

Journey through a Thousand Moons

In Honor of the IUCN World Conservation Congress in Honolulu – September 2016

by Glenn I. Teves, County Extension Agent tevesg@ctahr.hawaii.edu
University of Hawaii College of Tropical Agriculture and Human Resources, Cooperative Extension Service - Molokai

Earlier this year, I spent some precious moments with a friend of mine who has a progressive and innovative seed company in Oregon. For the last 30 years or so, he partnered with another farmer to create this seed company. Recently he decided to go on his own, and with this change in direction and management come many new challenges, but for him and his wife, it's exciting with an open field ahead.

I told him the quintessential question he has to answer is "What do you want to do when you grow up?" He's older than me and we're both headed into our golden years, but it can still be the beginning of good things, especially with the special knowledge accumulated through eons of growing and knowing crops. But there are a lot of changes and adjustments he'll have to go through.

For some strange reason, this question made me ponder on a related question, "Where do farmers come from?" I've come to realize that it takes a lot of knowledge and experience to be a farmer, let alone a gardener.

I just completed three rounds of a Molokai Hawaiian Homestead gardening program with 40 homestead families

completing the course. Each round was about six months long, and even then I wasn't able cover everything they need to know in order to be an informed gardener. In some of the classes, I would tell them, "Today we will cover what would take a semester at UH!" How do you drink up this much knowledge at one time. Like poi, you just grab what sticks to the wall and let the rest run off for now.



Mrs. Deanna Kaimikaua with her Ho'olehua garden bounty of cauliflower and broccoli.

I come from a ranching family and knowledge is passed down from generation to generation, and each generation adds to the database of knowledge by refining what is learned from my grandparents and parents, and updating that information with what you learn, what you read, and what you experiment with. But the key element in all of this is hard work and passion; it

cannot be a passing fancy or a trend or stage in life you go through. The passion and hard work must have staying power.

When I graduated from high school, I thought I knew a lot about animals because I was raised with them all my life. We raised hundreds of animals in many areas of Oahu from Hawaii Kai to Lualualei, and few points in between, and had come to realize that sometimes you had to think like a horse or a cow or a goat or a chicken to better understand them. Why was a chicken always scratching around the place? They were looking for food, like cockroaches.

You have to get into the mind of a horse to understand them, something like a horse psychiatrist or whisperer, because they respond by recalling what they learned while growing up. If someone abused them by hitting them on their head, they would be gun-shy when someone tried to touch their head or put on a bridle or snaffle bit. They would try to kick you if you walked behind them because they couldn't see over there; it was a defensive posture to protect themselves. They learned it from their own personal experiences, from their parents, or even acquaintances which can be good or bad.

My first exposure to the University of Hawaii was in the early 1960's when my grandfather piled my five brothers and me, and a few boy cousins who lived next door in his jeep and drove eight of us small guys down the road. As we entered through Maile Way, the mauka

side of the road was all pastures or paddocks with animals in them, mostly cattle and also open fields. I was amazed! This place was just like our homestead in Manoa, and I didn't know a place existed so close to home.

As we drove down Maile Way, my grandfather would make a profound statement that still rings in my ears today. "One of these days, some of you will be coming to this school." I thought to myself, "Wow, this was like being at home! There was a lot of mud and there were animals." If you didn't like mud, you couldn't live where we did in Manoa. This was former taro lo'i land, and when it rained, which it always did, the mud would stick and stick around.

On the makai side of the road, there were buildings, classrooms for the different schools of thought. As we turned left onto East-West Center Road and drove a bit, we reached a bunch of buildings which my grandfather told us was where they keep the small animals. He talked to a few people, and they took us into this room to look at chickens, but one chicken in particular really caught my eye, and it was a 6-legged chicken, a freak. A whole lot of drumsticks. We had a lot of chickens, even some monster 8 pound white giants, but none of them had six legs. This trip to the University intrigued me enough that I wanted to return there some day.

My next exposure to the University of Hawaii was in 1968 when I was a sophomore in high school. I heard all this commotion was going on down

there, something about anti-Vietnam rallies and other faculty conflicts. Some students even took over Bachman Hall where the president's office was located, and locked themselves in there. So one night, when I was supposed to be at home doing homework, I walked down there to check things out.

It turned out to be the night of nights. I watched as the police stormed the building, handcuffed all these guys, and hauled them away in a paddy wagon. I had the only front row seat since most people scrambled out of the area, but I didn't know better and stood by the rear of the paddy wagon as they shoved these handcuffed guys into back and drove away. I just scratched my head and walked home.

