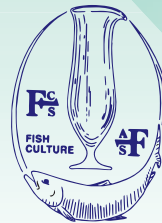


Aquaculture 2025

Innovation Through Technology

March 6-10, 2025
New Orleans Marriott
New Orleans, Louisiana

WORLD
AQUACULTURE
Society



NATIONAL
Aquaculture
ASSOCIATION

CO-SPONSORS



ASSOCIATE SPONSORS

Aquaculture Engineering Society • Aquaculture Association of Canada
Catfish Farmers of America • Global Seafood Alliance
International Association of Aquaculture • Economics and Management
Latin America & Caribbean Chapter WA • US Trout Farmers Association
Zebrafish Husbandry Association

www.was.org www.shellfish.org www.fishculture.fisheries.org www.nationalaquaculture.org



Aquaculture 2025

Every three years, the Triennial is held somewhere in the United States. In 2025, the Triennial returns to sunny New Orleans – 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 4,000 attendees from over 90 countries and even more countries are expected to have attendees at AQUACULTURE 2025. The Triennial combines the annual meetings of the National Shellfisheries Association, Fish Culture Section of the American Fisheries Society, World Aquaculture Society, and the National Aquaculture Association. In addition to the annual meetings of the main sponsors, look what else is happening at AQUACULTURE 2025!

- AQUACULTURE AMERICA - Annual Meeting of USAS, the U.S. Chapter of World Aquaculture Society and the Aquaculture Suppliers 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 working groups, government agencies and related aquaculture activities
- Program with technical sessions and producers seminars covering virtually all species grown in 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 2022 in San Diego where it was pronounced a huge success by over 3,000 people who attended. Don't miss this Triennial!



FOR MORE INFORMATION

Aquaculture 2025

Conference Management Office

P.O. Box 2302

Valley Center, CA 92082 USA

worldaqua11@was.org



Aquaculture 2025

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!

EXPANDED PRODUCER PROGRAM

The Triennial is known for the high quality of its Producer Program organized by the National Aquaculture Association. AQUACULTURE 2022 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.

PRODUCER TOPICS

Aquatic Animal Drug Approval
Aquatic Animal Health and Welfare
Environmental Issues
Farm Energy Cost Reduction
Farm Planning and Management Tools: Design, Production and Farm/Firm
Federal Agency Town Hall Meeting
Feed, Feeding and Feed Ingredients
Marketing and Promotion
Offshore Aquaculture
Regulatory Costs
Remote Sensing: Farm and Environment
Science and Public Policy
Start Up Aquaculture
Women in Aquaculture

A CRITICAL TRADE SHOW FOR AQUACULTURISTS!

AQUACULTURE 2025 will have the largest aquaculture trade show in the Western Hemisphere and one of the largest anywhere in the world with nearly 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 2025 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. There will be several Featured Sessions covering current topics of global concern. Sample topics will include:

| | |
|--|--|
| Shrimp | Fish Physiology |
| Shrimp Nutrition | Larval Finfish |
| Shrimp Health & Disease | Eels |
| Shellfish Disease | Finfish Breeding, Genetics, Genomics |
| Finfish Disease | Striped Bass & Hybrids |
| Finfish Nutrition | Dermo Disease |
| Shellfish Nutrition | Probiotics and feed additives |
| Marine Finfish | Therapeutic drugs |
| Aquaculture Engineering | Vibrio |
| Zebrafish | Biosecurity |
| Aquaponics | Probiotics in aquaculture |
| Tuna | Nutraceuticals |
| Open Ocean Aquaculture | Biotechnology |
| IMTA / Integrated Aquaculture | Stock Enhancement |
| Biofouling | Broodstock propagation and management |
| Conservation / Restoration | Fish transport |
| Aquaculture | Hatchery technology |
| Distaster Relief | Recirculation technology |
| Sea Lice | Freshwater Pond Aquaculture |
| GMO Fish and Shellfish | Recreational and ornamental pond management |
| Consumer Perceptions | Small scale aquaculture |
| of Farm-raised Seafood | Urban aquaculture |
| History of Aquaculture | Artemia |
| Mussels | Harmful algal blooms |
| Scallops | Law, Regulations, and Policy |
| Oysters | Aquaculture Without Frontiers |
| Clams | Aquaculture education (including minority-serving institutions) |
| Abalone | Market driven aquaculture: developing and sustaining an industry |
| Geoducks | Aquaculture Economics |
| Pearl oysters | Ecology & Environment |
| Freshwater mussels | Policy & regulations |
| Tridacna | Organic Aquaculture: Future Opportunities |
| Shellfish genomics | Certification |
| Post harvest shellfish treatment | Endangered species |
| Sea Urchins | Frogs |
| Macrobrachium | Water Quality & Effluents |
| Crustaceans | Extension/Technology Transfer |
| Tilapia | Feeds |
| Catfish | Latin American and Caribbean Aquaculture |
| Largemouth bass | Fish Oil |
| Sturgeon | Fish Health and Welfare |
| Gar, paddlefish and bowfin | |
| Percids | |
| Finfish genetics | |
| Pond fertilization and fish larviculture | |
| Ornamentals | |
| Mullet | |



