

Featured Farmer: Don 'Lalakea' Heacock Kauai Organic Agroecosystems (KOA), Lihue, Kauai



Area under production: KOA is a 25-acre integrated aquaculture (blue tilapia) - agriculture (kalo/taro) - agroforestry/agro pastoral commercial food, and fiber farm. The farm is composed primarily of kuleana lands in the ahupua'a of Niumalu. Located in the Puna district of Kaua'i, the property has three springs and the Puali stream running through it.

Years farming in Hawai'i: While growing up on Maui I often helped my kalabash uncle plant bananas, fruit trees, vegetables, and care for his geese and milking goats in Maka'alaie, Hana district. In 1981, after taking an aquatic biologist position with the State, I moved to Kaua'i and began farming bananas part-time after work. In 1986 I was able to start farming the land that is now KOA, beginning by clearing out invasive hau and restoring the taro lo'i that had been there for hundreds of years.

Crops grown, animals raised, other products/services: Our economic drivers are our blue tilapia and kalo, but we also raise St. Croix Sheep (our "mobile weed eaters"), Muscovy ducks, 19 varieties of avocado, rambutan, Thai longan, ulu, papaya, coconuts, macadamia nuts, banana, 12 species of construction-grade bamboos, cacao, yerba mate (Paraguay tea), awa (Kawa) and much more.

Who helps provide work on your farm? Other than the mobile mowers (St. Croix sheep) that mow/weed eat around the kalo lo'i, I use the work-share program "Work Away." Interns that want to learn about sustainable agriculture and sustainable living help with projects on the

farm. In return for labor I supply them with room, board, and teach them about sustainable agriculture.

Production System & Fertility management: Wai (water) is the engine that drives the sustainability of our farm. KOA recycles all organic bi-products: animal manures are fed to the plants, and plant wastes are fed to the animals. Azolla, an aquatic fern, and *Gliricidia sepium* trees supply much of our nitrogen needs through their ability to fix atmospheric nitrogen. For additional nutrients we purchase organic chicken manure to fertilize the kalo fields. The kalo receives additional nutrients by acting as a bio filter to the tilapia's water, processing and removing all nutrients and suspended solids from the fish's water. KOA's alluvial flood-prone soils are rich in plant nutrients, organic matter, earthworms, and humus (and everyone needs a sense of humus.) Winter floods bring the farm several cm of topsoil and a few tons of leaf litter. This natural rejuvenating process helps replace organic matter and increases soil fertility. Hawaiians traditionally farmed these alluvial floodplains because they knew that these soils were the most fertile in all of Hawaii Nei. KOA also utilizes biochar, sheet composting, and recycling of all organic wastes to maintain our production system.

Pest Management: Because we maintain nutrient-rich soils, healthy plants and animals, and have abundant water, our management of pests and disease is entirely preemptive. Due to our high biodiversity of plants and animals, many beneficial insects are present and create stability by preying on pest insects. Our only real pests are feral pigs, but between my 90 lb. Pitbull Pono and my 12-gauge shotgun we are able to keep the wild pigs on our plates instead of in the field.

Strategies for controlling costs:

By farming kalo in naturally fertile wetlands, an environment where kalo is highly adapted to and thrives, I have very little need for outside inputs. Instead of creating labor intensive compost piles, I rely on the winter flooding that brings topsoil and organic leaf litter to my kalo lo'i. Our aquaculture flow-through system is powered by gravity, eliminating the need for fossil fuels. This flow system provides constant water and nutrient recycling, which further reduces our input costs. By mimicking nature and using production systems that are low-maintenance we not only reduce labor costs and recycle organic wastes, but we ensure high biodiversity. This creates a system that is stable, resilient, and produces optimal economic benefits.

Marketing Strategy

I am a staunch believer in "*If you grow a great product, they will come*". There is such a high demand for locally grown organic food in Hawaii, and we have yet to even make a small dent in the market. It is very important to have a consistent seller-buyer relationship based upon trust, high quality, and predictable products. I have never had a problem selling my produce, therefore I focus only on growing high quality products and reducing production costs. I also donate kalo

and luau to friends, canoe clubs, and other Hawaiian organizations for their fund-raising events. This builds community integrity where we help one another.



