

THE PLUGGED-IN FARM

In technology and farmers, Mari's Gardens embraces the next generation

By Meghan Miner Murray



Farming isn't what it used to be. In the information era, probes monitor growing conditions and aid decision-making, unconventional growing systems like vertical, rooftop and indoor farming are becoming increasingly commonplace, and customers are as hungry for specifics about what they consume as the produce itself. Mari's Gardens, an 18-acre aquaponics farm in Mililani, has embraced farming in the information era, and emerged a success story. Its two-part mission is to push the boundaries of sustainable farming—reusing water, reducing electricity consumption, and keeping waste products on the farm—and to promote farming to the next generation.

As the largest aquaponics farm in Hawai'i, Mari's Gardens produces organic lettuces, baby carrots, beets, tomatoes, eggplant, green onion, cucumbers, longan, lychee, okra and more in indoor and outdoor plots—much of it grown

using waste from the production of its three species of farmed fish (it is also testing rooftop growing systems). Indoors, variables can easily be controlled. “The system I’m using reacts,” says Lau. “If it’s too hot in my greenhouse, it will open the vents automatically. If there’s too much light, it will draw the shades by itself, everything is automated.” Lau uses autogrow systems to control and dose nutrients and Link4 systems to manage his greenhouse environment. Another machine, by Japanese company IDEC, supersaturates water with atmospheric oxygen to see if it increases the growth rate or yield of lettuces.

More than 6,000 students—from kindergarten to graduate school—visited the property in 2016, witnessing and learning about the modern farm for themselves. “The average age of a farmer in Hawai'i is like 55 right now,” says Lau. “Here [young people] can be excited about farming ... instead of busting their backs picking lettuce off the ground, [they can see] we have these

nice, clean systems in areas where work can be done by anybody really.”

Though the company's well-regarded lettuces have become its bread and butter, farming wasn't the original intent of Mari's Gardens—it began as retail nursery for a landscape contracting business during the depressed economy of 2008. “Landscape is a luxury good; people don't buy it when they don't have money,” says Lau. “So, we started doing lettuce as a way to see if we could stabilize our revenue by selling a food crop.” It doesn't bring in as much money for the company as the landscaping business, “but it's consistent, and we run out of everything pretty much every day.”

Both regular income from the landscape construction side of the business (sister company, Fred Lau Hawaiian Landscape Company, owned by Brandon's father is one of the largest landscape companies in the state), and the educational component of the farm have allowed Mari's Gardens to apply for grant funding that have helped

Photos courtesy of Mari's Gardens

the farm push boundaries and produce specialty items. “We are encouraged to take financial risks in exchange for our findings,” says Lau. “We grow this thing called ong choy, or water spinach, and these watermelon radishes that have a really cool color and are hot on the market ... We're growing fast on the microgreen scene—our microgreens are killing it right now.” The produce and its farmed fish are also showcased at regular farm-to-table dinners held onsite.

Mari's Gardens sells their produce directly at O'ahu farmer's markets and at their own onsite market, but the use of technology has also helped this relatively small farm produce enough product to attract bigger fish. You can eat Mari's Garden produce at several O'ahu restaurants and purchase it from Island grocers including Whole Foods, Safeway and Down to Earth. “We're also supplying all of McDonald's Hawaii with red lettuce right now and they're incorporating it into their salads,” says Lau. “[Everything we do] is worth the learning experience.” ■



Produce grown with hydroponic and vertical garden technologies at Mari's Gardens.