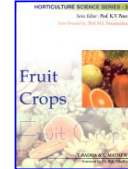


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Date palm starts bearing from 6th year. During early years yield will be less, about 50 kg *doka* fruits are obtained from 10year old trees, 75 kg at 15 years and it increases upto 300 kg. Yield varies depending on age, variety, environmental and cultural factors. Thatai (1997) reported that variety Medjool gave maximum recovery percentage of better quality chhuharas while Halawy and Barhee produced maximum yield.

Crop Protection

Pests

Important pests of this palm are the following:

Date stone beetle (Concentrus dactylifera)

One stone beetle (*Coccinylus maculipennis*)

Adult and grubs feed pulp of unripe fruits and such fruits drop off. This can be controlled by spraying malathion (0.075 %).

Nitiduled beetle (*Haptoncus luteolus*)

Larvae eat pulp, which also invite fungus attack and decay. From dropped fruits, pupae enter into soil and thrive winter period. Regular removal and destruction of dropped fruits, spraying with malathion (0.075%) are effective control measures against this beetle.

Other pests reported are termites, thrips (*Adihetrothrip jambudvipae*), scale insects and Indian palm weevil (*Rhynchophorus ferrugineus*) and Cigar hoeing beetle (*Lasioderma testaceum*) which affect stored dates.

Diseases**Graphiola leaf spot (*Graphiola phoenicis*)**

It is also known as false smut or palm leaf pustule. In high humid areas, numerous hard black smut like pustules appear on upper and lower surfaces of leaflets and rachis. At severe cases, leaves dry up and fall. For getting satisfactory control, remove and burn affected leaves and spray palms with 2:2:250 bordeaux mixture (2 kg CuSO_4 + 2 kg unslaked lime + 250 lit. water).

Fruit rot

Disease becomes severe at humid weather conditions and fruits rot and drop away. Protecting fruits from rain, providing better ventilation of branches and spraying bunches with 5 % fahana (ferulic dimethyl dithiocarbonate) in sulphur can control this disease

Fig

Ficus carica Linn.

(Moraceae)

Fig is one among the oldest fruit crops known, very much associated with the ancient culture of East Mediterranean region. It originated in Southern

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which carries pollen from male flowers of Capri fig (caprification) Major varieties are Calimyrna, Taranimt and Zidi. Due to presence of fertile seeds, fruit quality is excellent, particularly in dried fig.

San Pedro fig

It is an intermediate fig with long styled pistillate flowers. Fruit set occurs without pollination in the first crop (Breba), but in main crop, pollination is a must for setting fruits. About 21 varieties are listed of which San Pedro, King, Gentile and Lampeiria are important ones, grown in Mediterranean countries for dry fruit production.

Wild fig/Capri fig

This is the male or goat fig and the most primitive type. Pistillate flowers are short styled and functional male flowers are situated near ostiole. Self fertile, but the fruits are not edible. Twenty varieties are available in this type like Samson, Stanford and Brawley.

Smyrna fig is the commercially important type and is grown extensively in Europe and USA. Due to presence of seeds, they have a nutty flavour. The type, common fig is mostly grown in India. More than 650 varieties are grown all over the world. A wide variability in fruit characters viz. shape, size, colour, flavour of flesh, period of ripening and yield was reported among these varieties. Popular varieties in India are Brown Turkey, Turkish White, Kabul, Black-Ischia, Lucknow, Saharanpur, Pune fig, Stanford, San Pedra, Bellary and Bangalore. Many of them are clones or ecotypes and named by the locality. Pune fig and Marseilles are grown in South India, both of them produce medium sized fruits but the former has light purple skin and rosy flesh while the latter is with pale green rind and whitish sweet flesh. Varieties like Smyrna and Kadota are green skinned with pinkish white flesh while Mission fig and Black Mission fig have dark purple skin and pink flesh.

Varieties like Excel and Conardia are dwarf statured plants with small canopy size and hence suitable for high density planting. Fruits of these varieties are suitable for dessert purposes, drying and canning.

Crop Improvement

Most of cultivated varieties in fig originated as chance seedling scedlings. They were maintained clonally by rooted cuttings and in the course of time acquired names with local importance.

Major objectives of fig breeding are i) to develop varieties with parthenocarpic fruits having golden or reddish brown skin, white meat, amber pulp, distinctive flavour and attractive size and shape, ii) to develop high yielding variety, iii) elimination of caprification and iv) transfer of nematode and insect resistance characters from wild fig.

At Indian Institute of Horticultural Research, Bangalore, certain introductions were made and they were evaluated. The varieties Conardria and Deanna showed promising results compared to other ones (Chadha, 1998).

Molecular characterization of different types was attempted for knowing the genetic relationship between them and also for determining genetic variability. Galderisi et al. (1999) reported a promising approach in the identification of edible figs using RAPD markers.

Climate and Soil

Fig is a subtropical deciduous plant. Young trees are susceptible to frost, but grown up trees, at dormant stage, withstand low temperature up to 9.5°C. It tolerates a high temperature of 45°C, but fruit quality is highly affected. High humidity causes fruit splitting. Arid or semi arid regions having high summer temperature, enough sun light hours and relatively cool winter are the ideal climate for production of fruits with good size, shape, colour and excellent quality.

Well drained, non-alkaline, deep, medium black soils or alluvial clay loams are much suitable for this crop. Soils with lime content produce better quality fruits suitable for dry fruit production. Fig tolerates salt and drought conditions.

Propagation

Seed and asexual propagation methods like cuttings, layering, grafting and micropropagation are possible in fig. Common and the most successful method is hardwood cuttings. Hardwood cuttings are taken from 1-2 year old shoots. Pre girdling of shoots, 30 days before taking the cuttings results in quick and increased rooting. Selecting shoots with short internodes located in the lower part of the crown and taking cuttings from basal portion of these shoots increase rooting percentage. Hard wood cuttings stored in moist sawdust or sphagnum moss for about a month at room temperature or treating with IBA 2000 ppm solution and planting them in a slightly slanting position will also enhance success percentage. (Singh et al., 1993)

Air layering on one year old shoots during June gives the best result in fig. Propagation by grafting and budding methods are also reported. Side grafting and patch or shield methods of budding can be followed. *Ficus glomerata*, a root-knot nematode resistant species is a promising rootstock in prone areas.

Inferior quality, poor yielding fig trees can be converted to productive ones with quality fruits by adopting top working. Bark or cleft grafting or patch budding can be practiced for this purpose (Nagpal, 1966).





























































































































