

Proceedings:

International Conference on
Mango and Date Palm: Culture and Export.
20th to 23rd June, 2005.
Malik *et al.* (Eds), University of Agriculture, Faisalabad.

DATE CULTIVARS IN IRAN

Saeed Hajian

P.O.Box 61355/16 - Ahwaz – Iran
Date Palm and Tropical Fruits Research Institute of Iran
Email: saeedhajian@yahoo.com

ABSTRACT

According to the latest FAO report, 6.75 million tons dates were produced in 32 countries of the world in 2004. About 81% of them were produced by Egypt, Iran, Saudi Arabia, United Arab Emirates, Pakistan, Algeria, Sudan, Oman, Tunisia and Morocco. Iran has the highest germplasm pool (more than 400 cultivars) followed by Iraq, Tunisia, Morocco, U.S.A and Egypt, respectively. Of course there are a few commercial cultivars inspite of huge germplasm in the world. Commercial cultivars can affect the marketing of dates so, determining and introducing of them can be useful for date industry particularly increasing of date palm plantation area. Some of characteristics of the most famous of date palm cultivars viz Medjool, Deglet-Noor, Barhi, Thoori, are discussed in this article based on the research results under south-west climatic conditions of Iran.

Keywords: Native cultivars, commercial cultivars, number of cultivars, Medjool, Barhi, Deglet-Noor, Thoori.

INTRODUCTION

About 81% of dates are produced in Egypt, Iran, Saudi Arabia, United Arab Emirates, Pakistan, Algeria, Sudan, Oman, Tunisia and Morocco according to the latest FAO report in 2004 (Fig.1). In Iran, dates are grown on an area of 184 thousand hectares with an annual production of 875 thousand tons. Also more than 400 cultivars have been reported from Iran (Fig.3) (Zaid, 1999) and in this regard, it is placed first in the world.

On the other hand, water, soil and genetic resources are fundamentals of stable development in agriculture but the most of the activities are focused on higher efficiency of genetic resources due to some water and soil obstacles in Iran. Introduction of a desire date cultivar for a specific region needs at least 20 years with current technologies that includes 12 years for research programs on compatibility, quantitative and qualitative analysis, and 8 years for extension of recommended cultivars in date plantations. In spite of above advantages of date production in Iran, there are few commercial cultivars in the country. Commercial cultivars can affect on marketing of dates and thus study on their prevalence can be useful for date industry particularly increasing date palm area.

Native date palm cultivars of Iran

Date palm has been cultivated in 13 provinces, out of 29 provinces of Iran. More than 99% of annual productions are from Hormozgan, Kerman, Fars, Sistan and Baluchestan, Bushehr and Khuzestan provinces (Fig.4).

The investigations on date palm have been started for more than 40 years ago in Iran. Identification and collection of new date cultivars are one of the most important subjects and has been always studied due to their value as a genetic resource. The number of new identified and collected female cultivars of date palm is shown in table 1 (Pezhman and Hajian, 2004). According to research results some of the most commercial cultivars that are cultivated in Iran have introduced in table 2 (Hashempoor, 1999).

Exotic date palm cultivars in Iran

Cultivars first time imported in 1986 consisted of Deglet Noor, Medjool, Thoori and Barhi. These cultivars were propagated by tissue culture techniques. These cultivars were investigated on compatibility of plantlet, quantitative and qualitative of fruits in some of agricultural research stations at least for 15 years. Studies on these cultivars have finished in Khuzestan province recently.

The first stage of this experiment was carried out during 1990–1995 at Ahwaz agriculture station. In this study Deglet Noor, Thoori, Medjool and Barhee as well known commercial date cultivars of the world compared with Sayer as the major cultivar of Khuzestan date plantations. All of the foreign cultivars were propagated by tissue culture technique as before mentioned and were imported from England by government. The results showed that Sayer cultivar had the highest compatibility (96%). Barhee, Thoori, Deglet Noor and Medjool had 85, 81, 70 and 27%, respectively (Eeta, 1991). Of course it seems some agro-technical circumstances cause low percentage of Medjool compatibility because they had desire compatibility in other observation studies.

The second stage carried out during 1998-2003. The results showed that the yield of Barhee cultivar was significantly highest (54.08 kg/tree) (Fig.5). Sayer and Barhee cultivars had higher sugar content than Deglet Noor and Thoori (Fig.6) (Hajian, 2005).

