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## Introduction of Pistachio Research and Application Centre founded at University of Harran

B.E. Ak

University of Harran, Faculty of Agriculture, Department of Horticulture,  
63200 Şanlıurfa, Turkey

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**SUMMARY** - On 8 April 1996 the Pistachio Research and Application Centre was founded at the University of Harran, in Şanlıurfa. Şanlıurfa has a very important position at GAP region (Southern Anatolia Project) in Turkey. It is also a very important centre for pistachio cultivation. In this paper the following questions will be answered; Why the Pistachio Research and Application Centre is founded in Şanlıurfa and at Harran University? What are the objectives, duties and proposal projects to improve Pistachio Culture not only in Turkey but also in the world?

**Key words:** Pistachio, research centre, production.

**RESUME** - "Présentation du Centre de Recherches et d'Application sur le Pistachier, fondé à l'Université de Harran". Le 8 avril 1996 fut créé le Centre de Recherches et d'Application sur le Pistachier à l'Université de Harran, à Şanlıurfa. Şanlıurfa est une zone très importante dans la région GAP (Projet pour le Sud de l'Anatolie) en Turquie. C'est également un centre très important pour la culture de pistaches. Cet article va répondre aux questions suivantes : Pourquoi a-t-on fondé le Centre de Recherches et d'Application sur le Pistachier à Şanlıurfa et à l'Université de Harran? Quels sont les objectifs, la mission et les projets proposés pour améliorer la culture de pistaches non seulement en Turquie mais aussi dans le monde?

**Mots-clés :** Pistache, Centre de Recherches, production.

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### World pistachio production

Pistachio (*Pistacia vera* L.) is the only edible crop of 11 species in the genus *Pistacia*. It grows limited areas because of ecological factors. In the world 12 countries produce economically pistachio nut nowadays. But some countries such as Spain, trying to extend pistachio cultivation.

Pistachio have been growing in wild or semi-wild conditions for hundreds of years in parts of Afghanistan, north-west India, Iran, Turkey, Syria and other Near East and North African countries. Commercial exploitation of pistachio commenced in the thirties in Iran, which is still the world's largest producer (Chang, 1990).

The world production was given Table 1. As it is seen main countries Iran, USA and Turkey. Pistachio is very important crop for export. According to Table 1, Iran is first producer country in the world. It covers 57.91% production of the world production.

### Pistachio production in Turkey

Pistachio production in Turkey is very important. Pistachio cultivation techniques are primitive. In the future when the modern system applied, the yield will be increased. There are 41,689,000 total trees. The number of non bearing tree is covers 44%. This means the total yield or production of Turkey will be doubled when this rate become adult (Table 2).

According to Table 2 yield is alternating because of the alternate bearing. On the other hand yield per tree was very low.

Table 1. World pistachio production (tons)

Countries	Years				Average	%
	1991	1992	1993	1994		
Iran	182,484	201,632	229,332	210,000	205,862	57.91
USA	34,930	66,680	68,950	58,100	57,165	16.10
Turkey	64,000	29,000	50,000	35,000	44,500	12.52
China	23,000F	21,500F	24,000F	24,500F	23,250	6.54
Syria	14,400	20,200	13,700	15,000F	15,825	4.45
Greece	6,300	4,565	4,100	4,200*	4,791	1.35
Afghanistan	1,600F	1,900F	1,600F	1,900F	1,750	0.49
Italy	2,400	156	2,000F	200F	1,189	0.33
Tunisia	620	800	900	1,000	830	0.23
Pakistan	0	300F	300F	300F	225	0.06
Jordan	30F	30F	30F	30F	30	0.01
Mexico	15	117	0	0	33	0.01
Cyprus	25	30	27	30F	28	0.01
World	329,804	346,910	394,939	350,260	355,478	100.00

F: FAO estimate; \*Unofficial figure

Source: FAO, Production Yearbook (different years)

Table 2. Pistachio production and number of trees in Turkey

Years	Total trees (x 1000)	Bearing trees (x 1000)	Non-bearing trees (x 1000)	Production (tons)	Yield <sup>†</sup> (kg/tree)
1989	37,007	20,067	16,940	40,000	1.99
1990	37,418	20,385	17,033	14,000	0.69
1991	36,873	21,080	15,793	64,000	3.04
1992	38,600	22,000	16,600	29,000	1.32
1993	40,813	22,948	17,883	50,000	2.18
1994	41,689	23,340	18,349	40,000	1.71
1995	42,760	23,850	18,910	36,000	1.51

<sup>†</sup>Yield was calculated for bearing tree numbers

Source: Agricultural Structure and Production (different years), State Institute of Statistics, Prime Ministry, Republic of Turkey

Main producer places are southern Anatolia part of Turkey. This part include GAP project area. It is regional development project. Main provinces are Şanlıurfa, Gaziantep, Adıyaman etc. These provinces including GAP project. In future all of this area will be irrigated. These three provinces covers 81.67% total pistachio production (Table 3).

