



**Nazilli
Chamber Of
Commerce**

CHESTNUT REPORT



March,2019

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DEFINITION OF CHESTNUT

Chestnuts belong to the *Castanea* breed of the *Fagaceae* family. The natural spread of chestnuts, regions of the Northern Hemisphere, China, Korea, Japan, Turkey, South Europe and North America along with Bolivia.

Chestnut tree has upright body, reddish shell and hard-leaved. Varies according to geography, there are 16 distinct types known today. *Castanea Sativa* mill is the type of chestnut grown in countries in the Mediterranean basin, including our country. The chestnut tree, which has a magnificent structure reaching 30 M, has a life span ranging from 500-1000 years. 5 years after the vaccination it began to give fruit and at its 60 years it got to the highest yield. The harvest of the tree begins in mid-September. The fruits are yellowish-green, sea chestnut-shaped thorny chestnut shell (cupula) in the form of a single or double triple balls are found. Harvest time, the prickly cupula wraps and begins to crack and falls from the tree to the ground. During the fall, Chestnut fruits are separated from their spiny balls. The chestnuts that do not fall in the natural way are dropped by the villagers who come out of the tree by hitting the branches with a long pole.

AREAS OF USE

At the beginning of the foods made with chestnut are chestnut dessert, chestnut cake, Chestnut pudding, chocolate chestnut dessert and similar tastes. Which are very common for chestnut is fresh consumption and using in the confectionery industry. In Turkey, the stuffed turkey with chestnut and in some meat dishes with chestnut are famous. In addition to these in European countries, Chestnut pulp is evaluated in a wide variety of branches of the food industry.

Chestnut can be eaten fresh as well as boiled and grilled. It is also used the shell of the chestnut and the bark and leaves of the tree. If the shells of the chest are boiled and the drink the water, it calms the nerves and decreases the fire.

Chestnuts are used in the production of furniture, especially in the Black Sea region it used at boats, because it is resistant to water decay. Male flowers of Chestnut plant are visited by honey bees because its sugar content is high.

Honey obtained from chestnuts and linden flowers is preferred by consumers with excellent taste and naturalness. Besides, it is stated that the tea obtained from male flower sprays is good against sinusitis.

When the Chestnut is grounded, it becomes a beautiful and sweet flour instead of a greasy structure like almond and hazelnut. Some researchers note that it may alternate for the preparation of sweet and soups for children due to the allergic effect of lactose.

BENEFITS OF CHESTNUT

Aydın is the leader in the production of our country; to be accepted as a valuable tree in the chestnut as well as timber, flowers and leaves are among the most important products. Although Chestnut contains less fat than other hard shell fruit species, it comes to the fore as a source of essential fatty acids, especially linoleic acid. "Linoleic acid" is indicated by experts that it is effective in the prevention of cardiovascular diseases, and is particularly important in the development of brain and retina, especially for children. Chestnut has high calories and nutritious value, vitamins A and C. It also contains potassium, magnesium, calcium, iron and sodium minerals. It also stimulates the heart and muscle system and regulates the water balance and strengthens the muscles. In addition to all these benefits, chestnuts, is not recommended for who has high blood pressure and vascular stiffness and diabetes.

NUTRITIONAL VALUES

Chestnut has many nutritional elements that contribute to the nourishment of people in parallel with its nutritious properties. The food items of the Chestnut are changed according to the type, variety and ecological conditions of the Chestnut, as well as according to the processing technologies applied. For example, when chestnuts are boiled, the humidity rate increases and the total energy value decreases by 33%. The amount of potassium, sodium, and calcium changes as starch composition during the boiling process. If roasted, the rate of humidity " The amount of sugar increases by 96 percent and the energy value increases by 11 percent. Shelf life is prolonged when Chestnut is dried and increases in nutrients are observed.

