

FDA approves formalin for all fish

June 1998 marked a major step for the aquaculture industry. The Center for Veterinary Medicine, a department of the Food and Drug Administration (FDA),



approved Western Chemical Inc.'s supplemental new animal drug application (NADA) for formalin solution to be used in the water of all finfish as an external parasiticide and all finfish eggs as a fungicide.

This approval means that Western Chemical is the only manufacturer whose formalin can be labeled and sold for those uses. FDA's amendment of the animal drug regulations to reflect approval of Western Chemical's NADA became effective July 16, 1998.

Rosalie Schnick, national coordinator for aquaculture new animal drug applications stressed that this is major news for the aquaculture industry. "This is the

first approval that includes all fish and all fish eggs, the first approval since 1986 of any drug for aquaculture, and the first approval for the Federal-State Aquaculture Drug Approval Partnership."

Thomas A. Bell of the Center for Veterinary Medicine said this is significant also because it's "the first approval for which we took CVM-accepted data from several species ... representing ... the most important taxonomic groups and (were) able to make a valid scientific extrapolation of safety and effectiveness ... to all finfish species."



The FDA has approved very few compounds for use in aquaculture. Among them are oxytetracycline, which has been approved as an oral antibacterial for catfish, salmonids and lobsters, and tricaine methanesulfonate, or MS-222, which has been approved as an anesthetic for all

fish. In November 1997, FDA approved Western Chemical, Inc., as a new sponsor for MS-222. Western Chemical markets MS-222 under the name Tricaine-S™.



The situation seems to be improving, though. Schnick noted that drug manufacturer Schering-Plough Animal Health recently agreed to allow the development of florfenicol for aquaculture. "Our (aquaculture) medicine chest is devoid of a broad spectrum oral antibacterial. Schering-Plough's agreement is exciting because florfenicol is not in the class of compounds that is of concern for raising resistance in humans," she said. She added that because florfenicol has already been approved for aquaculture in other countries "an excellent body of data is available that will help expedite approval in the United States."



USDA aquaculture reports available through electronic mail

Readers who want copies of USDA aquaculture reports can obtain them via the Internet or have them delivered via electronic mail.

In March and October of each year, the USDA Economic Research Service releases the Aquaculture Situation and Outlook Report. In addition, the National Agricultural Statistics Service (NASS) publishes a Catfish Processing monthly, the Catfish Production Report in February, April, July and October and Trout Production in September.

Copies of the Aquaculture Situation and Outlook from 1995 to the most current can be downloaded from the Worldwide Web at

<http://jan.mannlib.cornell.edu/reports/erssor/livestock/ldp-aqs/>

The NASS reports can be downloaded by clicking on "Reports by Commodity" at

<http://www.usda.gov/nass/pubs/pubs.htm>

Those who want to be sure to receive reports as soon as possible have other options. They can subscribe to regular mail delivery of the reports; the Aquaculture Situation and Outlook Report is \$21 per year. A less expensive and faster choice is to subscribe to free electronic mail delivery of reports within three hours of the reports' publication. Those who wish to subscribe to any of the reports can do so by sending an email message to

usda-reports@usda.mannlib.cornell.edu

The subject line of the message should be left blank, and the BODY of the message should con-

tain a message stating the word "subscribe" followed by the code of the desired report.

Report Name	Report Code
ERS Situation and Outlook	aquaculture
NASS Catfish Production	catfish-production
NASS Catfish Processing	
NASS Trout Production	trout-production

One email message can be used to subscribe to one or all available titles. For example, to subscribe to all the above reports, the body of the email message body would read:

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One caution: email subscription requests that include a "signature" of either text or graphics will produce an error message. Those who wish to subscribe to one or more reports should turn off or delete their signatures from the subscription request.

USDA publishes a number of other reports that can also be delivered via electronic mail. For more information, visit the USDA reports electronic mailing lists web site

<http://usda.mannlib.cornell.edu/mailinfo.html>



CTSA Regional Notes

Regional Notes is published four times per year by the Center for Tropical and Subtropical Aquaculture under a grant from the U.S. Department of Agriculture Cooperative State Research, Education and Extension Service. *Regional Notes* is printed on recycled paper.

