

## Outstanding in Their Field: Farmer Perspectives on Sustainable Agriculture in Hawai'i

By Ted Radovich and Linda Cox

### The Triple Bottom Line

Everyone is excited about sustainability. After all, who wants to be *unsustainable*? Everyone may not be clear exactly what sustainable agriculture is.

Sustainable farming systems are profitable and meet food and fiber needs in the short term without degrading the natural and human resources that will ensure production stability in the long term. This is summarized as "Profits, People, Planet" or the "Three P's of Sustainable Agriculture."

### The Producers' Perspective

Most agree that:

1. growers need to make money and have access to a pool of trained labor,
2. the risk of environmental pollution by farm operations should be minimized and
3. new farmers must be cultivated in order for Hawaii agriculture to be sustainable.

But, HOW can these goals be accomplished? To understand the challenges and opportunities associated with sustainable agriculture in Hawaii, you should ask those most intimately involved: **the producers**.

Every three months, Hanai'Ai asks successful food producers to describe their operation. Growers who may not be seen in the newspaper or on TV are selected to broaden our understanding of how local producers strive for sustainability. Over the previous seven issues of Hanai'Ai, growers who routinely utilize synthetic inputs, as well as certified organic operations that seek to dramatically restrict the use of these tools have been featured. Farms on almost all of the major islands have been visited, all of which grow fruits and vegetables, while some have livestock integrated into their operations. All the featured farmers market directly to their consumers in some way. Most have made a conscientious and successful effort to bring in the next generation of growers.

A discussion of sustainable approaches to agriculture based on grower responses to our questions is presented below within the context of the "Three P's" framework (see above). Links to the questions and responses for each interview are presented in Table 1, along with basic characteristics of the operations featured. Also included are important approaches or concepts toward sustainability identified by each operation. A representative list of tools and resources available from CTAHR to assist in sustaining your farm operation are presented at the end of the article.

### Profits

In order to maintain profitability, featured farmers pay close attention to production costs and market prices. They make sure that quality is consistent so that their customers know



Table 1. 2009-2011 Hanai'Ai Featured Farmers

Farm Name	Farm Name Island Size	Crops	Organic?	Primary approach or concept regarding sustainability
	<a href="#">Ho</a> <sup>1</sup> O'ahu 30 acres	Mixed vegetables	No	Maximizing operation efficiency and reducing costs
	<a href="#">Adaptations</a> <sup>2</sup> Hawai'i 8.5 acres	Fruits, veggies, medicinals	Certified	Recognizing the inseparable link between the natural world and the economy
	<a href="#">Kula Country</a> <sup>3</sup> Maui 60 acres	Veggies, pumpkins, strawberry	No	Reducing food imports
	<a href="#">Kunana Dairy</a> <sup>4</sup> Kaua'i 14.5 acres	Dairy goats, veggies	Veggies certified	Creativity and innovation
	<a href="#">Twin Bridge</a> <sup>5</sup> O'ahu 300 acres	Veggies, corn, sunflowers	1 acre in transition	Keeping 18 people fully employed & advocating for long term lease of land
	<a href="#">Tuipulotu</a> <sup>6</sup> Moloka'i 8 acres	Root crops, pigs, papaya	1 acre in transition	Economic viability & reducing food imports
	<a href="#">Mari's Garden</a> <sup>7</sup> O'ahu 17.5 acres	Ornamentals, aquaponic fish and veggies	2 acres in transition	Reducing food imports, water use efficiency & economic viability

<sup>1</sup> [http://www.ctahr.hawaii.edu/sustainag/news/V1\\_fall09.html](http://www.ctahr.hawaii.edu/sustainag/news/V1_fall09.html)

<sup>2</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V2-Datta-FF.pdf>

<sup>3</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V3-KulaCountryFarms.pdf>

<sup>4</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V4-Wooten-FF.pdf>

<sup>5</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V5-TwinBridge-FF.pdf>

<sup>6</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V6-Tuipulotu-FF.pdf>

<sup>7</sup> <http://www.ctahr.hawaii.edu/sustainag/news/articles/V7-MarisGarden-FF.pdf>

what to expect and are willing to pay for it. They are always looking to diversify to help spread the risks of farming over more products and to keep their customers excited about their operations through direct marketing and value addition.

