	841,883	849,871	856,422
	Production (ton)	510,000	411,825	38,654	336,000	380,551	672,670	401,363	391,801	352,050	389,396
	Yield (kg per tree)	72	58	5	45	50	88	53	50	45	50
Mersin	Area (decare)	72,140	68,433	67,684	67,943	68,694	67,278	71,905	81,316	82,678	86,426
	Production (ton)	46,865	94,055	111,738	107,922	104,310	86,918	89,300	140,301	170,468	162,060
	Yield (kg per tree)	38	76	84	79	73	60	58	77	80	75
İğdır	Area (decare)	18,572	18,822	19,786	27,126	27,276	32,300	34,070	35,600	35,300	38,540
	Production (ton)	17,755	20,342	0	37,544	31,329	31,416	36,194	39,658	159	42,989
	Yield (kg per tree)	117	132	0	178	147	127	141	139	40,207	153
Elazığ	Area (decare)	83,148	83,787	85,864	96,341	97,809	97,524	98,192	99,354	99,626	102,112
	Production (ton)	38,578	39,514	11,390	18,417	58,876	53,157	51,775	56,184	50,786	31,179
	Yield (kg per tree)	39	40	11	17	55	49	48	52	47	29
Isparta	Area (decare)	17,914	18,520	19,572	22,792	23,403	23,763	24,006	24,520	26,439	25,930
	Production (ton)	16,908	16,582	12,141	4,127	14,543	12,567	9,122	10,062	13,413	22,064
	Yield (kg per tree)	52	50	35	11	38	31	27	28	35	56
Hatay	Area (decare)	10,446	11,322	7,070	7,523	6,708	19,706	20,761	19,637	19,959	24,517
	Production (ton)	8,239	8,535	6,546	6,707	5,962	7,612	32,766	31,593	35,941	21,080
	Yield (kg per tree)	35	35	33	34	33	24	49	50	53	29
Antalya	Area (decare)	9,315	10,412	13,978	15,013	16,570	17,346	18,044	17,664	17,645	18,320
	Production (ton)	15,691	16,316	27,463	20,869	21,217	17,919	14,201	16,188	16,564	19,219
	Yield (kg per tree)	75	74	55	39	38	31	25	29	29	33
Kahramanmaraş	Area (decare)	91,730	92,468	91,560	88,880	89,470	88,111	89,328	89,218	89,145	88,822
	Production (ton)	12,521	78,620	994	80,444	33,169	25,689	29,778	65,454	65,477	18,626
	Yield (kg per tree)	13	66	1	69	28	22	18	40	40	11
Kayseri	Yield (kg per tree)	5,954	6,109	6,116	6,151	6,502	6,393	6,432	6,432	6,428	6,399
	Production (ton)	13,683	13,323	1,478	4,392	10,913	13,154	9,311	12,548	5,780	16,581
	Yield (kg per tree)	46	43	5	14	35	41	29	39	18	52
Sivas	Area (decare)	12,140	12,239	12,656	10,828	11,202	11,865	11,267	11,359	13,806	13,910
	Production (ton)	4,267	4,327	1,267	4,536	4,549	4,142	11,164	11,160	7,672	2,205
	Yield (kg per tree)	24	24	7	22	20	18	48	48	33	9

Source: [17].

Apricot production is more common in the provinces of Mersin, Adana, Hatay, Antalya, İzmir, and Kars [14].

Hacıhaliloğlu, Kabaası, Hasanbey, Çataloğlu and Soğancı, Zerdali or Hüdai are apricot varieties grown in Malatya.

Hacıhaliloğlu is the most important dry apricot variety in the region. This variety constitutes 60-65% of the total tree number in Malatya [15].

The planted area in Malatya and other provinces has increased over the years. In 2012, 510 thousand tons of apricots were obtained from an area of 742 thousand decars in Malatya, while in 2021, 389 thousand tons of apricots and a 50 kg yield per tree were obtained from an area of 856 thousand decars. One hundred sixty-two thousand tons of apricots were produced in Mersin, 42 thousand tons in Iğdır, 31 thousand tons in Elazığ and 22 thousand tons in Isparta in 2021 (Table 11).

Malatya took first place in the 10-year production period. Malatya is followed by Mersin, Iğdır, Elazığ, and Isparta.