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Permits and Regulations for Aquaculture in Hawaii

Aquaculture Development Program

Hawaii State Department of Land and Natural Resources

Mahalo to the Hawaii State Aquaculture Development Program for permission to reprint the following excerpt from “permits and Regulations for Aquaculture in Hawaii.”

Every aquaculture operation in Hawaii is subject to various federal state and county permit and regulatory requirements. These requirements relate to siting, use of resources, effect on the environment, sanitation and other matters. The nature, scope and location of a given operation will determine which of the numerous requirements will apply to it. Following is a list of the permit, regulatory and general business requirements that an aquaculture operation in Hawaii might face. No single operation is likely to require every permit listed.

Land Use and Environmental Permits and Regulations

Federal Permits and Regulations

- Environmental Impact Statement
- U.S. Department of Army Permit
- Section 106 Historic Review

State Permits and Regulations

- Environmental Impact Statement
- Conservation District Use Application
- Permit for Work in Ocean Waters
- Historic Site Review
- National Pollutant Discharge Elimination System Permit
- Zone of Mixing Approval
- Water Quality Certification
- Coastal Zone Management
- Federal Consistency Review
- Underground Injection Control
- Water Use Permit
- Well Construction and Pump Installation Permit

County Permits and Regulations

- Environmental Impact Statement
- Special Management Area Use Permit
- Shoreline Setback Variance
- Grading, Grubbing and Stockpiling Permit
- Building Permits

- Environmental Impact Statement

Regulation of Aquaculture Operations

Federal Permits and Regulations

- U.S. Food Drug and Cosmetic Act

State Permits and Regulations

- Aquatic Food Sale Regulations
- Shellfish Sanitation Regulations
- Sanitation Permit
- Importation of Non-Domestic Animals

General Business Requirements

Federal Requirements

- Social Security and Income Tax
- Federal Unemployment Tax

State Requirements

- State Income Tax Withholding
- General Excise Tax
- Business Registration
- Unemployment Insurance
- Worker’s Compensation Insurance
- Temporary Disability Insurance
- Prepaid Health Care Insurance

County Requirements

- Property Tax

Center projects produce two new aquaculture manuals

The Center for Tropical and Subtropical Aquaculture (CTSA) is pleased to announce publication of two new aquaculture manuals.

The first publication is *Spawning and Early Larval Rearing of Giant Clams (Bivalvia: Tridacnidae)* by Simon Ellis, M. S. The manual, CTSA publication number 130, was produced as part of the CTSA project titled “Extension and Training Support in the U.S.-Affiliated Pacific Islands—Year Nine.” Ellis is principal inves-

tigator on the project and serves as aquaculture extension specialist to American Samoa, the Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Republic of the Marshall Islands and Republic of Palau.



lic of Palau.

The giant clam manual covers:

- biology and environmental requirements,
- hatchery considerations,
- broodstock acquisition and husbandry,
- induced spawning,
- gamete release and collection,
- larval rearing through metamorphosis,
- nursery and growout,
- a suppliers list and a glossary.

The second publication is *Pacific Threadfin, Polydactylus sexfilis (Moi), Hatchery Manual* by Anthony C. Ostrowski, Ph. D. and Augustin Molnar. The manual was produced as part of the CTSA-funded project titled “Development of Threadfin Fry Production Technology—Years One through Three.” Ostrowski is principal investigator on the project.

The manual, CTSA publication number 132,

contains five chapters covering broodstock, larval rearing, nursery, health maintenance, and references.

The threadfin hatchery manual also contains an appendix of data sheets that farmers can photocopy and use to customize and streamline their hatchery operations.

Copies of either manual are available for \$5 each to cover shipping and handling to U.S. residents and residents within the CTSA region. The CTSA region comprises American Samoa, the Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawaii, the Republic of the Marshall Islands and the Republic of Palau.