Composition and nutritional values of Chestnut matter (g/100 g)

	FRESH	SEARED	ROASTED	BOILED	FLOUR
Edible section%	81	100	82	88	100
Humidity	52,9	10,1	42,4	63,3	11,4
Calorie	160	287	200	120	343
Food items					
Carbohydrates	34	57,8	39	24,4	63,6
Candy	9,6	16,1	10,7	7,5	23,6
Starch	24,4	41,7	28,3	16,9	40
Fiber	7,3	13,8	8,3	5,4	14,2
Soluble	0,6	1,1	0,7	0,6	1
Insoluble	6,7	12,7	7,6	4,8	13,2
Protein	3,2	6	3,7	2,5	6,1
Oil	1,8	3,4	2,4	1,3	3,7
Sodium	0,044	0,083	0,053	0,034	0,082
Potassium	0,918	1,75	1,12	0,715	1,73
Vitamin A	0,022	0,042	0,027	0,017	0,041
Vitamin C	0,034	0,065	0,0419	0,0267	0,0644
Calcium	0,059	0,113	0,072	0,046	0,111
Iron	0,0022	0,0042	0,0027	0,0017	0,0041
Magnesium	0,069	0,132	0,085	0,054	0,13
Source:TÜİK					

FEATURES OF STANDARD CHESTNUT CHESTNUT

- Earliness
- High yield
- Large and delicious fruit
- The shell is thin and easy to peel
- Can be stored for a long time,
- Not dispersed in the confectionery
- Compliance with chestnut dough
- Resistance to disease and pests

WORLD CHESTNUT PRODUCTION

Turkey is the third largest producer of chestnut production in the world with the most important share of the people's Republic of China.

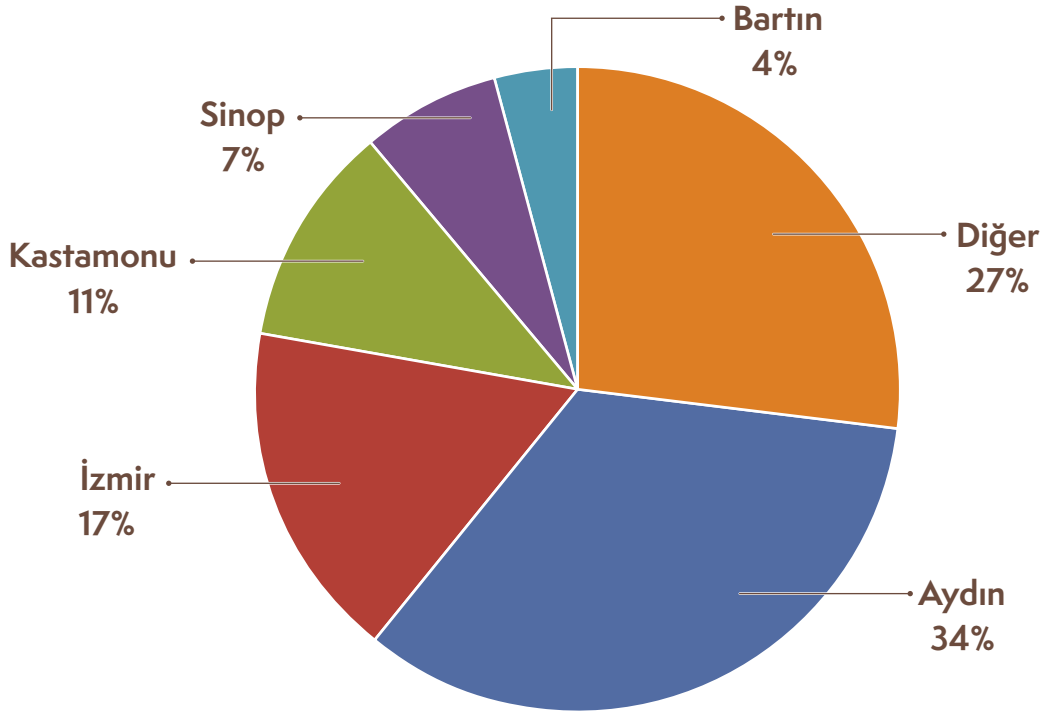
Bolivia, Italy and Greece follow our country respectively. According to the figures obtained from the FAO, World Chestnut production in 2013 is around 2.009.487 tons in total; % 82 of which is China, % 3.3 Republic of Korea ,% 3 by Turkey.