As it is seen clearly in Table 3, main province is Şanlıurfa. This city is accepted centre of Southern Anatolia. It has big plane such Harran plain, Ceylanpınar plain etc. If the tables are looked over that yield will be seen very low. The reason for low yield in Turkey as follows: (i) young trees start bearing very late; (ii) the yield is very low in young trees; (iii) the soils of pistachio orchards are very poor, calcareous and stony; (iv) annual precipitation is very low and irrigation facilities do not exist; (v) application of chemical fertilizer is very limited; (vi) pollination is inefficient and (vii) most of the varieties show strong alternate bearing.

Main problems in Turkey are Irrigation, Pollination and alternate bearing habits for pistachios. In the future these problems will be solved. There are a lot of researches are going on different part of Turkey on pistachio nut.

University of Harran established 1992 in Şanlıurfa. As it is mentioned above Şanlıurfa is accepting centre of Southern Anatolia. Because of this reason Harran University has very important duties. For this reason, Pistachio researches are very important. In Pistachio production or yield was low.

Table 3. The main pistachio producer province in Turkey

Provinces <sup>†</sup>	Number of trees <sup>††</sup>			Production <sup>†††</sup>		Yield <sup>††††</sup>
	Total	Bearing	%	Tons	%	(kg/tree)
Şanlıurfa	14,377,640	7,468,700	51.9	19,749.0	43.17	2.64
Gaziantep	14,527,600	9,183,600	63.2	13,108.3	28.65	1.43
Adıyaman	5,416,926	3,239,700	59.8	4,505.5	9.85	1.39
K. Maraş	1,348,082	743,082	55.1	2,498.0	5.46	3.36
Siirt	1,130,400	448,900	39.7	1,290.8	2.82	2.88
Diyarbakır	325,500	114,300	35.1	855.3	1.87	7.48
Çanakkale	312,500	273,450	87.5	514.8	1.13	1.88
Mardin	516,655	147,040	28.5	469.5	1.03	3.19
Manisa	680,488	328,170	48.2	382.3	0.84	1.16
Batman	174,700	51,800	29.7	345.8	0.75	6.67
Others	2,878,509	1,341,258	46.6	2,031.0	4.43	1.51
Total	41,689,000	23,340,000	55.9	45,750.0	100.00	1.96

<sup>†</sup>Provinces are considered production value

<sup>††</sup>Source: Agricultural Structure and Production, 1994. State Institute of Statistics, Prime Ministry, Republic of Turkey

<sup>†††</sup>Average of 4 years (1991-1994)

<sup>††††</sup>Yield (kg/tree) was calculated for bearing tree numbers

## Pistachio Research and Application Centre founded at University of Harran

In 1996 at eight of April Pistachio Research and Application Centre was established at the University of Harran, in Şanlıurfa. Şanlıurfa is very important position at GAP region (Southern Anatolia Project) in Turkey. It is also very important centre for pistachio cultivation.

The aims of this centre are two. Firstly, to carry out research on pistachio and other nut crops. Secondly to advise pistachio growers and improve and modernize the Pistachio culture in Şanlıurfa and other producer areas. That means training and extension of research results. The overall aims are improvement of yield and quality.

Research lines will be on: (i) pollination; (ii) irrigation; (iii) fertilization; (iv) propagation; (v) rootstocks; (vi) varieties; (vii) pest and disease management; (viii) harvesting and post harvest management and (ix) economics and marketing.

The above Research lines will be run not only Pistachio but also the other nut crops.

Some of the duties are summarized as below: (i) to carry out technological and scientific activities in the GAP region; (ii) determination of the new promising varieties for different conditions; (iii) to train new techniques for propagation, irrigation, pruning, mechanization, etc., and to modernize the growing system; (iv) to solve the problems of pistachios and other fruit crops; (v) to organize national and international meetings; (vi) to determinate the best irrigation methods and encourage the farmers to irrigate their plantations; (vii) to carry out breeding and selection studies and to prepare germplasm for *Pistacia vera* and other *Pistacia* spp.; (viii) to exchange germplasm and knowledge the other pistachio producing countries; (ix) collaboration of the scientist who are working on nut crops and (x) to provide international cooperation with the Research centres which are working on nut crops.

As a result, pistachio cultivation are getting modernize in the world. It has a lot of problems. To solve these problems Pistachio research and application centre was established.

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