



Regional e-Notes ~ Volume 11, Issue 3 ~ March 2019

Letter from the Director

Aloha!

Introducing new and innovative approaches to address aquaculture industry needs is always a top priority in my work. This month, I have spent a significant amount of time communicating with researchers across disciplines to discover new and different ideas and technology that can be innovatively applied to solve some of our biggest issues. I am now working with these researchers to develop a few proposals to Sea Grant to advance aquaculture in our region.



At the same time, our CTSA team has begun developing the priority areas for the next round of funding. I thank those of you who have already submitted your comments via our survey, and encourage those who have not yet participated to complete our survey before Friday April 5. Our Request for Pre-Proposals will be released in the April issue of e-notes. Aside from the specific FY19 priorities defined in the Request, our primary goal remains the same: to advance aquaculture in our region.

Earlier this month I attended the Aquaculture 2019 conference in New Orleans. This year's Triennial meeting combined the annual meetings of the World Aquaculture Society, National Shellfisheries Association, Fish Culture Section of the American Fisheries Society, and the National Aquaculture Association. The event - which celebrated the 50th anniversary of the World Aquaculture Society - was attended by 3,500 participants from 84 countries, and featured 104 technical sessions with 1,350 speakers and 225 posters, as well as a trade show with 205 booths. I thoroughly enjoyed the meeting for both its technical program as well as the opportunity to see old and meet new friends. In addition to useful information on new advancements in our industry, there were thought-provoking talks and discussions on community acceptance of aquaculture.

Industry consensus is that a social license is critical for sustainable aquaculture to effectively address some of the serious problems facing our planet. In the Pacific Islands, we are surrounded by ocean, and have thus been an integral part of meeting global seafood demands. We can continue contributing to the food supply for generations to come by...[Read More](#)

CTSA Wants to Hear from You! Last Chance to Participate in Quick Survey to Assess Priority Species & Areas for CTSA FY19 Funding

Would you like to have a say in the priority areas for

CTSA funding? As we announced in last month's issue of e-notes, your annual chance is here!

CTSA has created a survey to assess the most important priority areas and species for funding consideration during the upcoming FY19 development cycle.

We encourage our stakeholders take an active role in the direction of our program by participating in this short survey. The questions are based on the priority areas included in last year's FY18 'Request for Pre-Proposals.'

The FY19 'Request for Proposals' will be prepared in the coming months and released in May. Stakeholders interested in participating must complete the survey by April 5.

[Click here to take the survey](#)

*Participate in the CTSA
Development Process!*



*Take the FY19
Priority Areas Survey*

Research Resources: New Studies Find Natural Supplements -- Lemons, Peppermint Oil, and Moringa -- Can Improve Disease Resistance in Tilapia

In a recent study published in *Aquaculture*, researchers found that including essential oil of peppermint (*Mentha piperita*) in feed can improve prevention of *Streptococcus agalactiae* in Nile tilapia. The study compared three different concentrations of peppermint oil; results found that when compared with control fish, survival from challenge with *S. agalactiae* was significantly higher in the fish that were fed 0.25% peppermint oil. Researchers highlighted that peppermint oil "stimulated the innate cellular response of the animals."

[Click here](#) to read the study abstract

In a separate study to test the "Efficacy of the dehydrated lemon peels on the immunity, enzymatic antioxidant capacity and growth of Nile tilapia (*Oreochromis niloticus*) and African catfish (*Clarias gariepinus*)," researchers found that including lemon peel powder in feeds increased antioxidant capacity and non-specific immunity of both Nile tilapia and African catfish fishes. The study, published in *Aquaculture*, concluded that while lemons have no significant effect on growth of fish, they are indeed effective at increasing fish resistance against *Aeromonas hydrophily* infection.

[Click here](#) to read the study abstract

Another study, also published in *Aquaculture*, investigated the use of *Moringa oleifera* seeds and leaves to mitigate "chlorpyrifos (CPF)-induced growth retardation, immune suppression, oxidative stress, and DNA damage in *Oreochromis niloticus*." The study found that moringa seeds and/or leaves improved immune and hepatic functions in Nile tilapia that had been exposed to CPF, and also decreased DNA damage. In addition, moringa "alleviated the oxidative stress and lipid peroxidation in CPF-exposed tilapia."

[Click here](#) to read the study abstract



AquaClip: Kampachi Farms testing new feed ingredients

Hawaii-based offshore aquaculture startup Kampachi Farms sees a bright future in alternative feed ingredients and is also exploring species beyond its namesake fish, but getting to that future will require a lot more experimentation.

Research manager Lisa Vollbrecht said that the company has spent a lot of time exploring alternative ingredients for kampachi, replicating tank trials for fish fed experimental formulations all the way to market size.

Farmers have to keep in mind a variety of characteristics when trying out new ingredients, she said, such as growth, sustainability, product quality - seeking a specific taste, texture and fatty acid profile - as well as fish health.

"There are additives now that proactively address things like parasites and disease," she said. And then there's cost.

"In the marine fish farm, feed is 50% to 70% of the operation. Any change in feed can make a huge difference in the bottom line," she said.

Making sure that the fish fed alternatives still taste good is another priority.

"If it doesn't good, who cares? We can have all these alternative ingredients but if people don't want to eat it, who cares?" she said.

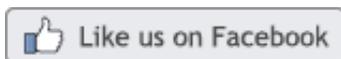
She cited a study that posited that if farmers were able to use all of the suitable ocean areas for aquaculture, the world theoretically would be able to consume 100 times the amount of seafood currently produced globally.

"Geography isn't our constraint, feeds are a constraint. I'm sure everyone in this room understands this, that's why we're all interested in alternative feeds for aquaculture," she said. Variety will be key, she said.

"Feed mills need a whole pantry of ingredients. There isn't one winner. There's a number of feed ingredients that will succeed into the future. The challenge as we see it is at the experimental scale, these results are really compelling but transitioning to commercial production is difficult," she said.

Source: [Undercurrent News](#) / [Read Original Article](#)

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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 2012-38500-19566, 2014-38500-22241, and 2016-38500-25751. 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 of Hawaii Pacific University and the University of Hawaii.

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