WORLD CHESTNUT PRODUCTION		
Countries	Harvest field	Production(Ton)
CHINA	305.000	1.650.000
THE REPUBLIC OF KOREA	33.073	67.902
TURKEY	39.180	60.019
BOLIVIA	42.180	58.666
ITALY	21.867	49.459
GREECE	7.000	29.900
PORTUGAL	35.200	24.700
JAPAN	20.600	21.000
SPAIN	31.000	17.200
DEMOCRATIC PEOPLE'S REPUBLIC OF KOREA	5.500	12.000
FRANCE	7.672	9.209
ALBANIA	1.600	3.984
BOSNIA AND HERZEGOVINA	700	1.000
PERU	260	950
AZERBAIJAN	514	817
MACEDONIA	273	584
POLAND		460
BULGARIA	109	441
HUNGARY	500	300
UKRANIAN	80	300
SWITZERLAND		265
CAMERUN	137	141
ZİMBABWE		80
LATVIA	20	50
SLOVAKIA		30
ROMANIA	1	25
SLOVENIA	12	5
Source: FAO		

TURKEY CHESTNUT PRODUCTION

Because the climate and soil characteristics of our country , Turkey is suitable for Chestnut cultivation, it has an important production potential. Production is spread across the country. Especially in our western regions, cultivation has reached an important level. Production in the eastern Black Sea , chestnut trees are between hornbeam, Alder etc. and rarely in the form of pure Chestnut communities, large amounts of chestnuts are observed in small groups towards the West. Aegean region was the first in total production in regions with a share of 96 60. In the production of Provinces, respectively Aydın, İzmir, Kastamonu and Sinop are come to the front.



CHESTNUT PRODUCTION ACCORDING TO THE PROVINCES OF TURKEY

City	Area Of Bulk Frutts	Production (ton)	Average Yield Per Tree (kg)	Number Of Trees At The Age Of Frutt	Age Number Of Tress Wtthout Frutt	Total Trees
Aydın	63.970	21.215	33	641.762	91.745	733.507
İzmir	25.257	9.742	26	374.300	48.050	422.350
Kastamonu	3.280	9.715	59	164.170	13.575	177.745
Sinop	115	3.993	26	155.100	29.870	184.970
Bartın	710	2.843	33	86.540	14.290	100.830
Kütahya	41	2.795	26	106.900	93.170	200.070
Manisa	3.880	2.482	43	57.375	10.995	68.370
Bursa	4606	1.943	36	53.590	12.425	66.015
Denizli	817	1.891	28	66.912	7.340	74.252
Zonguldak	0	1.180	24	48.939	2.036	50.975
Balıkesir	703	1.033	30	34.560	8.834	43.394
Çanakkale	147	930	35	26.340	2.126	28.466
Samsun	1	613	23	26.271	5143	31.414
Ordu	0	592	24	24.300	1.130	25.430
Yalova	6000	579	21	28.000	500	28.500
Düzce	0	547	33	16.536	1.179	17.715
Rize	0	501	14	36.290	1.725	38.015
Kocaeli	1250	395	33	12.095	1.942	14.037
Artvin	126	251	19	13.000	950	13.950
Giresun	0	148	8	19.300	16.000	35.300
Muğla	67	90	52	1.715	162	1.877
Antalya	80	73	90	810	560	1.370
Sakarya	25	72	27	2660	140	2.800
Trabzon	0	58	13	4.348	595	4.943
İstanbul	0	40	8	5.000	600	5.600
Bitlis	5	14	20	700	0	700
Isparta	0	12	52	230	5	235
Afyon	0	2	40	50	420	470
Tokat	0	1	7	150	10	160