In Figure 16, the production share of some essential provinces in apricot production in 2021 was shown. Apricot production, which is a total of 800,000 tons in Turkey, was produced by Malatya 49%, Mersin 20%, Iğdır 5%, Elazığ 4%, and Isparta 3% (Figure 8).

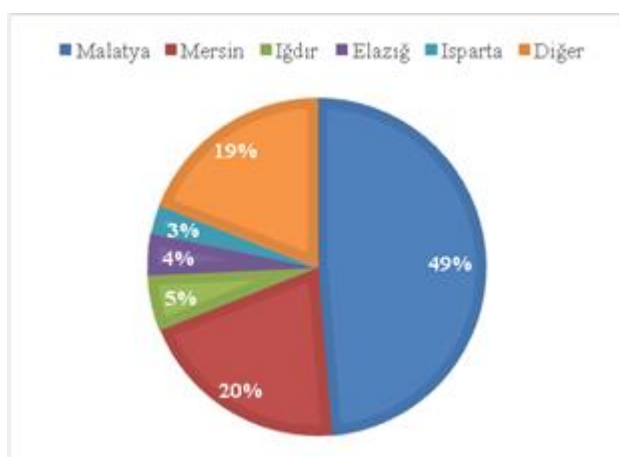


Fig. 8. Production share of some important provinces producing apricots (% , 2021)

Source: Our calculation from TURKSTAT data [17].

The highest yield between 2004 and 2021 was in Iğdır in 2015 with 178 kg. In 2021, there was a decrease in yield, and it was 153 kg.

This year, Mersin 75, Isparta 56, the most important apricot producer, Malatya 50, Antalya 33, Hatay 29 and Kahramanmaraş 11 kg.

When current prices in the 1980-2021 period were examined, we calculated that the apricot prices received by Turkish farmers in 2021 increased by more than 27 million times compared to 1980. On the other hand, the Producer Price Index rose more than 17 million times in the same period. This indicates that the increase in apricot prices is higher than the increase in the index, thus favouring apricot producers. The coefficient of variation in current prices in the analysed period was found to be 135.89. The concepts of volatility and uncertainty express two basic meanings of volatility. Here, variability refers to all movements, and uncertainty refers to unknown actions [18]. The volatility in the current prices of apricots in the analysed period was calculated as 72.34%. Price volatility is defined as a significant economic problem. The high inflation rate in Turkey in the 1980s and 1990s was effective in this situation.

When examining real prices (2003 prices), while apricot prices were 593.62 TRY per ton in 1980 in Turkey, they increased 55.93% in 2021 and became 925.60 TRY. In Turkey, the highest price was 1,251.10 TRY in 1987, and the lowest price was 554.10 TRY in 2013 (Figure 9). In this period, the coefficient of variation in real prices was calculated as 22.40. As a matter of fact, this variation can be observed in Figure 9. Therefore, the interpretation is high in the years examined.

Apricot prices per ton received by the producers in 1980-1989 were 890.69 TRY on average. Prices followed a fluctuation between 593.62 TRY and 1,251.10 TRY and peaked in 1987, the second peak in 1984, and the lowest in 1980. The volatility in current prices was 80.33%. Real apricot price volatility was 35.05% in this period. During this period, prices hit two-year lows and peaks. Apricot prices per ton of producers in 1990-1999 increased to 1,036.73 TRY on average. Prices rose from 816.83 TRY to 1,179.27 TRY. It reached its peak value in 1996. In addition, there were four peak values

in 1993, 1998, and 1999. Prices became more stable and on an upward trend. Although the volatility in current prices increased to 103.39%, the volatility in real prices decreased to 18.22%. From 2000 to 2010, the apricot price per ton fell to 955.78 TRY on average. Prices fell from 834.51 TRY to 1,063.90 TRY and showed a less volatile trend. As a matter of fact, the price volatility received by the producers in this period decreased significantly to 10.09%. The volatility in current prices was also reduced to 30.09%. It reached its peak value in 2004, 2003, and 2000. In the years 2011-2021, the price of apricots received by the producers was between 554.10 TRY and 1,055.88 TRY. It decreased to 779.70 TRY on average for this period. The bottom and top values in prices were at intervals of two or three years. As a matter of fact, the volatility in real prices rose to 28.37%. The volatility in current prices also increased to 37.08%. The real price of apricot reached its peak in 2015, reaching the second peak in 2014, the third peak in 2021, and the fourth peak in 2016. The high volatility of apricot current and real prices also caused significant risk and uncertainty in farmers' incomes.

