

*Regional  
e-Notes*

## Letter from the Director

Aloha and Happy New Year!

We here at CTSA are looking forward to another busy year. In addition to managing our ongoing projects, we will continue to provide you with monthly updates of CTSA happenings and other pertinent information on aquaculture research in the region.

This month's edition of *Regional e-Notes* features highlights of CTSA-funded research data from the newly-published 2009 Annual Accomplishment Report (submitted to the USDA every December), and information on Oceanic Institute's 50th Anniversary. In addition, an article hot off the Saipan press details a new aquatic farmers co-op in the South Pacific.

I would also like to invite you to watch a video from our friends at Hukilau Foods. Their captively bred moi was recently featured on an episode of the popular TV show Iron Chef America. [Click here to watch the segment on YouTube.](#)

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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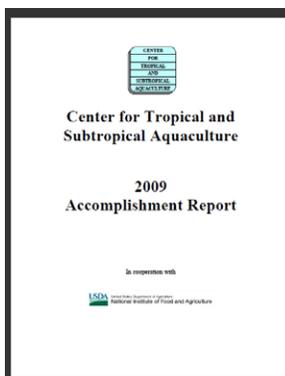
## Quick Links

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## CTSA 2009 Annual Accomplishment Report Highlights



As 2010 begins, we would like to take time to assess achievements from 2009 and highlight research reported in our recently published [Annual Accomplishment Report \(PDF - 5.7 MB\)](#).

Since its inception in 1986, CTSA has funded 216 research, demonstration, development, and extension projects. Of the 24 projects active in 2009, six reached completion, including the "Improved Stocks and Management Practices for Commercial Tilapia Culture in Hawaii and the Pacific Region, Years 1 and 2" and "Intensified and Alternative Methods for Marine Copepod Production in Hawaii" projects, led by James Szyper, Ph.D., and the "Kahala Parasites and Shrimp Viruses of Concern to Pacific Aquaculture" project, led by Teresa Lewis, Ph.D. The other three completed projects are summarized below.

The "Bioprocessing Pacific Island Byproducts for the Production of Value-Added Feed Ingredients, Years 1 and 2" project, led by PingYi Yang, Ph.D., developed an efficient bioreactor system to produce yeast using papaya waste and investigated the possibility of using the papaya waste yeast (PPW) as an alternative protein source for aquatic feed on remote South Pacific islands. Results demonstrated that up to a 50% replacement level of a PPW yeast ingredient can be substituted for

imported protein ingredient mixture without an adverse effect on growth of shrimp under replicated conditions.

Moi cell lines established from the "Establishment and Characterization of Cell Lines from Pacific Threadfin (Moi) for Use in Early Detection and Control of Pathogenic Viruses" project, led by Yuanan Lu, Ph.D., can serve as a sensitive biological tool for detection/diagnostic study of moi viruses, and will also be crucial for the viral disease prevention and control program and the success of threadfin aquaculture in Hawaii and the Pacific.

Another successful project was the "Adapting Aquaponics Systems for Use in the American Pacific Islands" project, in which a low cost, mechanically simple, lettuce and tilapia aquaponics system was developed for use in the Pacific Islands. Led by Kent Kobayashi, Ph.D., the research group was able to construct a modular aquaponics system designed around a lettuce plant tray made from a piece of plywood (1.2 X 2.4 m or 4 X 8 ft) with side boards. Various experiments showed that each system is capable of producing 499 heads of lettuce and 9.57 kg of tilapia per year (in 167 L of water). The cost to build and set up the system is under 400 dollars.

Additionally, four new projects were awarded funding in 2009:

1. "Diversifying Freshwater Aquaculture Products for Hawaii: Two Crossover Species, the Red and Black Pacu (*Piaractus brachypomus* and *Colosomma macropomum*)" - led by Robert Howerton, Ph.D.

2. "Regional Biosecurity: Operational Biosecurity and Diagnostic Surveillance" - led by Charles Laidley, Ph.D.

3. "Analyze and Compile the Nutritional Composition of Potential Feed Ingredient Resources in American Samoa into a Feed Manual for Use in Tilapia Feeds" - led by Warren Dominy, Ph.D.

4. "Value Added Approach for Tuna Fish Roe: Local Ingredient for Shrimp Maturation Diet?" - led by Hui Gong, Ph.D.

For more details on 2009 achievements, as well as information on newly funded projects, please read the [2009 Annual Accomplishment Report \(PDF - 5.7 MB\)](#), which can be found on the [CTSA website](#). Please note that in order to read the report, you must have Adobe Reader installed on your computer - [click here to download Adobe Reader](#).

