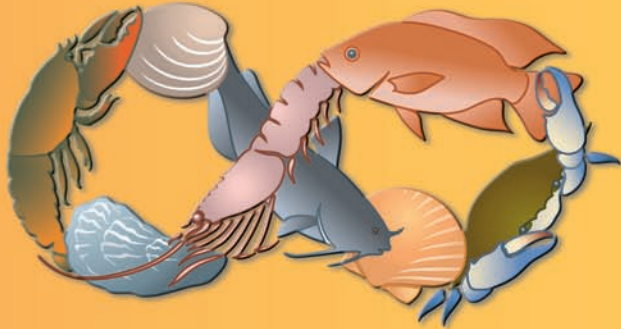


AQUACULTURE 2010



THE INTERNATIONAL TRIENNIAL MEETING OF:



**WORLD
AQUACULTURE
Society**

CO-SPONSORED BY:



SUSTAINABLE = PROFITABLE

March 1-5, 2010

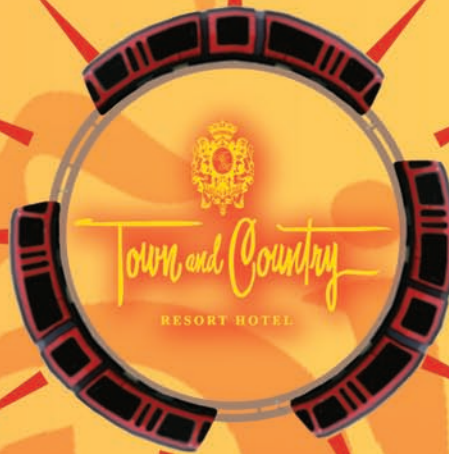
**Town & Country Resort and Conference Center
San Diego, California**



SCRIPPS INSTITUTION OF
OCEANOGRAPHY
GLOBAL DISCOVERIES FOR TOMORROW'S WORLD



FASHION VALLEY A Simon Mall



It's All Happening in San Diego!

Associate Sponsors

American Tilapia Association
American Veterinary Medical Association
Aquacultural Engineering Society
Aquacultural Association of Canada

Asian Fisheries Society
Catfish Farmers of America
Global Aquaculture Alliance
International Association of Aquaculture
Economics and Management

Latin American Chapter WAS
Striped Bass Growers Association
US Marine Shrimp Farming Association
US Trout Farmers Association

In Cooperation with: California Aquaculture Association



AQUACULTURE 2010

The Triennial is only every three years!

Every three years, the Triennial is held somewhere in the United States. In 2010, the Triennial returns to beautiful San Diego – one of America's favorite cities.

THE TRIENNIAL IS THE LARGEST AQUACULTURE MEETING IN THE WORLD!

The Triennial is the largest aquaculture conference and tradeshow held in the world with nearly 4000 attendees from over 80 countries and even more countries are expected to have attendees at AQUACULTURE 2010. The Triennial combines the annual meetings of the **National Shellfisheries Association, Fish Culture Section of the American Fisheries Society** and the **World Aquaculture Society**. In addition to the annual meetings of the main sponsors, look what else is happening at AQUACULTURE 2010!

- AQUACULTURE AMERICA - Annual Meeting of the U.S. Chapter of World Aquaculture Society, the National Aquaculture Association, and the U.S. Aquaculture Suppliers Association.
- Annual Meeting of the American Tilapia Association
- Annual Meeting of the Striped Bass Growers Association
- Annual Meeting of the U.S. Trout Farmers Association
- Special sessions organized by Aquacultural Engineering Society and International Association of Aquaculture Economics and Management
- Many other meetings of work groups, government agencies and related aquaculture activities
- Program with technical sessions and producer's seminars covering virtually all species grown by aquaculture
- AND - look at all of the Associate Sponsors on the cover who are participating in the program development!

The last Triennial was held in 2007 in San Antonio where it was pronounced a huge success by the nearly 4000 people who attended. Don't miss this Triennial!



FOR MORE INFORMATION

AQUACULTURE 2010

Conference Management Office

P.O. Box 2302

Valley Center, CA 92082 USA

Questions: Tel: +1-760-751-5505 Fax: +1-760-751-5003

REGISTER EARLY AND \$AVE!



