

# HOME FRUIT PRODUCTION - FIGS

The fig fruit is unique. Unlike most fruit in which the edible structure is matured ovary tissue, the fig's edible structure is actually stem tissue. The fig fruit is an inverted flower with both the male and female flower parts enclosed in stem tissue. This structure is known botanically as a syconium. At maturity the interior of the fig contains only the remains of these flower structures, including the small gritty structures commonly called seeds. Actually, these so-called seeds usually are nothing more than unfertilized ovaries that failed to develop. They impart the resin-like flavor associated with figs.

## Site and Soil Requirements

Plentiful sunlight is a key to maximizing fruit production. Choose an area that is in the sun most or all of the day. Otherwise, expect reduced performance from the trees. Early morning sun is particularly important to dry dew from the plants; thereby, reducing the incidence of diseases.

Good drainage is a more important consideration than soil fertility. Avoid soils and sites where water stands for more than 24 hours after a rain. In areas of poor drainage, roots receive insufficient oxygen and will die, resulting in stunted growth and eventual death of the tree.

## Varieties

***Celeste*** (Malta). The Celeste fig is small, brown to purple in color and adapted to all areas of Texas. Celeste is the most cold hardy of all Texas fig varieties. The tree is large, vigorous and very productive. Celeste usually does not have a Breba crop; the main crop ripens in mid-June before the main crop of other fig varieties. Celeste fruit has a tightly closed eye which inhibits the entry of the dried fruit beetle. The fruit does not have excessive souring on the tree. Celeste has excellent fresh dessert quality with a rich sweet flavor. It is an excellent processing fig, either frozen or processed as fig preserves. Do not prune mature Celeste trees heavily because this can reduce the crop.

***Brown Turkey***. This variety (Lee's Perpetual, Eastern Brown Turkey, Brunswick, Ramsey, Harrison, Everbearing) has the longest ripening season of the recommended varieties. Although it is not quite as cold hardy as Celeste, it will, if injured by a freeze, produce fair-to-good crops on sucker wood the next season. This is an advantage in areas troubled by late spring frosts. The fruit is medium to large, with a reddish-brown skin tinged with purple. The pulp is reddish-pink and of good quality. It is subject to cracking in wet weather and has a larger eye than Celeste and hence will sour more quickly. The fruit is excellent for making home preserves.

## Planting

Do not apply fertilizer at planting time. Fig trees survive better if set 2 to 4 inches deeper than they were grown in the nursery. Cut them back when transplanting. This "heading back" develops lateral branches and reduces water loss from the above-ground portion. Since the root system may be damaged during transplanting operations, water uptake may be reduced greatly for a short time.

Fig trees planted at the beginning of the dormant season often develop root systems before leafing out in the spring. This can be advantageous; however, young trees are more susceptible to cold injury. In areas where cold damage may occur, it is often advisable to delay transplanting until just before dormancy is broken in late winter.

Young trees to be transplanted should be dug with care to prevent root damage. Inspect trees bought from nurseries to ensure that roots are healthy and are not damaged. Remove any broken or dried roots. Dig a hole deeper and wider than necessary for the root system. Place the tree upright at the proper depth. Crumble the soil around the roots, and pack it down several times during the filling operation to bring all roots into contact with moist soil. After planting, water the tree to settle the soil firmly around the roots. If conditions are extremely dry, watering before the hole is completely filled is beneficial.

## **Pruning**

Normally figs are pruned very little. Do not prune mature Celeste trees because this reduces the crop size.

To stimulate new growth, thin out older trees which grow very little each year. Thinning also increases fruit size. Prune the trees enough to stimulate approximately 1 foot of growth each year. Remove all weak, diseased or dead limbs each dormant season.

## **Irrigation**

Give special attention to soil moisture management in fig culture. Most fig tree roots are close to the soil surface and can easily dry out. Figs are very susceptible to soil-borne nematodes that feed on small roots and reduce water movement into the tree. For these reasons, apply water to the trees as drought develops. Slight leaf wilting in the afternoon is a good indication of water stress. Mulching with straw or grass clippings helps maintain uniform soil moisture and reduces weed competition for available soil water.