## Oceanic Institute Celebrates 50 Years!



Put on your party hats, this year marks the Oceanic Institute's (OI) 50th anniversary! To celebrate this milestone and increase public awareness of OI's local and global impact, the institute will host two anniversary events. A one day open house and demonstration event will be followed by an evening gala on a separate day featuring local chefs using OI products, top entertainment, and a ceremony recognizing key people who have made significant contributions to aquaculture in the State of Hawaii. Both events will be held in late summer; details will be provided as they become available.

### Leader in Aquaculture Research

Located in beautiful Waimanalo, OI has been at the forefront of aquaculture research since its inception. The Makapuu Oceanic Center, as it was formerly known, was established in 1960 when the Pacific Foundation for Marine Research secured a lease from the State for land at Makapuu Point on which to develop an institution for marine education, marine science and ocean industry. The institute featured an aquarium and park for visitors, a marine research facility, and a pier and test range for vessels and submersibles. In 1972, Sea Life Park and Makai Pier and Test Range were spun off from OI. However, the research facility remained and is now known as Oceanic Institute. Today at OI, innovative systems are being developed through integration of research from various departments within the Institute. These initiatives rely on the expertise and past experience of OI's researchers in feeds, larval rearing, growout, environmental conditions, animal health, and

marketing.

Oceanic Institute, an affiliate of Hawai'i Pacific University, is a not-for-profit research and development organization dedicated to marine aquaculture, biotechnology, and coastal resource management. Their mission is to develop and transfer economically responsible technologies to increase aquatic food production while promoting the sustainable use of ocean resources. OI works with community, industry, government and academic partners, and non-governmental organizations to benefit the state, the nation, and the world. For more information, visit [www.oceanicinstitute.org](http://www.oceanicinstitute.org).

## January AquaClip - Farmer's Co-op Established in Saipan

### NMC Helps with Formation of Local Aquatic Farmers Group

Published: Saipan Tribune, January 20, 2010

Aquatic farmers on the island of Saipan, Tinian, and Rota recently met with aquaculture experts from the Northern Marianas College to discuss the formation of a cooperative among aquatic farmers that would help individual local farmers cut costs and increase their exports. The group of farmers, whose proposed union name is the CNMI Aquaculture Producers Association (APA), met with Rota and Tinian participants through a conference call in the NMC Cooperative Research Extension and Education Service (CREES) conference room. Once formed, the APA aims to centralize the marketing and branding of stock, establish product quality standards (size, weight, color), and the possibly produce feeds on-island. Several farmers have already been selected for ad hoc committee to create the APA bylaws. These individuals include (Saipan) John Hosono, James Matsumoto, Mel Catalma, (Rota) Nicolas Songsong, and (Tinian) Melvin Crisostomo.

Other topics discussed during the meeting were the concerns facing local aquatic farmers, such as CUC water rates, cost of feed locally, marketing opportunities abroad, and available federal grants. "All the necessary grants, technology, and expertise are available to aquatic farmers in the CNMI," said NMC aquaculture extension agent Michael Ogo. "All that was needed was an organization of private citizens to take advantage of these resources."

Some of the grants available to farmers in the CNMI include the U.S. Department of Agriculture Rural Energy for America Program, which will fund energy-saving improvement projects, and the Small, Socially-Disadvantaged Producer Grant Program, which will provide funds for technical assistance.

"Given the CNMI's water resources, tropical environment, and proximity to key markets, we've always realized that there are significant economic opportunities for the local aquaculture industry," said Tee Abraham, NMC Dean of Community Programs and Services. "We will continue to support efforts like the APA and other activities to build capacity and expand aquacultural activities in the CNMI."

CREES' staff also vowed to continue to support APA members through various trainings and workshops, which will be scheduled during the coming months. A Tilapia Management Practices workshop has already been scheduled for March 23, 2010. The College will release details about the seminar within the next few weeks. "As part of our ongoing efforts to build up the aquaculture industry, we will continue to make ourselves and our resources available to assist in any way we can," Ogo added. "We are pleased to see that many aquatic farmers are taking the initiative to focus their energies on a collective effort to diminish economical pressures facing the growing aquaculture industry," said NMC interim president Lorraine T. Cabrera.

Individuals interested in entering the aquaculture industry or gaining membership into the APA should call Michael Ogo at 234-5498 ext. 1728 or e-mail [michaelo@nmcnet.edu](mailto:michaelo@nmcnet.edu).

[Click here to read the original 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.