CALL FOR PAPERS – DEADLINE: September 30, 2024

AQUACULTURE 2025 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 2025 cannot subsidize registration fees, travel or hotel costs.

No Abstract Book will be printed – Abstract Book will be available on the website.

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 temperature 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. Since many crustaceans require lecithin and cholesterol to be added to their diet, these two nutrients are usually included in commercial diets, however, lecithin and cholesterol are very expensive. Since diet costs can be as much as 70% of the total operating expenses for an aquaculture enterprise, it is imperative that the least expensive diet be formulated that meets the nutritional requirements of the species. The present study was conducted to determine if a practical diet containing 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 individual plastic mesh culture units. Individual units were placed within fiberglass tanks, each containing an aerator and water line. Water was recirculated through biofilters and mechanical filters. Water temperature was maintained at 27-29°C and lighting was provided by 14-watt cool white fluorescent ceiling lights on a 14-hour light:dark cycle. Ammonia, nitrite, and nitrate were monitored, and temperature, alkalinity, chlorides, and pH were monitored three times per week. The goal of the 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. The 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)

8.5 inches wide (21.6 cm)

11 inches long (27.94 cm)

1 inch margin (2.54 cm)

SAMPLE

| | 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 | 0.0 |
| Cholesterol | 1.0 | 1.0 | 0.0 | 0.0 |
| Other | 38.5 | 39.0 | 39.5 | 30.5 |

| | 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@was.org

ATTENDEE REGISTRATION FORM

Aquaculture 2025

Return address for payments in USD:
 AQUACULTURE 2025
 Conference Manager
 P.O. Box 2302
 Valley Center, CA 92082 USA
 Email: worldaqua11@was.org

March 6-10 • New Orleans, Louisiana

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.

| TYPE OF REGISTRATION <i>Check the appropriate boxes</i> | Register by February 7, 2025 | Register by February 21, 2025 | Register after February 21, 2025 | |
|---|-----------------------------------|-----------------------------------|---|--|
| MEMBER RATE* | <input type="checkbox"/> US\$ 545 | <input type="checkbox"/> US\$ 595 | <input type="checkbox"/> US\$ 695 | * 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\$ _____ |
| STUDENT MEMBER RATE* <small>Include copy of Student I.D.</small> | <input type="checkbox"/> US\$ 295 | <input type="checkbox"/> US\$ 295 | <input type="checkbox"/> US\$ 360 | |
| Non-Member Rate | <input type="checkbox"/> US\$ 640 | <input type="checkbox"/> US\$ 690 | <input type="checkbox"/> US\$ 790 | |
| Student Non-Member Rate <small>Include copy of Student I.D.</small> You can join WAS on the reverse side and use the Member Rate. | <input type="checkbox"/> US\$ 365 | <input type="checkbox"/> US\$ 365 | <input type="checkbox"/> US\$ 425 | |
| <input type="checkbox"/> Spouse Rate <small>Name _____</small> | <input type="checkbox"/> US\$ 395 | <input type="checkbox"/> US\$ 495 | <input type="checkbox"/> US\$ 595 | |
| TRADE SHOW PASS (Trade show pass is included with the Full Conference Registration) | | | | |
| Good for 3 days admission to exhibits only – March 7, 8, 9 | <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\$ _____ | |
| | | | ➔ 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 7, 2025. 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 7, 2025 or for “no shows”. After February 7, 2025, 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 2025.

