

NEW DATES

International Rates

WA2021
will be an
In-Person Event!
Please get
vaccinated
so we can have
a free-flowing
meeting!



World Aquaculture 2021 #AquacultureNow

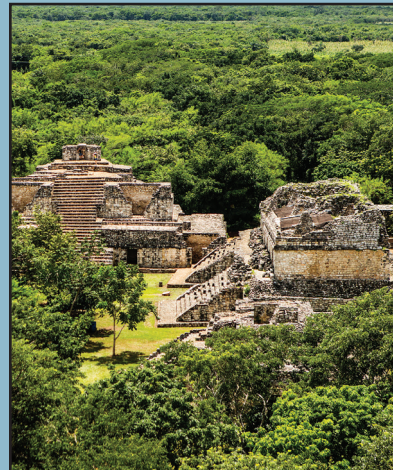
May 24 -27, 2022
Mérida, Mexico

Centro Internacional de Congresos de Yucatán, CIC

**Annual global meeting of the
World Aquaculture Society**



WAS Premier Sponsors



WORLD AQUACULTURE VISITS MEXICO

The World Aquaculture Society is the organization of professionals in the most important field in the world, with members of more than 100 countries. Its annual conference is recognized globally as the most relevant for the exchange of knowledge, technology, innovation and professional network training. During WA2022 there will be the participation of the Food and Agriculture Organization of the United Nations (FAO) and other international organizations. There will be multiple presentations, workshops, business meetings, trade exhibition, art gallery, technical visits to farms and process plants in the region, and various events dedicated to building professional networks.

Mérida is distinguished for being one of the most beautiful cities in the world, as well as being considered one of the jewels of Latin America. With a wonderful climate, friendly and hospitable people, located in the State of Yucatan, cradle of the Mayan culture; It has various tourist attractions, among which are archaeological centers, beaches, large haciendas and majestic cenotes.

The Yucatan International Congress Center is an ecologically responsible building, equipped with state-of-the-art technology, built under the LEED Green Building certification system, it has "El Cenote" inside it, an underwater river that makes it unique in the world.

Due to the richness of its natural and hydrological resources, Mexico is considered one of the countries with the greatest aquaculture potential in the world. It is an honor for Mexico and a great opportunity that Mérida will become the capital of aquaculture during 2022. This event is expected to be a watershed in the evolution of the activity not only in the peninsula but throughout the country. #AquacultureNow.

WA2022 is inviting the national and international organisations and societies to hold their seminar, workshop and meetings during the event in Merida.

***Stay in touch with the program developments for
WORLD AQUACULTURE 2021 through our Web Page at: www.was.org***



TECHNICAL PROGRAM COVERS THE LATEST RESEARCH

Sessions and workshops at World Aquaculture 2021 will cover all aspects of aquaculture in the Latin American and Caribbean region as well as the rest of the world. Sample topics will include:

Abalone	Financing and investment	Pearl and Queen Conch Culture
Advances in alternative feed ingredients	Finfish Broodstock Maturation	3rd International Symposium on Perch and Bass
Advances in live feeds for larviculture	Fish Health	Physiology, Morphology & Histology
Algae and macrophytes	Fish Meal and Oil (IFFO)	Plankton Culture
Amphibian and Reptile Aquaculture	Flatfish	Policy & Regulations
Animal health and Welfare	Food Safety, Inspections and Audits	Polyculture
Aquaculture and Circular Economy	Food security	Pond Culture
Aquaculture business incubator	Freshwater fish: Catfish, trout, Pejelagarto	Prebiotics and Probiotics
Aquaculture for the future	Atractosteus tropicus	Processing Technology
Aquaponics and Integrated Aquaculture- Agriculture Systems	Freshwater crustaceans: Cherax crayfish, Procambarus crawfish, Macrobrachium spp.	Product Quality
Aquatic veterinary health capacity	Freshwater Species - General	Production systems
Arid land Aquaculture	The future of integrated aquaculture	Raceway Systems
Barramundi, Seabass & Seabream	General Aquaculture	Recirculating Systems
Bio-floc Systems	Genetic Improvement Programs for commercially important aquaculture species	Regularization in aquaculture planning
Biosecurity	Grouper & Snapper	Reservoir based and Lake Aquaculture
Biotechnology	Hatchery & Larvae Management	Salmonids
Biotechnology products from the sea: Pharma, Additives, Protein Sources	Hatchery and Nursery	Scallops
Breeding & Genetics	Health - food and well-being	Sea cucumbers
Cage-culture	Immunology	Sea urchins
Carpet Shells	Information Technology in Aquaculture	Seafood & Health (GILLS)
Carp	Innovation and High Techs	Seaweeds and Algae
Catfish	Integrated Multi-trophic Aquaculture	Shrimp Farm Design and Management
Certification and legislation	Investment funds and financing mechanisms for aquaculture	Shrimp Feeding and Nutrition
Clams (including Giant Clams)	Korean Aquaculture Session	Shrimp Genetics, Broodstock and Hatchery Management
Climate change, adaptation, resilience	Macroalgae	Shrimp pathology and biosecurity
Cobia	Marine Fish: Red drum, Cobia, Snapper, Totoaba, Groupers	Snappers
Coldwater Species - General	Marketing & Trade	Socioeconomics
Commercial Species. Shrimp, Tilapia, Oyster, Tuna	Markets and media	Spatial Planning, Regulation and Zoning
Country Specific Sessions (eg 2008 Norway)	Milkfish	Species with potential for Expansion. Marine Fish (Seriola), Pacific Oyster
Crabs & Lobsters	Mollusks: Bivalves (Scallops, Penshell), Octopus	Species with potential for economic development
Crayfish & Freshwater Prawn	Mollusc Broodstock and Hatchery	Standards & Certification
Development of national aquaculture technology	Mollusc Cultivation	Sturgeons
Development, Welfare and Poverty Alleviation (AwF)	Mullet	Supply chain
Diseases	Mussels	Sustainable Development of Aquaculture
Drugs and Chemotherapeutics	Nutrition & Feed	Tilapia
Economics & Management	Ocean acidification	Trade
Ecosystems approach	Octopus and Cuttlefish	Trouts
Education, Extension, Technology Transfer & Workforce Development (AquaEd)	Offshore Aquaculture	Tuna
Eels	Omics tools for Aquaculture	Urban aquaculture
Embryology	Organic Aquaculture	Value Chain Development
Emerging Issues	Ornamentals	Warm water Species – General
Emerging Species	Other Marine Fish	Wastage Utilisation
Enhancement, Stocking & Ranching	Oyster	Water Quality and Usage
Environment and Biodiversity and Climate Change	Pacific & Indigenous Aquaculture	Women in Aquaculture
Energy-alternative sources and conservation	Pangasius, Clarias & Ictalurus	Workforce development
Engineering		Yellowtails, Amberjacks, etc
		Zebrafish