Later I would find out who these guys were. They were called 'activists', and some were teachers, and others were perennial students. Guys like Oliver Lee, a teacher, John Witech, an activist, and even Ian Lind, who went legitimate and is now newspaper columnist. I didn't know what a Marxist was yet, but the university and others accused Dr. Oliver Lee, a teacher, of being a Marxist and an anti-war protester decrying the U.S. government 'imperialism' and attacking these poor peasants in Vietnam, and they wanted to fire him, but it was probably more than that.

It would take me a while to understand all of this, but this is why you go to college! Another reason you go to college is if you want to find something out, you'll know where to find it. But

things have changed and now you have to question the purpose of an education. Where do you can find real knowledge?

Before I graduated from high school, I knew what I wanted to be and where I wanted to do it. I wanted to be in plant agriculture on the island of Molokai. After spending many summers there since I was eight years old, this is where I wanted to live. That's all I knew but I didn't know the details that would land me on the island. So college was focused on this goal in mind, and learning all I could in the shortest amount of time, so I thought.

I made sure I learned everything that would give me the knowledge to work in plant agriculture or to farm or both. Along the way, I would meet some interesting people, many of whom would keep me on track while a few would derail me.

The financial aid officer at Kamehameha Schools, Mr. Gross told me I was a calculated risk and they weren't going to give me any scholarships because I would be on the honor roll one year and the next I would have a C average. I guess he didn't understand that it had to do with priorities, and the year I had C's was the year with the best surfing days on Oahu.

From our class rooms on Kapalama Heights, we could see the surf from Diamond Head all the way to Ewa Beach, a birds-eye view of Oahu's south shore, and this was a major distraction for me, but also a time for exercise,

recharging your batteries, and it really felt good being in the water. It was more fun than sitting in a boring classroom or auditorium.

To top things off, I couldn't attend the University of Hawaii because my GPA (grade point average) was a little too low, and I would have to attend a community college. I think this reaction from Mr. Gross could have been totally depressing, but actually it really pissed me off to the point where I told myself, "I'll show them!" and made it a point to focus on college, especially when the surf was junk. But this distraction kept popping up, and it seemed like the great surfing days coincided with exams.

I would be attending a newly completed community college near Pearl City called Leeward Community College. This kind of screwed up my plans because now I couldn't just walk or run or ride my bike to school from our homestead in Manoa below Woodlawn to UH Manoa, a little more than a mile away. Now, I had to drive there and Pearl City was so far away from Manoa.

But I got live at home and didn't have to pay for room and board. My parents were very supportive of me attending college, being the oldest of 6 boys and the first of both families to attend college. As a ranching family, we always had a lot of food, including a freezer full of meat, and even one full of chicken for a while, even though I preferred eating spaghetti for some strange reason.

Turns out, this forced change-of-plans was a blessing in disguise. At Leeward Community College, classes were small, the teachers were caring, the classrooms were brand new, and above all was doing great. I attended school Mondays, Wednesdays, and Fridays from 8 to 12 noon, and went surfing after class. Sometimes, I even went surfing Tuesdays, Thursdays, and Saturdays.

To defray the cost of college tuition, plate lunches, and my car, I worked at Liberty House, now Macy's, at Ala Moana Center packing and shipping out anything people bought. I worked from 4-9 pm, 3-4 times a week, and more during the holiday season. What a life! My boss was this really nice lady named Ethel Tamura who was like a second mother to me. She was very concerned about my education and told me to hurry and finish my work so I could finish my homework before I clocked out.

In my first semester at 'Leeward', I maintained a 3.4 GPA, and I was sitting on top of the world. Life was still good. Like Alice in Wonderland, you meet some interesting characters along the way, just like Ethel Tamura, but there would be more to come. I was on my way to the University of Hawaii in my second semester of college!

The next important person to pop into, or more appropriately, return into my life was Aunty Bea, Beatrice Krauss, the distinguished Hawaiian ethnobotanist. Aunty Bea was a dear friend of my grandmother, Eva Hall Teves. They

worked at the Blood Bank together during World War II and Aunty Bea used to come over and visit my grandmother who lived next door to us. When I bumped into her one day and told her I would be attending UH, she was so excited that she wrote a list of all the classes I needed to take for the first two years?!?!



Aunty Bea Krauss in her later years

I couldn't see myself disappointing Aunty Bea, so I followed her stringent regimen of 'heavy on the natural sciences', botany, geology, geography, and all that good stuff, including her Ethnobotany class. I even wrote my own liberal arts degree called 'Plants of the Hawaiian Environment' with all these classes Aunty Bea had chosen, and the counselors were very impressed.