SAN DIEGO – GAS LAMP DISTRICT, OLD TOWN, BEACHES, SEA WORLD, LEGOLAND, AND MORE!

AQUACULTURE 2010 is the place to learn about the latest in aquaculture, see the newest technology in the trade show and have a great time in the many fantastic restaurants, and entertainment sites in San Diego – one of the top rated tourist destinations in the world!!! And, at the Town & Country Resort, there is a trolley that connects you to the downtown attractions and more!

EXPANDED PRODUCER PROGRAM

Aquaculture America is known for the high quality of its Producer Program organized by National Aquaculture Association. AQUACULTURE 2010 will continue to expand the size and scope of the producer program to address all of the issues facing producers in the U.S. as well as around the world.

Aquaculture 101
Marketing
Offshore Aquaculture
Organic Aquaculture: Future Opportunities
Aquatic Animal Health

Federal Town Hall
Species Industry Updates
Seafood Buyers Tell All
National Issues Update

A CRITICAL TRADE SHOW FOR AQUACULTURISTS!

AQUACULTURE 2010 will have the largest aquaculture trade show in the Western Hemisphere and one of the largest anywhere in the world with over 200 booths! This is your opportunity to inspect the latest in products and services for the aquaculture industry. It is the place to visit current suppliers and make new contacts. To keep ahead and to keep profits building, you need to keep pace with the technological advancements in the industry - and AQUACULTURE 2010 is the place to do it!

TECHNICAL PROGRAM COVERS THE LATEST RESEARCH

The Triennial Sponsors will put together an extensive technical program featuring special sessions, contributed papers and workshops on all of the species and issues facing aquaculturists around the country. Sample topics will include:

Ancient Fishes	Larval Finfish
Biotechnology	Marine Ornamentals '10
Black Sea Bass	Market Efficiency
Catfish	Non-traditional Aquaculture
Crustaceans	Nutrition
Ecology & Environment	Offshore Aquaculture
Economics	Ornamentals
Education	Perchids
Eels	Physiological Insights Towards Improving Fish Culture - II
Engineering	Policy & regulations
Extension/Technology Transfer	Rural Aquaculture in Latin America
Feeds	Sea Lice
Finfish Breeding, Genetics, Genomics	Shellfish
Flatfish	Shrimp
Freshwater Finfish	Stock Enhancement
Freshwater Pond Aquaculture	Striped Bass & Hybrids
Health & Disease	Therapeutic Drug Research
LMB or prawns	Tilapia
<i>Macrobrachium</i>	Water Quality & Effluents
Marine Finfish	

YOUR FULL CONFERENCE REGISTRATION INCLUDES:

Only pre-registered attendees are guaranteed materials.

- Admission to all sessions, seminars and the trade show
- Admission to the President's Reception
- Conference bag, Abstract CD and Show Directory (except for spouse)
- Refreshment Breaks and Cash Bar Happy Hour
- Students receive the full registration package plus the Student Reception.
To qualify for the student rate, a copy of your student I.D. is required.



CALL FOR PAPERS – DEADLINE: August 31, 2009

AQUACULTURE 2010 encourages the submission of high quality oral and poster presentations. We strongly encourage authors to consider poster presentations because poster sessions will be an integral part of the program. Papers submitted for “oral presentation only” may not be accepted as oral presentations due to the limited number of available time slots. All abstracts must be in English – the official language of the conference.

Each oral presenter shall be entitled to no more than 12 minutes for a presentation, plus 3 minutes for questions. Authors of studies involving proprietary products or formulations should present this information in workshops or the trade show. Oral presentations should use Power Point. Slides, overhead projectors and video players will not be available or allowed.

All presenters are required to pay their own registration accommodation and travel expenses. AQUACULTURE 2010 cannot subsidize registration fees, travel or hotel costs.

No Abstract Book will be printed – a CD Abstract Book will be given to registered attendees.

INSTRUCTIONS FOR PREPARATION OF ABSTRACTS

Expanded Abstract Format - Please refer to the sample.

