

*Regional
e-Notes*

Letter from the Director

Aloha & Happy Memorial Day!

This month's issue of e-Notes features an article highlighting the recent "Chefs & Farmers" Forum, where several CTSA colleagues were featured speakers in discussions about the sustainable food security of Hawaii.

Also included in this issue are announcements about an upcoming aquaponics workshop and a link to new aquaculture drug guideline. In addition, our second Pacific Island Farmer Spotlight video introduces you to Gus Maratita, a shrimp farmer in Rota, CNMI.

Here at the Center, we are looking forward to an exciting summer filled with a wide variety of ongoing projects. We hope you will continue to enjoy our monthly newsletter, and as always, if you have any suggestions, concerns, or comments, please do not hesitate to let us know.

Mahalo,

Cheng-Sheng Lee
Executive Director, CTSA

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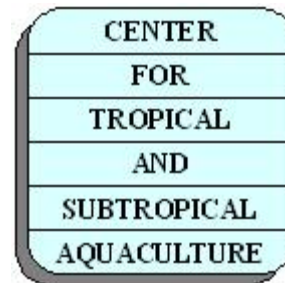
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Aquaculture's Important Role in a Food-Secure Hawaii

by Meredith Brooks, CTSA Information Specialist

On April 15, the Leeward Community College Culinary Arts Program and She Grows Food held the event "Chef's & Farmers Facing Future: A Forum on Food" at the LCC auditorium. The forum was organized to connect and engage chefs, local food producers, other food industry professionals, and consumers in discussions about a sustainable local food system in Hawaii. In addition to enjoying a fantastic 100% local lunch, event attendees were treated to and participated in lively discussions of three separate panels, moderated by Wanda Adams and Chuck Furuya. Ten chefs, farmers, and media representatives served on the first panel, which discussed the question "Can we create a roadmap to a more food independent Hawaii?" The second panel, "Hawaii Aquaculture Industry (Tilapia)," featured aquaculture farmers and chefs, and the third panel "Hawaii Cattle Industry" featured cattle farmers and stakeholders of Hawaii's beef

industry.

While all three panels covered important topics related to food security and the local food movement, the one of most relevance to CTSA was the aquaculture panel. Panelists were Dr. Benny Ron (*UH Aquaculture Coordinator and CTSA Technical Committee member*), Ron Weidenbach (*owner of Hawaii Fish Company and CTSA Industry Advisory Chairman*), Fred Lau (*owner of the Maris Gardens aquaponics farm*), and Chef's Alan Wong (*Alan Wong's Restaurants*), Ed Kenney (*Town Restaurants*), and Vikram Garg (*Halekulani Restaurants*).

The panel began with a brief presentation on tilapia by Dr. Ron. He gave an overview that included some basic facts about farming tilapia, including culture methods, growth rates, variety between species, and selective breeding. Whether cultured using traditional aquaculture methods or aquaponics, Dr. Ron explained that tilapia is a great fish to farm in Hawaii because it can be easily grown in the tropics using sustainable feeds containing little or no fishmeal. It is a unique fish in that it can be a subsistence food for poor and, at the same time, provide high-value products for those who dine in high-quality restaurants.

Chef Alan Wong, who serves tilapia from Hawaii Fish Company in his fine dining establishments, is thrilled with the versatility of a fish that can be sustainably supplied through local aquaculture. "Tilapia and other farmed fish represent an alternative to what the ocean gives us," stated Chef Wong in an interview with CTSA after the panel discussion. "We are in a fishing ban for the bottom fish and there is a scare about Tuna being overfished. The seas are rough, there's not a whole lot of fish to work with." He went on to explain, "Our goal is for our guests to taste Hawaii. Whether it comes from the ocean or someone is farming it, they're still getting a local product."