The results of studies at other stations showed Thoori cultivar that is tolerant to high relative humidity could be recommended for south of Hormozgan. It has produced 35–40 Kg/tree averagely (Pezhman and Hajian, 2004). Also, Medjool cultivar has showed desire quality and quantity of fruits in Minab, Haji Abad, Shahdad and Bushehr (Pezhman and Hajian, 2004). Deglet Noor has produced suitable production in Hormozgn and Kerman (40–50 Kg/tree) but its quality has been low due to special pollen requirements (Pezhman and Hajian, 2004).

The other cultivars are listed in table 3 (Roshan et al., 2004). Also JarvisNo.1 and Fard No.4 as male varieties (pollinator) are imported that have been investigated at Ahwaz (Khuzestan), Minab (Hormozgan) and Zahak (Sistan & Baluchestan) agricultural research stations (Pezhman and Hajian, 2004).

REFERENCES

- Eeta, M. 1991. Determination of the best pollen for pollination Sayer cultivar (Final report) Seed and Plant Improvement Institute Press. pp. 2-17.
- Food and Agricultural Organization. 2005. <http://www.fao.org>.
- Hajian, S. 2005. Advanced study and comparison of quality and quantity of foreign date cultivars produced by tissue culture.
- Hashempoor, M. 1999. Date palm treasury. Agriculture Education Press. p. 668.
- Pezhman, H. and Hajian, S. 2004. Situation of date palm and tropical fruits researches in Iran (Approaches, obstacles and abilities). Annual Research Week Seminars, Shahid Chamran University, Ahwaz, Iran.
- Roshan, V., Pezhman H. and Hajian, S. 2004. Concepts of propagation and cultivation of tissue cultured date palm plantlets (Extension Bulletin). Date Palm and Tropical Fruit Research Institute of IRAN (In Press). p. 12.
- Zaid, A. 1999. Date palm cultivation. FAO plant production and protection. Paper No.156, Rome. p. 287.

TABLES

Table 1: Number of new identified and collected female cultivars of Date Palm

Province	No. of Identified Female Cultivars	No. of Collected Female Cultivars
Hormozgan	114	25
Kerman	67	130 (Bam) and 150 (Jiroft)
Fars	85	40
Bushehr	115	30
Sistan & Baluchestan	33	14
Khuzestan	65	105

Table 2: Some of the most commercial cultivars of Date Palm in Iran

Province	Cultivars
Hormozgan	Piarom, Mordaseng, Khasi, Almehtari
Kerman	Mozafti, Kalute, Mordaseng
Fars	Shahani, Kabkab, Khasi, Zahidi, Gantar
Bushehr	Kabkab, Shahabi, Zahidi
Sistan & Baluchestan	Mozafti, Rabbi
Khuzestan	Sayer, Barhi, Zahidi, Deiri, Hallawi, Khazrawi, Braim, Khasi, Kabkab, Gantar, Haj Ghanbari, Shekar

Table 3: Distribution and situation of imported commercial Date Palm cultivars in agricultural research stations of Iran

Cultivars	Agricultural Research Stations	Current Situation
Ashrasi	Ahwaz (Khuzestan), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Minab (Hormozgan), Zahak (Sistan & Baluchestan)	Vegetative Growth
Koosh Zabad	Bam (Kerman), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Vegetative Growth
Abu Narenja	Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Vegetative Growth
Deglet Noor	Ahwaz (Khuzestan), Haji Abad (Hormozgan), Minab (Hormozgan), Shahdad (Kerman)	Reproductive Growth
Helali	Bam (Kerman), Haji Abad (Hormozgan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Vegetative Growth
Abu Moaan	Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Vegetative Growth
Hayani	Ahwaz (Khuzestan), Shabankare (Bushehr)	Vegetative Growth
Medjool	Ahwaz (Khuzestan), Haji Abad (Hormozgan), Minab (Hormozgan), Shahdad (Kerman)	Reproductive Growth

Fard	Bam (Kerman), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Zahak (Sistan & Baluchestan)	Vegetative Growth
Nabat Seif	Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Vegetative Growth
Raana Tala	Bam (Kerman), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Reproductive Growth
Shi Shi	Ahwaz (Khuzestan), Bam (Kerman), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Shahdad (Kerman), Zahak (Sistan & Baluchestan)	Vegetative Growth
Thoori	Ahwaz (Khuzestan), Haji Abad (Hormozgan), Iranshahr (Sistan & Baluchestan), Jahrom (Fars), Minab (Hormozgan), Shabankare (Bushehr), Zahak (Sistan & Baluchestan)	Reproductive Growth

