



**– New Show Dates –**

# Asian-Pacific Aquaculture 2024

*Aquaculture - Driving the Blue Economy*

## 2-5 July, 2024

Grand City  
Surabaya, Indonesia

**The Annual International Conference & Exposition of World Aquaculture Society and Asian Pacific Aquaculture 2024**  
Annual meeting of Asian Pacific Chapter, WAS



**WORLD**  
AQUACULTURE  
Society



Hosted by:  
Ministry of Marine Affairs & Fisheries  
(MMAF)



Co-Organizer:  
PT Tirta Anugrah Abadi  
**PT. TIRTA ANUGRAH ABADI**

Premier Sponsors



**BLUE AQUA**





# ASIAN PACIFIC AQUACULTURE 2024

## THE THIRD MAJOR INTERNATIONAL AQUACULTURE CONFERENCE IN INDONESIA

After the first successful meeting in 2005 in Bali, and following the successful in 2016 in Surabaya. We decided to come back to Indonesia again in 2024.

Asian Pacific Aquaculture 2024 will be the next chance for the international aquaculture community to visit Indonesia and see the rapidly expanding aquaculture industry in Indonesia – nearly 20% increase in the last 5 years in hectares in aquaculture production and growing significantly every year for the last 10 years! Attendees will be able to see what is happening in Indonesian aquaculture to create this growth as well as aquaculture developments in the rest of Southeast Asia.

Asian Pacific Aquaculture 2024 is the place to learn about the latest in aquaculture, see the newest technology in the trade show with exhibits from around the world and enjoy the many tourist sites in Indonesia.

### SPECIAL PRODUCER PROGRAM

Asian Pacific Aquaculture 2024 will have several special Industry sessions with the latest in practical knowledge for the Indonesian aquaculture producers.

### TECHNICAL PROGRAM COVERS THE LATEST RESEARCH

Sessions and workshops at Asian Pacific Aquaculture 2024 will cover all aspects of aquaculture in Indonesia as well as Southeast Asia.



## PROGRAM TOPICS

- Aquaculture Engineering
- Aquaculture in Pacific Island Countries and Territories (PICTs)
- Aquaponics and Integrated Aquaculture-Agriculture Systems
- Aquatic Animal Welfare
- Biodiversity and Climate Change
- Biology and Culture of Amphibians and Reptiles
- Bivalves
- Blue Economy
- Breeding and Genetics
- Broodstock Culture, and Domestication
- Cage Aquaculture and Offshore Aquaculture
- Catfish and Eels
- Cobia, Flatfish, Milkfish and Other Marine Fish
- Crabs and Lobsters
- Crayfish and Freshwater Prawn
- Disease Diagnosis and Treatment Methods
- Drugs and Chemotherapeutics
- Economics, Value Chain Development, and Management
- Education, Extension and Technology Transfer
- Emerging Issues, Policy, and Regulations
- Enhancement, Stocking and Ranching
- Environmental problems and Adaptations in Aquaculture, and Fisheries
- Epidemiology and Health Management
- Farmers' Day
- Feeding Technology and Automation
- Feedstuffs, Ingredients and Feed Additives
- Fish Biology and Physiology
- Food Safety, Inspections, Audits, and Security
- General Aquaculture
- General Biotechnology
- Genomes and Omic Technology
- Groupers and Snappers
- HACCP, Standards and Certification
- Hatchery Management
- Immunology, Vaccines, Probiotics, Prebiotics, and Synbiotics
- Indonesian Aquaculture
- Information Technology in Aquaculture
- Invertebrate Biology and Physiology
- Larviculture Technology
- Livefood Culture and Management
- Marketing, Trade, and Investments in Aquaculture
- Microalgae culture
- Nutrition and Dietary Requirements
- Ornamentals Fish and Systems
- Other Freshwater Species
- Pearl and Other Invertebrate Species
- Polyculture, Pond Culture and Raceway Systems
- Processing Technology and Product Quality
- Recirculating Aquaculture System (RAS), Biofloc, Environmental Probiotics and Integrated Multi-Trophic Aquaculture (IMTA)
- Sea bass and Sea-breams
- Sea cucumbers and Urchins
- Seaweeds and Seagrasses
- Shrimp Diseases and Health Management
- Shrimp Farm Design and Management
- Shrimp/Prawn Genetics, Domestication and Seed Selection
- Shrimp/Prawn Nutrition and Feeds
- Shrimp/Prawn Seed Production and Hatchery Management
- Sustainable Development of Aquaculture
- Tilapia
- Tuna, Yellowtails and Amberjacks
- Waste Recycling & Utilization
- Water Quality, Usage and Management
- Women in Aquaculture

