



Regional e-Notes

Center for Tropical and Subtropical Aquaculture

Letter from the Director

Aloha and Season's Greetings!

It is with great pleasure that I introduce our new e-newsletter, **Regional e-Notes**. In an effort to make aquaculture news from CTSA readily accessible and "green" our activities, a monthly electronic newsletter will replace our quarterly printed newsletter. The newsletters will keep you informed of CTSA projects and other aquaculture activities in the Pacific region.

We are still in the process of establishing our e-mail list, so please feel free to forward this to anyone who might be interested. They can subscribe to future e-newsletters by clicking the "Join our Mailing List" tab in the right-hand sidebar. Alternatively, if you do not wish to receive our e-newsletters, please click on "SafeUnsubscribe" at the bottom of this email.

We are excited about Regional e-Notes and hope you will find it to be user-friendly and aesthetically pleasing. We welcome your comments and suggestions.

Mahalo,

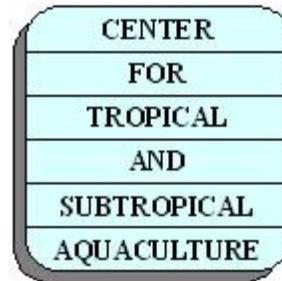
Cheng-Sheng Lee
Executive Director, CTSA

In This Issue

- Letter from the Director
- UH Aquaponics Workshop
- AquaHub: A New Gathering Place
- December AquaClip

Quick Links

- www.ctsa.org
- www.oceanicinstitute.org



[Join our Mailing List!](#)

UH Aquaponics Workshop a Rousing Success



Over 175 farmers, educators, and other interested parties packed into a standing-room only auditorium on the University of Hawaii campus for the CTSA-sponsored "Adapting Aquaponics Systems for Use in the Pacific Islands" workshop, held November 21, 2009.

The workshop, led by Dr. Clyde Tamaru of the College of Tropical Agriculture and Human Resources (CTAHR), was held with the purpose of providing an update on the latest technologies related to aquaponics. CTAHR faculty and guest speakers presented on topics ranging from construction of an at-home aquaponics system to the

impact of shading on nitrogen availability in tilapia tanks. Attendees also received handouts with information on how to start or improve their own aquaponics production.

Aquaponics, or integrated hydroponics, is the symbiotic cultivation of plants and aquatic animals in a re-circulating environment. Recent research, such as the study conducted by UH Department of Molecular Biosciences and Bioengineering Chair Dr. Harry Ako, has helped to greatly advance the

relatively new cultivation technologies associated with aquaponics. Under the auspices of a CTSA-funded project, Dr. Ako and his research team examined nutrients used by commercially viable hydroponic production systems for lettuce, and then determined the nutrient production of tilapia. Based on their findings, they defined the fish stocking densities and feeding intensities required for lettuce nutrition in a lettuce/tilapia aquaculture system. This research was presented at the workshop, and represents only a portion of the groundbreaking knowledge transferred to participants.

In addition to serving as an introduction to the world of aquaponics, the workshop successfully updated current farmers on the best practices to incorporate in their farms and, subsequently, increase sales. During his presentation about on-farm food safety, Jim Hollyer, Manager of the Agricultural Development in the American Pacific (ADAP) project, discussed the importance of using *good agricultural practices* (GAPs) in aquaculture. In contrast to beneficial bacteria that help turn fish waste products into plants food in aquaponics systems, zoonotic pathogens can be harmfully transmitted to humans through aquaculture, which is why Mr. Hollyer addressed human sanitation, safe harvesting and farm management practices, and water quality, among other issues. He also informed farmers of the free on-farm food safety coaching and audit program offered by CTAHR. Participating farms are visited by a member of the CTAHR faculty, and coached on ways to reduce the risk of foodborne illnesses arising from their operation. In addition, the faculty member helps to prepare the farm for a third party audit. As marketability of food is becoming more dependant on proof of food safety, programs like this can greatly help farmers increase revenue. The On-Farm Food Safety Program is open to all Hawaii-based produce growers, regardless of size of operation or variety of crop. [Click here to visit the program website.](#)

Immediately following the workshop, participants enjoyed a tour of the Magoon Agricultural Research Facility on campus, as pictured above (photo courtesy of Brett Schenk). There, they were able to see first-hand the structures and processes involved with running an aquaponics system. "Without doubt, the workshop was clearly well worth attending and provided a wealth of information," stated Joseph Blanco, former chair of the University of Hawaii Board of Regents. "Given the diversity of the attendees, the program content and program execution were all well done."

AquacultureHub: A New Gathering Place for Aquaculture Enthusiasts

AquacultureHub educate · learn · share · engage

Move over Facebook! AquacultureHub.org, known as AquaHub, is a recently-launched, unique social networking website that allows everyone who has an interest in feeding the world via aquaculture to educate, learn, share and be engaged with other people who have similar interests.

The site features information of interest to various users, including videos, forums, and blogs, and serves as an aquaculture activity calendar, supplying information about local, regional, and international aquaculture events.

With members from all over the world, AquaHub is quickly gaining recognition in the industry. Its user-friendly interface encourages members to set up and join specific interest groups, allowing them to connect and share knowledge with like-minded individuals across the region and globe. From the "Algae" group to the "Water Quality" group, and everything in between, there is a platform for every aquaculture aficionado to learn and share.

The goal of AquaHub is to help advance the development and implementation of aquaculture programs that promote food security and food safety, involving collaboration between both internal and external entities relevant to Hawaii's mission towards aquaculture. To learn more, please visit www.aquaculturehub.org.

December AquaClip

Marine Aquaculture Could Feed Growing World Population

Published: Eureka! Science News, December 1, 2009
Source: American Institute of Biological Sciences

The oceans could become the source of more of humanity's food if steps are taken to expand and improve marine aquaculture, according to a study published in the December 2009 issue of *BioScience*. As the world's population continues to grow, lack of fresh water and space mean that terrestrial agriculture is unlikely to be able to meet food demand, according to Carlos M. Duarte of the University of the Balearic Islands, Spain, and his seven coauthors. Freshwater aquaculture, which is largely confined to the tropics, is expanding, but its reliance on fresh water may limit long-term growth. Fisheries catches have been declining globally for two decades, and although conservation measures and a shift in consumption patterns could allow some recovery, marine aquaculture holds more potential for sustained growth.

Marine aquaculture is already on the rise: production has increased ten-fold over the past 30 years and is expected to exceed fisheries catches within 20 years. Yet Duarte and his colleagues argue that its continued growth will depend on adapting current techniques so that the food needed to feed marine animals is itself derived from marine aquaculture, rather than harvested from the wild or derived from agriculture. This goal is achievable, they maintain, if more animals low on the food chain are cultivated, including more plankton and algae. These could be used as food for both humans and for fish. New technology will also help, by allowing marine aquaculture operations to be expanded into more exposed, offshore locations. Although some environmental impacts can be expected from the expansion of marine aquaculture, these are modest compared to those resulting from food production on land.

[Click here to read the full article](#)

The Center for Tropical and Subtropical Aquaculture (CTSA) is one of five regional aquaculture centers in the United States established by the U.S. Department of Agriculture. 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.