Not only are his patrons getting a local product, but most who have tried Chef Wong's tilapia have given it rave reviews. He recently conducted a blind taste test where he asked a group to compare three different fish (tilapia, mahi-mahi, and opakapaka) prepared the exact same way. Tilapia beat the mahi-mahi in the competition and was rated equally with the opakapaka. "The product speaks for itself," stated Chef Wong. He attributes its success to the succulent flavor of the layer of fat between the skin and the meat of the fish. His favorite way to cook it is on the bone, whole, pan fried or roasted: "Serve it really simply."

While tilapia fared well in the taste test and boasts an increasingly popular reputation across the world, there are still hurdles the fish must overcome before it is widely accepted in Hawaii. According to Chef Wong, "Tilapia have a bad stigma [in Hawaii]. People think of



Top: LCC Student Chefs prepare the "Locavore Tasting" plates at the "Chefs & Farmers" forum.
Bottom: Event participants were treated to a delicious, 100% locally produced meal that included tilapia from Hawaii Fish Company and Maris Gardens



Top (L to R): Dr. Benny Ron, Ron Weidenbach, and Fred Lau participating in the Aquaculture Panel discussion. Bottom: Chef Alan Wong, a staunch supporter of the local food movement.

the Ala Wai; it tastes muddy or smells funny. In reality, it's a great fish with delicious white meat." He has made it a personal quest to change the public opinion of a fish that many disregard because of a misleading reputation, and proclaimed, "It's a process of changing attitudes towards this great fish."

"Tilapia are second only to carps as a worldwide farmed food fish, and are second only to salmon in sales in the US," stated Dr. Ron. "We don't eat and raise enough tilapia [in Hawaii], but we could. We have the ability to grow a fish that people love on the mainland easily here in Hawaii."

As for the reputation that tilapia are "Ala Wai" fish, Dr. Ron offered the adage "you are what you eat," explaining that the taste of a fish reflects the quality of the water it is raised in and the diet it is fed. The most important thing, according to all of the panelists, is for people to taste it and see for themselves. "It's a very delicious, very tasty fish; I suggest hotels put it as catch of the day," exclaimed Chef Vikram Garg. "The moment

we put a fish on the daily special, it becomes the number one seller for the hotel [Halekulani]." Although tilapia is not yet available on most menus, there is a growing demand for it in Hawaii. Chef Ed Kenney stated, "every time we [Town Restaurant] have sold tilapia, it has flown out the door."

As the reputation of tilapia improves, the local market demand will also increase. Taking this into consideration, the panelists reminded attendees that the current production levels support the current market, and expanding to meet a growing market takes time and planning. "One thing to consider is realizing the lead time the farmers need," stated Ron Weidenbach. "The growing time for fish is 1-2 years, the leasing and permitting time to get property and water can take years. It's not as easy as making a phone call to a farm and saying 'I need 100 pounds next week.' We need to have a sense that you are interested before we make the significant investment. Knowing that the demand is there is important to growing the business."

According to Fred Lau of Maris Gardens, "the fish is relatively easy to produce, the problem is with the market. If we are going to do this, we need to develop a resort restaurant market and change the perception of the public so they want to buy the fish in stores." He and other farmers are leading the charge in developing the market by establishing strong relationships with chefs and working together to meet their needs for locally produced ingredients. One regular customer of Maris Gardens is Chef Ed Kenney. Recently, he and Mr. Lau collaborated on a special meal for Governor Abercrombie made exclusively of Mililani products. "Having a vested interest in your farmer and their story is important," exclaimed Chef Kenney. "We have to go beyond making a phone call and expecting a container of fish to arrive every morning."

Chef Kenney is particularly interested in Maris Garden's story, and exclaimed that "what they are doing is incredible" when referring to the robust aquaponics portion of Maris Gardens farm in Mililani. Born from a 2009 CTSA-sponsored workshop on Aquaponics, Maris Gardens aquaponics operation is now the largest commercial aquaponics farm on Oahu. Owner Fred Lau was not originally planning to do aquaculture on his farm, but after receiving letters from the city about his excessive water use, he wanted to explore options to conserve water. "This is turning out to be one of the most sustainable methods of farming I have ever seen," exclaimed Mr. Lau. "From December of last year to last week, we have not had to put new water into our tanks."

