



FIG: DROUGHT TOLERANT CROP

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INTRODUCTION

Wild figs have been cultivated in India for millennia, while the common fig is less widely grown, with dried figs being primarily imported in large quantities. Alongside date palms, grapes, and olives, the fig was a crucial food crop for ancient civilizations in the East Mediterranean region, featuring prominently in songs and legends of historical and mythological significance. Belonging to the Moraceae family, it is known by various vernacular names such as 'Beng' in Hindi, Anjir in Gujarati, Anjuru in Malayalam, and Anjura in Kannada.

BOTANY

The genus *Ficus* is extensive, encompassing over 1,000 species. Figs are deciduous in subtropical regions and evergreen in tropics, typically small to medium-sized trees with short, twisted trunks. Shoots often sprout from the base of the trunk. Leaves are broad, ovate, and long-stalked. Flowers are minute, unisexual, either bearing stamens or pistils depending on the type of fig. Fruits are pear-shaped with a velvety or smooth skin, ranging in color from yellow, brown, purplish, to black.

USES

Fresh figs are rich in calcium, iron, and vitamins A and C. They are mildly alkaline and contain significant mineral content. Dried figs,

comprising 50-65% sugar, stimulate blood production and help prevent anemia. Figs are processed into jams, rolls, biscuits, and other desserts due to the challenges in transporting and storing ripe fruits. Raw figs are composed of approximately 80% water and 20% carbohydrates, with minimal protein, fat, and micronutrient content, yet they provide moderate dietary fiber.

ORIGIN AND DISTRIBUTION

Ficus carica is native to regions extending from Asiatic Turkey to North India, with natural seedlings growing in most Mediterranean countries. It is also found in southern parts of the Anh Peninsula, Italy, the Balkan Peninsula, and Russia. In India, commercial cultivation is primarily limited to certain areas near Pune (Maharashtra), Bellary and Anantapur districts of Karnataka, and scattered gardens or homeyards in Punjab and Karnataka.

MAJOR VARIETIES

- Conardia:** The first artificial hybrid fig with a greenish skin, creamy pinkish flesh, pear-shaped fruit, and mild sweetness (TSS 20.15%).
- Deanna:** Golden yellow skin, creamy white flesh, bell-shaped fruits.
- Poona Fig:** Popular for fresh consumption, with reddish-green skin, pink flesh, pear-shaped sweet fruits.

•**Excel:** Greenish-yellow skin, creamy white flesh, bell-shaped fruits, known for excellent sweetness and versatility.

CLIMATE AND SOIL

Fig trees exhibit deciduous characteristics in subtropical climates and can withstand temperatures as low as -12°C in western India. They thrive in both tropics and subtropics but struggle in regions with low, wet tropics. Optimal growth is observed at higher elevations and in areas experiencing minimal rainfall during flowering and fruiting seasons. Fig trees prefer deep, well-drained clay loams that are non-alkaline or alluvial clay loams, which retain adequate moisture. Soils enriched with lime content are particularly conducive to producing high-quality fruits, ideal for drying. The recommended pH range for soil is between 5.5 and 8.



PROPAGATION AND PLANTING

Propagation of figs commonly involves hardwood cuttings. Cuttings derived from 3-year-old wood, approximately 30-40 cm long and 1.5 cm in diameter, exhibit optimal rooting. Cuttings taken from the base of shoots and lower crown sections tend to root more effectively. In North India, cuttings are typically gathered during January-February, whereas in South India, the preferred time is during the rainy season. Additionally, figs can be propagated through methods such as air layering, shield or patch budding, and side grafting. Rootstocks like *Ficus glomerata* are beneficial due to their resistance against root-knot nematodes. For optimal yield, fig trees should be spaced 5-7 meters apart, depending

on soil fertility. Planting seasons vary across regions: South India (August-September), Western India (June- July), and North India (January-February).



PLANTING SEASON

Planting involves 60 cm cube pits in a square system at 6 meters spacing, typically from June to October during the monsoon season.

SPACING

Recommended spacing varies but generally ranges from 3x3 meters to 8x8 meters, with 6x6 meters being suitable for many varieties. Specific recommendations include 5x5 meters for Pooa Fig, and 2.5x2.5 meters for Excel and Conardia.

NUTRIENT MANAGEMENT

Fig plants demand continuous nutrient management right from their initial stages of growth. For instance, one-year-old trees can benefit significantly from 10 kg of Farm Yard Manure (FYM) and 170 g of Ammonium sulfate, with these quantities gradually increasing up to five years of age. In North India, it is customary to apply manure before the onset of spring growth, followed by fertilizers in March. Conversely, in Western and Southern India, the recommended practice is to apply manure during November.

SPECIAL OPERATIONS

Notching, a slanted cut above buds, stimulates lateral production on vigorous upright branches. This technique, typically performed in July on shoots over 8 months old, activates buds in the middle portion of mature shoots, enhancing branching and fruiting.

WATER MANAGEMENT

Fig trees are relatively drought-tolerant but benefit from irrigation twice a month during fruit development and ripening in summer. Excessive irrigation can dilute fruit flavor, while watering during ripening may cause fruit cracking. Thus, judicious water management is crucial for high-quality crops.

HARVESTING AND YIELD

Fig trees generally commence fruiting around 3 years of age, though commercial production typically begins at 5 years and can continue for up to 40 years. Fruits are harvested once they reach maturity, which is typically identified by their light green color and slight softness to the touch. In North India, the primary spring crop ripens during May. Some figs are left to naturally fall and dry on the ground before being gathered.

A productive fig tree has the potential to yield between 300 to 500 fruits annually, with average yields reaching up to 12 tons per hectare. Harvesting involves gently twisting the fruits at the stem end to detach them from the tree.

POST-HARVEST

Fruits are packed in bamboo baskets (4-5 kg capacity) and have a shelf life of about a week at 0°C with 90% relative humidity. Drying involves spreading partially dried figs on trays to prevent contact with the ground. Only fully dried figs (24% moisture content) should be stored, ideally in boxes to maintain quality.

DRYING OF FIG:

Partially dried figs are spread on trays for further drying. Fruits should not contact directly with the ground. Only fully dried figs (24% moisture) must be removed. To preserve

quality dried fruits should be kept in boxes rather than bags.