YOUR FULL CONFERENCE REGISTRATION INCLUDES:

- Admission to all sessions, seminars and the trade show.
- Admission to the Receptions.
- 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

World Aquaculture 2021

FOR MORE INFORMATION:

**World Aquaculture 2021
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

www.was.org

REGISTER EARLY AND SAVE!

CALL FOR PAPERS – DEADLINE: February 28 2022

WORLD AQUACULTURE 2021 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 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. 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.
WORLD AQUACULTURE 2021 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 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

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Kentucky State University
Frankfort, KY 40601
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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 salinity, 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 and little 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 animal products. Lecithin and cholesterol are very expensive. Since diet costs can be as much as 7% of the total expenses for an aquaculture enterprise, it is imperative that the least expensive diet be developed. 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 water system with newly-hatched juvenile (mean body 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 an overhead water line. Water was recirculated through chemical 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, chlorides, and pH were measured three times per week. The growth performance 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@was.org



World Aquaculture 2021

May 24-27, 2022

Register online at: www.was.org

Return address for payments in USD:
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

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 ALL REQUESTED INFORMATION

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

First Name _____ SURNAME (FAMILY NAME) _____

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

City _____ State/Prov _____ Country _____

MAILING INFORMATION: Email _____

Postal Address _____
(*please* include email address)

City _____ State / Prov _____ Postal Code _____ Country _____

Phone _____ Fax _____ Title: (circle one) Dr. Mr. Ms. Mrs.
(Include country and city code) (Include country and city 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 brochure for what is included in registration fees.

TYPE OF REGISTRATION	Register by March 1, 2022	Register by April 1, 2022	Register after April 1, 2022	* 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.
FULL CONFERENCE & TRADE SHOW In order to receive the Pre-Registration discount rate, this form and payment must be received by the date above				
WAS/CHAPTER MEMBER RATE* <input type="checkbox"/> US\$ 475	<input type="checkbox"/> US\$ 575	<input type="checkbox"/> US\$ 675	<input type="checkbox"/> US\$ 315	TOTAL REGISTRATION FEE US\$ _____
WAS/CHAPTER STUDENT MEMBER RATE* Include copy of Student I.D. <input type="checkbox"/> US\$ 250	<input type="checkbox"/> US\$ 250	<input type="checkbox"/> US\$ 315		
Non-Member Rate <input type="checkbox"/> US\$ 570	<input type="checkbox"/> US\$ 670	<input type="checkbox"/> US\$ 770		
Student Non-Member Rate Include copy of Student I.D. <i>You can join WAS on the reverse side and use the Member Rate.</i> <input type="checkbox"/> US\$ 320	<input type="checkbox"/> US\$ 320	<input type="checkbox"/> US\$ 390		
<input type="checkbox"/> Spouse Rate – <i>must accompany a full registration</i> Name _____ <input type="checkbox"/> US\$ 335	<input type="checkbox"/> US\$ 395	<input type="checkbox"/> US\$ 495		

TRADE SHOW PASS (Trade show pass is included with the Full Conference Registration)
Good for 3 days admission to exhibits only – November 9, 10, 11 US\$ 50 **TOTAL TRADE SHOW PASS** US\$ _____

WORKSHOPS & TOURS – TBA

TOTAL US\$ _____

MEMBERSHIP DUES – Enter amount from Membership Application on other side if applicable. **TOTAL MEMBERSHIP DUES** US\$ _____

Do not mail registration after April 1, 2022 or fax after October 1. After April 1, 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 April 1, 2022. 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 April 1, 2022 or for "no shows". After April 1, 2022, 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 WORLD AQUACULTURE 2021. For bank transfer details, contact us.