In addition to the environmental benefits of sustainable food production methods like aquaponics, panelists and event organizers were adamant that aquaculture in general can work together with

commercial fishing to provide Hawaii with a sustainable source of fresh, local fish. As stated in the program guide: "We support Hawaii's fishermen and fish farmers and striking a balance between these two industries will help to sustain both and allow Hawai'i to raise its level of protein security."

Creating a food secure Hawaii starts with forums like this one and other public education efforts that emphasize the link between consumers and farmers. Encouraging consumers to ask questions and learn about the history of their food (where it came from, how it was grown, etc.) will result in a greater awareness of our current food production system, and perhaps more appreciation for the efforts of our hard-working island farmers. As Benny Ron explained, "No matter what you do, you have to think about how you will support your local farmers."

Announcements: Aquaponics Workshop, Guide to Aquaculture Drugs

"Challenges and Opportunities of Soil-less Farming in Hawaii" Workshop

On Saturday, July 23, the College of Tropical Agriculture and Human Resources (CTAHR) will hold a workshop on the Challenges and Opportunities of Soil-less Farming in Hawaii. The workshop, which is a part of the CTSA Aquaponics project, will be held at Windward Community College, Hale Akoakoa Room 105 from 9am - 12pm (*refreshments served from 8:30am*). The cost is \$10 per person.

Come meet, hear and discuss about the challenges and opportunities that two forms of soil-less farming provides from folks who are actually in the business of growing products hydroponically and aquaponically. Producing the product is only part of the picture and find out what is expected of growers from the folks who market produce in the islands. Lastly, the Food and Drug Administration's Food Safety Modernization Act (FSMA) aims to ensure that the U.S. food supply is safe by shifting the focus of responding to contamination to preventing it and find out what this shift in emphasis means for producers and consumers alike. By the end of the workshop participants should be able to make an informed decision as to whether commercial hydroponic or aquaponic farming is something that is good for Hawaii and that they would like to do or invest in.

Workshop Speakers and presentations:

Jim Hollyer: Update on On Farm Food Safety.

Harry Ako: Economics of Aquaponics

Hydroponic Producer - Richard Ha: Hamakua Springs Country Farms, Hawaii

Hydroponic Producer - Paul Singelton: Waipoli Hydroponic Greens, Maui

Aquaponic Producer - Tim Mann: Friendly Aquaponics, Hawaii

Aquaponic Producer - Fred Lau: Maris Garden, Oahu

Tisha Uyehara: Director of Marketing and Special Projects for Armstrong Produce

James Channels: Foodland: Food, Family and Friends

The workshop will be facilitated by Clyde Tamaru, Aquaculture Specialist CTAHR. Workshop participants will be asked "What kind of technical assistance is most needed from faculty at the University of Hawaii?". Admission charge for the workshop is \$10.00 per person and parking is free. Refreshments will be served.

There are a limited number of seats available. To reserve a seat, please contact:

Harry Ako. Phone: 956-2012 ~ email: hako@hawaii.edu

Clyde Tamaru. Phone: 342-1063 ~ email: ctamaru@hawaii.edu

Please make checks payable to Research Cooperation of the University of Hawaii or (RCUH) and send to the following address: Department of Molecular Biosciences and Bioengineering, University of Hawaii-Manoa, 1955 East-West Road, Ag. Science 218, Honolulu, HI 96822.

Workshop sponsors:

College of Tropical Agriculture and Human Resources

Aquaculture and Livestock Support Services, Department of Agriculture

Center For Tropical and SubTropical Aquaculture

Hawaii Aquaculture and Aquaponics Association

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Guide to Using Drugs, Biologics, and Other Chemicals in Aquaculture

AFS Fish Culture section.

Sent from NIFA Aquacontacts.

