Figs are easy to grow in warm climates but produce their best fruit in Mediterranean climates with hot, dry summers and cool, wet winters. Learn about fig botany, varieties, growing techniques, and disease and pest problems.

Botany

The common fig is a member of the genus *Ficus*, which is in the family *Moraceae* (mulberries). *Ficus* is a large genus with some 2,000 tropical and subtropical tree, shrub, and vine species distributed around the warmer parts of the world. The only *Ficus* cultivated for its fruit is the species *F. carica* (the common fig) and *F. sycamorus* (the sycamore fig of Egypt). Hybrids are possible with a few other species including *F. palmata*, *F. pseudo-carica*, and *F. pumila*, the fruits of which are edible but not cultivated.

Fig trees are deciduous plants that can grow as high as 60 feet in some regions of the world. In the southeastern United State, however, maximum heights are typically 15 to 25 feet because of cold injury. The leaves can be rather large (width of 12 inches) with three to five deep or shallow lobes. The fig is a syconium, which is a fleshy stem with a hollow receptacle that envelops many tiny flowers. The tiny drupelets that develop from these flowers are the true fruit. When we eat a fig, we are eating the container that holds the true fruit. At the distal end of the syconium is an opening called an *ostiole* or *eye*, which allows the entrance of a pollinating wasp. Ostioles may or may not be present, depending on the type of fig. Figs produce a milky substance called *latex*, which itself contains an enzyme called *facin* that degrades protein.

Figs are an excellent source of antioxidants and nutrients. One medium-size fig (approximately 50 grams) has 37 calories, 10 grams carbohydrates, and 1.5 grams dietary fiber, which is slightly more than in an equivalent amount of banana fruit.

There are two basic types of figs: caprifigs and edible figs. Caprifigs bear both male and female flowers but are generally unpalatable because they are rather dry and pithy and have chaffy stamen structures. Edible figs bear only female flowers. There are many varieties of edible figs that fall into the following three fruiting classes:

- **Caducous (or Smyrna) figs** need pollination to set crops. Without pollination, the fruit drops before it matures. Caprifigs furnish the pollen needed. Examples of caducous figs are Marabout, Calimyrna (or Sari Lop), and Zidi.

- **Persistent (or common) figs** do not need pollination to set crops and are the type home gardeners most commonly grow. Examples are Black Mission, Brown Turkey, Celeste, Brunswick, and Adriatic.

- **Intermediate group (or San Pedro) figs** do not need pollination to set a breba crop early in the season on old wood, but they do need it for the main crop in some environments. Examples are King, Lampeira, and San Pedro.
Fig Varieties

Ira J. Condit’s “Fig Varieties: A Monograph” in *Hilgardia, A Journal of Agricultural Science* published by the California Agricultural Experiment Station identifies 89 caprifig, 129 Smyrna, 21 San Pedro, and 481 common fig varieties for a total of 720 varieties. Some of these varieties were never introduced into the United States; others were tried, found wanting, and discarded. This document lists more than 50 varieties including most of the figs available in the trade plus a few other varieties thought worthy of wider use.

The varieties are divided into green and yellow figs and dark-colored figs. They are arranged alphabetically by their most common name. **Bold type is used to designate the correct name,** or the one found in Condit’s authoritative monograph on fig varieties. If the name is not in bold type, the variety is not covered by Condit or later authors.

Green and Yellow Figs

**Adriatic**—A medium-size green to greenish yellow fig shaped like a top, with light strawberry pulp and good flavor. Turbinate (top-shaped) with a small neck or no neck. Very subject to mosaic virus. Well adapted in the Northwest but disappointing in the South. Fairly hardy. Good for drying. Synonyms: *Chico*, *Grosse Verte*, *Nebian*, *Strawberry*, *Verdone*.


**Blanche**—An old, reliable variety usually called Lemon in the south. A medium to large greenish yellow fig with white pulp and many seeds. Turbinate without a neck. Sweet and delicate flavor with a nutty texture from the soft seeds. Some specimens produce fruit that have open eyes; others have fruit with relatively closed eyes. Well adapted in the South. Fairly hardy. Synonyms: *Bianci*, *Lemon*, *Marseilles*, *Mayes Yellow*, *White Marseilles*, *White Russian*.

**Brunswick**—A medium to large fig with bronzy yellow skin and rich flavor. Oblique-turbinate. Well adapted in the southwest and drier areas of the south. The fruit is ruined by excessive rain since it has open eyes. Fairly hardy. Synonyms: *Dalmatian*, *Madonna*, *Magnolia*.