- 1. TITLE OF PAPER:** The abstract title is printed in CAPITAL LETTERS, with the exception of scientific names which should be Upper/lower case and *italicized* (see example). Scientific names should not be preceded or followed by commas or parentheses or other markings.
- 2. AUTHOR(S):** The first name should be the presenting author. Use * after the presenting author. Type in upper/lower case.
- 3. ADDRESS AND EMAIL:** Type only the presenting author's institution, address and email. Type in upper/lower case.
- 4. MAXIMUM LENGTH:** One Page
- 5. PAGE SIZE:** Standard 8.5 x 11 inch paper (portrait)
- 6. MARGINS:** 1-inch margin throughout (left/right/top/bottom)
- 7. SPACING:** Single spaced
- 8. PARAGRAPHS:** Paragraphs should be separated by a blank line and should not be indented.
- 9. FONTS:** Character fonts should be 12 point type.
- 10. FIGURES & TABLES:** Figures and tables are highly recommended. They should be reduced to the appropriate size for a one page abstract and should be clearly readable at the reduced size. The reduced figures and tables should be included in the abstract in camera-ready form.

1 inch margin (2.54 cm)

EVALUATION OF JUVENILE AUSTRALIAN RED CLAW CRAYFISH *Cherax quadricarinatus* FED PRACTICAL DIETS WITH AND WITHOUT SUPPLEMENTAL LECITHIN AND/OR CHOLESTEROL

Laura A. Muzinic*, Kenneth R. Thompson, Tracey Christian, Carl D. Webster,
Lukas Manomaitis, and David B. Rouse

Aquaculture Research Center
Kentucky State University
Frankfort, KY 40601
lmuzinic@csr.net

Red claw crayfish (*Cherax quadricarinatus*) are one of more than a hundred species of Australian freshwater crayfish. However, because of its rapid growth rate, ease of spawning, wide tolerance for dissolved oxygen tolerance, and lack of a larval stage, red claw may be the best candidate for aquaculture in the United States. Red claw are only being investigated as an aquaculture species in this country and no information exists on their nutritional requirements and practical diet formulations. Many crustaceans require lecithin and cholesterol to be added to their diet, these two nutrients are usually found in fishmeal; however, lecithin and cholesterol are very expensive. Since diet costs can be as much as 70% of the total expenses for an aquaculture enterprise, it is imperative that the least expensive diet be developed that meets the nutrient requirements of the species. The present study was conducted to determine if cholesterol or lecithin needs to be added to a practical diet for red claw crayfish.

An 8-week feeding trial was conducted in a recirculating system with newly-hatched juvenile (mean individual weight of 0.2 g) red claw, each stocked in a 10 liter plastic mesh culture units. Individual units were placed within fiberglass tanks, each containing aeration and water line. Water was recirculated through physical and mechanical filters. Water temperature was maintained at 27-29°C and lighting was provided by overhead fluorescent ceiling lights on a 12 hour light:dark cycle. Ammonia, nitrite, nitrate, oxygen, temperature, alkalinity, chloride, and pH were measured three times per week. The goal of this study was to examine the effects of growth performance of newly-hatched juvenile red claw when fed four practical diets with or without cholesterol and lecithin. Other practical diets included menhaden fish meal, soybean meal, shrimp meal, wheat flour, vitamin and mineral mix, pellet binder, cod liver oil, and corn oil (Table 1).

After 8 weeks, red claw crayfish fed a practical diet without cholesterol (Diet 3) had significantly ($P < 0.05$) lower final weight, percentage weight gain, and specific growth rate (SGR) compared to crayfish fed all other diets (Table 2). These results indicate that a practical diet containing 2% cod liver oil and 1% corn oil and having no lecithin appears to be sufficient and that lecithin may not be necessary for juvenile red claw diets.

1 inch margin (2.54 cm)

1 inch margin (2.54 cm)

8.5 inches wide (21.6 cm)

11 inches long (27.94 cm)

SAMPLE

TABLE 1. Formulation of experimental diets fed to red claw crayfish.

	Diet			
	1	2	3	4
Menhaden FM	25.0	25.0	25.0	25.0
Soybean Meal	35.0	35.0	35.0	44.5
Lecithin 0.5	0.0	0.5	0.0	
Cholesterol	1.0	1.0	0.0	0.0
Other	38.5	39.0	39.5	30.5

TABLE 2. Final weight, percentage weight gain, specific growth rate (SGR), and percentage survival of red claw crayfish fed four practical diets. Means in a column with different letters were significantly different ($P < 0.05$).