Source: TUIK

TURKEY CHESTNUT PRODUCTION BY YEARS

Year	Area Of Bulk Frutts	Production (ton)	Average Yield Per Tree (kg)	Number Of Trees At The Age Of Frutt	Age Number Of Tress Wtthout Frutt	Total Trees
2018	111.123	63.580	31	1.954.000	406.000	2.360.000
2017	111.120	62.904	30	1.979.000	377.000	2.356.000
2016	111.092	64.750	32	1.950.000	371.000	2.321.000
2015	111.080	63.750	32	2.007.943	365.517	2.373.460
2014	111.164	63.762	32	1.991.270	362.136	2.353.406
2013	113.069	60.019	31	1.958.904	361.505	2.320.409
2012	121.244	57.881	30	1.939.101	306.821	2.245.922
2011	119.559	60.270	31	1.922.915	366.030	2.288.945

Source: TÜİK

AYDIN CHESTNUT PRODUCTION

Chestnut production in our country is number 3 in the World . In our country, production is around 57 - 63 thousand tons. The amount of Chestnut grown in our province varies according to years and it is around 19 - 21 thousand tons . Aydın has about 33% of chestnut production in Turkey.

Chestnut cultivation in our province, despite the availability of ecological conditions in mountainous regions and Highlands especially in the northern slopes are common. Production is usually obtained from scattered trees. Our city Chestnut production the first row Nazilli, Köşk and Sultanhisar districts . According to the years there are fluctuations in production because of chestnut cancer, drought and fruit worms.

CHESTNUT PRODUCTION ACCORDING TO AYDIN COUNTIES

Year	Area Of Bulk Frutts	Production (ton)	Average Yield Per Tree (kg)	Number Of Trees At The Age Of Frutt	Age Number Of Tress Wthout Frutt	Total Trees
Nazilli	27.000	8.900	31	291.330	17.540	308.870
Köşk	13.000	4.752	46	103.500	30.500	134.000
Sultanhisar	16.485	4.251	28	150.770	8.950	159.720
Çine	1100	1.095	50	21.900	550	22.450
Bozdoğan	1400	922	32	28.825	2.540	31.365
Efeler	2.325	635	45	14.100	13.010	27.110
Kuyucak	1.392	422	19	22.197	1.865	24.062
Karacasu	454	135	33	4.100	4.000	8.100
Buharkent	102	60	35	1.725	770	2.495
Koçarlı	0	23	25	920	80	1.000
Yenipazar	650	10	5	2.000	10.500	12.500
Karpuzlu	62	10	25	395	1.440	1.835

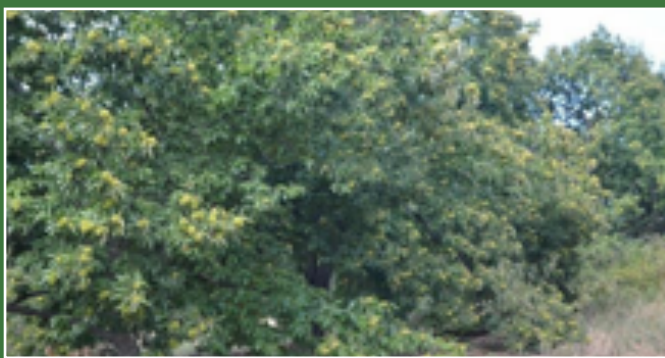
Source: TÜİK



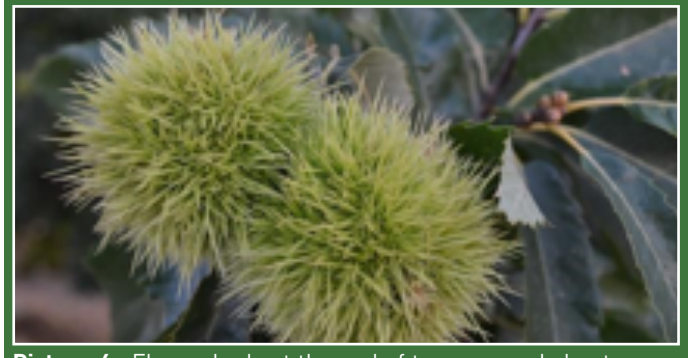
Picture 1: Aydın Sultanhisar uzunlar village chestnut fields



