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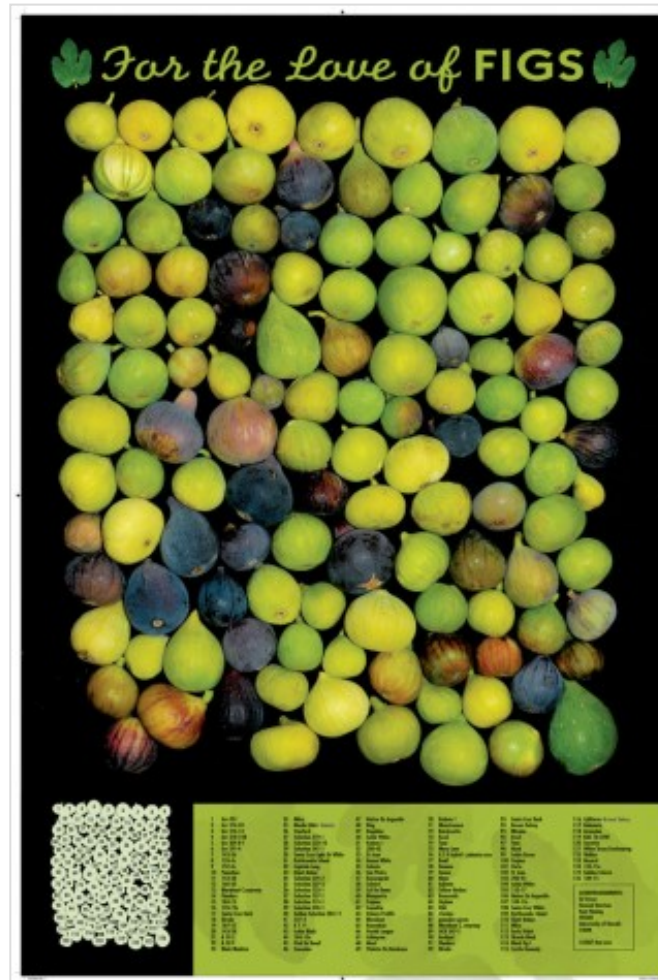
Farming with Love: Choosing the Best Figs for Hawaii

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Ken Love / Special to [Hawaii247.org](#)

Figs have been established in Hawaii since the mid-1800's, yet only two the approximately one thousand varieties in the world have flourished. An ongoing project test more than 50 varieties at various elevations on the west side of the Big Island of Hawaii determined that there are many other varieties, each with differing growth and flavor characteristics, that offer growers, chefs and consumers a wide range of choices.

We found that the various varieties of figs planted extend the growing season when pruned low to facilitate harvesting. At some elevations with proper horticultural practices figs will produce year around. We also found that chefs and consumers desire to have the fresh figs year around. Chefs learned the difference between “commercial ripe” (for use in savory culinary applications) and “tree ripe” (for used in sweeter dessert applications.) We were able determine, given the range of test plot locations, which types of figs did and did not require a pollinating wasp not currently found in Hawaii. We have been able to demonstrate the profitability of fig production, the relative ease of growing and harvesting (labor reduction), and substantial demand for more fruit by consumers, chefs and



developers of value-added products.

Results:

Choosing the Best Figs for Hawaii turned into a much more detailed and exciting project than first anticipated for two primary reasons: (1) the desire on the part of other growers to participate and receive figs cuttings and (2) people from around the world read about the project on www.hawaiiifruit.net and wanted to have their favorite fig grown in Hawaii. This international cadre of “fignatics” enabled us to work with some varieties that are not in the USDA clonal repository and in one case enabled us to offer an addition to the collection that was accepted. This project will continue on its own with growers who have received a wide variety of fig varieties from the project, the repository and other growers.

There are 4 classifications of figs, two of which require a pollinating wasp not found in Hawaii. The first challenge was that there are no records for many fig varieties regarding which would produce edible figs. Fig varieties Archipel, Masui Dauphine, Carter, Osbourn Prolific, Black Mission, Conadria, Excel, Rattlesnake Island, UCR 187-25- Giant Amber, Marabout, White Genoa, Early Violet, Santa Cruz Dark, White Texas, Ischia Black, Calimyrna, Flanders, Col de Dame and LSU Gold were planted. Once the figs started to produce we were able to determine the characteristics of each variety. Figs were tested for sugar content and each variety was photographed. This information is posted on <http://www.hawaiiifruit.net/index-figs.html> to enable other growers and members of the Hawaii Tropical Fruit Growers Association to observe our testing procedures and results.