FIGURES

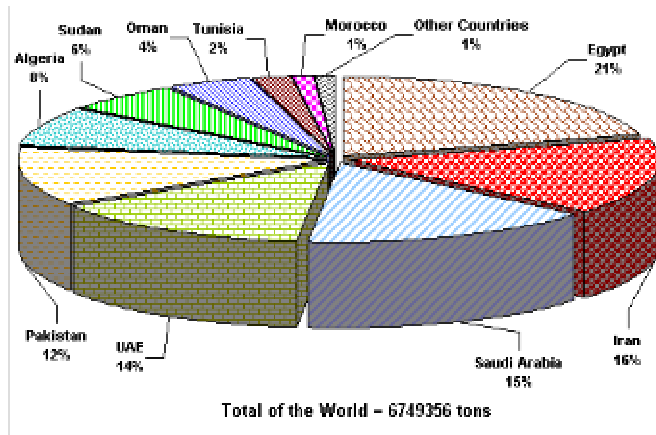


Figure 1: Production percent of the major date producing countries in 2004

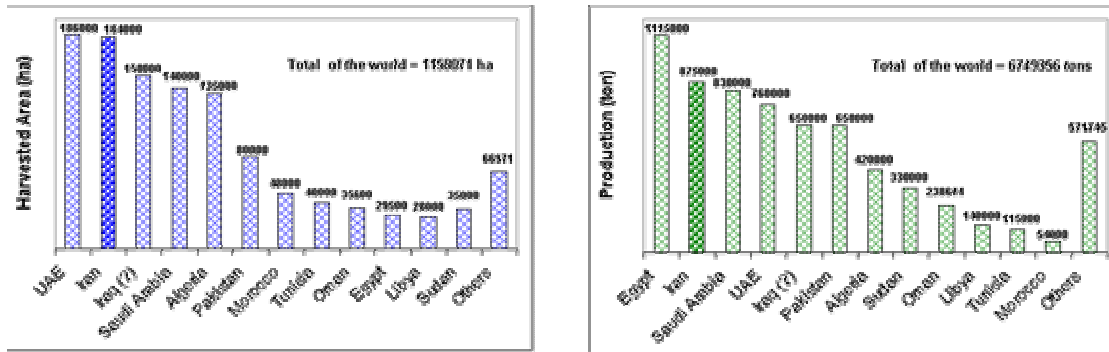


Figure 2: Harvested area (left) and production (right) of the major date producing countries in 2004