Picture 2: Aydın Nazilli yaylapınar village kapama chestnut garden



Picture 3. Large chestnut trees



Picture 4. Flower buds at the end of two sips and shoots in the background in the near term of harvest



Picture 5. Terraced chestnut garden



Picture 6. Fruit ball and dried male flower sprouts during the harvest period



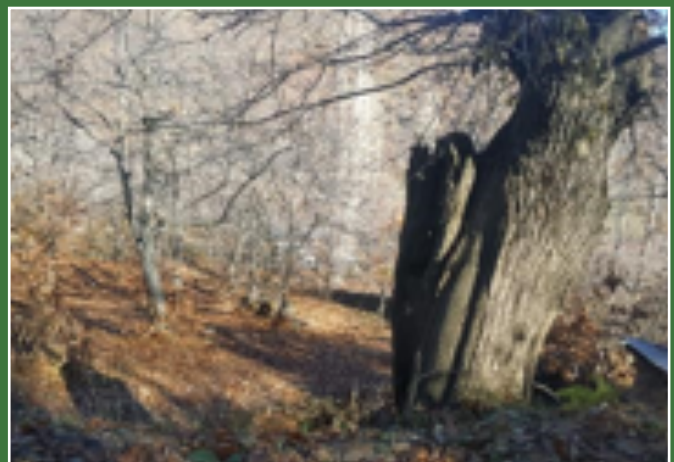
Picture 7. Chestnut tree garden



Picture 8. The tangles came the period of harvest



Picture 9. Harvesting chestnut with a pole



Picture 10. old chestnut trees peeled bark as a result of improper cutting

GLOBAL CHESTNUT IMPORT VOLUMES					
Importing countries	2014	2015	2016	2017	2018
World	110,061	106,635	103,967	88,801	
Italy	39,155	31,670	36,468	21,506	
China	9,874	6,694	7,213	9,255	
France	4,801	9,194	5,859	6,042	5,896
Thailand	5,242	4,977	4,754	5,313	5,012
Taiwan	4,728	5,008	5,745	4,904	
Germany	3,486	3,635	3,198	3,429	2,826
Japan	3,709	3,671	3,708	3,290	3,137
American	3,338	3,754	3,529	3,180	
Israel	1,972	1,978	1,738	2,743	
Switzerland	2,535	2,824	2,638	2,467	2,435

WORLD CHESTNUT CONSUMPTION FIGURES (1000 \$)					
Importing Countries	2014	2015	2016	2017	2018
World	315,398	235,436	262,383	244,097	
Italy	127,642	65,132	92,799	64,188	
China	18,360	10,504	15,221	22,039	
Germany	19,203	17,235	16,127	18,216	15,182
Switzerland	17,008	15,234	15,809	15,311	15,249
American	10,746	13,560	12,657	13,837	
Thailand	11,445	11,255	10,528	11,662	12,494
France	11,708	14,095	9,774	10,953	14,005
Japan	12,618	10,377	11,455	10,753	9,758
Austria	10,915	6,926	6,562	10,455	
Israel	4,240	3,815	3,832	5,556	

WORLD CHESTNUT EXPORT FIGURES TANS					
Importing countries	2014	2015	2016	2017	2018
World	115,893	114,845	114,423	98,551	
China	35,429	34,509	32,795	33,576	
Italy	9,858	12,492	10,825	13,399	
Portugal	15,099	15,480	18,154	10,247	12,534
Turley	11,462	5,529	8,297	9,797	12,957
Ispain	13,632	17,203	19,695	8,801	
South Korea	9,647	7,434	7,093	8,742	7,572
Greence	4,312	3,736	3,475	3,908	3,447
France	2,427	3,005	2,540	2,156	1,874
Albania	2,117	2,453	3,201	1,750	
Japan	1,406	294	663	1,132	864