Please find below a link to the Guide to Using Drugs, Biologics, and Other Chemicals in Aquaculture developed and published by the American Fisheries Society Fish Culture Section's Working Group on Aquaculture Drugs, Chemicals, and Biologics. Also included on this link is a treatment calculator.

<http://www.fishculturesection.org/DrugGuide/DrugGuide.htm>

Pacific Island Farmer Spotlight Video: Gus Maratita of Rota



Farmer Gus Maratita (left) and NMC CREES Extension Agent Alejandro Badilles (right)

This month's Farmer Spotlight video interview is with farmer Gus Maratita of the Commonwealth of the Northern Mariana Islands.

His shrimp farm is the only one on Rota, a tiny island struggling with limited local food sources.

Farmer's like Gus are paving the way for a more sustainable and food-secure Pacific, and setting great examples for future generations to follow. [Please click here to view the video.](#)

AquaClip: US Seafood Trade Deficit Surpasses \$10B for the First Time

From USDA/NIFA Aquacontacts Mail. May 24, 2011

"The following is an annual analysis of trade deficit data done by Joe Myers with the New Jersey Department of Agriculture. It was recently published in the Ramblings Newsletter of the National Association of State Aquaculture Coordinators..." Gary Jensen

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The seafood trade deficit is an often quoted, sometimes misconstrued figure central to the justification for domestic aquaculture development. I've shared my views in previous issues of this newsletter that drawing the proper message from the data is important to helping to shape the realities and expectations on domestic aquaculture development. As you are well aware by now, the data does not support the "#2 behind crude" postulate. I suspect that I am hearing that argument less and less, but I am unsure if it is a function of spreading the right message, or if it is because my travel restrictions keep me from the venues where the domestic aquaculture story is told. The NASAC network is very influential in helping others get the message right because we have access to the key officials and advocates that have a shared interest and responsibility in communicating messages about the status and potential of aquaculture.

Let's talk about the data. The seafood trade deficit just nudged above the \$10 billion (\$10.067 billion) mark in 2010. This is the first time this figure has moved above this benchmark. This figure is derived from subtracting the net export value of the trade category (\$4.566 billion) from the import value (\$14.633 billion). These figures are reported by US Census Bureau, Foreign Trade, reported by end-use code. The previous years' figures are adjusted when a new year is reported, so it will be interesting to see if the 2010 trade deficit for fish and shellfish remains above the \$10 billion mark when 2011 numbers are released.

Passing the \$10 billion mark itself is really only interesting because I had to widen my Excel column to accommodate the extra digit. Ten billion should really be no more significant than any other number. What is interesting is comparing the trend in the seafood trade deficit to other information in the broader trade deficit analysis. Aside from the significant reduction ($R^2=0.8965$, $p=0.000$) in the seafood trade deficit figure in 2009 (\$8.922 billion) due to the recessed economy, the trend continued toward a growing deficit (see figure). Seafood remains the largest contributor to the trade deficit among all food items, with wine and wine products at #2. Although these ranks fluctuate among all trade categories, seafood and wine have been the largest and second largest trade deficit contributors among food items since 2000. Green coffee and cocoa beans also reached record imports in 2010. Since no exports are reported for either of these products (which I find hard to believe given coffee production in Hawaii), imports equal deficits. Seafood alone exceeds raw coffee and cocoa deficits combined by nearly double...

[Click here to read the full article](#) and see the tables as posted on aquaculturehub.org.

The Center for Tropical and Subtropical Aquaculture (CTSA) is one of five regional aquaculture centers in the United States established and funded by the U.S. Department of Agriculture's National Institute of Food and Agriculture (NIFA) under grants 2005-38500-15720, 2006-38500-16901, 2007-38500-18471, and 2008-38500-19435. The regional aquaculture centers integrate individual and institutional expertise and resources in support of commercial aquaculture development. CTSA was established in 1986 and is jointly administered by the Oceanic Institute and the University of Hawaii.