Water stress frequently causes premature fruit drop of Texas fig varieties which do not have true seeds. This problem is very common in hot dry areas when the fig tree is grown in shallow soil and roots are nematode infested.

Do not overwater in areas of poor drainage. This forces oxygen out of the soil and the tree is injured or killed. Good water management, including regular irrigation and mulching, helps maintain tree health and vigor and reduces fruit drop.

Factors influencing a fig tree's susceptibility to cold injury are related to the tree's entrance into dormancy. A mature tree which has lost all of its leaves and becomes totally dormant can withstand much cooler temperatures than a rapidly growing tree at the time of first frost. Reduce irrigations in the fall of the year to reduce growth and encourage the onset of dormancy. A fully dormant fig tree can withstand temperatures as low as 10 degrees F. In north Texas, plant figs along the south side of a building to help reduce freeze damage.

Place straw mulches over the base of the tree to insulate warm soil temperature during freezes and prevent killing the crown of the tree.

When trees or limbs freeze, give the tree ample time to grow before removing the frozen limbs. Then, new wood can be produced.

## **Harvesting**

For top quality, allow figs to ripen fully on the tree. But they must be picked as they ripen; otherwise, spoilage from the dried fruit beetle can occur. On-the-tree spoilage or souring is caused by microorganisms in the fully

ripe fruit. These organisms are usually carried into the open eye of the fig by insects, particularly the dried fruit beetle. Daily harvests and the removal of overripe, spoiled figs can greatly reduce spoilage problems. This is particularly true of varieties which have an open eye.

Use gloves and long sleeves when harvesting figs to prevent skin irritation from the fig latex.

## Disease Control

Fig rust is an important fungus disease that attacks the leaves of figs. It is caused by *Physopella fici*. Fig rust first appears as small, yellowish-orange spots on the leaves. These enlarge slightly and may become very numerous as the season progresses.

Rust causes complete defoliation of many trees in the state each year, resulting in ragged-looking trees. In addition, trees defoliated early in the season may initiate new growth which is often susceptible to cold injury.

Defoliation usually does not occur early enough to cause fruit loss except in late ripening varieties.

Rust is controlled with neutral copper sprays. One or two applications made in May or early June usually keep trees in fairly good condition until after fruit ripens. In very wet seasons one or two additional applications may be necessary. A good index for spraying is when the first leaves on the tree have reached full size. The second spray should follow in 3 to 4 weeks. It is extremely important to get good leaf coverage with the spray material.

The first step in preventing losses attributed to souring is to grow recommended varieties, which have a closed eye, a drooping fruit characteristic and fruit-splitting resistance. Controlling insects and using resistant varieties restrain most fruit souring problems most of the season. This organism is a fungus primarily associated with alkaline soils. This organism kills the roots, causing the plant to wither and die in a short time. There is no resistant variety or rootstock. The only control, which is impracticable at best, is to completely recondition the soil before planting. This means completely altering the soil pH in the area with a soil acidifier. This type of control is not permanent, however.

Several other minor diseases associated with figs can be found but are a problem only in more humid areas.

### COMMON CAUSES OF FRUIT FAILURE

Condition	Probable cause	Suggested remedies
All fruit drops when one-third full size.	Wrong variety for area (requires pollination)	Destroy tree and replant with recommended variety.
Leaves drop when mature; fruit withers and fails to mature.	Fig rust or other leaf-spot diseases, or a twig blight	Use neutral copper spray. Rake up and burn old leaves.<
Fruiting is poor; tree growth is retarded. Roots have knots or galls and are distorted.	Nematode damage, poor soil conditions or excess water	Mulch and keep moisture level adequate.
Fruit fails to mature; leaves are small. Vigorous new wood arises from the base.	Low temperatures have killed some stem tissue.	Cut tree back to ground level and develop a new top from suckers.
Fruit sours and many split.	unsuitable variety or unusually wet year	If unsuitable variety, replant or pick fruit before maturity and preserve.
Fruit is tough and falls prematurely during hot, dry weather. (Celeste only).	Excessive heat	No control

*Other pests*-Birds, such as blue jays, mockingbirds and grackles, cause fruit losses each year. There is no suitable control method; however, early morning harvests prevent loss to some extent. Also, there are a number of synthetic nettings available which may be used to cover trees during the ripening season.