Check # _____ Visa Mastercard American Express Discover Diners Club

Card # _____ Expiration Date _____

Name on Card _____ Date _____ Signature _____

Credit Card Billing Address _____

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 African Chapter

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AFFILIATE MEMBERSHIPS:

- | | |
|--|--|
| <input type="checkbox"/> Aquabio | <input type="checkbox"/> Indonesian Aquaculture Society |
| <input type="checkbox"/> Aquaculture Association of Canada | <input type="checkbox"/> Korean Aquaculture Society |
| <input type="checkbox"/> Aquaculture Association of South Africa | <input type="checkbox"/> Korean Society of Fisheries and Sciences (KOSFAS) |
| <input type="checkbox"/> Aquaculture Without Frontiers | <input type="checkbox"/> Malaysian Fisheries Society |
| <input type="checkbox"/> Asian Fisheries Society | <input type="checkbox"/> Sociedad Brasileira de Acuicultura |
| <input type="checkbox"/> China Society of Fisheries | <input type="checkbox"/> Society of Aquaculture Professionals (India) |
| <input type="checkbox"/> Egyptian Aquaculture Society | <input type="checkbox"/> South African Aquaculture Society |
| <input type="checkbox"/> European Aquaculture Society | <input type="checkbox"/> Spanish Aquaculture Association (SEA) |
| <input type="checkbox"/> Global Aquaculture Alliance | |
| <input type="checkbox"/> IAFI The International Association of Seafood Professionals | |

MEMBERSHIP APPLICATIONS NEW APPLICATION RENEWAL

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** (Electronic JWAS) (USD 65/yr) Applies to an individual only
- Individual** (E Access) (USD 45/yr) Applies to an individual only
- Student** (Electronic JWAS) (USD 45/yr) (Copy of Student ID or Signature of Professor required)
- Sustaining** (Electronic JWAS) (USD 105/yr) Applies to any one individual from a company
- Corporate** (Electronic JWAS) (USD 255/yr) Allows all employees of one company to attend meeting at Member Rate
- Lifetime** (Electronic JWAS only) (USD 1000 with no chapter) Applies to an individual only
- Lifetime** (Electronic JWAS only) (USD 1100 with one chapter) Applies to an individual only

CHAPTER OPTIONS:

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

- Africa**
- 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 arranged. Details to be provided later – check our website for updates.

HOTELS

We have arranged a wide range of quality accommodations at special rates. Please check the website for hotel details.

TRADE SHOW SCHEDULE		
MAY 25 10:00 - 18:30	MAY 26 10:00 - 18:30	MAY 27 10:00 - 16:30

Centro Nacional de Congress de Yucatan CIC
(Av.Cupules y Av. Colón Centro, C.P. 97000 - Mérida)



TENTATIVE SCHEDULE

Tuesday, May 24

Registration Open & Exhibit Set-up	1000 – 1700
Farm Tours	
WAS Business Meeting	1600 – 1700
COFI Meeting	0900 – 1700
Inauguration & WAS/LACC Awards/spotlight	1700 - 1900
Welcome Drink	1915 – 2100

Wednesday, May 25

Registration Open	0730 – 1700
Plenary Sessions	0900 – 1030
Break	1030 – 1120
Trade Show Open	1000 – 1830
Sessions	1120 – 1300
FAO COFI meeting	1120 – 1700
Industry Forum	1120 – 1700
Lunch (at individual expense)	1300 – 1430
Sessions	1430 – 1730
Happy Hour & Posters	1730 – 1830
Student Reception	1900 – 2100

Thursday, May 26

Registration Open	0800 – 1700
Sessions	0900 - 1040
COFI Meeting	0900 – 1700
Break	1040 – 1110
Trade Show Open	1000 – 1830
Sessions	1110 – 1310
Lunch (at individual expense)	1310 – 1430
Sessions	1430 – 1730
Happy Hour & Posters	1730 – 1830
President's Reception	1900 – 2200

Friday, May 27

Registration Open	0800 – 1600
Sessions	0900 – 1040
COFI Meeting	1300 – 1700
Break	1040 – 1110
Trade Show Open	1000 – 1630
Sessions	1110 – 1310
Lunch (at individual expense)	1300 – 1430
Sessions	1430 – 1550
Break	1550 – 1610
Sessions	1610 – 1730
Exhibit Move-out	1630 – 1900

Saturday, May 28

Farm Tours	
WAS Board Meeting	0900 – 1700

