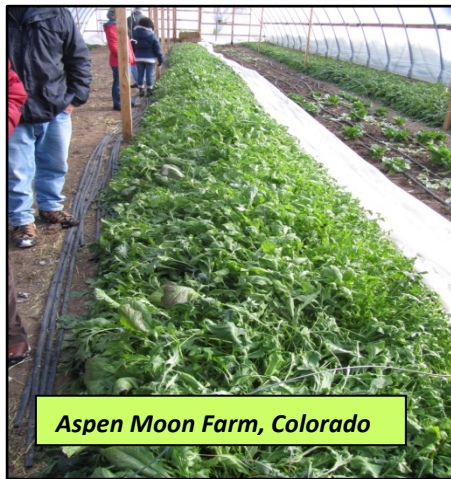


## **A New Season, a Time for Planting**

by Glenn I. Teves, County Extension Agent, UH College of Tropical Agriculture and Human Resources



The traditional American vegetable garden begins in May and ends in October, but this is starting to change nationally. Small farmers in temperate areas of the US are growing vegetables in plastic tunnels with double blankets, one over the tunnel and another over the bed just to keep plants from freezing. This seems like a lot of work, but they make good money growing in this system and provide fresh greens when it's in short supply. We are fortunate in Hawaii because we can grow crops outdoors year-round, but we could probably benefit from growing some high-value crops in tunnels during rainy and windy periods, like right now.

These farmers understand changing day length and the path of the sun, and will use this information to their advantage. Instead of traveling overhead, the sun stays to the south of us now. The result is a shorter day, only 11 hours in Hawaii versus 13 hours in the summer. Two hours of sunlight can make a big difference on a crop. Our shortest day, December 21, has passed and the days will begin to get longer. By March 21, our Spring Equinox, the day and night will be the same length. We then head to our longest day, June 21, the Summer Solstice.

The ancient Hawaiians knew these important days intimately, and the alignment of rocks in many heiau signaled the arrival of these days. They knew what crops grew best in the different seasons, what day of the month to plant them, and also what type of weather to expect. Many of us still use this information, but the weather doesn't seem to be as predictable as in the past. Also, it helps to try other unseasonal crops in case the weather is not normal. In production and especially in marketing, if everyone goes left, you go right and can have a crop ready to sell when it's in short supply.

Anciently, Hawaiians started farming at the end of Makahiki and ended at the start of Makahiki, the harvest festival. Makahiki ended on January 9, 2013, so it's time to get back to work and prepare for planting. The month of Kaelo is upon us, and is living up to its reputation as a wet soggy month, bringing life to our once parched and dead earth. Plants become animated, as weeds and other seeds germinate in this ideal growing environment for many crops. It's also ideal for many insects such as caterpillars, waiting to eat young tender plants. Anticipate sharing some of your crop with these other beings, and you won't be as disappointed. Spring will be here before you know it, but there's still a lot of planning and planting to do. "If you fail to plan, you plan to fail" as the saying goes.

"Excess water is a flood and too little water is a drought". We've moved from a drought to a flood in a few days and it's a good thing, but with it brings a whole new set of

challenges. If there's one thing you can anticipate with the change, its weeds. As sure as the sun will shine, weeds will be there to meet and greet you, and they will be growing behind you as you weed them. Weeds also bring insects as they have more food to eat, and more places to live and hide. Some insects, like aphids and thrips can carry viruses that adversely affect certain vegetables.



Molokai Grown Lettuce, Mayan Jaguar

Control weeds and you can impact on insects and viruses. There's a domino effect here because everything is connected. But the good side of weeds is they can be indicators of problems, such as the health of your soil. A lot of the weeds brought on by the big rains are purple on my farm, and this tells me I have to be ready to adjust my phosphorus, and especially incorporate it in the soil. Cold weather affects the ability of phosphorus to move through a plant, from the roots to the shoots.

Preparing means getting your tools in order, sharpened and ready for work, and also doing repairs to your farming infrastructure; maybe a shed or a propagating bench. It's been said that what separates man from the monkey is his tools, and the more adapted your tools are to your farming environment, the faster you can get the job done. Besides, time is money. The problem with weeding is it's never done.