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"/> African Chapter, WAS | <input type="checkbox"/> Global Aquaculture Alliance | <input type="checkbox"/> US Aquaculture Society, WAS |
| <input type="checkbox"/> Aquacultural Engineering Society | <input type="checkbox"/> IAAEM | <input type="checkbox"/> US Trout Farmers Association |
| <input type="checkbox"/> Aquaculture Association of Canada | <input type="checkbox"/> Korea Chapter, WAS | <input type="checkbox"/> World Aquaculture Society |
| <input type="checkbox"/> Asian-Pacific Chapter, WAS | <input type="checkbox"/> Latin American and Caribbean Chapter, WAS | <input type="checkbox"/> Zebrafish Husbandry Association |
| <input type="checkbox"/> European Aquaculture Society | <input type="checkbox"/> National Aquaculture Association | |
| <input type="checkbox"/> Fish Culture Section - AFS | <input type="checkbox"/> National Shellfisheries Association | |

MEMBERSHIP APPLICATIONS

NEW APPLICATION

RENEWAL

FISH CULTURE SECTION OF AMERICAN FISHERIES SOCIETY

FCS Membership for Current AFS members \$5.00

All FCS members must be full members of the American Fisheries Society

Join or pay your membership dues online at fishculture.fisheries.org

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: +1-225-347-5408 Fax: +1-225-347-5408 Email: judya@was.org

MEMBERSHIP CATEGORY: (Indicate only one)

- Individual** (USD 90/yr) Applies to an individual only
- Full Student** (USD 45/yr) Has all benefits and rights of regular membership including voting for all candidates on the ballot (Copy of Student ID or Signature of Professor required)
- Comp Student** (No charge) Has all benefits of regular membership but voting only allowed is for the Student Director and not for the full ballot. (Copy of Student ID or Signature of Professor required)
- Sustaining** (USD 155/yr) Applies to any one individual from a company
- Corporate** (USD 295/yr) Allows all employees of one company to attend meeting at Member Rate
- Lifetime** (USD 1400 with one chapter) Applies to an individual only

**Discounted rates available for individuals in countries based on World Bank List of Low Income Economies. Must sign-up on website only for this category.

CHAPTER OPTIONS:

*One chapter included in membership.
Mark the chapter you choose.*

- African Chapter**
- Asian Pacific**
- Korea**
- Latin American/Caribbean**
- United States (USAS)**
- None** (deduct USD 5)

You can add extra Chapters for USD 5

Fees for memberships are non-refundable.

Total Amount for WAS Membership USD _____
Please enter this amount under "Membership Dues" section on opposite side of this form.

NATIONAL SHELLFISHERIES ASSOCIATION

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

www.shellfish.org

MEMBERSHIP CATEGORY: (Indicate only one)

- Regular** (USD 95/yr) **Student** (USD 50/yr)
- Sustaining** (USD 200/yr)

Includes subscription to the *Journal of Shellfish Research*

Signature of Professor or copy of Student ID required

Total Amount for NSA Membership USD _____
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: +1-850-216-2400 Fax: +1-850-216-2480 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 worldaqua@was.org.*

HOTELS

We have arranged for fantastic rates at the New Orleans Marriott. The meeting will be in the New Orleans Marriott. You can reserve your room by phone or on their website.

Check the conference website for details.

OUR FULL CONFERENCE REGISTRATION INCLUDES:

- Admission to all conference sessions and the trade show
- Admission to the receptions
- Conference Bag and Show Directory
- Refreshment Breaks and Happy Hour
- Abstract Book on website
- 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.

Only pre-registered attendees are guaranteed materials.



Stay in touch with the program developments for

Aquaculture 2025

through our Web Page at:

www.was.org

www.shellfish.org

<https://fishculture.fisheries.org>

www.nationalaquaculture.org



TENTATIVE SCHEDULE

Thursday, March 6

| | |
|-------------------------|--------------|
| Exhibit Set-up..... | 10:00 – 6:00 |
| Registration Open | 12:00 – 6:00 |
| Welcome Reception | 6:00 – 8:00 |

Friday, March 7

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

Saturday, March 8

| | |
|---------------------------|---------------|
| 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 – 12:30 |
| Lunch (on your own)..... | 12:30 – 1:30 |
| Sessions | 1:30 – 4:30 |
| Happy Hour & Posters..... | 4:30 – 5:30 |
| NAA Auction | 5:30 – 7:30 |

Sunday, March 9

| | |
|----------------------------|---------------|
| Registration Open | 7:30 – 5:00 |
| Sessions | 8:30 – 10:00 |
| Trade Show Open..... | 10:00 – 1:30 |
| Refreshment Break..... | 10:00 – 11:00 |
| Sessions | 11:00 – 12:30 |
| Lunch (on your own)..... | 12:30 – 1:30 |
| NSA Members Luncheon | 12:30 – 2:00 |
| Sessions | 1:30 – 3:00 |
| Exhibit Move-out | 1:30 – 7:00 |
| Refreshment Break..... | 3:00 – 3:30 |
| Sessions | 3:30 – 5:30 |
| Presidents Reception | 6:30 – 8:30 |

Monday, March 10

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