**People**

Featured farmers value their customers, their peers and their community. They like direct sales because they can talk story with their customers. This personal connection with their customers may mean that they can easily sell everything that they produce. They take every opportunity to learn from their peers. They see their relationships in the farming community as important to their quality of life and continued success. They also give back to their community, with many of them involving youth in a farming experience. They take their role of supplying food to their community seriously and give back where and when they are able.

**Planet**

Featured farmers look to reduce imported inputs and strive for input efficiency and waste reduction. All of them see themselves as stewards of the land and, whether or not they are organic, they strive to reduce their impact in the long run.

**Outlook for the Future**

Most of the growers interviewed had an overall positive outlook for the future of their operations. One grower specifically mentioned plans for expanding production area. Others saw increased profits in their future by diversifying to include more high-value crops (e.g. medicinals, leafy greens, certified organic), adding a certified kitchen, improving crop quality with the use of screened houses and maximizing operational efficiency. Concerns about the future focused on the long-term availability of land and water, and the increasing cost of imported inputs.

**Hot Tips From Hanai'Ai Featured Farmers**

We asked our Featured Farmers what's the most important advice they would give to other growers.

**This is what they said:**

- Know your costs and help your customers see your product as unique so you can set your price; do not be a price taker.
- Identify your customers and develop your market before you grow because there is no time to market while you are harvesting.

ASSUMPTIONS:		Trees / acre calculation:	
either tree count for whole farm or trees /acre, but NOT BOTH:			
1 Total tree count =	OR trees/acre	a. Enter spacing (in feet):	
2 Acres of coffee tree	4.0	8 by 8	
3 Total tree count	2,588 trees, which is ### trees/acre	b. % of land area required for roads	5%
4 1 lb. of processed	4.00 lbs. of cherry	c. Trees per ac	647
5 Labor wage rate for growing trees (\$/hr.) =	\$7.50	8 Desired rate of return on equity cap	6.0%
6 Labor benefits as % of wage for growing labor	33%	9 Average interest rate on debt cap	10.0%
7 Receive payment, in months from time crop deliv	0	10 Aver. interest rate on working cap	12.0%
(If payment for crop is in form of cash, enter "0")			
<b>GROSS INCOME:</b>		<b>ANNUAL GROSS INCOME:</b>	
Prod	% of trees	cherry	units @ \$/unit = \$/tree \$/acre \$/farm % gross
Coffee cherry	### of crop	2,588	### 14.3 lbs. cherr \$1.25 ##### 46,261 ###
Processed	0% of crop	0	3.58 lbs process \$6.00 0.000 0.00 0 0.0%
<b>TOTAL = ### of cro 2,588 ### lbs.</b>		<b>ighted aver. = \$1.25 / lb 17.88 11,565 46,261 ###</b>	
<b>OPERATING (or "variable") COSTS:</b>			
<b>I. GROWING OPERATIONS:</b>		<b>ANNUAL GROWING COSTS:</b>	
A. Fertilizing:		Quantity/tree: units @ \$/unit = \$/tree \$/acre \$/farm % gross	
1 Super Coffee +	2.9 lbs./tree/yr	\$0.18 /lb.	0.512 331.23 1,325 2.9%
2 Ammonium phosphate	0.0 lbs./tree/yr	\$0.00 /lb.	0.000 0.00 0 0.0%
3 Labor @ 4 applications	0.25 min./appl.	\$9.98 /hr.	0.166 107.56 430 0.9%
4 Fuel: mach. & equip. operation for fertilizing for farm/year =>			0.000 0.00 0 0.0%
<b>Fertilizing sub-total =</b>		<b>0.678 438.79 1,765 3.8%</b>	
B. Weed control:		Quantity/acre:	
1 Round-up	2.0 oz./gal. 30.0 gal/acre	60.0 oz./acre	\$75.00 /gal 0.217 140.63 563 1.2%
2 Sticker	0.6 oz./gal. of mixture	18.0 oz./acre	\$10.00 /gal 0.009 5.63 23 0.0%
3 Spraying la	4 rounds 4.00 hrs/acre	16.00 hrs./ac/yr	\$9.98 /hr. 0.247 159.60 638 1.4%
4 Mowing lat	0 rounds 2.00 hrs/acre	0.00 hrs./ac/yr	\$9.98 /hr. 0.000 0.00 0 0.0%
5 Fuel: mach. & equip. operation (spraying total) for weed control farm/year =>			0.000 0.00 0 0.0%
<b>Weed control sub-total =</b>		<b>0.473 305.85 1,223 2.6%</b>	
C. Rodent control:		Quantity/acre:	
1 Rat bait	5.0 lbs/acre	\$1.85 /lb.	0.086 55.50 222 0.5%
2 Labor	6 applicator 1.00 hrs/acre	6.00 hrs./ac/yr	\$9.98 /hr. 0.093 59.85 239 0.5%
<b>Rodent control sub-total =</b>		<b>0.178 115.35 461 1.0%</b>	
D. Other pest control:		Quantity/acre:	
1 Sunspray	2.5 oz./gal. 0.0 gal/acre	0.0 oz./acre	\$24.50 /gal 0.000 0.00 0 0.0%
2 Insect control	0.0 lbs/acre	0.0 lbs/acre	\$0.00 /lb. 0.000 0.00 0 0.0%
3 Labor	0 applicator 0.00 hrs/acre	0.00 hrs./ac/yr	\$9.98 /hr. 0.000 0.00 0 0.0%
<b>Other pest control sub-total =</b>		<b>0.000 0.00 0 0.0%</b>	
E. Irrigation:		K = 1,000 gallons	
1 Water	7.0 gals./hr./ 35	634 K./yr.	79 K./irri. mo \$178.09 /mc 0.554 358.22 1,433 3.1%
2 Labor (maintenance)	12.00 hours / acre / year @		\$9.98 /hr. 0.185 119.70 479 1.0%
<b>Irrigation sub-total =</b>		<b>0.739 477.92 1,912 4.1%</b>	
F. Pruning:		Quantity/tree:	
1 Pruning lat	1 major/yr 68.0 hrs./ac./prunir	6.31 minutes/tr	\$9.98 /hr. 1.048 678.30 2,713 5.9%
2 Pruning lat	1 suckering 22.0 hrs./ac./prunir	2.04 minutes/tr	\$9.98 /hr. 0.339 219.45 878 1.9%
3 Mulching la	1 mulching 2.0 hrs./ac./mulch	0.19 minutes/tr	\$9.98 /hr. 0.031 19.95 80 0.2%
4 Fuel: mach. & equip. operation for pruning total for pruning/mulching /yr =>			0.155 100.00 400 0.9%
<b>Pruning sub-total =</b>		<b>1.573 ##### 4,071 8.8%</b>	
<b>TOTAL GROWING COSTS = \$</b>		<b>3.64 2,356 9,422 #####</b>	