WORLD CHESTNUT PRODUCTION EXPORT FIGURES (1000 \$)					
World	351,284	277,439	309,525	284,517	
China	82,178	77,701	76,730	72,530	
Italy	59,141	55,287	53,083	61,350	
Turkey	40,195	14,794	24,993	36,787	43,110
Portugal	54,985	34,017	49,271	27,687	42,660
Spain	46,274	37,725	50,176	26,273	
South Korea	17,986	12,433	15,212	19,451	19,161
Greence	15,328	10,600	8,769	10,425	11,069
France	11,139	12,663	11,701	10,221	9,116
Japan	4,007	891	2,814	5,323	3,875
Albania	4,494	3,866	6,161	2,708	

TURKEY CHESTNUT EXPORT

Turkey's exports figures: in the last 5 years at Chestnut exports Italy has always reached the first place. Countries with foreign trade potential outside Italy are Lebanon, Jordan, Germany, France and England. Looking at these countries, the volume of imports is high and they are potential markets for Turkey. However, China's chestnuts have a serious share in this markets, and Turkey's potential in this markets despite the remains of the eye. Looking at TurkStat figures, Turkey's exports in the last five years grew by 71 percent and rise to 14.822 thousand dollars. In the last five years, there have been continuous fluctuations in imports.

WORLD EXPORT FIGURES IN TONS					
Importing countries	2014	2015	2016	2017	2018
World	11,462	5,529	8,297	9,797	12,957
Italy	8,166	2,476	4,972	6,908	9,386
Lebanon	1,219	1,912	2,056	1,742	2,066
Jordan	212	389	341	172	325
Germany	351	187	271	295	256
Saudi Arabia	12	119	69	26	178
England	196	96	102	167	148
Hungary	154		44	66	127
Cyprus				39	73
Syria	9	1	23	21	58
Netherlands	42	29	44	35	49

TURKEY EXPORTS IN DOLLARS (1000 \$)					
Importing countries	2014	2015	2016	2017	2018
World	40,195	14,794	24,993	36,787	43,110
Italy	30,032	6,365	16,314	26,561	32,455
Lebanon	4,508	5,405	5,423	6,116	6,617
Germany	1,496	610	1,005	1,420	949
Jordan	503	928	594	430	660
England	670	283	289	601	473
Saudi Arabia	18	280	117	46	274
Hungary	225	0	52	156	265
Netherlands	173	95	152	156	177
Cyprus	0	0	0	75	174
France	1,429	37	14	442	153

IMPORT AND EXPORTS OF OUR COUNTRY BY YEARS(ABD \$)		
Years	Export	Import
2018	43.110.000	1.438.000
2017	36.787.000	928.000
2016	24.993.000	75.000
2015	14.822.203	518.157
2014	40.217.947	408.200
2013	18.449.219	435.749
2012	16.301.472	169.494
2011	8.646.954	514.438

Source: TÜİK

TOPICS TO BE DEVELOPED FOR CHESTNUT PRODUCTION AND EXPORTS

- Measures to prevent cancer disease should be taken. Trees need to be vaccinated in order to obtain quality products from trees
- Should raise awareness of the importance of the chestnut for Aydın.
- Because the variety of products in the countries where the Chestnut is developed is not available in our country, this product cannot go further than being a mandatory fruit consumed in winter.
- During the harvest stage, waiting for the cutout to mature and fall to the ground, , the falling fruit to be rounded and lost or eaten by animals are not seen economical. Fruits harvested before maturing are usually harvested with poles, which cause trees to be damaged, diseases spread from tree to tree through bars and quality loss in early harvested fruits.
- The bottom of the trees is cleaned from the dead cover so that the chestnut fruits that are dropped to the ground are collected more easily, which in time causes erosion and loss of soil under the tree.





Nazilli Chamber Of Commerce