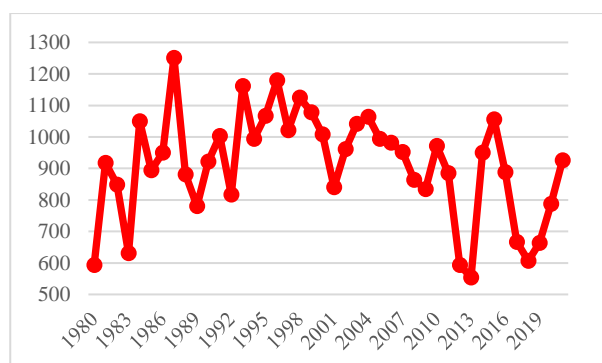


Fig. 9. Apricot real price per ton in Turkey (TRY)
Source: Our calculation from TURKSTAT data [17].

Turkey's export share of fresh apricots followed a fluctuating course. The percentage of fresh apricot exports has increased in general. Since 2015, the share rate has been above 10%. Turkey's apricot export share rate in 2020 was 17.98% (Figure 10).

The export share of dried apricots was 57% in the 1970s. In the following years, this ratio increased in general. The highest dried apricot

export share was in 1995, with 86%. Since 2010, the percentage of dried apricot exports has been below 80% (Figure 11).

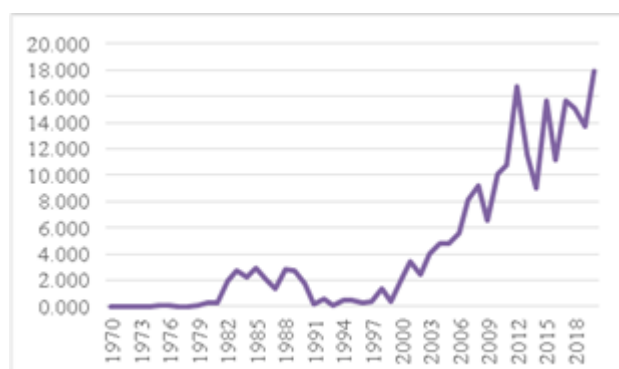


Fig. 10. Turkey's fresh apricot export share (%)
Source: Our calculation from FAOSTAT data [7].

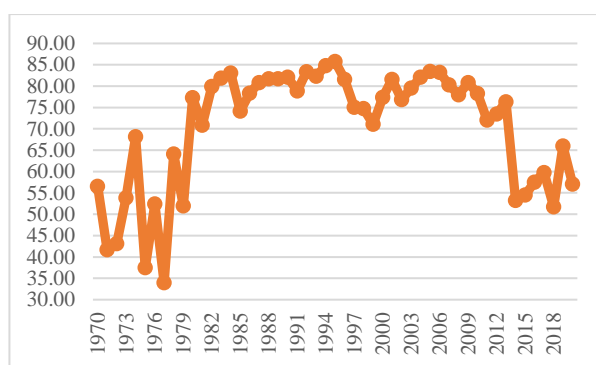


Fig. 11. Turkey's dry apricot export share (%)
Source: Our calculation from FAOSTAT data [7].

Turkey's apricot production share has fluctuated over the years. The most important reason for these fluctuations is late spring frosts.

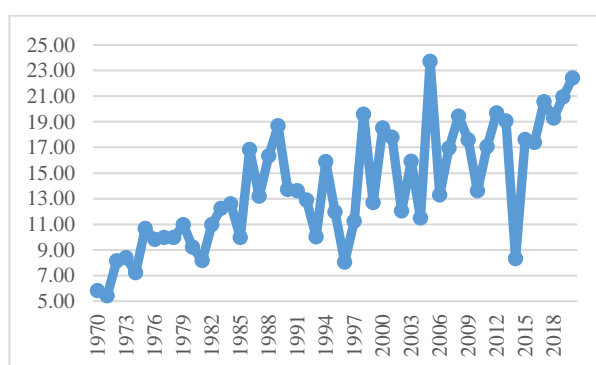


Fig. 12. Turkey's apricot production share (%)
Source: Our calculation from FAOSTAT data [7].