	Diet			
	1	2	3	4
Final weight (g)	6.97a	6.00a	3.64b	5.11a
Weight gain (%)	3384a	2897a	1717b	2454a
SGR (%/day)	5.74a	5.66a	4.68b	5.41a
Survival (%)	76.0	64.0	56.0	80.0

PLEASE SUBMIT YOUR ABSTRACT ONLINE

**Submit your abstract via the internet at the meeting website.
Follow the complete instructions on the website for online submission.**

www.was.org

**If you are unable to submit your abstract online, contact the Conference Manager
for alternative methods at:**

worldaqua@aol.com or Fax: +1-760-432-4270



ATTENDEE REGISTRATION FORM

AQUACULTURE 2010

March 1-5, 2010 • San Diego, California

Return address for payments in USD:
AQUACULTURE AMERICA 2009
 Conference Manager
 P.O. Box 2302
 Valley Center, CA 92082 USA
 Tel: +1 760 751 5005
 Fax: +1 760 751 5003
 Email: worldaqua@aol.com

Online registration is preferred at www.was.org OR fax or mail both sides with payment. Use one form per person.

PLEASE PRINT CLEARLY OR TYPE

NAME BADGE INFORMATION: (As you want your name badge to read – No titles, please)

First Name _____ SURNAME (FAMILY NAME) _____

Company / Institution _____
(Limited to 40 Letters & Spaces)

Country _____

MAILING INFORMATION: Email _____

Address _____

City _____ State / Prov _____ Postal Code _____ Country _____

Tel _____ Fax _____ Title: (circle one) Dr. Mr. Ms. Mrs.
(Include country and area code) (Include country and area code)

REGISTRATION FEES: In order to receive the discount rates as listed below, this form and payment must be received by the date listed. See 1st announcement for what is included in registration fees.

TYPE OF REGISTRATION <small>Check the appropriate boxes</small>	Register by January 25, 2010	Register by February 12, 2010	Register after February 12, 2010	* To qualify for Member Rate you <u>must</u> complete the Association Memberships section on the reverse side. ● ● ● ● ● ● ● ● Trade Show is <u>included</u> in the Full Conference Registration Rate. TOTAL REGISTRATION FEE US\$ _____
ASSOCIATION MEMBER RATE*	<input type="checkbox"/> US\$ 395	<input type="checkbox"/> US\$ 495	<input type="checkbox"/> US\$ 595	
STUDENT MEMBER RATE* <small>Include copy of Student I.D.</small>	<input type="checkbox"/> US\$ 195	<input type="checkbox"/> US\$ 195	<input type="checkbox"/> US\$ 255	
Non-Member Rate	<input type="checkbox"/> US\$ 490	<input type="checkbox"/> US\$ 590	<input type="checkbox"/> US\$ 690	
Student Non-Member Rate <small>Include copy of Student I.D. You can join WAS on the reverse side and use the Member Rate.</small>	<input type="checkbox"/> US\$ 250	<input type="checkbox"/> US\$ 250	<input type="checkbox"/> US\$ 315	
<input type="checkbox"/> Spouse Rate Name _____	<input type="checkbox"/> US\$ 295	<input type="checkbox"/> US\$ 390	<input type="checkbox"/> US\$ 455	
TRADE SHOW PASS – Good for 3 days admission to exhibits only – March 1-5 <small>(Trade show pass is included with the Full Conference Registration)</small>				
		<input type="checkbox"/> US\$ 50	TOTAL TRADE SHOW PASS US\$ _____	
INDUSTRY TOURS See website for current tour information				
MEMBERSHIP DUES – Enter amount from Membership Application on other side if applicable.			TOTAL MEMBERSHIP DUES US\$ _____	
Do not mail registration after Feb. 1, 2010 or fax after Feb. 10, 2010. After those dates, bring this form with you to register at the show.			➔ TOTAL AMOUNT US\$ _____	

Registration Confirmation and Receipt will be emailed after processing.