Weeding is a continuous process, and as long as it rains, there will be new weeds. Consistency is an important attribute, and this means having a passion for weeding. If you love to kill weeds, you'll enjoy farming. It all comes down to how you see things and how you approach challenges; it's a mindset. Anticipate weeds, and be ready to attack, but don't let them get ahead of you or they will control your life and make it miserable.

In the great book, *The Dirty Life*, one that every new and old farmer should read, Kristen Kimball talks about getting the weeds when they're 'white threads'. I haven't heard any better advice than this. Now, if I could only follow it. You wait and you late; now you have to deal with a weed 100 times the size of the white thread.

"When the going gets rough, the tough get going." How do you react to rain? I was raised in a rainy place, Manoa Valley, so rain doesn't stop me from getting things done. It comes down to shuffling your plans, adapting and finding things to do when it rains, such as sowing seeds, making repairs on tools and implements, or updating your production map. If you stop working every time it rains, you'll be hard pressed to be productive in a rainy year.

Bigger is not better! Small farms are where the action is, and is where innovation is spawned and also forged in the soil. It's about maximizing your limited area by growing

a lot of good food, and this means changing the way we farm in Hoolehua. By planting in a small area you can invest all your time and resources in this area, including compost, sand, charcoal, and limu to build up a super farm. The French have refined small intensive farming to an art form. Their first principle is to “Always tend the smallest amount of land possible, but tend it exceptionally well.”



Few farmers in Hawaii plant on beds, which is a common system for small organic farms on the mainland. On beds of 42” to 60”, 4 to 6 rows of vegetables can be grown. This system is intensive and can produce a lot of food in a very small area. In our present system, we only plant on 50-60% of a field, and instead have a walkway after each row. The only reason you need a row is to weed, and you also have to weed the row! When harvesting, you don’t need a row because you can start from one side of the plant row, and move down the planting area.

The only down side to beds is you have to reach over when weeding, but having tools designed for this specific purpose, such as short handle mini-hoes or wire weeders can make it easier. The

width of row you agree upon really comes down to which system fits you better; it’s about style and creating a comfort zone for you. We have a bed shaper that can create beds, but we’re waiting for the innovators.

Innovation is defined as “an idea, method, or object which is regarded as new by an individual, but which is not always the result of new research.” Much research has gone into how farmers adopt new practices. There are three kinds of farmers; the innovators, the second adopters, and the laggards. Which one are you? There’s not a whole lot of difference between the innovators and second adopters, except that innovators make more use of external information and are more involved in the development of innovation. The laggards will watch everyone, then move forward slowly by following the crowd.

One of the challenges in moving forward is getting reliable and relevant information, but we need to have goals and know where we’re going. If you don’t know where you’re going, it doesn’t matter which path you take. Being deliberate in your actions and focusing on what you want out of your future is the key that separates the ‘could’ve, should’ve’ from the ‘I did it!’.

How we respond to crisis or is what makes the farmer. Do you just stop at the first sign of a problem or do you keep plowing forward? Today is the first day of the rest of your life. How do you want your future to look like? I recently read about some farmers in Kenya, Africa who had to deal with elephants raiding their gardens, so they decided to construct a special fence. Every 25 feet or so, they would have two posts with a little grass roof on it. Hanging between the posts on a wire was a bee hive in a hollow log.



When the elephants pushed a single wire on the fence, the bees would be disturbed and attack them. They got rid of the elephant problem real fast. No problem is too big for some critical thinking. Monkeys are little harder to control, especially the ones that look human.

I was reading some of Maine farmer Eliot Coleman's books lately. He's what I call a thinking farmer, always fine-tuning his system and producing food year-round in one of the most challenging climates on the mainland. He invents and designs tools, and is always reading, learning from other farmers. Attention to detail is something he stresses. The little things can make or break the operation. The little things can become big things, like weeds. He says, "The grower should try to take as many intelligent actions as possible to incrementally improve his crops and then be attentive to what happens. "We cannot know everything, but we need to use the information that we know."