**Conadria**—A medium to large yellow-green fig with light strawberry pulp and rich flavor. Bred by Ira Condit and released in 1957. Pyriform. Well adapted in California and the Southeast. Hardy with good rebound from freezes. Synonyms: *Adriatic Hybrid*, *Verdone Hybrid*.

**Excel**—A medium-size yellow fig with amber pulp. Also bred by Ira Condit and released in 1975. Oblate to spherical. Well adapted in California. Early trials in the Southeast are very promising. Seems to be very hardy. Superb flavor. Synonym: *Kadota Hybrid*.

**Flanders**—A greenish yellow medium-size fig with violet stripes and amber pulp. Bred and released by Ira Condit in 1975. Pyriform with a long, slender neck. Fine flavor. Plants are vigorous but not particularly hardy. Good on the West Coast. Synonym: *Verdone Hybrid*.

**Gillette**—A large, edible caprifig with fair flavor. Pyriform with a distinct neck. Adapted in northern California and the Northwest. Not so good in the South. Synonyms: *Croisic*, *Cordelia*, *Pingo de Mel*.


**Gulbun**—A large light green to pale yellow fig with a translucent pulp tinged with pink. Good flavor. Seems moderately hardy. Bred by Ira Condit. Synonyms: *Galbun*, *Jewel*.

**Ischia**—A small- to medium-size yellow fig with fair flavor. Oblate to spherical with or without a short neck. Well adapted in coastal California. Its quality in the South is poor. Synonyms: *Brockett Hall*, *Singleton*, *White Ischia*.
Jurupa—A very large green fig with pink pulp and a medium-size closed eye. Pyriform. A Condit hybrid selected by Julius Enderud. Good flavor. Under trial in the South. Somewhat hardy but tends to leaf out early—a negative point in areas with late frost.

Kadota—A greenish white small- to medium-size fig. Pyriform. Vigorous. Delicious fresh or dried. It is a rich, sweet, all-purpose fig and the most common canned fig. Well adapted in the Southwest and drier areas of the South. Fairly hardy. Synonyms: Dottato, Honey Fig

King—A medium-size greenish yellow fig with strawberry pulp. Pyriform to oblique. It ripens a large breba crop between late June and August. A San Pedro type, it sometimes sets main-crop figs without pollination. Sweet and rich. Well adapted in the Northwest and cooler areas of the South. Fairly hardy. Synonyms: Desert King, White King.

Lattarula—A medium to large yellowish green fig widely grown in the Northwest. It is said to be very sweet. Condit does not identify it as a distinct variety and considers it a synonym for Blanche. Alabama Extension horticulturists reserve judgment pending further study. Synonym: Italian Honey Fig.

LSU Gold—A large yellow fig blushed with red. Strawberry pulp. Its flavor is outstanding. Rumored to have been bred at Louisiana State University but never officially released. Has a small eye that leaks honeydew. Deserves wider trials.

Mary Lane—A medium-size yellow unidentified fig said to have originated in California. Oblate-spherical. The fruit is very juicy, sweet, and seedless. Well adapted in all fig areas. Synonyms: Jelly, Seedless.

Panachée—A chimera that produces green fruit with yellow stripes and strawberry pulp. Pyriform with a prominent neck. Mealy texture. Leaf is not variegated. Aficionados in California say it can produce excellent, fresh fruit. In the South, its flavor is mediocre. Synonyms: Panache, Tiger, Variegato.

Tena—A medium to large greenish yellow fig with light strawberry pulp. Bred by Ira Condit and released in 1975. Oblate with a small neck or no neck. Widely adapted but likes hot, dry weather. Somewhat hardy. Very sweet but not rich.

Verte—A medium to large grass-green fig with dark strawberry pulp. Brebas are rare. Shape is pyriform with or without a neck. Eye is small and fairly well closed. Excellent flavor. Under trial in the South. Synonyms: Ischia Gree, Verdae, Coeur, Figue d’Espagne.

Dark-Colored Figs

Beall—A medium to large purplish black fig with amber pulp. Brebas are pyriform with prominent necks; main-crop figs are oblate to pyriform with short, thick necks. Very good flavor. Well adapted in California and hardy in the South. A chance seedling was found in California in the 1920s. No known synonyms.


