

## GROWING MANGOS IN HAWAII: A CORPORATE GROWER'S PERSPECTIVE

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C. Brewer and Company's interest in diversified crop research dates back to the mid-1950s, when then-president Boyd MacNaughton organized a committee to find alternative crops for non-sugar lands in the Ka'u and Hilo coast areas. Emphasis was in the Ka'u area, where Brewer controlled over 200,000 acres at that time. The criteria for selection of possible crops was quite modest. The requirements were low need for hand labor, and a gross return of \$500 per acre. A total of 16 different crops were tested, and seven were considered to have some commercial potential. Of these seven crops, macadamia and guava were the crops that became commercial ventures for Brewer. Mango was considered potentially profitable if the problems of fruit flies and the mango seed weevil could be solved. The local market was thought to be insignificant at that time.

More recently, with the continuing economic pressures facing the sugar industry, we at C. Brewer are continuing the efforts of crop diversification. Macadamia plantings on marginal sugar lands will result in a more stable economic base in the Ka'u and Hilo areas. The orange and mango test plantings at Ka'u are the latest efforts of our crop diversification strategies.

Changing demographics in the local market and the potentials of newer foreign markets revived our interest in mangos as an economically viable crop. The luxury hotels whose clientele is willing to pay top dollar for tropical fruits, the increasing number of condo and apartment dwellers who do not have a mango tree in their yard, and the increasing emphasis on health and wellness have, we feel, contributed to a very different local market than was perceived 20 years ago. In addition, the opening of foreign markets is considered essential for the success of our venture.

Our project is located at 200 feet elevation in the Palima area below the town of Pahala. The project site has an annual rainfall of 10-20 inches.

The plantings are on pahoehoe lava overlain with 2-4 feet of mill waste-water deposits. The land was formerly used for grazing. Those of you who are familiar with the Ka'u area know that the major limiting factor is the lack of rainfall and irrigation sources. What we are presently doing is utilizing mill waste water for irrigation, a resource that has never been tapped before. We use settling ponds to remove most of the soil, and micro-sprinklers to minimize clogging of the emitters.

We presently have 5 tree-acres planted using a 10 x 8 foot spacing, a very high density of 545 trees per acre. The plantings were installed in 1992 and growth has been excellent, so far. Because of windy conditions at the site, windbreaks are placed at 250-foot intervals.

Variety selection for our project was based on several criteria, including quality, yield, time of predominant fruiting, and shelf life. The varieties included are 'Keitt', 'Pope', 'Exel', 'Brooks', 'Zill', 'Manzanillo', 'Pirie', and 'Rapoza'. Additional plantings will include 'Haden', 'Ruby', 'Momi K', 'Joe Welch', and 'Ah Ping'.

Pruning and management of these extremely high density plantings are subjects we need to learn a lot about. Controlling time of flowering and fruiting, we feel, is essential to marketing success. We are low on the learning curve at this time. Manipulation of irrigation, use of growth regulators, and pruning are all methods we hope to use. Nutrition, irrigation, and pest control are other subjects we need to learn about. Research is ongoing to help answer these questions.

Disinfestation, processing, and postharvest handling are obviously areas of interest to us.

I feel it is fair to conclude that we at Ka'u Agribusiness have a lot more to learn about all aspects of this business. However, we are very serious about making this a successful venture. We would like to thank CTAHR for sponsoring this conference and for all the help that Mike Nagao, Mel Nishina, Phil Ito, and others have given us.