We determined that Marabout and Calimyrna were Smyrna type figs and would not produce edible fruit at this location in Hawaii. These were cut back and grafted with Osbourn Prolific and Rattlesnake Island, which we found to have the highest brix and were heavy producers. Figs at this elevation produce year around with irrigation. (All trees received 10 minutes of water per day at 1/4 gallon per hour from emitters in the early morning.) Harvesting is required every 2 or 3 days. Trees were fertilized quarterly with 6-6-6 organic. (This irrigation and fertilization regime was used on the “12 Trees Project” Brown Turkey and White Kadota figs.) Harvested figs are sent to the culinary school and sold to chefs. Some varieties are used to develop value added projects including jam, fig jerky, stewed figs and sauces.

The major challenge is bird damage. With the first production we lost 30% to 50% from Mynah birds, White Eye birds and Cardinals. After stringing Mylar tape, CD roms and a variety of bird deterrents from Japan we could reduce the damage to 5% to 10% of the total production. We also tested bagging the fruit. The bag manufacturer in Japan developed a special fig bag for us to use based on the results of 2002 tests. These bags further helped to reduce damage from birds, the occasional fruit fly and airborne virus. The problem with the bags is that the increased heat inside can cause premature ripening of figs so the timing is critical when to use them. Another problem was that the Mynah birds decided that the bags were nice to use in their nests and they would often tear the bags off the fruit and fly off with them.

The rapid growth of figs in Hawaii's environment requires a very active pruning regime.

Within the project's timeframe all new trees had to be pruned at least once and most were pruned 3 to 4 times. The pruned sections were given to other growers to propagate additional trees.

One of the most important observations from this test is that the figs grown at each location (including the figs tested at the clonal repository in Davis) vary greatly in their individual horticultural and culinary characteristics. Therefore as many fig types as possible were given to growers before we can make any definitive conclusions regarding which figs performed best at the various elevations and within Hawaiian microclimates. Consequently it will take another 3 to 5 years for such conclusions due to the time it takes to grow from a cutting to production, especially at higher elevations.

Each test site location and elevation had its own particulars. To date the Kona pacific Farmers Cooperative elevation (300 to 400 feet) with the system of irrigation and fertilization has been the most successful location. The second primary location for testing was at the University of Hawaii Experiment station in Kainaliu. It was extremely important to insure continued availability of germplasm to growers. There was no guarantee that the cooperative or the individual growers (including Love Family Farms) would be able to supply fig cuttings beyond the length of the project. The University was the logical choice to ensure continuity.

Figs planted at the university location, in addition to those planted at KPFC include, Mike's Purple, UCR 184-15, Monstrueuse, Waimanalo, Deanna, Yellow Neches, Vernino, Native de Argentile, St Jean, Violette de Bordeaux, UCR 153-17 Bournabat, Gold Celeste, Panachee, LSC Purple, Black Madeira, Ischia White and Beall. Trees at the University site (approximately 1700 feet elevation and with the same irrigation and fertilizer practice as at KPFC) grew considerably slower and had more upright and less spreading growth patterns. Additional challenges at this location included volcanic emissions (VOG) and wild dogs that destroyed a number of newly planted trees. This was solved by placing used tires around some of the trees favored by the dogs. VOG is a problem for many growers with various crops in South Kona, Hawaii. Changing emitters to bubblers and sprays enabled the growth rate to increase on many of the young trees.

Many of the figs grown at both of these sites performed better than the parent trees and had a higher sugar content than the figs produced in California (Brown Turkey, White Kadota, White Texas, Rattlesnake, Osbourn Prolific and Excel). Other figs do not perform as well or grow as fast as the Calif. parents. (Panachee, Yellow Neches, St Jean, Santa Cruz, Black Madeira and Ischia White)

Based on our experience and on the reports from growers we can make the following recommendations.

Recommended:

Key: * Good producers for all elevations.

** Limited production but high quality fig– further testing indicated.

Common Figs

- Black Mission *
- Rattlesnake Island *
- Brown Turkey *
- White Kadota *

- UCR 187-25 *
- Excel *
- LSU Gold *
- Osbourn Prolific *
- Flanders *
- White Texas *
- Early Violet *
- Violette de Bordeaux *
- Ischia Black **
- Col de Dame **
- Conadria **
- Beall **
- White Genoa **
- Archipel **
- Masui Dolphin **
- Santa Cruz Dark **

Not Recommended

San Pedro Type: Produces some fruit but extremely limited.