Bordeaux—A large almost black fig with a very deep-red pulp and a distinctive but agreeable acid flavor. Brebas are pyriform with thick, tapering necks; main-crop figs are variable, often without necks. Medium-size eye. Excellent fresh or dried. Well adapted in the South and Southwest. Fairly hardy. Synonyms: Beer’s Black, Negronne, Violette de Bordeaux.

Brown Turkey—A small- to medium-size light brown to violet fig with strawberry pulp. Turbinate to oblique, mostly without a neck. Small eye has a reddish color from very early stage (unlike Celeste). Cold hardy. It fruits on new growth if winterkilled. Often bears two crops a year. Very sweet but not rich. Synonyms: Eastern Brown Turkey, English Brown Turkey, Everbearing, Texas Everbearing.
California Brown Turkey—A large purplish brown fig with good flavor. Brebas are oblique-pyriform and sometimes elongated; main-crop figs are oblique-pyriform with variable necks. Well adapted in California. Not hardy enough for the South. According to Condit, the proper name for this variety is San Piero, but few call it that. Other synonyms: Black Spanish, San Pedro, Thompson’s Improved Brown Turkey.

Celeste—A small- to medium-size fig with light brown to violet skin and strawberry pulp. Pyriform with a tapering neck. Small, closed eye. The eye remains green until the fig is almost ripe (unlike Brown Turkey). Very cold hardy. Excellent fig—arguably the finest southern fig but usually disappointing in California and the Southwest. Condit writes that its proper name is Malta, but no one uses that name. Other synonyms: Celestial, Conant, Sugar Fig, Tennessee Mountain Fig.

Early Violet—A small to very small chocolate-brown fig with amber to pink pulp. Turbine to oblate-spherical. No brebas, but the main crop is early. Fair to good quality. Once very popular in the South. Susceptible to mosaic, which dwarfs fruit and leaves. No significant synonyms.

Hardy Chicago—A small- to medium-size fig with light brown to violet skin and strawberry pink pulp. Small eye. Pyriform with a long, slender neck. Excellent flavor and very hardy. Resembles Brown Turkey.

Hunt—A small brown fig with amber pulp tinged with strawberry. Bred by E. W. Hunt of Eatonton, Georgia, in the 1920s. Pyriform with a short, distinct neck. Distinctive feature is its long, slender stems to ¾ inch, which help it shed rain and thus prevent souring. Superb flavor, sweet and rich. Not a heavy bearer but well adapted in the rainier areas of the South. No synonyms.

Ischia Black—A small purplish black fig with strawberry pulp. Turbine. Fairly sweet and rich flavor. Well adapted in coastal California but not very productive in the South. Not particularly hardy. Has been replaced by Celeste. No significant synonyms.


Malcolm’s Super Giant—A medium to large brown, pyriform fig with strawberry pulp. Still under evaluation by Alabama Extension horticulturists, but it seems promising. Some say it is a synonym for Guilbeau; however, others think the fruit seems quite different.

Mission—A large black fig with light strawberry pulp. Brebas are pyriform with prominent, thick necks; main-crop figs are smaller, more variable, and pyriform. Well adapted in California. Disappointing in the South since it is not very hardy. Often infected by mosaic, which mottles the leaves but does not seem to affect the crop. Synonyms: Franciscana, Black Mission.

Nero—A large purplish black fig with light pink pulp. Turbine-pyriform with a flattened apex. Eye is medium-size and open. Very good to excellent flavor—fairly sweet and rich. Well adapted in the Southwest and South. Synonyms: Barnisotte, Brogiotto Nero.

Neveralla—A medium-size bronze to brown fig with white to amber pulp. Brebas are pyriform with prominent necks; main-crop figs are pyriform to turbinate with thick necks. Variable stalks. Fair flavor. Resembles Osborn Prolific. Synonyms: Archipel, Osborn, Osborne’s Prolific.

Osborn Prolific—A medium-size bronze to brown fig with amber to light strawberry pulp. Main-crop figs are pyriform with variable necks. Long, slender stalks to 1 inch long. Sweet and rich flavor. Well adapted in all fig-growing areas. Hardy. Very productive. Synonyms: Archipel, Hardy Prolific, Neveralla, Osborne, Rust.

Pasquale—A small purple fig with strawberry pulp distinguished by its late ripening—often in December or January. Oblate-spherical to pyriform with a short, thick neck. Not hardy. Fruit is sweet and rich when not damaged by frost. Synonyms: Natalino, Vernino.

