

Announcements

Position Announcement Kona Blue LLC "is the first integrated hatchery and offshore fish farm in the country," .. and is .. "currently searching for a broodstock technician. The ideal candidate has graduated from a post secondary aquaculture, sciences, or related program from a recognized institution, and has over 2 years of industry experience in a marine finfish farm environment, preferably dealing with warm-water species. ... email a cover letter resume and three references to: Federico Jose Rotman .. federico@kona-blue.com."

Promote Your Business in Taiwan [from ADP's Aqua Flashes] "If you would like to export product to Taiwan, or attract investor dollars ...sign up for 'The Hawaii Experience in Taiwan' from April 27 to May 1 ..." The trip and events in Taiwan are organized by the state DBEDT; the cost for participants is about \$3,000. Contact Emogene Estores by email: eestores@dbedt.hawaii.gov.

Information Sources

Aquaculture Drug Approval Updates Find

them at aquanic.org/jsa/aquadrugs/index.htm then click Drug Approval Matrices.

State of the World Fisheries and Aquaculture (SOFIA) This biannual FAO report confirms the continuation of trends established in the 1990's: ".. capture fisheries production is stagnating, aquaculture is expanding .." and more . The report is available at www.fao.org/sof/sofia/index_en.htm.

Best Management Practices for Aquaculture in Wisconsin and the Great Lakes Region This August 2005 document of 136 pages begins with background on aquaculture in general and the BMP concept. The list of topics suggests that it might be a useful teaching or self-education resource on the subject. Find it at aqua.wisc.edu/publications/PDFs/AquacultureBMP.pdf.

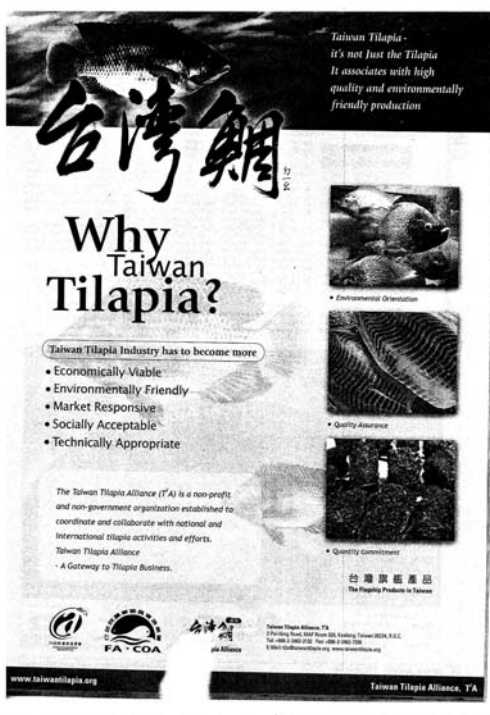
Updates

Tilapia in the USA A recent article in the periodical *SeaFood Business* (also on line at www.seafoodbusiness.com) points out that the 2004 U.S. consumption of tilapia (in live weight equivalent, converting a lot of

Readers' contributions are invited with aloha, and much appreciated, though not all can be used. They may be mailed, faxed or emailed to the editor at this address. Contributors understand that materials may be edited for space and other considerations. This newsletter is part of a cooperative project funded by the University of Hawaii Sea Grant Extension Service, the UH Cooperative Extension Service, and the State of Hawaii Aquaculture Development Program.

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frozen imports) was 412 million pounds, and is projected to amount to 504 million for 2005. The U.S. production in these terms is about 24 million pounds, or 5% of the total. The U.S. per capita consumption is 0.7 pound, which the article points out "basically is one fish." The article covers diverse topics, including international sources, product forms, and lots of endorsements from restaurant and retail folks.



Organic Aquaculture Products The USDA's National Organic Program has been working for some time to develop standards for legally labeling aquaculture products as organic. The National Organic Standards Board's Aquaculture Working Group has filed an "Interim Final Report" and has invited public comment. No standards will be in place until at least 2007. All this was brought out at a USDA presentation at the recent conference of the U.S. Aquaculture Society in Las Vegas. Unfor-

tunately, little information was presented about just what those standards would be. The draft report, with the standards, can be found at www.ams.usda.gov/nop/TaskForces/AATFInterimFinalReport.pdf.