CANCELLATION POLICY: Cancellation of registration must be received - in writing - no later than February 20, 2010. Refunds for registration fees will be subject to a 20% handling fee. Refunds are processed after the conference. No refund will be made for cancellations received after February 20, 2010 or for “no shows”. After February 20, 2010, no refunds will be made for professional or personal emergencies, flight cancellations, denied visa, weather related cancellation or other travel emergencies. Fees for memberships are non-refundable.

PAYMENT METHOD: All fees must be paid to the order of **AQUACULTURE 2010**.

Check # _____ Visa Mastercard American Express

Card # _____ Expiration Date _____

Name on Card _____ Signature _____ Date _____

For bank transfer details, contact us.

REGISTRATION FORM - SIDE 2



Name _____

ASSOCIATION MEMBERSHIPS: Please check all boxes for associations for which you are a current member. Membership in any of those associations qualifies you for the Member Rate* on the Registration Fees. You can join an association at any time before registering to qualify for the Member Rate.

- | | | |
|--|--|---|
| <input type="checkbox"/> American Tilapia Association | <input type="checkbox"/> Fish Culture Section - AFS | <input type="checkbox"/> Sociedade Brasileira de Acuicultura |
| <input type="checkbox"/> American Veterinary Medical Association | <input type="checkbox"/> Global Aquaculture Alliance | <input type="checkbox"/> Society of Aquaculture Professionals |
| <input type="checkbox"/> Aquacultural Engineering Society | <input type="checkbox"/> Indonesian Aquaculture Society | <input type="checkbox"/> South African Aquaculture Society |
| <input type="checkbox"/> Aquaculture Association of Canada | <input type="checkbox"/> International Association of Aquaculture Economics and Management | <input type="checkbox"/> Spanish Aquaculture Association |
| <input type="checkbox"/> Aquaculture Without Frontiers | <input type="checkbox"/> Korean Aquaculture Society | <input type="checkbox"/> Striped Bass Growers Association |
| <input type="checkbox"/> Asian Fisheries Society | <input type="checkbox"/> Latin American & Caribbean Chapter WAS | <input type="checkbox"/> US Marine Shrimp Farming Association |
| <input type="checkbox"/> California Aquaculture Association | <input type="checkbox"/> Malaysian Fisheries Society | <input type="checkbox"/> US Chapter of WAS (USAS) |
| <input type="checkbox"/> Catfish Farmers of America | <input type="checkbox"/> National Aquaculture Association | <input type="checkbox"/> US Trout Farmers Association |
| <input type="checkbox"/> China Society of Fisheries | <input type="checkbox"/> National Aquaculture Council | <input type="checkbox"/> World Aquaculture Society |
| <input type="checkbox"/> Egyptian Aquaculture Society | <input type="checkbox"/> National Shellfisheries Association | <input type="checkbox"/> World Aquatic Veterinary Medical Association |
| <input type="checkbox"/> European Aquaculture Society | | |

MEMBERSHIP APPLICATIONS NEW APPLICATION RENEWAL

NATIONAL SHELLFISHERIES ASSOCIATION

For details on the different types of memberships and options please call the NSA office at:

Web: www.shellfish.org

MEMBERSHIP CATEGORY: (Indicate only one)

- Regular** (USD 85/yr) **Student** (USD 45/yr)

Signature of Professor or copy of Student ID required

Total Amount for NSA Membership USD _____

*Includes subscription to the **Journal of Shellfish Research***

Please enter this amount under "Membership Dues" section on opposite side of this form.

FISH CULTURE SECTION OF AMERICAN FISHERIES SOCIETY

For details on memberships and options please call the FCS office at:

Tel: +1-301-897-8616 Fax: +1-301-897-8096

- Affiliate Membership** \$50.00

*Includes only: subscription to the **North American Journal of Aquaculture** and a copy of **Sea Fare** (the official AFS cookbook)*

Total Amount for FCS Membership USD _____

Please enter this amount under "Membership Dues" section on opposite side of this form.