Petite Negri—A medium to large black fig introduced by Mike McConkey of Edible Landscaping in the 1980s. Good flavor. Its leaves resemble those of Bordeaux. Alabama Extension horticulturists have not been successful in fruiting it, but descriptions and photographs by others suggest it is either a Bordeaux or a sport of it.

Royal Vineyard—A medium-size bronze to brown fig with light strawberry pulp. Brebas are pyriform with prominent thick, curving necks. A San Pedro type. Produces brebas only. Not worth growing in the South due to the late frosts that destroy the fruit in most years. A vigorous plant. It might deserve a trial in the North and West. Synonym: Drap d’Or.

Sal’s Fig—A small- to medium-size unidentified black fig with good flavor. Well adapted in the Northeast. A local nursery (no mail order) on Long Island introduced it. It is extremely hardy—it seems somewhat hardier than Celeste. Plants are vigorous and productive.
Growing Figs

Figs are easy to grow in warm climates but produce their best fruit in Mediterranean climates with hot, dry summers and cool, wet winters. Although figs are a subtropical species, mature fig trees are fully cold hardy to 15 or 20 degrees F. People who want to grow figs outside the normal temperature range must plant them in containers or go to considerable efforts to protect them during the winter.

In the ground, fig plants can quickly reach 15 to 30 feet in height. The canopy can spread equally wide. The root system is typically very shallow without a taproot and can easily spread to three times the diameter of the canopy. Ideally, fig plants should be planted in a well-drained loam with plenty of organic matter, but they will tolerate average to poor soil. Once they are established, they are somewhat drought tolerant, probably because of their very extensive and wide-ranging root system. Figs tolerate soil with a pH ranging from 5.5 to 8.0. Growers who have acidic soils should apply lime to bring the soil pH up to the fig’s preferred pH of 6.0 to 6.5.

How to Fertilize

Shoot growth that is fewer than 18 inches is an indication that fertilizer should be applied. Apply to plants that are 1 to 2 years old a balanced fertilizer such as 8-8-8 at a rate of 8 ounces per plant during early spring, mid-May, and mid-July. Well-established plants can be fertilized one time in the early spring if needed. Fertilizer should not be applied at planting. Apply fertilizer around the base of the plant 1 foot from the crown.

Figs respond very well (better than most fruit trees) to heavy applications of manure and compost. Be sure not to apply fertilizers too late in the growing season because doing so encourages new growth that cannot harden off before winter. If you grow figs in containers, a complete slow-release fertilizer such as Osmocote plus micronutrients is a good choice. Growers who want to grow figs organically should apply generous amounts of compost and a high-nitrogen fertilizer such as cottonseed, soybean, or alfalfa meal.

Irrigation

For the best fruit production, water your figs regularly during the growing season unless rainfall is adequate. However, make sure the soil is not constantly soggy or waterlogged. During establishment, plants should receive 10 gallons of water from rain or irrigation three times per week. During periods of drought, mature figs should receive 20 gallons of water per week. When fall arrives, stop watering and allow your plants to harden off. A word of caution: heavy rains and excessive or sporadic watering may cause the fruit to split. The amount of splitting varies from variety to variety, but a good rule of thumb is that the riper the figs, the more they will split and sour.

Figs can be successfully grown in containers if growers are diligent about watering and feeding them. Remember that nutrients leach quickly from containers. The easiest approach is to use a hefty pot (at least 15 gallons), and let the figs grow 5 to 10 feet tall. Prune tops and roots annually to control the size. In climates where winter temperatures fall below 15 to 20 degrees F, you will need to bring potted plants into an unheated garage or shed.

Planting Figs

When To Plant. Plant fig trees while they are dormant—spring is the best time. In warm areas, bare-root trees can be set out in fall or early winter, but where late spring frosts are common, it is best to set them out in spring.
after the danger of hard winter freezes has passed. Container-grown plants should always be planted in the spring.

**Where To Plant.** For best growth, fig trees need at least 8 hours of full sunlight and freedom from competing trees and shrubs. This helps with ripening of fruit and shortens the duration of wetness after a rain event preventing incidence of disease. Fig tree roots will not damage masonry foundations of buildings or steel pipe, but they may damage clay sewer pipe; therefore, do not plant fig trees within 25 feet of clay sewer pipe or over septic tank drain fields. If you plant fig trees in a lawn, keep a 2- to 3-foot area around each tree free of grass for a year or two until the tree becomes established. Do not plant fig trees close to rapid-growing plants such as mulberry, chinaberry, hackberry, elm, black locust, and privet because these plants will use water and nutrients needed by the fig trees.