Stay in touch with the program developments for ASIAN-PACIFIC AQUACULTURE 2024 through our Web Page at: <http://www.was.org>

# CALL FOR PAPERS – DEADLINE: March 31, 2024

ASIAN-PACIFIC AQUACULTURE 2024 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.**

## Posters will have a featured and prominent place in ASIAN-PACIFIC AQUACULTURE 2024:

- Presenters that turn in the PDF or PowerPoint of their poster four weeks before the conference will have their poster reviewed at the end of the appropriate oral session.
- If turned in as stated above, the posters will also go on the conference website.
- Besides the two Happy Hours in the exhibits, there will be an additional Special Poster Viewing & Happy Hour on Friday.
- In the Program Book, special announcements will be made in the oral session lists of where relevant posters can be found.

Each oral presenter shall be entitled to no more than 15 minutes for a presentation, plus 5 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. Overhead and slide projectors and video players will not be available or allowed.

All presenters are required to pay their own registration, accommodation and travel expenses. ASIAN-PACIFIC AQUACULTURE 2024 cannot subsidize registration fees, travel or hotel costs.

No Abstract Book will be printed - an abstract book will be available online.

## INSTRUCTIONS FOR PREPARATION OF ABSTRACTS

### Expanded Abstract Format - Please refer to the sample.

- 1. TITLE OF PAPER:** The paper title is printed in CAPITAL LETTERS, with the exception of scientific names which should be Upper/lower case and italicized (see sample). 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 A4 paper (210mm x 297mm = 8.27" x 11.69")(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. PHOTOS, FIGURES & TABLES:** Photo, figures and tables are highly recommended and they may be in color. They should be reduced to the appropriate size to fit a one page abstract and should be clearly readable at the reduced size. The reduced figures and tables should be included in the abstract.

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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@dcr.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 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 because little information exists on their nutritional requirements and practical diet formulations. Since many crayfish diets require lecithin and cholesterol to be added to their diet, these two nutrients are usually added; however, lecithin and cholesterol are very expensive. Since diet costs can be as much as 10% of the total expenses for an aquaculture enterprise, it is imperative that the least expensive diet that meets the nutrient requirements of the species. The present study was conducted to determine if cholesterol and/or lecithin needs to be added to a practical diet for red claw crayfish.

An 8-week feeding trial was conducted in a recirculating aquaculture system with newly-hatched juvenile (initial weight of 0.2 g) red claw, each stocked in individual plastic mesh culture units. Individual units were placed within fiberglass tanks, each with an individual water line. Water was recirculated through biological and mechanical filters. Water temperature was maintained at 27-29°C and lighting was provided by overhead fluorescent ceiling lights (14-hour light:dark cycle). Ammonia, dissolved oxygen, temperature, alkalinity, chlorides, and pH were measured 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. 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.

**2.5 cm margin**

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29.7 cm long

2.5 cm margin

2.5 cm margin

**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	6.00b	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

www.was.org





# 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.

**MEMBERSHIPS:**  WAS  USAS  APC  Korean  LACC

**AFFILIATE MEMBERSHIPS:**

- African Chapter WAS
- Aquabio
- Aquaculture Association of Canada
- Aquaculture Association of South Africa
- Aquaculture Without Frontiers
- Asian Fisheries Society
- China Society of Fisheries
- Egyptian Aquaculture Society
- European Aquaculture Society
- Global Aquaculture Alliance
- IAFI The International Association of Seafood Professionals
- Indonesian Aquaculture Society
- Korean Aquaculture Society
- Korean Society of Fisheries and Sciences (KOSFAS)
- Malaysian Fisheries Society
- Sociedad Brasileira de Acuicultura
- Society of Aquaculture Professionals (India)
- South African Aquaculture Society
- Spanish Aquaculture Association (SEA)