Adverse weather conditions, incorrect production techniques, and harvest time losses affect the production share. The share ratio, around 6% in 1970, increased to 23% in 2005,

the most between 1970 and 2020. In the following years, this rate decreased. The share rate, which was 8% in 2014, increased to 22% in 2020 (Figure 12).

CONCLUSIONS

This study has tried to analyse the development of apricot production and foreign trade in the world and Turkey. In this framework, the production of apricots has doubled in the world during the 1980–2020 period. Both the planting area (2 times) and the yield (1 time) increases effectively increased production. The share of the expansion of planted areas in the rise in apricot production is quite large. Turkey takes first place in the production of apricots in the world. Turkey accounts for 22% of the world's apricot production. Uzbekistan follows Turkey with a share of 14%, Iran with 9%, Algeria with 5%, and Italy with 4%. Turkey experienced a 420% increase in production compared to 1980. This increase in production was primarily due to the increase in cultivation area (201%). The yield increased by 72%. Turkey ranks first in the world in apricot production and planting and twenty-eighth in yield. The total apricot production area in the world has increased by two times and reached 562,475 hectares. Turkey, Iran, Uzbekistan, Algeria, Spain, and Italy continue to be the countries with the highest apricot planting areas in the world. When the world's apricot planting areas are examined based on countries, in the 2020 period compared to the 1980 period, Pakistan expanded its fresh apricot production area five times, China four times, Iran five times, Algeria and Uzbekistan about four times, and Turkey three times. In addition, there was a decrease in apricot planting areas by 19% in Japan, 7% in the Russian Federation, and 6% in France. When the fresh apricot yields of the important countries are examined in the period under consideration, Albania experienced an increase of 8 times, Turkmenistan 4 times, Jordan about four times, Uzbekistan about three times, and Turkey two times. When the apricot prices in 2020 are examined based on 2010, Iran

experienced an increase of 60%, Japan 54%, France 26%, Austria 23%, Israel 22%, and Germany 5%. The apricot price per ton in Switzerland and Greece fell by 5%, and in Turkey, there was a 50.13% price decrease in 2020 compared to 2010. The countries that export the freshest apricots are Spain, Turkey, Uzbekistan, Greece, and Italy. Turkey is also in first place in the production of dried apricots. In 2020, 3,719,974 tons of apricots were produced in the world, and 359,867 tons (9.67%) of these were exported. Spain exported 74.91% of its apricots, Greece 17.15%, Italy 9.75%, France 13.29%, Turkey 7.76%, and Uzbekistan 12%. The important countries in the export of dried apricots in the world are Turkey, Belarus, Afghanistan, Kyrgyzstan, and Myanmar. 74% of 2020 dried apricot exports belong to Turkey, 27% to Belarus, and 6% to Afghanistan. The countries that import the freshest apricots are the Russian Federation, Germany, Kazakhstan, Iraq, and France. According to the data of TUIK for the year 2021, the total area where fruits, beverages, and spices are produced is 35 million decares. The apricot production area is 1.34 million decares. When the change in the apricot production area is examined in the period from 2004 to 2021, it is seen that there is an increase of approximately 50% in 2021 compared to 2004. The highest yield between 2004-2021 was obtained in 2005 with 72 kg. In 2021, the yield per tree was 45 kg. 49% of apricot production, which is a total of 800,000 tons in Turkey in 2021, was realised by Malatya, 20% by Mersin, 5% by Iğdır, 4% by Elazığ and 3% by Isparta. Apricot's real price per ton in 2021 was 925.60 TRY.

As a result, apricot production has increased due to significant improvements in planted area and yield. In Turkey, on the other hand, it has increased with the expansion of the planted area. Most of the apricots produced in Turkey are offered for consumption as dried apricots. Apricots, which are not used for drying, are used in the table and fruit juice industries. The sweet ones of the apricot kernels are used as a snack, and the bitter ones are used in the pharmaceutical and cosmetic industries. Turkey's apricot yield, consumed

and used in many areas, is below the world average. Turkey, the world leader in dried apricot exports, needs to take measures to increase productivity in apricot production, which is adversely affected by late spring frosts. Thanks to the measures taken, productivity should be brought to the world average, and above, fluctuations in prices should be prevented.

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