Soils in orchards and old gardens generally are heavily infested with nematodes. Treat such soils with a nematicide or with soil solarization before planting. Young trees must be protected from nematodes if they are to get a good start.

**How To Plant.** Fig trees from nurseries may be grown in the field and sold bare root, or they may be grown in containers and sold while still in the pot. Before planting a bare-root tree, prune off about one-third of its top unless it was topped by the nursery. Container-grown plants can be transplanted without being pruned; they need only to be removed from the container and set in the planting hole. Set fig trees in the planting hole so they are 3 or 4 inches deeper than they were in the nursery. Fill the hole with soil, and water heavily enough to settle the soil around the roots.

**Training and Pruning Figs**

Though fig plants can be trained to either tree or bush form, the tree form is not practical for the South. In this region, fig plants frequently are frozen back to the ground, making the tree form difficult to maintain.

Begin training figs to a bush form at the time of planting—cut back the young plant to about one-half its height. This forces shoots to grow from the base of the plant. Let these shoots grow through the first season. Then, during the winter after planting, select three to eight vigorous, widely spaced shoots to serve as leaders. Remove all other shoots, and prune the leaders back to within 1 foot of the ground.

Be sure the leaders you select are far enough apart so they can grow to 3 or 4 inches in diameter without crowding each other. If they are too close together, they cannot grow thick enough to support themselves and their crop, and they tend to blow down or split off under stress or high winds. If this happens, remove the damaged leader and select a new leader the next winter from one of the many suckers that arise annually.

Beginning the second year after planting, head back the bush each spring after the danger of frost has passed but before growth has started. Do this by removing about one-third to one-half the length of the annual growth. Also, prune out all dead wood and remove branches that interfere with growth of the leaders. Cut off low-growing lateral branches and all sucker growth that is not needed for replacement of broken leaders. Do not leave bare, unproductive stubs when you prune. These stubs are entry points for wood-decayiing organisms. Make all pruning cuts back to a bud or branch.

**Propagating Figs**

Figs are easy to propagate because they root very easily. There are several ways to propagate them. The most common method is to root leafless cuttings taken in late winter or early spring.

- Take cuttings that are 3 to 6 inches long and pencil to finger thick. The best cuttings will have some of last year’s wood on them.

- If the weather is still unsettled and frost is likely, store the cuttings in a sealed zippered bag in the produce bin in your refrigerator.

- If the weather is warm and likely to stay warm, pot your cuttings. Pack a half sheet of newspaper tightly into the bottom of a 4-inch-deep plastic pot. Put a little sand or a good-quality potting mix in the bottom of the pot, stand one to four cuttings upright in the pot, and fill the pot with the sand or potting mix.

- Water the pot thoroughly, and set it in a very bright but not sunny place. It should be warm—at least 70 degrees F. If you cannot keep the air temperature above 70, provide bottom heat to bring the soil temperature up to 70 degrees F. Cover the pot with an empty 2- or 3-liter soft drink bottle with the lid on and the bottom cut out.

- Do not water the cuttings again until they are very dry. Lift the pot occasionally to test for dryness. If the pot is very light, set it in a pan of water, and let it soak. When you see vigorous growth, it is time to harden off the new plants. Remove the bottle cap, and see how the plants do. If the plants seem to be thriving after a few days, remove the bottle. If the plants begin to wilt, cover them again with the bottle.

- After a few days, it will be time to pot the new plants. Don’t do this just because you see leaves growing. Sometimes there will be four or five leaves and few if
any roots. Wait until you see vigorous growth. Pot the plants in 3-quart plastic containers, and apply liquid feed fertilizer.

- In 4 to 6 weeks, depending on the vigor of the variety and the weather, the plants will be ready either for a larger pot (1½ gallon) or for in-ground planting.

**Overwintering Figs**

*Ficus carica* is the northernmost species in the *Ficus* genus. Figs that are completely dormant before severely cold weather arrives can tolerate temperatures down to 15 to 20 degrees F with little or no damage. Some varieties are harder and can tolerate even lower temperatures. If the top is winterkilled, the plant will probably come back from the base or underground parts. If you live in a colder area, it is very important that you grow hardy varieties. The hardiest figs include the old favorites Celeste and English Brown Turkey and some new varieties such as Alma and Hardy Chicago. The following are some ways to protect your figs in the coldest climates.