Places you sell your products: My markets are local, and generally within a mile from my farm. I typically sell at farmers markets, local health food stores, and restaurants (especially the *Kalapaki Beach Hut* and the *Kaua'i Beer Company*.) I believe we shouldn't ship our food to the island, but produce food and eat food within the watershed or island that we live in.

Once we establish food security on Kaua'i, then and only then should we ship food to other islands.

Approaches to keeping up with market trends: Kalo is not a “commodity,” it is a part of our community. It is one of the most reliable, sustainable, resilient, nutritious, and culturally, environmentally and economically important food plant in Hawai'i. In times of natural disasters like hurricanes, it is the “last plant left standing.” Intrinsicly kalo has “market stability” and adds significantly to the islands food security.

What does sustainability mean to you and how to you plan to ensure Sustainability for your operation?

The Greeks called it “Sustinere Agronomos” which in Latin means “Sustainable or Permanent Agriculture.” There are many other terms in circulation such as regenerative agriculture, natural farming, biodynamic farming, and so on. These titles are all subsets of sustainable agriculture, held upon the three pillars of: 1) ecological integrity 2) economic efficiency and 3) sociocultural equity. The basic core of sustainable agriculture is to farm ecologically, produce crops with economic efficiency without externalities, and create sociocultural equity where

everyone has access to nutritional and affordable food. My farm is based upon these three principles and flourishes because of them. We make three types of “profits” on our farm: 1) economic profits, because farmers cannot farm without profits 2) environmental profits are the three species of endangered Hawaiian water birds that are abundant on my farm; Koloa ducks, 'Alae 'ula (Hawaiian Gallinule) and the 'lo or Hawaiian stilts, and 3) sociocultural profits when Hawaiian and other students learn about, plant, and harvest kalo on my farm for the very first time. KOA will assure the sustainability of its farming practices by focusing on the principles and concepts of sustainable agriculture.

Explain how the next generation is successfully integrated into the farm.

Through our existing agriculture intern program we are teaching the next generation about sustainable agriculture systems, methods, concepts and principles. We work closely with local schools, particularly the “Go Farm Program” at Kaua'i Community College. Sharing information, knowledge, and stimulating action will enrich future generations about careers in sustainable agriculture and sustainable living.



Challenges you expect to face in the next 5-10 years:

Most (about 90%) of Hawaii's food is now imported primarily from California; some predict that by 2025 California's human population, the fastest growing state in the USA, will grow so large that they will consume all the food they grow, no longer sending food to Hawaii. We must all ask ourselves the question “How important is food security?” I believe it is crucial, and I feel a sense of urgency in producing more food for my island community; and in teaching others how to produce their own food. For those of us that lived through Hurricane Iwa and Iniki on Kaua'i, we know how important food security is to us; and with global climate change, it is not if, but when will the next Hurricane strike? Therefore in the next decade we need to focus on creating food security, lessening our dependence on imported mainland food, and rebuilding a strong, vibrant agricultural community on the Garden Island of Kaua'i and throughout Hawaii Nei.

New products or services you are planning:

I am planning to increase cultivation of crops like Yerba Mate, Cedar trees and others because these products have great potential in Hawaii agriculture. I also plan to work with all 7 of the local schools near my farm to coordinate students of all ages to visit my farm at least twice a week. Students will learn about sustainable agriculture, sustainable living, their ecological footprint, their watershed address, and learn why healthy soils produce healthy plants and healthy people. Here at KOA we want to gain social and cultural profits by educating future farmers of Hawaii about sustainable agriculture practices that Malama ka 'Aina, to take care of the soil, the watersheds, the native biodiversity, and the island ecosystems of which we are a part.

**HOT TIPS from Kauai Organic Agroecosystems (KOA):**

- Spread the word! Help to strengthen the community's sustainable agriculture awareness.
- Optimize the naturally occurring elements on your land.
- Explore growing new products! See what works best for your system.

