

Basic Fig Tree Fact Sheet – Understanding Figs and How to Care for Them in Kansas

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By following some basic plant care principles and giving some attention to variety selection, you should be able to successfully grow fruiting fig trees in Kansas. This is a basic resource guide for fig culture in our zone 5/6 area. Figs do take more thought and attention than most houseplants and other fruit trees. Proper soil, location and watering are some of the key elements for successful fig culture. The reward for your diligent efforts is more than worth the effort. Consider also learning about the fascinating ancient history associated with this versatile fruit.

Biology

The edible figs originated and have been cultivated in the Mediterranean and Fertile Crescent region for thousands of years. There are currently hundreds of varieties of the edible fig (*Ficus carica*). Botanically the fig is a very strange fruiting tree. What we think of as a fruit is actually a syconium. The inner wall of the syconium is packed with hundreds of flowers.

There are four types of fig trees (*Ficus carica* L.) -

- 1) Caprifigs – Although called the male (or wild type) fig tree, the syconium has both male and female parts. The figs from these trees are inedible with just a few notable exceptions. Caprifigs produce three distinct crops during the year and are the host for the fig wasp. A particular fig wasp, (*Blastophaga psenes*), has a special relationship with *Ficus carica* and is its only pollinator. The wasp was imported to California and successfully performs its task in this ‘new’ location. The wasp cannot survive without the persistent supply of fruit from the caprifig. The fig wasp can’t survive in Kansas due to the harsh winters.
- 2) Caducous or Smyrna figs – A female fig tree that must be pollinated to make figs. An example is the Turkish Fig/Calimyrna (aka Sari Lop) fig. Fig Newtons are made from this particular fig. Iranian dried figs also belong to this group.
- 3) Intermediate or San Pedro type figs – The breba (early) crop does not require pollination for fig formation but the main crop does. An example is the popular variety called Desert King.
- 4) Persistent or common figs – All cropping does not require any pollination to set figs (fruit formation is completely parthenocarpic). Most of our edible figs fall into this group.

Common figs might produce two crops of fruit a year. The early crop, if produced, is called the breba (a Spanish term) crop and this occurs on previous year’s growth.

The second crop is called the main crop and can be produced on new growth. ‘Pruning’ the breba crop may promote the main crop to ripen earlier, especially if the variety is known to ripen late.

Fig trees produce a milky latex when cut or when a leaf is broken. This may cause skin irritation.

Growing in the Ground Outside

There are several cold ‘resistant’ fig varieties that can more successfully be grown in the ground here in Kansas. These varieties will grow in most of our soils. Figs prefer reasonable drainage and do best in slightly acidic soils although they will do well in a range of pH values. Occasional compost applications keep them happy. They prefer full sun although some varieties can take a small amount of shade and will still produce fruit. If possible, plant them on the south side of a building wall or garden fence. This microclimate will increase the heat available to the plant. Water them in the summer when it is dry.

Outside Winter Protection

In late October you will need to set up the wintertime protection system. Unprotected ‘hardy/cold resistant’ figs will freeze to the ground without protection when the temperature falls below 20 degree. The more ‘above ground’ branches that are protected, the more this will enhance your chances of a decent early crop and more importantly will increase your chances of a main crop that will ripen before frost. Most varieties need to be kept above 20 degrees but a few will survive down to 10 degrees F.

Outdoor Winter Protection Ideas

Here are some winter protection ideas:

- 1) Bend the branches over and bury them under a mound of soil, in a shallow trench or under a big mound of mulch. (training the fig so that it is bushy and/or low and spreading will make this easier)
- 2) Put up a wire cage, about 5’ or more in diameter. Bend and anchor branches first, then fill area with mulch/leaves, thoroughly covering all exposed branches. Wrapping the outside with a tarp or plastic will seal off penetrating cold air.
- 2b) Pull branches close to the ground, fill area with leaves or straw and cover with a tarp. Seal the edges, holding the tarp down with bricks, rocks or logs.
- 3) Build an insulated structure with the possibility of adding a light bulb (or other small heat source) to be used on the coldest nights to meet the minimum temp requirements.

4) Make a 2x4 frame, cover with plastic, a blue tarp, and seal the edges. Heat the structure with a kerosene heater or electric heat on cold nights. When spring arrives, the fig will leaf out and properly 'harden off' with the light from the blue tarp.

5) Dig up the tree after it is dormant (it is okay if some of the roots are cut) and store in a cool garage (see winter storage for potted plants). Keep the roots moist and above 22 degrees. Temperatures should not remain above 45 deg for extended periods of time. Plants could be stored in 5 gallon buckets and filled with soil. Replant in the spring.

6) Research hoop house design and/or solar greenhouse possibilities for extending the season and for winter protection.

The figs can and should be pruned back to a manageable height before their winter protection plan is enacted. Leave at least four or five feet of trunk with some branches. This will be an adequate length for next year's early crop. Figs can also be grown as multiple 'trunk' bushy plants.