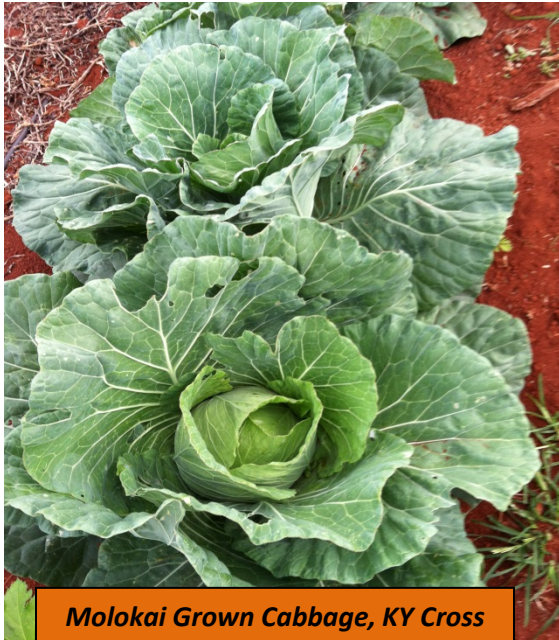
*Molokai Grown Red La Soda Potatoes & Santo Cilantro*

Small farm technology is not easy to find in North America because we're all into 'big is better'. We need to look to other parts of the world for ideas and equipment. Small equipment from places such as Italy, France, China, Japan, and Taiwan are changing the way we farm. Walk-behind tractors are making small farms flexible and have so many implement options for farmers to consider. This is just beginning and more innovations will become available to us.

The idea of building the soil versus feeding the crop has changed how we approach farming. Part of this is questioning everything we do. In the past, farmers would listen to anything the fertilizer and pesticide salesman used to tell them, and forgot why they

were told these things; to sell more chemicals and fertilizers. More is not better; just right is best, and this could come about through enhancing natural systems such as composting and bringing up nutrients deep in the soil through the use of trees.

Many of the small farms have disappeared in the US because they were sold on the idea that bigger is better without looking at ways of being different and being market-driven, but many new ones are cropping up with a whole new strategy of creating agriculture. Small farmers are on the upswing nationally, especially near cities and in small towns. New concepts are catching on, such as eating food grown within 50 miles of your home, 'The Fresh the Better', and "What's your Farmer's Name?" are changing consumer mind-sets and fueling a resurgence of small farmers. Putting a face on the product is what's driving the small farmer renaissance.



**Molokai Grown Cabbage, KY Cross**

I believe a big part of this renaissance is the understanding that we cannot just consume and burn out all the non-renewable resources when we have renewable resources and other resources, which if managed properly can make our lands productive and thriving.

Sustainability is real, but is a very much overused term, especially by those who are not sustainable. It's become a marketing tool when it should be a way of life. Some of our resources just have to be moved around and put in the right place. Invasive fish and limu belong on the land where they cannot do harm. Basalt rock dust, a byproduct of quarrying, is a throw-away product that can bring life to the land as a time release nutrient. Sand and ground coral can be used to adjust

the pH of soil and increase the calcium status of your soil, which is fairly depleted in Hoolehua. Invasive trees can be converted into biochar and can serve as a sponge to hold nutrients and purify the soil by locking up toxins. You're also recycling nutrients.

As the cost of inputs rise, we will be forced to be innovative in creating our inputs. New technology is just around the corner with a new ethic of 'Waste not, want not' and we'll soon be using everything on our land, from animal manures to invasive weeds. Organic and sustainable systems will be the norm. While GMO technology will only focus on the big crops that can reap a return on investment, small farmers on Molokai will have to focus on growing the crops we can grow well.

On Molokai, in my work over the last thirty years, the recurring theme has been growing our crops and those that we eat on a regular basis. This can always change due to health, dietary, and market demands, our Hawaiian crops will still be an important part of our crop portfolio. Taro, banana, papaya, sweetpotato, breadfruit, onions, tomato, green onion, and chili peppers are our staples, and we've hanai'd some of the crops from our neighbors such as eggplant, okra, kabocha, daikon, bittermelon, long bean, wing bean, and many more.

But it all comes down to land. Each of you has been blessed with land passed down to your family through the vision of Prince Jonah Kuhio Kalaniana'ole. We would each be ungrateful recipients of this legacy if we didn't use this land to better our families, and make the future better for our homestead community, as was the vision of Prince Kuhio. We have a gift, and we need to use it to the best of our ability to grow our families. The Molokai Native Hawaiian Beginning Farmer Program will move forward, with or without funding, through classes and technical assistance. If you need help in setting up your farm, feel free to contact us. We want to see each of you succeed! Envision what your homestead farm can look like and be ready to move forward to make it a reality.