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The fig tree in the Mediterranean region and in Syria

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SUMMARY - East Mediterranean (Turkey, Syria, Saudi Arabia) where wild fig trees still exist is considered as the origin of the fig and the place from where its cultivation expanded to the whole Mediterranean. It is accepted as a species that is tolerant to harsh conditions, and its fruit which can be consumed fresh or dried is known for its high nutritive value. The improvement of the fig fruit demands further research in several areas such as varietal selections for yield and quality improvement and establishment of one or more gene banks in the region. This has to be realized in cooperation with the interested Mediterranean countries and concerned organizations by executing coordinated actions within a special network.

Keywords: Cooperation, fig, harsh, nutritive value, origin, tolerance.

RESUME - La région Est de la Méditerranée est considérée comme le berceau d'origine du figuier (*Ficus carica* L.) où se rencontrent jusqu'à nos jours des exemplaires de figuiers spontanés très âgés (en Turquie, en Syrie et en Arabie). La culture du figuier s'est étendue, ensuite, pour atteindre l'ensemble des pays du bassin méditerranéen. Cet arbre est bien apprécié pour sa tolérance aux conditions difficiles du milieu et pour la valeur nutritive de ses fruits qui se consomment frais ou séchés. L'amélioration du figuier exige davantage de recherches et l'établissement de banques de germoplasme moyennant une étroite collaboration entre pays méditerranéens.

Mots-clés : Méditerranée, figuier, variétés, valeur nutritive, rusticité, collaboration.

Introduction

Fig is considered as one of the oldest fruit trees in the Mediterranean zone. Its wild genetic resource still exists in many countries. Decondole mentioned that Syria and Anatolia are the natural habitats of the fig tree and from there it was transferred to North Africa, Spain, Mexico, Chile, Peru and California (Muola *et al.*, 1960). It was also transported to South America via France and to Mesopotamia, Iran and India from Anatolia (Condit, 1947; Condit, 1955).

The fig fruit was well known by ancient Egyptians. It was called "Tun" which could be the origin of arabic "Teen". In Hebrew, it is called "Feg" which later led to the English word "Fig" and French "Figue". The Latin scientific name is *Ficus*.

Ancient findings related to the fig tree dates back to 2 500 BC in Egyptian archaeological sites. Relics and traces of fig cultivation were also found in Palmyra in Syria and Babylon in Iraq.

Fig tree is well known in the Mediterranean countries where its genetic resources are still available in Syria, Lebanon and Arab Peninsula as mentioned before. Its cultivated genotypes including cultivars and breeds possessing various characteristics are also wide spread. These varieties are characterized by high productivity as well as high fruit quality. The fruits can be eaten fresh or dried. Drying can easily be performed, and the dried fruits can be stored in a perfect condition for more than a year. This helps the marketing and transportation of the fig fruits. The fig fruit is well reputed in the Mediterranean countries, and it is demanded by foreign countries due to its rich nutritive value.

The importance of the fig tree lies in the fact that it can withstand severe climatic conditions in arid and semi arid regions with a low rainfall resulting in low soil humidity, high temperature and high soil calcium carbonate content. It grows on even rocks and gravel. The tree is not affected by moderately cold winters. The fruits have a very high sugar content (15-25% of fresh weight) accompanied by high levels of protein, fat, mineral content and vitamins, thus resulting in a high nutritive value. Its high fibre content helps in the digestive system.

The production of the fig tree varies in the Mediterranean countries. It is largely related to the annual rainfall, climatic conditions and soil properties.

Among the Arab countries, Morocco stands as the first country in fig production followed by Egypt, Algeria, and Syria (Table 1).

Table 1. Fig production in 1990 (Yearbook of Stat., 1991)

Country	Production (MT)
Morocco	69.43
Egypt	45.00
Algeria	38.39
Syria	36.93
Libya	35.00
Tunisia	22.00
Jordan	4.00
Yemen	1.00
U.A.E.	0.55

Cultivars

The fig genetic resource comprises great numbers of cultivars in various Mediterranean countries. Some examples can be given as follows:

(i) Jordan:

- 'Khudeiri', 'Baiady', 'Safari', 'Nehemiy', 'Sbai', 'Kharroubi', 'Malktenia'.

(ii) Iraq:

- 'Black Diali'.

(iii) Egypt:

- 'Kahramany', 'Aboudi', 'Assouany', 'Koummassi', 'Adassi', 'Abiad', 'Sultani'.

(iv) Yemen:

- 'Saudi', 'Rouhi'.

(v) Tunisia:

- 'Thamari', 'Deri', 'Blac Birchi'.