It is also important to remove all unripe fruits before covering. This is critical to prevent fungal growth.

Growing in Pots

Growing figs in pots is a very manageable and highly recommended approach, especially if you are growing more than two varieties. Growing figs in pots does not at all minimize your chances of a good harvest, but in most cases will increase your chances. Figs tend to do well in confined areas and can be more productive in this situation.

Figs start making fruit by the second or third year and more can be expected as they get larger. By the second or third year, a fig can be grown in a 5-gallon pot. By the third or fifth year move it to a 10-gallon size or more if appropriate. The largest necessary pot for good production is a 20-gallon size (18" diameter by 16" deep). Prune the tree to keep it at a reasonable size.

After they have been transplanted to the largest sized pot, every few years the soil can be changed and the roots pruned by one third (best done during dormancy - spring time). This helps rejuvenate the plant.

Figs prefer a well-drained loam supplemented with compost. Heavy clay and peat based potting soils need to be avoided altogether. Better soil-less mixtures should be explored (currently researching the possibilities).

Pots can be 'planted' in the ground a few inches so that the roots can grow out of the drain holes (holes located on sides is preferred) to supplement their water and nutrient

needs. When it is time to bring them inside for the winter, cut off the roots with a shovel.

Place figs where they will receive the most sun possible. It is advisable to place mulch on the 'west' side of the pot or use some other method to keep the pots from getting too hot. The roots can be damaged by excessive heat.

Water consumption needs to be monitored for potted figs. In the summer, daily watering is sometimes necessary. In the late fall as the weather cools down, cut back or stop all watering to assist with the onset of dormancy. The tree will start to drop leaves. All edible figs require winter dormancy and don't reach their maximum hardiness until dormant. At this time they can be stored.

Winter Dormancy Storage for Potted Figs

During dormancy, the soil should not be allowed to completely dry out. Monitor and water lightly as needed, perhaps once every two to four weeks. They prefer a winter temperature between 23 and 45 degrees F to keep them dormant. Temperatures above 45 for any length of time may stimulate them to leaf out too soon. If that happens, they will need to be placed in a sunny window till spring or else they will suffer and/or die. The roots of potted figs may be damaged if temperatures go below 23 degrees.

One of the best places for storage is in a cool attached garage. If stored in your warm house they will probably start to leaf out after only two to three months of dormancy in early February.

Another option is to removed them from their pots and -
1) Bury them under soil in the yard (see also Outside Winter Protection Ideas above)
2) Store them together in a bag or large container with slightly moist soil. Maintain proper storage temperatures. Repot them in the spring. (see Outside Winter Protection ideas above)

Coming out of Dormancy

The earlier that figs can be safely brought out of dormancy, the better chances of ripening your crop. (A period of dormancy is required). Once dormancy is broken, the tree (leaves and branches) are vulnerable to freezing and should not be subjected to temperatures below 33 deg F. Light levels also need to be steadily increasing at this time. (see blue tarp method under 'Outdoor Winter Protection Ideas' section). If trees leaf out inside your house, keep them near a bright window. Gradually acclimate them to sunlight when they are moved outside to prevent the leaves from burning.

Other Care Points

Figs are relatively easy to care for if their needs are met including consistent watering (as needed- do not over water!), good soil, and paying attention to critter issues should they come up. In pots, figs can be pruned and shaped. It is recommended that pruning shears be

sterilized between trees with a dilute fresh Clorox (1:10) solution to prevent the possible spread of pathogens to your other fig varieties (see Pest and Pathogen section).

Fertilizing

Some organic fertilizer can be added during the growing season for the in-ground figs. Potted figs appreciate a 24-8-16 fertilizer w/micronutrients. Cease fertilizing by summertime so that the fig will properly harden off/slow down its growth by autumn.

Climate Variables

Figs set fruit and ripen based on the climate they live in. Consideration must be taken for what conditions the various varieties are adapted. For example, a fig that does well in the warm summer of the southern States may not ripen its fruit in the cool coastal California area. In general, figs prefer hot and dry summers with cool wet winters. It is the summer heat that affects the fig's sweetness. (more heat generally makes a sweeter fig). In Kansas it is the cold weather that adversely affects them the most and is the barrier that we must intentionally modify. Also remember that depending on the summer and fall heat, the crop will vary in quality from year to year.

Here are some variables that affect fruit set:

- 1) Summer temperatures – warm is better than cool in most cases. The length of this period is also important.
- 2) Amount of rainfall & when the rain comes (precipitation near the time of ripening may split and/or sour fruit depending on the variety.
- 3) Winter conditions and the amount of wood that survives will determine the size of the early crop.