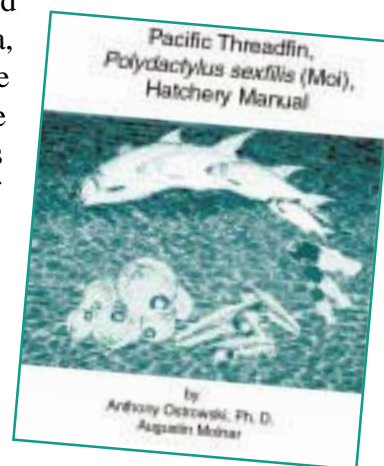
Those in foreign countries can obtain copies of either manual for US\$20 per copy to cover shipping and handling.

All funds should be remitted in a check or money order payable to The Oceanic Institute and mailed to:

CTSA
The Oceanic Institute
41-202 Kalaniana'ole Highway
Waimanalo, HI 96795

Both manuals are available free to download in Adobe Acrobat format on the CTSA Worldwide Web site. The publications can be accessed clicking the appropriate link on the CTSA web site publications page. The URL is

<http://library.kcc.hawaii.edu/CTSA/publications>



Hawaii Aquaculture Association conference slated for February

Aquaculturists in the region will want to mark Wednesday, February 24, 1999, on their calendars. That's the date of the Hawaii Aquaculture Association's First Annual Aquaculture Conference for Hawaii and the U.S.-Affiliated Pacific Islands. HAA is inviting principal investigators on projects funded by CTSA, the U.S. Department of Agriculture, Sea Grant, and the Hawaii State Aquaculture Development Program.

The conference is intended to provide a platform for farmers and researchers to exchange information, provide the aquacul-

ture industry with information on advanced aquaculture technology and identify critical areas for aquaculture research.

To meet those objectives, the program will focus on projects in which farmers in the region have expressed interest. Presentations will emphasize ways in which the aquaculture industry can apply new technology. The program will also allow time for interaction between participants.

Topics may include access to information, disease diagnosis and management, and advances in the culture of food fish, shrimp and ornamental fish.

The conference will be held at the Windward Community College Conference Center, 45-720 Kea`ahala Road, Kaneohe, Hawaii.

Those who register by January 15, 1999, get a price break. Until that date, Hawaii Aquaculture Association members can register for \$15; Non-members can register for \$25. Student registration costs \$15. After January 15, registration will cost \$30.

Registration will include attendance at the conference, a collection of the conference abstracts, coffee and refreshments and a box lunch.



Hawaii Aquaculture Association First Annual Aquaculture Conference

Name: _____

Address: _____

City: _____ State & Zip: _____

Please check one:

Early HAA member registration (\$15) _____

Early Non-member registration (\$25) _____

Student registration (\$15) _____

school _____

Late registration (\$35 after January 15, 1998) _____

Please mail this completed form with your check or money order to:

Dean Toda
Aquaculture Development Program
1177 Alakea St., Rm. 400
Honolulu, HI 96813

CTSA seeks suggestions for year 13 priorities

Readers, please put on your thinking caps and get out your pens and paper.

CTSA wants suggestions for its thirteenth year priority list. Readers who have an idea for aquaculture research, extension or education or who are stumped by an aquaculture problem are invited to submit those ideas to CTSA no later than December 15, 1998.

The suggestions will be summarized and forwarded to the Industry Advisory Council. The Council then will consider whether to include the ideas in the CTSA Year 13 priority list.

CTSA is especially suggestions from farmers and will give first priority to their submissions. However, any interested party is welcome to submit them. Suggestions should include the following information:

The suggestion should begin with a title or the main idea (for example, "Control of Bird Predation in Aquaculture Ponds"). A brief summary of the problem or idea should be given, along with the name, address, phone, fax and email address of the person submitting the idea.

Please submit each suggestion separately on no more than two letter-sized pages. Page margins should be 1-inch wide on all sides; type should be at least 10-point Times New Roman.

