

Development of a Sustainable Polyculture and Marketing System for Exotic Tropical Fruits

Richard Bowen (Hawaii: Research & Education Grant)

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Title: Development of a Sustainable Polyculture and Marketing System for Exotic Tropical Fruits

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Situation:

Small producers of coffee and macadamia nuts in the Kona region of Hawaii have struggled with high costs and limited land and labor. Producing locally adapted tropical fruits, and creating marketing linkages between the farms and high-end restaurants within marketing distance, could add profitable crop alternatives.



Demand was high for several fruits not in the project, including Jackfruit



The flower of grumichama, also known as Brazil cherry

Objectives:

- Identify 12 species of exotic tropical fruits with high potential for year-round market acceptance
- Develop and demonstrate a prototype polyculture tropical fruit production system based on sustainable production technologies
- Develop direct and wholesale markets for both fresh fruit and processed products
- Help the Kona Pacific Farmers Cooperative expand into new activities, including the long-term marketing of the fruits developed from this project



Timing trials for harvesting pohia provided valuable information.



Figs are packaged for distribution through Adaptations, a local food distributor.

Actions:

The project team conducted these activities:

- Gathered information on 100 fruits already grown in the region
- Based on surveys of 54 island chefs, selected 12 trees for demonstration
 - Loquat – three varieties
 - Mysore berry
 - Poha (Cape gooseberry)
 - Pomegranate – four varieties
 - Cherimoya – two varieties
 - Tamarillo (tree tomato)
 - Rangpur “Kona” lime
 - Tropical apricot
 - Grumichama
 - Surinam cherry – two varieties
 - Kumquat – two varieties
 - Figs – two varieties
- Developed a 1-acre demonstration site on land adjacent to coffee and macadamia nut processing facilities of Kona Pacific Farmers Cooperative
- Planted trees – both purchased and donated – and developed sustainable and organic production protocols
- Created an agritourism attraction with educational kiosks, displays, pathways, signage and landscaping
- Created demand for fruits by providing information to chefs and other potential buyers and alerting them to fruit availability



Farmers in the region have found some success growing and selling Kona Rangpur limes



Chef demand for figs has exceeded local grower supplies. Fruit photos by Ken Love



A Western SARE Farmer/Rancher grant by Ken Love and Kent Fleming is assessing new fig varieties, like these from the University of California Davis

Results:

The production and marketing information gathered from the project has been provided to producers through workshops, publications and the 12 Trees website, www.hawaiiifruit.net/12trees.html, which receives more than 2,500 visits a month.

Faculty and students in the UH West Hawaii Culinary Arts Program in Kona developed recipes using the 12 fruits (fresh and processed) and tested them with consumers. Graduates carry this knowledge into the local restaurant industry.

Brown turkey figs, gaining popularity among chefs, generated \$3,263 in sales from the project. Demand now exceeds supply from 20 farms that have started producing figs.

The project has been featured locally and nationally on television and in magazines and newspapers.



Dick Kuehner, retired designer of visitor attractions with U.S. Fish & Wildlife, designed the kiosk, built through grants and volunteer labor. Photos by Sotero Agoot

Potential Benefits:

- Kona growers who increased production based on seasonal diversification cite benefits like reduced need for external labor during the coffee-picking season
- Project results have been discussed widely and put into practice by local Farmers
- Growers are profiting from figs, tropical apricot and Kona rangpur limes, and many report easier sales of fruit not sold in years before the project
- Cost-of-production figures have helped growers dealing with chefs and grocers
- Demand for project fruit has been high, presenting a challenge for supply, which also includes fruit from trees not part of the initial planting – including rollinia, jackfruit and jaboticaba
- Results have been put in place in south India and are under study in Japan