Variety Selection

Most of the edible figs will grow and fruit here keeping in mind the various issues discussed in this paper. Select fig varieties with the following in mind:

- a) Will they will be grown in the ground or in pots?
- b) Will the fruit will ripen in our climate?
- c) Does the fruit have souring potential or not? This is dependent on the 'eye' opening on the fig which can allow a fungus to grow inside if it rains a lot during this time of ripening. A closed eye is best.
- d) What is the quality of the fruit and how will you use the fruit?

Recommended Varieties

This is a slightly complicated task to make recommendations, partly because of the large number of existing varieties, and not to mention naming confusion issues. Commonly available 'common fig types' are: Brown Turkey, Celeste, Hardy Chicago, Kadota, Brunswick. There is variation in flavor, but most will do well if given the proper conditions. With container culture, your options for success may improve.

Ripening Times

Early crops (breba) may ripen in late July with main crops starting to ripen in August and continuing through November depending on the weather and variety. In Kansas, ripening may occur through mid-October.

Propagation

Figs are easy to propagate. Normally cuttings are taken in the late fall or early winter (after dormancy has been achieved) and stored in the refrigerator in a slightly moist bag. Cuttings can also be stored under a large leaf pile and excavated in the spring. They can be rooted inside in late winter or early spring in pure perlite. Bottom heat (70 to 80 deg. F) and high humidity is required. Later in spring cutting can also be started directly in the warming ground. Summer 'green' cuttings can be rooted under high humidity conditions in sand. Keep an eye out for mold/fungus growth on the cuttings. They can also be air-layered during the growing season.

Pruning

It is recommended that potted plants be kept under 6 feet tall. A bushy and/or multi-stem form is also recommended. Yard plants do best if pruned as multi-stemmed bushes or as a low growing tree to facilitate winter covering. Care must be taken not to prune off too many branches if you want an early crop the following summer.

A simple pruning approach that will also promote growth of fruit requires the removal of the growing tip after a branch has grown enough to make about 8 new leaves. Pinch off the end and the plants energy will go more towards fruit production.

Root pruning is also essential, especially the potted figs. Remove 1/3 of the root mass yearly, preferably in early spring.

Pest and Pathogens

Figs have few pest and disease issues to be concerned with if the minimal cultural requirements are met as outlined above. Large critters may find the fruit irresistible such as squirrels, raccoons, rodents, opossums, birds and humans. Netting might help keep the birds away. Be watchful during the ripening season. Gophers can be problematic, damaging the roots.

Root-knot nematodes can potentially be a problem, stunting growth. They not however, very common this far north. Starting with good soil will all but prevent that problem from starting. Be watchful if you order trees from southern state nurseries since root knot nematodes may be brought into your collection. Observe the roots when you are repotting in the spring to see if there are small round nodules on the roots.

Scale may become a problem inside but usually diminishes when the figs are growing outside.

Most potential fungi issues are eliminated with good airflow and sunlight.

Another 'common' affliction is fig mosaic virus (FMV). Most fig varieties have picked up the virus over time. It is transmitted by pruning clippers and a suspected variety of mite. Fig trees may show signs of FMV in their leaves. Various designs and discoloration (yellow) are associated with FMV. The vigor and production of some figs varieties are noticeably affected and most, while showing signs of the virus are unaffected. Sterilizing pruning shears with a dilute fresh solution of Clorox (1:10) is a good practice to prevent further spread of FMV. There is no reason to discard a fig tree that displays some of the symptoms. Generally a tree that is given good care will show fewer symptoms.

How to Use Figs

Figs can of course be eaten fresh. That is the best experience. Usually there is a color change or the fig starts to droop more when it is ripe. It will have an insipid taste if it is not quite ripe. Figs will not ripen further if picked early. Figs can be stored for a short time in a refrigerator, assuming they actually don't get eaten on the way in. Some varieties are better than others for the following applications:

- 1) Stewed and cooked alone or prepared with other dishes.
- 2) Many varieties can be easily dried for longer-term storage.
- 3) They can also be made into jam and preserves.
- 4) Frozen figs will keep for a long time.

More Information, Research

Fig resources are somewhat uncommon or require some research. Fruit books provide general information and don't go into much depth about figs. There are some very good web sites to study and research depending on your depth of interest.

Sources for Fig Trees

Most mail order nurseries offer less than 10 varieties each. The nursery trade altogether offers less than 30 different varieties. These common varieties are generally very good figs but one must select what might do best in this climate and whether or not they will be grown outside or in a pot. A great number of the cultivated varieties are traded and sold amongst collectors.

Web Resources

- 1) "Ray's Figs" – <http://home.planters.net/~thegivans/> - Ray Given's web site is very informative with good pictures.
- 2) "Figs for Fun" – www.figs4fun.com - This is a huge reference site and includes a discussion forum
- 3) "Garden Web Fig Forum" – <http://forums.gardenweb.com/forums/fig/> - This is a very good discussion forum
- 4) There are many more – you will find references on the forums and the sites listed above.