Later in life, I would accompany Aunty Bea, then in her 90's, to a banquet as

she received the CTAHR Distinguished Alumni Award and we reminisced about that time a long time ago.

I also reminisced about the last Ethnobotany class when everyone had to turn-in a final project like making something related to ethnobotany. We had a huge breadfruit tree in our back yard and I made ulu poi, hand pounded with a poi pounder, and it was so ono.

But my friend, Tom Menezes, took the cake. He made awa drinks for everyone. He had an awa patch in the mountain behind his house in Aina Haina, and this stuff was potent. Ethnobotany class was my first class in the morning, 8 am. After most of the students had a small cup of awa, everyone was paralyzed and couldn't clear out for the next class to the point where the next class started late. Aunty Bea just smiled.

As I continued on my journey, I saw myself levitating to a discipline called Horticulture and many of the classes I already completed fit this discipline like a glove. I would also meet another important person in my life. His name was Dr. Jack Beardsley, and he was the consummate entomologist and a scholar. To me, a scholar is someone who knows something or can do something that no one else could, and Dr. Beardsley was one of them.

He reminded me of the movie star Broderick Crawford on the TV series, Highway Patrol. He had a low voice, an interesting gait, and wore a fedora just like Broderick Crawford. He was an

internationally renowned expert in Biocontrol, Scales, and Hymenopteran predators and parasites. He focused on controlling insects with other insects, an area of research in which Hawaii was a world leader. He was sought out not only in Hawaii, but throughout the world, and had collaborators on each continent.

Dr. Beardsley needed someone to help in his lab so he hired me. I worked in the lab with two of his students, Arnold Hara, a masters candidate and Marlene Hapai, a PhD candidate. My attraction to this job was, “How can you be involved in agriculture if you didn’t know anything about insects?” and Dr. Beardsley knew a lot about insects.

All the new insects captured at Oahu’s ports-of-entry, including the military bases, came to him, and ultimately to me, and I would mount them on pins and box them up or pickle them in an alcohol compound. For the ones he couldn’t identify, I would pack them up and he would send them off to some faraway place to an expert/friend who could identify them. This was so intriguing to me, and being one with a propensity of asking a lot of questions, I had access to a walking encyclopedia, just him and I, and I asked a lot of questions.

In the spring on 1975, he asked me if I wanted to help him conduct a Resource and Basic Inventory (RBI) of insects in the Haleakala National Park. For 4 weeks each summer for two summers, we would trek into Haleakala National

Park and collect insects. I even sold him on the idea of collecting insects on goats so he let me bring a rifle into the crater. I even carried a car battery into the crater down Sliding Sands trail so we could set up a black light trap to catch nocturnal insects such as moths.

We would have access to all three cabins, Kapalaoa, Paliku, and Holua. and boy would I walk; about 25 miles a day, in and out of the crater. I would hike down Kaupo Gap and hike back up back in the same day, collecting insects and setting all kinds of traps to catch these critters.

I would bury baby food bottles, called pit traps in the ground so insects like beetles would fall into a bath of alcohol. I would lay a malaise trap, like a mosquito net, across a dry river bed to catch flying insects that would get caught in a cyanide-laced jar. I would use an aspirator, a miniature vacuum cleaner I wore around my neck to suck up insects on leaves and in flowers into a clear medicine bottle.

What I job! I still remember trekking down Kaupo Gap and hearing some tourists ahead of me pointing out a goat. My ears perked as I loaded my 30-06 carbine rifle. I was perched on the cliff so I could look through a powerful rifle scope and spot this black goat grazing in a small meadow among native plants. I let off a shot and dropped ‘em cold.

The tourists were screaming and were in shock that I would shoot this ‘endangered species’. The lady insisted

that her husband escort me to ensure the goat was dead. I caught the animal by surprise; it was so stunned, its eyes were wide open. The tourist asked me, “Is he dead?” I pulled out my knife and slit its throat just to be sure.

Goats are a serious menace to endangered species in Hawaii and elsewhere, and in many cases the extinction of a rare plant can lead to extinction of insects that live only on that plant species, so it’s a double loss to Hawaii and mankind.

Many insects found in Haleakala are found nowhere else in the world! Sixty percent of the insects we collected were endemic to Hawaii, and twenty percent were endemic to Haleakala National Park. This is just one of the many ‘*kipuka*’ or isolated pockets in Hawaii with many endangered natives, and all are threatened due to habitat destruction due to hoofed animals, and invasive species, including insects and diseases. Of these, ants such as the Argentine and Long-legged Ant are known to attack native insects, especially in the lower elevations.