**MEMBERSHIP APPLICATIONS**  NEW APPLICATION  RENEWAL

## WORLD AQUACULTURE SOCIETY (WAS) APPLICATION [www.was.org](http://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](mailto: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.*

**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 very special tours will be set up by the Indonesian Associations. Details to be provided later – check our website for updates.



### FOR MORE INFORMATION: ASIAN-PACIFIC AQUACULTURE 2024

Conference Manager

P.O. Box 2302

Valley Center, CA 92082 USA

Tel: +1-760-751-5005 Fax: +1-760-751-5003

Email: [worldaqua@was.org](mailto:worldaqua@was.org)

[www.was.org](http://www.was.org)

## TENTATIVE SCHEDULE

### TUESDAY, JULY 2

Registration Open .....	Noon - 6:30 pm
Exhibitor Move-in .....	Noon - 6:00 pm
Poster Set-up.....	1:00 pm - 5:30 pm

### WEDNESDAY, JULY 3

Registration Open .....	7:30 am - 5:00 pm
Plenary Session .....	9:00 am - 10:00 am
Opening Ceremony .....	10:00 am - 10:40 am
Exhibitor Move-in .....	8:00 am - 10:00 am
Poster Set-up.....	8:00 am - 10:00 am
Exhibition Official Opening.....	10:40 am
Refreshment Break .....	10:40 am - 11:20 am
Trade Show & Posters Open .....	10:00 am - 6:30 pm
Sessions.....	11:20 am - 12:40 pm
Lunch (On your own) .....	12:40 pm - 1:50 pm
Sessions.....	1:50 pm - 3:30 pm
Refreshment Break .....	3:30 pm - 4:00 pm
Sessions.....	4:00 pm - 5:20 pm
Happy Hour & Poster Session .....	5:20 pm - 6:30 pm

### THURSDAY, JULY 4

Registration Open .....	7:30 am - 5:00 pm
Sessions.....	9:00 am - 10:40 am
Poster Set-up.....	8:00 am - 10:00 am
Refreshment Break .....	10:20 am - 11:00 am
Trade Show & Posters Open .....	10:00 am - 6:30 pm
Sessions.....	11:00 am - 12:20 pm
Lunch (On your own) .....	12:20 pm - 1:50 pm
Sessions.....	1:50 pm - 3:30 pm
Refreshment Break .....	3:30 pm - 4:00 pm
Sessions.....	4:00 pm - 5:20 pm
Happy Hour & Poster Session .....	5:20 pm - 6:30 pm
WAS-APC Members meeting.....	5:30 pm - 6:30 pm
Presidents Reception.....	7:00 pm - 9:30 pm

### FRIDAY, JULY 5

Registration Open .....	7:30 am - 5:00 pm
Sessions.....	9:00 am - 10:20 am
Refreshment Break .....	10:20 am - 11:00 am
Trade Show & Posters Open .....	10:00 am - 5:30 pm
Sessions.....	11:00 am - 12:20 pm
Lunch (On your own) .....	12:20 pm - 1:50 pm
Sessions.....	1:50 pm - 3:30 pm
Refreshment Break .....	3:30 pm - 4:00 pm
Sessions.....	4:00 pm - 5:20 pm
Poster out take down.....	4:00 pm - 6:30 pm
Exhibitor Move out .....	5:40 pm - 10:00 pm

### YOUR FULL CONFERENCE REGISTRATION INCLUDES:

- ❖ Admission to all sessions, seminars and the trade show.
- ❖ Admission to the Reception.
- ❖ Conference bag 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.
- ❖ Only pre-registered attendees are guaranteed materials.

## REGISTER EARLY AND \$AVE!

Brochure photos courtesy of DGA