Suggestions should be mailed or faxed to

IAC Priorities Year 13

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41-202 Kalaniana'ole Highway

Waimanalo, Hawaii 96795

fax: (808) 259-8395

email: ChengShengLee@compuserve.com



Aquaculture America '99

Aquaculture on the Rise

January 27 - 30, 1999

Tampa Convention Center

Tampa, Florida

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National Aquaculture Association

U.S. Chapter, World Aquaculture Society

U.S. Suppliers Association

For more information:

phone: 425-485-6682; fax: 425-483-6319; email: worldaqua@aol.com

or visit the Web site at: <http://ag.ansc.purdue.edu/aquanic/was/confer/tampa/regist.htm>

Pacific aquaculturists can get free listing on Worldwide Web site

The first rule of economics is that there is no free lunch. With the Internet and the Worldwide Web as the buzzwords of the moment, and most businesses seeming to have a Web site, many aquaculture businesses wonder how they can get on-line. But building and maintaining a Web site is a time-consuming, expensive undertaking, and not all businesses have the resources to do so.

The good news is that the Center for Tropical and Subtropical Aquaculture offers those within the region a way to get on the Web -- free. Those who are involved in aquaculture-related businesses can list their goods and services on the Pacific Aquaculture Vendors page, which is a component of both the CTSA Web site and the Web site of the Pacific Regional Aquaculture Information Service for Education, or PRAISE.

The only catch is that vendors can't list prices or order forms. However, they can list all the goods and services they provide as well and addresses, phone and fax numbers and email addresses. A vendor who is fortunate enough to have his own home page can even have a link to it from the Vendors page.

Readers who are interested in participating in the site can complete the form below and mail it to:

Vendors Page/CTSA
The Oceanic Institute
41-202 Kalaniana'ole Highway
Waimanalo, Hawaii 96795 USA

Alternatively, they can send all the requested information via email to:

74763.2237@compuserve.com

To list your business on the Pacific Aquaculture Vendors page, complete this form and mail to:
CTSA / Pacific Aquaculture Vendors Page
The Oceanic Institute
41-202 Kalaniana'ole Highway, Waimanalo, HI 96734

Company Name: _____

Area of business: _____

Address: _____

City, State, Zip: _____

Telephone: _____

Fax: _____

Email: _____

Web site URL
(if any): http://_____

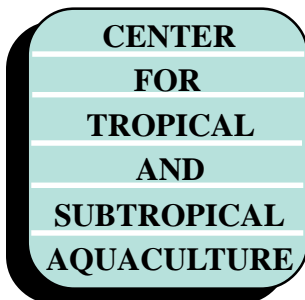
Provide a brief description of your products and services:

Center for Tropical and Subtropical Aquaculture

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 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. The CTSA offices and staff are located at The Oceanic Institute's Makapu'u Point site on windward Oahu. A Board of Directors is responsible for overseeing the programmatic functions of CTSA.

The mission of CTSA is to support aquaculture research, development, demonstration and extension education to enhance viable and profitable U.S. aquaculture. Unlike the other centers, which work within a defined geographical region, the CTSA "region" encompasses tropical and subtropical species wherever they are cultured. Research projects span the American Insular Pacific, using its extensive resource base to meet the needs and concerns of the tropical aquaculture industry.

Each year's program is developed by CTSA's Industry Advisory Council and Technical Committee, reflecting the Center's mix of commercial and scientific expertise. Council members represent financial institutions, aquaculture and agriculture enterprises, government agencies and other business concerns. The Technical Committee includes researchers, extension agents and fisheries officers. Both committees include representatives from American Samoa, the Commonwealth of the Northern Mariana Islands, the Federated States of Micronesia, Guam, Hawaii, the Republic of Belau and the Republic of the Marshall Islands. For further information on the CTSA program, contact Dr. Cheng-Sheng Lee, Executive Director, by phone **(808)259-3107**, by fax at **(808)259-8395** or by email at **ChengShengLee@compuserve.com**.



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