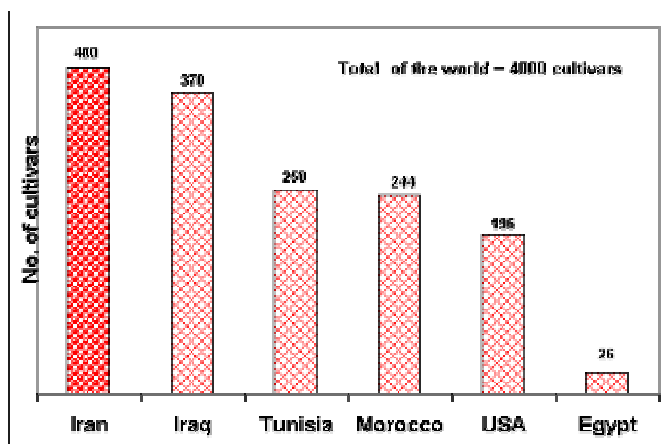


Figure 3: Number of cultivars in the major date producing countries

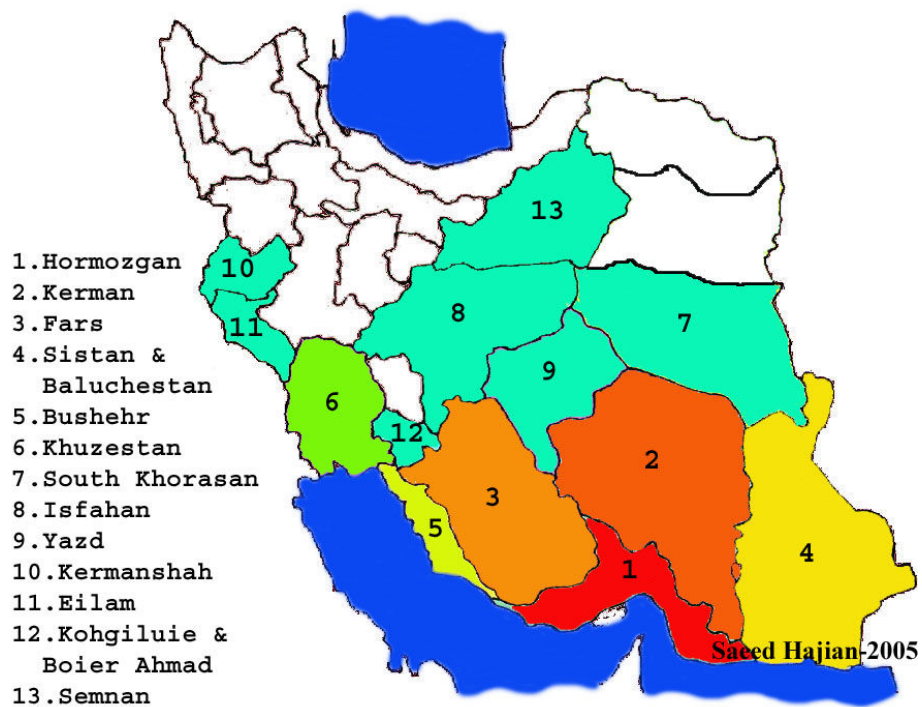


Figure 4: Date palm cultivation regions in Iran
(The provinces sorted on the basis of average annual production)

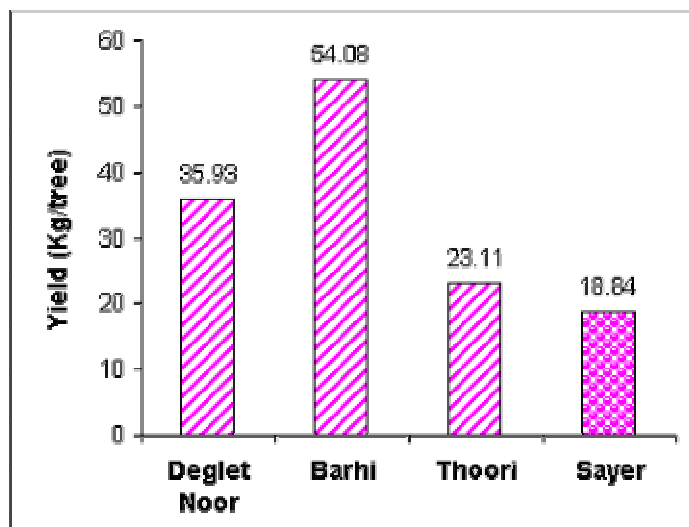


Figure 5: Comparing of the yield between imported foreign cultivars at Ahwaz station

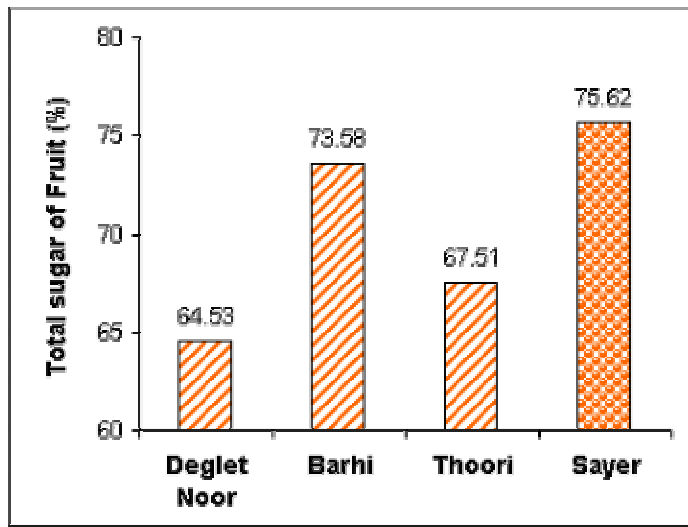


Figure 6: Comparing of the fruit sugar content between imported foreign cultivars at Ahwaz station