WORLD AQUACULTURE SOCIETY (WAS) APPLICATION www.was.org

For details on the different types of memberships and options, please contact the WAS home office at

Tel: +1-225-578-3137 Fax: +1-225-578-3493 Email: judya@was.org

MEMBERSHIP CATEGORY: (Indicate only one)

- Individual** (USD 60/yr) *Applies to an individual only*
- Student** (USD 40/yr) *(Copy of Student ID or Signature of Professor required)*
- Sustaining** (USD 100/yr) *Applies to any one individual from a company*
- Lifetime** (USD 1000/yr) *Applies to an individual only*
- Corporate** (USD 270/yr) *Allows all employees of one company to attend meeting at Member Rate*

CHAPTER OPTIONS: (Must have active membership in one of the categories at left)

- US Chapter** (USD 5)
- Latin American/Caribbean** (USD 5)
- Southeast Asian Chapter** (USD 5)

Total Amount for WAS Membership USD _____

Fees for memberships are non-refundable.

Please enter this amount under "Membership Dues" section on opposite side of this form.

NATIONAL AQUACULTURE ASSOCIATION (NAA)

For details on the different types of memberships and options, please contact the NAA home office at:

Tel: +1-870-850-7900 Fax: +1-870.850.7902 Email: naa@thenaa.net Web: www.thenaa.net

*For membership in other associations, please contact them directly.
If you need a phone number, contact the Conference Manager (+1-760-751-5005).*

MANY OPPORTUNITIES FOR FARM TOURS

Some farm tours will be set up by the California Aquaculture Association. Details will be provided later.

HOTELS

We have arranged a block of rooms with very special rates at The Town & Country Resort and Conference Center. You will not have to drive or take transportation because the meeting and trade show are right at the Town & Country. Please call the hotel directly to make your reservation and mention AQUACULTURE 2010

Tel: 1-800-445-2324 or +1-619-291-7131

Fax: +1-619-497-0737

Web: www.towncountry.com

TRAVEL

Special car rental fares also have been arranged with AVIS. You can make reservations at 800-331-1600 or +1-918-624-4338 and mention the special discount code# J770126.

Special airfares are available for travel within the U.S. to San Diego. For the best airfares, contact FLIGHT COORDINATORS for details at:

Tel: 1-800-544-3644 or +1-310-581-5600

Fax: +1-310-581-5620

Email: globaltc@gte.net



Stay in touch with the program developments for

AQUACULTURE 2010

through our Web Page at:

www.was.org

www.cfr.msstate.edu/fcs

www.shellfish.org





TENTATIVE SCHEDULE

Monday, March 1

Registration Open & Exhibit Set-up.....	10:00 – 7:00
Welcome Reception	6:00 – 8:00

Tuesday, March 2

Registration Open	7:30 – 5:00
Opening Ceremonies & Plenary Session	8:30 – 10:00
Refreshment Break	10:00 – 11:00
Sessions.....	11:00 – 12:00
Trade Show Open.....	10:00 – 6:00
Lunch (on your own).....	12:00 – 1:30
Sessions.....	1:30 – 3:00
Refreshment Break	3:00 – 3:30
Sessions.....	3:30 – 5:30
Happy Hour & Posters	5:30 – 6:30
Student Reception.....	7:00 – 9:00

Wednesday, March 3

Registration Open	7:30 – 5:00
Sessions.....	8:30 – 10:00
Trade Show Open.....	10:00 – 5:30
Refreshment Break	10:00 – 10:30
Sessions.....	10:30 – 12:00
Lunch (on your own).....	12:00 – 1:30
Sessions.....	1:30 – 4:30
Happy Hour & Posters	4:30 – 5:30
NAA Auction	5:30 – 7:30

Thursday, March 4

Registration Open	7:30 – 5:00
Sessions.....	8:30 - 10:00
Trade Show Open.....	10:00 – 3:30
Refreshment Break	10:00 – 11:00
Sessions.....	11:00 – 12:00
Lunch (on your own).....	12:00 – 1:30
Sessions.....	1:30 – 3:00
Refreshment Break	3:00 – 3:30
Sessions.....	3:30 – 5:30
Exhibit Move-out.....	3:30 – 7:00
President's Reception.....	6:30 – 8:30

Friday, March 5

Registration Open	8:00 – 5:00
Sessions.....	8:30 – 10:00
Refreshment Break	10:00 – 10:30
Sessions.....	10:30 – 12:00
Lunch (on your own).....	12:00 – 1:30
Sessions.....	1:30 – 3:00
Refreshment Break	3:00 – 3:30
Sessions.....	3:30 – 5:30
Closing Happy Hour.....	5:30 – 6:30