- Bend, weigh down, or bury permanently planted trees.
- Take potted plants indoors or into a greenhouse.
- Take large potted plants out of the pot and bury them.

**Purchasing Figs**

Fig trees from nurseries may be grown in the field and sold. Over the centuries, certain fig varieties have come to be called by other names. To be certain that the desired fig varieties are obtained, order from a reputable nursery. The types of figs grown in California should not be purchased or propagated for the purpose of fruit production in the southeastern United States. Only the common fig types should be grown in Alabama.

**Disease and Pest Problems**

Figs are relatively pest- and disease-free, but they do have problems. The most serious problem for southern growers who have light, sandy soils is root-knot nematodes. This type of infestation is easy to diagnose by uncovering some roots and inspecting them. If you see tiny galls or swellings on the roots, you have root-knot nematodes. The best control is to destroy infected plants and not use that site for figs again.

Fig trees and fruit are sometimes attacked by a variety of borers, mealybugs, and scale insects. Dried-fruit beetles sometimes enter figs through the eye of the fruit and cause them to sour. Varieties with open eyes are particularly susceptible to this problem. The best remedy is sanitation. Prune and burn infested wood and fruit. Don’t allow piles of leaves and fruit to accumulate and offer breeding sites for insects.

Spotted wing drosophila (SWD) is an invasive fruit fly with a wide plant host range that was first seen in Alabama in Coosa and Chilton Counties in 2011. The female has a serrated ovipositor, which allows her to oviposit eggs in intact ripening fruit. The larva develops inside of figs and other fruit making them unsalable. Spotted wing drosophila can be controlled with applications of pyrethrins that are labeled for organic production.

The African fig fly (AFF) is another invasive insect with an increasing presence in Alabama. Unlike the female SWD, the female AFF does not have an ovipositor that is serrated. They usually lay eggs in fruit that is compromised or rotting. However, ostioles or eyes prominent in some fig varieties allow the female AFF access to the interior of the fruit where she oviposits her eggs. The AFF can be controlled by the same means as SWD.

Fig rust (*Cerotelium fici*) is a fairly serious fungal disease. Heavy defoliation will result in both reduced fruit quality and size. It attacks young leaves, causing defoliation. This will result in a reduction in leaf surface area to the point where the plant cannot ripen the fruit. It is also easy to recognize from the small yellow-green spots that appear on leaves. The spots will get bigger and turn yellowish brown, and the leaves will soon yellow and fall. You can control fig rust by using sanitation methods. You can also spray the new leaves with a 4-4-50 Bordeaux spray at 3- to 4-week intervals (more often in rainy weather). This will also protect your plants against other leaf and twig blights.
Mosaic is a viral disease to which figs are more or less susceptible. The plainest symptom is mottled leaves. Some varieties infected by mosaic show dwarfed leaves and fruit; others are scarcely affected. Mosaic is incurable but is rarely a reason to discard plants.

Table 1 lists these and other fig problems as well as the possible causes and suggested remedies for each.

<table>
<thead>
<tr>
<th>Condition</th>
<th>Probable Cause</th>
<th>Suggested Remedy</th>
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<tbody>
<tr>
<td>Fruit drops when it is one-third to one-half full size.</td>
<td>Wrong variety for area. Variety needs pollination.</td>
<td>Destroy tree and replace it with a recommended variety.</td>
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<tr>
<td>Leaves drop off prematurely; fruit withers and fails to mature.</td>
<td>Plant has fig rust, another leaf disease, or a twig blight.</td>
<td>Use 4-4-50 Bordeaux spray. Rake and burn old leaves.</td>
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<tr>
<td>Fruiting is poor. Tree growth is retarded. Roots have knots or galls and are distorted.</td>
<td>Nematodes.</td>
<td>Mulch, use pot culture, or plant next to a building.</td>
</tr>
<tr>
<td>Fruit fails to mature; leaves are small. Vigorous new wood arises from base.</td>
<td>Low temperatures have killed some stem tissues.</td>
<td>Cut tree back to ground level, and grow a new top from suckers that arise.</td>
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<tr>
<td>Fruit sours and many split.</td>
<td>Unsuitable variety or unusually wet year.</td>
<td>Replace with a more suitable variety, or pick immature fruit for preserves.</td>
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<tr>
<td>Fruit is tough and falls prematurely during hot, dry weather.</td>
<td>Excessive heat.</td>
<td>No control; typical of some varieties such as Celeste.</td>
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