Haleakala is truly amazing and we were finding new plants and insects every day; happy face spiders with two red lips on its abdomen, and baby blue tephritid flies that lived on Artemisia, Maui Wormwood, and on and on. We even found a new *iliah*i or sandalwood in Kaupo Gap.

But the evolutionary wonder of them all was a moth-grasshopper called

Hodegia, also known as the grasshopper moth or the Haleakala Flightless Moth. We would catch them in the black light traps at night on the crater floor. Haleakala Crater can get very windy to the point where many flying insects would get blown right out of the crater. As part of their evolutionary process, moths with large wings were blown away, and all you had left were ones with smaller wings.

To further evolve in this environment, if you didn’t have functional wings, you needed to find other modes of transportation either to get around quickly or flee from predators and parasites, so ones with large grasshopper legs survived while those who couldn’t move fast enough became the meal of others. Hodegia evolved into a moth with vestigial wings and giant grasshopper legs that could jump from one lava rock to the next on the crater floor.



Dark-Rumped Petrel or U'au, Courtesy of the National Park Service, Birds of Kaloko-Honokohau National Historical Park

To make things even more interesting, Hawaiian Ornithologist or bird expert

Sheila Conant and I climbed the cliff behind Kapalaoa Cabin just below Sliding Sands Trail to collect insects and view native birds along the rim. It's very windy up there, and we viewed an amazing sight. Native Wolf Spiders would hold their legs together to form a parachute and float into the crater!

Another wonder of the native environment is the Dark-Rumped Petrel. Its' Hawaiian name is Ua'u, similar to a repeating sound they make at night that mimics a baby repeatedly crying, an eerie sound. A huge sea bird with a 3-foot wingspan, they would glide with air currents down the Ko'olau and Kaupo Gap in the morning and head out to sea in search of fish, then sail up at night when air currents would shift and float back home. They lived in burrows along the cliff.

During their mating ritual, males would crash in mid-air to until one of them gave up, and the winner would have the privilege of mating. As we sat at the top of the cliff, they would hover about 10 feet above up, right out of one of those Alfred Hitchcock movies.

On each island, we deal with environmental challenges, some we're sensitive to and others we're numb to. It seems that life is always a balance between the environment and economics, and in Hawaii, culture is the 'third leg' or our tripartite existence.

There are so many amazing stories about this place with some of the most amazing creatures. But this is supposed

to be an agricultural newsletter, so how does the native environment fit into agriculture? We live on islands, and we need to be cognizant of the other creatures here. Below is one of the issues we deal with on Molokai, non-point source pollution.0000



Southwest Molokai near Kolo Wharf, August 2015

Many environmental issues are coming to a head on a global scale at the International Union for Conservation of Nature (IUCN) International Conference in Honolulu this month, the first ever conference of its kind in the U.S. bringing environmental and cultural issues to global attention.

This newsletter is about following on a path where sometimes you don't know where you're going to end up at, but you meet interesting creatures and characters along the way that make you a better person, one who is sensitive to your surroundings and others.

Some of us become farmers. Farmers come from all walks of life, and end up on a farm. Some were born there and have never left, while others found their way to the farm from a totally different

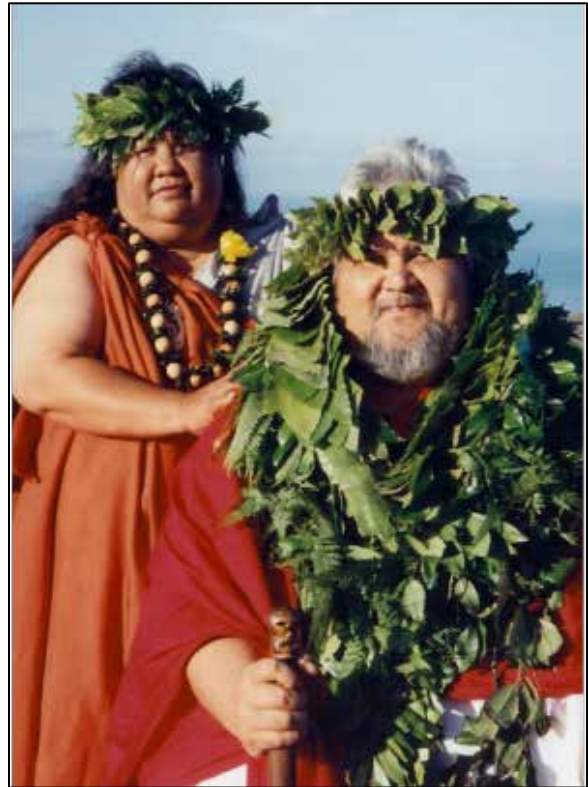
place. Sometimes we don't realize it, but we all depend on others, on mentors to add depth and meaning to our knowledge instead of learning it one mistake at a time. We can learn from our mistakes, or we can learn from the mistakes and successes of others. And some have special knowledge that's priceless. My message is about mentors.