Figure 1. Cost of production calculators for a wide range of agricultural products are available at no cost from CTAHR Publication and Information Office.

- Take full advantage of the Cooperative Extension service.
- Network with other growers in your community to make sure you are aware of events, trends, and opportunities that come up.
- Diversify your operation by growing more than one crop so you can spread your risks and not have all your eggs in one basket.
- Consider integrating livestock into a sustainable farming system; the benefits of keeping animals as part of a balanced farming system are many, even though they do require a lot of love and attention.
- Focus on quality and customer service so you can set your prices, rather than take what all other producers get.
- Plan ahead in a flexible way so you can adjust to all the constant changes that farming brings.
- Be cautious about borrowing money because farming is the world's riskiest business.
- Work hard and don't give up.
- Value the fact that you are an important link between the natural world and human society.
- Farming is always a learning experience; be a farmer scientist so you can modify your crops or your production system or both as you need to.

### CTAHR Can Help

CTAHR's Publications and Information Office (PIO) provides resources to assist growers in their pursuit of sustainability. The list below is representative of the types of resources available from CTAHR, most at no cost. For a complete list of resources, please visit the [CTAHR PIO website](#).

- Arakaki, A. and C. Nagamine. 2004. Calibrating Your Sprayer. College of Tropical Agriculture and Human Resources. <http://www.ctahr.hawaii.edu/oc/freepubs/pdf/PRRE-6.pdf>
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