- Giant Amber

Smyrna Type: No edible production but vigorous root system with rapid growth. Figs with medium production quantities have been grafted to these rootstocks to see if the quantity or growth pattern changes.

- Marabout

- Calimyrna
- Zidi

Too early to recommend:

These figs are still under test and cannot be recommended at this point:

- Panachee
- Bournabat
- UCR 153-17
- St. Jean
- Barnissotte
- Yellow Neches
- Vernino
- Native de Argentile
- Monstrueuse
- UCR 184-15
- Sucrette
- Waimanalo
- Carter

This project enabled us to gather a large amount of data useful to growers in the entire state as well as in the Kona district. Demand for fresh figs continues to outpace the production and at times the growers involved are sold out months in advance. Sales thus far have been limited to this island but will be expanded when production picks up with the additional varieties and new plants that have not yet produced.

Culinary uses:

Most of the production to date has been sold to island restaurants or used at the

culinary school. Chefs affiliated with the American Culinary Federation Kona Kohala Chapter have adopted fig use on a regular basis both as a fresh fruit on buffet lines and for kitchen use in sauces or desserts. Some chefs have requested sweeter (tree ripe) fruit for dessert use or more savory (commercial ripe) for use in sauces and other cooked recipes. The chefs have taken into consideration the difference in the numerous varieties dividing them into two major groups with a number of sub categories. The two fig groups, honey and berry, are further broken down by fruit size, seed size and general taste characteristics. Chefs have expressed a desire for continued evaluation of different varieties as they become available. At this writing their favorites are still the large, sweeter Brown Turkey and Excel for cooking. Increased quantities of Osbourn, LSU Gold, Archipel and Early Violet have been requested for specific recipes they plan.

Pricing:

Currently figs are sold wholesale for 75¢ each. Some smaller varieties like Early Violet are 2 for 75¢. Chefs have requested that in the future the figs should be priced by the pound. This is currently under consideration and presents the future challenge of developing a cost of production for very different sized fruit that require the same horticultural expenses and practices.

Other uses:

During months with heavy production figs have been offered to local grocery stores, which have also expressed the desire to be able to sell them year around in greater quantities. We have also received many requests from vendors and restaurants on other islands.

Impact on Hawaii Agriculture:

There are a number of advantages to growing figs as part of an overall farm plan. Figs are extremely drought tolerant, have no need for large quantities of inputs, are easy to propagate and produce in a very short period of time compared to other tropical fruit. Figs do not require special soils and can grow at virtually any elevation and in any of Hawaii's microclimates. Sales from our farm have been profitable and we've been able to assist project collaborators and other growers with their sales. Most people are familiar with figs in packaged cookies and other products, so there is little consumer education required. However, customers are intrigued by the wide variety of figs displayed along with our fig poster produced at

the beginning of the project: <http://www.hawaiiifruit.net/figposterproofWEB.jpg>

Producer Adoption and Reactions:

Growers also like working with fig trees as they easily espalier and can be trained to grow in virtually any space. Figs have now become a permanent part of agriculture in this part of Hawaii because of this project. Figs provide significant additional income to farmers who produce them for commercial purposes. Other growers have added this fruit to their diet, enabling them to be more self-sufficient and sustainable.

(Eds. Note: Farming with Love is a semi-regular column by Kona resident Ken Love, a specialist in tropical fruit horticulture and market development. Love works on local sustainability issues for Hawaii farmers, value-added product development and farmer-chef relations. Contact Love at kenlove@kona.net)

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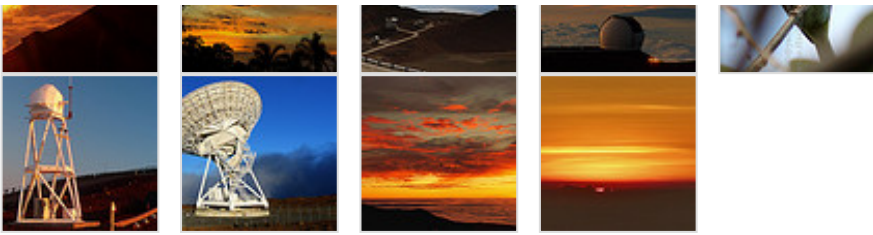


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