(vi) Morocco:

- 'Bioudi', 'El-Quoti Lezregs', 'Boussbatti Hamra', 'Hafer Jemel', 'El Quoti Lebied Fassi', 'Aboucherchaou', 'Hafer el Baeol', 'Sebi', and other cultivars.

(vii) Syria:

- Green yellow varieties: 'Khudeiri', 'Sultani', 'Khani', 'Halabi', 'Sefraouli', 'Esseli', 'Anzuki', 'Boukrati'.

- Brown-red varieties: 'Zeibily-Sammaki', 'Afani', 'Shincheri'.

- Black-violet varieties: 'Oubeidi', 'Habachi', 'Zamouhi', 'Assouad'.

In Table 2 there is a description of the basic characteristic of the Syrian's figs varieties.

ACSAD gene bank for figs

The Arab Center for the Studies of Arid Zones and Dry Lands (ACSAD) pays great importance to the fig tree because of its capability to adapt to arid and semi arid lands as well as its high nutritive value and its economic output. For this reason, ACSAD established a gene bank for figs in the village of Jillin (Southern Syria). It comprises 100 genetic resources, and the work is ongoing in cooperation with the Arab countries as well as others to enrich this genetic resource for the researches and studies to be carried out by the concerned countries. The efforts to develop this species and to expand its cultivation in the suitable environments in the Mediterranean.

Table 2. Basic characteristics of the Syrian's figs varieties†

Name	Vigor	Shape	Fruit characters			Maturity	Observations
			Color	Form	M. weight (gr)		
'Riadi' (sufracoui)	Good	weeping	yellow	round	32	Aug. Sept.	Fresh-Dehydrated
'Khany'	=	=	yellowish green	=	40	Aug	Good Prod. Commercial
'White shamy'	V. Good	=	=	=	50-58	1/2 Aug.	Commercial G. Transport
'Khoudary'	Good	=	green	pear type	23	Sept. Oct.	Fresh Market
'Anzouky'	V.G.	1/2 upright	yellow	=	M.	Aug. Sept. Oct.	G. Production
'Oussely'	M.	weeping	yellow	pound	35	=	Commercial Dehy. Fresh
'Gizlany'	=	=	=	pear type	23	Aug.	G. Prod.
'Sultani'	Good	1/2 upright	=	round	45	Aug. Sept.	-
'Sammaky'	V.G.	upright	brown	=	30	Aug. Oct.	Fresh
'Bourkati'	Good	weeping	yellow	=	M.	Aug.	Fresh.Jam-G.Prod.
'Shetwi'	=	=	=	=	=	Sept. Oct.	G.Prod.Fresh.Jam
'Zeibily red'	V.G.	upright	brown	=	25	July Aug.	G. prod. Fresh.Jam.
'Oubeidy'	G.	weeping	dark violet	=	45	Aug. Sept.	G. prod. Rosey Pulp.
'Habachy'	G.V.G.	upright	violet	round	70	Aug.	Commercial Good Transport Fresh
'Affany'	V.G.	=	fuscus (brown)	pear type	M.	Aug. Oct.	Honey taste parfum
'Shamy red'	G.	weeping	red	round	big	Aug. Sept.	Good taste splinter
'Batraky'	=	=	fuscus (brown)	=	40	July August	G. prod. splinter
'Shanchiry'	M.	V. weeping	=	=	55	=	=
'Saoidy'	M.	weeping	fuscus	=	20	iate	=
'Male(1)'	G.	upright	green	=	smale	-	3 generation from June
'Male(2)'	V.G.	upright	yellowish green	pear	-	-	3 generation from May

†This represents a small portion of the 150 Syrian varieties of figs.

Proposed action for the improvement of the fig in the Mediterranean basin

In view of the relative importance of the fig tree in the Mediterranean countries, the following aspects are proposed for discussion concerning the improvement of the fig tree:

(i) Research directed more on varieties or clones with a persistent (parthenocarpic) syconia (no need for caprification), high yield and fruit quality (size, taste, external and internal colour, resistant to fruit cracking).

(ii) Selection within local varieties in terms of longer shelf-life and higher processing quality.

(iii) Establishment of gene banks in different regions to conserve local and introduced genotypes, evaluation and distribution of this genetic material for further use in breeding programs.

(iv) Selection of varieties resistant or tolerant to the pests and diseases prevalent in each region such as the fig mosaic virus, root knot nematodes (*Meloidogyne* spp.) and fig wax scale (*Ceroplastes rusci* L.).

(v) Sanitary selections of disease free material especially from fig mosaic virus which frequently causes damage in many countries.

(vi) Research on biological and integrated pest management procedures.

(vii) Exchange of plant material, research results and information on pests and diseases and their control.

(viii) Establishment of a special network on fig tree among interested countries and organizations that meet regularly (2 to 3 years).

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