

Choosing the Best Figs for Hawai'i

Ken Love (Hawai'i – Farmer/Rancher Grant)

Project Number: SW07-034

Title: Choosing the Best Figs for Hawaii

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Situation:

Hawai'i's range of microclimates makes it possible to grow hundreds of different crops, all with varying degrees of profitability for farmers. The project team learned from a Western SARE Research and Education Grant (12 Trees Project, SW03-055) that figs can be 10 times more profitable than the area's popular Kona coffee, depending on elevation, irrigation and cultivar.

Current choices in Hawai'i are limited to three cultivars, white kadota, black mission and brown turkey. Having additional cultivars, which produce at different times at different elevations, would provide farmers with more choices and greater diversity.

The USDA germplasm repository at the University of California Davis has more than 130 fig varieties in its collection. This project proposes to grow several of those varieties, previously unavailable in Hawai'i, to determine how well they perform at different elevations and environments as well as their desirability among chefs.

Objectives:

1. Sample and rate for horticultural and culinary values figs at the USDA germplasm repository in Davis, CA
2. Obtain and plant suitable varieties in Hawai'i at four locations: Kona Pacific Farmers Cooperative, University of Hawai'i Experiment Station, Love Family Farms and GS Farms.
3. Assess cultural practices, growth patterns, water requirements and pest susceptibility of the various figs under differing elevations and environments
4. Test various non-chemical approaches to repel birds and other pests
5. Determine which figs grow best and which are most desirable among chefs
6. Disseminate to growers information about varieties and their cultural needs



The project team had to choose from among many varieties of figs for the Hawai'i trials.



Ants are among the insects that like figs.



LSU Gold is among the figs recommended for planting in Hawai'i at all elevations.

Actions:

Narrowing the fig choices from the many thousands figs available entailed a trip to the USDA germplasm repository in Davis, California, to sample more than 100 figs. They were rated on horticultural and culinary values according to USDA and various university standards as well as information the project team gathered on what chefs preferred in taste and texture.

There are four main types of figs – common, San Pedro, Smyrna and Capri – some of which require a wasp for pollination. The first step was to figure which fig varieties would be pollinated in Hawai'i without a fig wasp and whether other insects found in Hawai'i and not in California could serve as pollinators. This required growing out some of the fig trees, which are fairly easy to cultivate and grow from plantings, often fruiting within a year.

It was found that figs from cuttings of the same tree planted in different locations and at different elevations took on totally different characteristics, with figs from cuttings of USDA repository trees fruiting much differently in Hawai'i, some much better and some much worse.

As work has progressed, the project team received fig cuttings from other U.S. locations, which have been planted as part of the ongoing trials.

To counter bird and wild chicken predation, Mylar tape, bird deterrents from Japan and CDs have been hung from trees and protective wraps placed on the figs. Harvesting must be done every few days to beat the birds to the fruit.

A problem distinctive to Hawai'i is VOG, or volcano emissions, which appears to have a detrimental effect on the trees, cutting sunlight and slowing growth.



The variety UCR 187-25, recommended for all elevations, is the largest fig.



Figs covered in dry-cleaning bags test for the impacts of VOG.

Results:

Based on the first planting, the following is recommended for Hawaii growers:

- Lower elevations with irrigation:
 - Black Mission
- Low to mid elevations:
 - Rattlesnake Island/Capitola****
- All elevations:
 - Brown Turkey *
 - White Kadota *
 - UCR 187-25
 - Excel
 - LSU Gold
- Low to mid elevations (still under evaluation at upper elevations):
 - Osbourn Prolific
 - Flanders
 - White Texas
 - Ischia Black **
- Not recommended (lack of pollination or proved to be San Pedro type):
 - Early Violet ***
 - Giant Amber
 - Marabout
 - Santa Cruz Dark
 - Calimyrna
 - Zidi
- Not recommended (poor performance at low elevations)
 - White Genoa
- Still being tested:
 - Archipel
 - Masui Dolphin
 - Carter
 - Panachee
 - Beall
 - Boumabat
 - UCR 153-17
 - St. Jean
 - Barnissotte
 - Yellow Neches
 - Vernino
 - Native de Argentele
 - Monstrucuse
 - UCR 184-15
 - Violette de Bordeaux
 - Col de Dame



This octopus has been effective at scaring birds away from figs.



A comparison of a tree-ripened Excel fig with one ripened commercially.

Another dozen varieties are being considered for inclusion.

- * Traditionally grown in Hawai'i
- ** The fig is very good, but the tree grows slowly and produces poorly
- *** The tree produces well but the fig is not as good as in California
- **** The fig is very good with high sugar, producing better than the parent tree in California; recent USDA DNA tests show Rattlesnake Island and Capitola are the same fig.

Potential Benefits:

The figs have proved to be in great demand by chefs around the state, and growers with producing trees are currently unable to meet demand. Part of the project is to try to balance supply and demand with buyers and collaborators.

For more information, visit www.hawaiifruit.net/index-figs.html.