Selected highlights:

- "... facilities shall be designed and operated to minimize the release of nutrients and wastes into the environment."

- "The use of water discharges .. as nutrients for vascular plants in agricultural crops .. is encouraged ... (and) .. crops using nutrients from certified organic aquaculture operations may be certified organic if in compliance with other regulations .. ." This is a stamp of approval for integrated aquaculture applications including aquaponics. It reflects the earlier exclusion of fish from classification as livestock, and the standard included here that "metabolic products of aquaculture species are not considered animal manure .. ."

- "By-products from .. aquatic animals, such as fish meal, fish oil, .. produced in an organic production system, .. may be labeled organic."

- Animals to be sold as organic must have been under "... organic management beginning no later than the second day after the beginning of exogenous feeding .. or no later than when 5% of total market weight has been achieved, whichever is greater." For example, 5% of 20 g as market size for a shrimp is 1 g; 5% of a 500 g market tilapia is 25 g.

- Culture of monosex stocks obtained by crossing, hybridization, or visual selection is permitted; monosex stocks made by hormonal sex reversal are prohibited. However, sex reversed breeders may be used to produce monosex fry. GMO plants and animals are prohibited.

Comment is invited from all interested parties. U.S. mail the National Organic Standards Board; c/o Valerie Frances; Room 4008 - South Building; 1400 and In-

dependence Avenue, SW; Washington, D.C.20250-0001. E-mail NOSB.Live.stock@usda.gov. Or fax to (202) 205-7808.

TECHNICAL NOTES

Research Verification

According to the Aquaculture/Fisheries Center at the University of Arkansas at Pine Bluff (UAPB) (uaex.edu/aquaculture/), "Research verification programs are a public demonstration of the implementation of research-based Extension recommendations in a commercial-scale farming environment." Actually, they mean a well-managed test of whether the research results in terms of yield, food conversion, survival, and costs can be achieved in a commercial setting.

Hawaii aquafarmers will recognize this as a very good question. The extension service has conducted many methods-development and production trials over the years on university facilities such as the Mariculture Research and Training Center (MRTC) and Windward Community College. Some of these resulted in manuals containing specific instructions for the processes. Farmers have taken up some of the recommendations and grown some of the products. We have not, however, conducted the formal sort of trial that UAPB calls research verification.

Aquaculture researchers recognize "on farm" research trials at various levels of formality, which relates closely to the intensity of attention by the researchers, for example, frequency of farm visits, nature and frequency of data collection, etc. For example, some years ago in the Philippines, we conducted tilapia pond production trials in which the researchers provided research derived quantities of fish and fertilizers to farmers and helped with the pond stocking, visited the ponds monthly to take water

samples, and helped with the harvest at the end of four months. This was a good piece of work, appreciated by the farmers, but it was less than a complete research verification trial. The UAPB idea includes ".. intensive monitoring of commercial ponds in which recommended research-based management protocols are being implemented. This results in a comprehensive database .. that greatly exceeds the data available from normal farm production records."

Having worked for several years with specific cases of the question, "Why don't we get the levels of production in your manual?", we have gained a greater appreciation of the level of attention and expense it would take to perform genuine research verification trials in these terms. Farmers often welcome researchers' attention and involvement, but may not be able to allocate the farm resources needed for this level of investigation. Separate dedicated funding may be required.

We have learned that a likely answer to the farmers' question about the manual and research-based production levels is that their conditions differ in many cases from those prevailing in the research work. This is both good news and bad news. Developing culture businesses don't wait around for the academic pace of research, repeated research with incremental improvements, and the slow publication process. Some of our products have come to market much more rapidly, and with improvements in methods invented by the farmers. On the other hand, some of the research conditions may be too expensive or otherwise difficult to maintain in a commercial setting. Creative farmers take shortcuts and hope for the best. This leads to cost effective progress at some times, and discrepancies from research results at other times. For what it's worth, the UAPB trials on channel catfish production were quite well verified on-farm.