One person who shared a special story of how he found his teacher or kumu, as is called in Hawaiian is the late kumu hula John Kaimikaua. He was walking around a community near Pearl Harbor, and saw a special ti leaf growing in the front yard of a residence. He knew it was utilized in special ceremonies by kahuna or experts.

He approached and knocked on the door of the home to inquire about this ti leaf. A very old Hawaiian lady with long white hair answered, and after asking his question, the lady responded, "I've been waiting for you for a long time." It's been said in Hawaiian culture that the student doesn't choose their teacher, but the other way around.

In Hawaiian culture, the teacher or kahuna needs to be assured that the knowledge is in the right hands, and that it will be used for righteous purposes and will also live on in the selection of future teachers with similar values, ethics, and temperament. It would be a disaster to pass on this special knowledge to someone who was unruly, disrespectful, or easy to anger, so in

some cases this special student was never found by the teacher.



John Kaimikaua, with wife Ka'oi at Puu Nana, West Molokai (Courtesy hulapiko.com)

This special lady had ancient knowledge of chants from Molokai over a period of hundreds of years passed down through multiple generations. Her name Kawahine-kapu-hele-i-ka-po-kane translated means "the sacred lady who flies in the dark or po-kane night."

In the Hawaiian realm, the Po Kane moon is a dark night when the spirits are traveling around, and humans are supposed to stay indoors. Over a period of three years before she passed away, she shared a historical account of Molokai through chants and hula, including her genealogy through 900 AD. It was his responsibility or kuleana

to memorize them and find worthy students to teach them this precious cultural knowledge.

I still remember when one of these special dances was performed at the Merry Monarch Festival in Hilo, and there was a power shortage and all the lights went out just at the time this dance was performed. Some attributed the power shortage to the dance, while others thought it was a coincidence.

Maybe most of our experiences learning from mentors won't be as profound and life-changing as these, but they are all intended to change us for better, or worse. We all need mentors to help set or correct our course in life, and hopefully enrich us so we can become a mentor to others.



My former boss, Mr. Yukio Kitagawa. Photo courtesy Hawaii Department of Agriculture.

I remember one of my former bosses, Yuki Kitagawa. I used to give him a lot

of headaches trying to make changes in Hawaii, and asking hard questions, but through it all we had a deep respect for each other. I remember him telling me something so profound, something I never considered. He said, *“You become successful when people allow you to become successful.”*

I guess people will see something in you, such as a passion for the things you do and will want to help you succeed. It also means not getting into conflicts with others and not holding grudges, which is difficult at times. We can agree to disagree, but not get personal about it. We can keep on task without getting into squabbles with others. It's about focus, which is hard to do in this fast-paced, let-your-fingers-do-the-walking world.

Find your mentors or let your mentors find you, and they can give you answers, focus, determination, and add to your passion the things you hold close to you, especially as a farmer.

There's so much conflicting information out there that can take you off the course you need to be on. The key is to get your bearings, even in the storms of life, to weather the storms and keep on moving into the wind. You can be a specialist or a generalist, but above all you need to be a survivor.

Farming is probably one of the toughest vocations because it doesn't run on your clock; there are other clocks ticking such as the plant's and animal's clocks. There are seasons, unforeseen

challenges, and weather anomalies. Farming is not something to be trifled with; it takes intense planning to create a viable business. And farming is very different from gardening.

There comes a time when you graduate from gardening to farming, but sometimes you can't see the transition; it just happens. I guess it's like transitioning from a child to an adult; it may be a defining moment or moments in your life or all of a sudden, you're just there.

/\

Well, that's it for this quarter. It's been a wet summer in Ho'olehua, but it ain't over until it's over. As we head into autumn with more weeds than usual, and storms still on the horizon, we can only hope for the best. This is also an important season to plant for winter harvest right through to early summer. To me, this the best season of the year with so many crop options.

/\



The Author in his Kalo mala, Ho'olehua Summer 2016

The views contained in this newsletter are that of the author, and are not the views of the University of Hawaii, College of Tropical Agriculture and Human Resources or the Sustainable and Organic Agriculture Program. The author takes full responsibility for its content.