

LEC .24 FIG - SOIL, CLIMATE, PLANTING, VARIETIES, NUTRIENT AND WATER MANAGEMENT, SPECIAL CULTURAL OPERATIONS, PHYSIOLOGICAL DISORDERS, PESTS AND DISEASES, MANAGEMENT PRACTICES

Fig was an important food crop for the ancient civilization of the eastern Mediterranean region. It is a highly nutritious fruit valued as fresh fruit as well as in a dried state. The fruit has a laxative property. The main countries that produce fig are Afghanistan, Greece, Iraq, Syria, Spain, Portugal etc.,

Climatic and soil requirements:

The fig is a subtropical fruit the optimum temperature for its good growth being 15.5 to 21°C. Buds of most cultivars requires some winter chilling. In mild tropical and subtropical areas, figs exhibit continuous growth without a distinct rest period. However, the tree usually has a semi- deciduous habit and enters into mild dormancy during October-January. Fruit qualities are also got influenced by climate. A dry climate with temperature especially at the time of fruit development and maturation produces the best quality figs. High temperature like 35 to 38°C will result in premature ripening of fruits. Similarly very low temperature will result in splitting and poor quality fruits.

Fig can be grown on a wide range of soil type. But deep, clay-loams are the best suited. Well drained alluvial clay loams or medium black soils are also good for fig cultivation. The fig is one of the most drought tolerant crops. It can tolerate sulphate and chloride salts. Soils having a high lime content produce fruits of better quality suitable for drying. But even a small amount of sodium carbonate in soil is injurious to fig. Major portion of the root system is distributed within 50-60 cm depth and hence the fig can also be grown in shallow soils of 2 feet where other fruit trees cannot be accommodated.

TYPES AND CULTIVERS

The figs are classified into four types based on the nature of flowers and the methods of pollination.

Common Fig

The flowers are pistillate, Fruits develop by parthenocarpy viz., without the stimulation of pollination and fertilization. Kadota, Mission, Adriatic, Brown Turkey, Celeste and Conadria are some cultivars of this type. Poona is one of the most important commercially grown fig. Introduction and evaluation of exotic figs from California at IIHR Bangalore reveals that varieties like 'Deann', 'Conadria' and 'Excel' have superior fruit and plant characters. These new varieties when grown on 'Brown Turkey' root stock (through chip budding) hold great promise for exploiting marginal lands in arid and semiarid regions.

Capri fig:

This type has short styled pistillate and functional staminate flowers. Most caprifigs are not edible, but are grown because they harbour a small wasp viz., *Blastophaga psenes* which is necessary for pollination and fruit set in other types like Smyrna fig by transferring the pollen grains from caprifig.

Smyrna fig:

It is commercially the most important one. However, the fruits develop only when the flowers are pollinated with pollen from the male flowers of the caprifig transmitted by the *Blastophaga* wasp. Calimyrna is the common cultivar of this type.

Sanpedro fig:

In this type, the first crop is completely parthenocarpic, but the second crop develops only if the flowers are pollinated. The common cultivars of this type are Sanpedro, King and Gentile.

In India, common fig is mostly grown. Some of the cultivars grown are Black Itchier, Brown Turkey, Turkish White, Kabul and Marseilles. Yercaud Timla fig is a drought tolerant cultivar. Fruit are large and reddish purple in colour.

Propagation and plantings

Rooting of hard wood cuttings is the common method of propagation in fig. Rooting was the best in cuttings from 3 year old wood with 30-40 cm length and 1.5 cm dia. Cuttings from the base of the shoot and lower part of crown have to be used as they root better.

Cuttings are taken during January-February at the time of pruning in North India whereas, the cuttings are taken during rainy season in South India.

Fig can also be propagated by air layering, shield or patch budding and side grafting. Focus glomeration rootstock offers resistance to root knot nematode.

A spacing of 5-7 M is recommended depending upon the fertility status of the soil for maximum yield. Planting season varies from place to place viz., South India – August – September, Western India – June – July, North India – January – February.

After cultivation

To keep the trees more productive and to facilitate inter cultivation operations, the fig trees are trained to a desired height and shape. The fig tree bears two crops in a year, the first crop on the wood of previous season and the second crop on new wood of current season. Pruning is necessary to induce growth of flower bearing wood. The time and amount of pruning are adjusted according to the growth habit and bearing capacity of the tree.

Notching stimulates production of laterals on vigorous upright branches.

Manuring and irrigation

Fig responds well to manuring. A quantity of 20kg of FYM, 500-600g N and 350-400g P₂ O₅ per year per tree can be recommended. Since it is a drought tolerant crop it is mostly grown as rainfed crop. However, irrigation helps to increase the yield. During summer, the crop can be irrigated once in 10-12 days. Frequent irrigation leading to excess soil moisture will cause splitting of fruits. It should be borne in mind that during fruit ripening, the plants should not be given any irrigation because it will result in insipid fruits viz., fruits with bland taste.

Plant protections:

Insect pests:

Leaf feeders : Glyphodes sp

		Hypsa ficus
		Phycodes radiata
Borers	:	Olenecamptus bilobus
Thrips	:	Gigantothrips elegans.

Fig Fly (*Lonchaea aristella*)

If warranted, these pests can be controlled by spraying endosulfan @2.5ml/lit. which is safer to *Blastophaga* especially when the caprifigs are interplanted for pollination.

DISEASES:

Rust:

It is caused by *Cerotolium fici* Small, round brownish to black eruptive lesions occur on the leaves. The rust causes heavy defoliation of leaves. It can be controlled by dusting with sulphur.

Fruitset, harvest and storage:

It has been observed even in common fig or Adriatic fig, the phenomenon of parthenocarpy is altered by climatic condition of a particular location. Hence there is a possibility of failure of fruitset by a particular variety in a particular location. The parthenocarpic fruitset can be enhanced by spraying 25 ppm of NAA or IBA on the flowers. For Smyrna figs, inter planting of Capri figs should be done for effective fruitset.

The fruits should be picked when they are soft and wilt at the neck. If the fruits are picked before proper maturity, milky latex exudes.

Fresh figs are highly perishable. Slightly immature fruits are to be harvested for transporting to distant markets. Ripe fruits are picked either from the tree by twisting the neck at the stem end or by cutting it or gathered after they drop. The harvesting season is mid February to June. Yield ranges from 180 to 360 fruits per tree.

Fully ripe fresh figs can be kept only for about a week at 0°C with a 90 per cent relative humidity. To preserve in a dried state, first the fig fruits are soaked in boiling saltwater for half a minute and subjected to sundrying for a few hours. Then they are dried under shade for 8 days and stored in polythene containers. Another form of preservation of fig is drying in an electric drier at 70 – 72°C with prior sulphur fumigation.