



The *Kappaphycus* seaweed collected in September 2024 by the SEAFDEC/AQD research team in Zamboanga City, Philippines for tissue culture propagation. Photo courtesy of the Seaweed Research Team

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aqd matters

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SEAFDEC-NFRDI collab reaps 3 tons of shrimp

● NG ARMADA

TAAL, BATANGAS — The Southeast Asian Fisheries Development Center/ Aquaculture Department (SEAFDEC/AQD) and the National Fisheries Research and Development Institute (NFRDI), harvested 3,724 tons of shrimp (*Litopenaeus vannamei*) on 14 October 2024 as part of their joint whiteleg shrimp grow-out culture project at the NFRDI-Freshwater Fisheries Research and Development Center (FFRDC) in Brgy. Butong.

The second run of the culture began on 16 July 2024, when 160,000 shrimp postlarvae were stocked in a 4,000-square-meter pond at the FFRDC. After 90 days, the shrimp reached an average body weight of 28 grams, with a recorded survival rate of 83.14 %.



→ SEAFDEC-NFRDI COLLAB, PAGE 2



Ceremonial harvest of the SEAFDEC/AQD-NFRDI whiteleg shrimp grow-out culture project at the NFRDI-Freshwater Fisheries Research and Development Center (FFRDC) in Brgy. Butong, Taal, Batangas. SEAFDEC/AQD Chief Dan Baliao (inset) shared that the project with NFRDI focuses on refining the culture protocol for whiteleg shrimp and assessing its economic viability. Photo by JF Aldon

During the ceremonial harvest, SEAFDEC/AQD Chief Dan Baliao shared that the project with NFRDI focuses on refining the culture protocol for *L. vannamei* and assessing its economic viability. He also highlighted the importance of exploring alternative

species to the black tiger shrimp (*Penaeus monodon*).

The Chief further emphasized the significance of collaborations, saying, “As an intergovernmental organization mandated to conduct research and development in aquaculture, we welcome collaborations

with DA-BFAR’s primary research arm, NFRDI. By pooling resources and sharing information, we can achieve our ultimate goal of food security and sustainability.”

The collaboration commenced on March 2023 as part of the Joint Mission

for Accelerated Nationwide Techno-Transfer Program. This program, which is a priority under the administration of Chief Baliao, aims to help uplift the state of aquaculture in the Philippines, the research center’s host country. **a**

Scientist completes study visit in Japan to enhance SEAFDEC/AQD's research on eels

● NG ARMADA / RD DIANALA

Dr. Frolan Aya, a senior scientist of SEAFDEC/AQD, completed a study tour across Japan to acquire knowledge and skills relevant to his upcoming research project on tropical eels.

With funding support provided by Marino Forum 21 and the Government of Japan Trust Fund, Dr. Aya toured different research facilities in Japan from 5 to 30 October 2024 where he met several researchers who shared their expertise with him.

Dr. Aya first visited the Laboratory of Fish Nutrition in Kochi University, where he gained new knowledge and techniques that are applicable for the development of initial diets for the tropical eel and other freshwater fish species.

He also conducted a short-term experiment at the Akaoka Research Facility of the university wherein he analyzed the mRNA expression of digestive enzymes and



SEAFDEC/AQD Senior Scientist Dr. Frolan Aya learns the technique in injecting fishmeal and soybean meal soluble fractions in yellowtail. Photo courtesy of F Aya

appetite-related genes in yellowtail (*Seriola quinqueradiata*) after oral injection with the soluble fraction of different feed ingredients. Here he was trained on RNA extraction, cDNA synthesis and qPCR measurement techniques.

Dr. Aya then proceeded to Hokkaido University, where he visited the Laboratory of Fish Physiology and the Nanae Freshwater Station. The facilities have active research on eels, salmon, sturgeon, and tilapia. There he acquired

new information and skills on fish reproductive physiology, specifically by studying the sexual maturation mechanisms in freshwater fish species from a histological perspective.

On his last day at Hokkaido University, Dr. Aya presented a seminar covering SEAFDEC/AQD’s work in tropical anguillid eel culture, sharing current research insights, experimental findings, and plans for future studies.

Travelling next to the Nikko Field Station,

Fisheries Technology Institute of the Japan Fisheries Research and Education Agency (FRA) in Tochigi City, Dr. Aya learned techniques for extracting and quantifying environmental DNA using RT-PCR after collecting samples from Lake Chuzenji.

Dr. Aya also visited Nosan Corporation’s Aquaculture Technology Center in Fukuroi City, Shizuoka. There he gained a better understanding of Japan’s eel market, production systems, and the feed quality required for glass eels.

Finally, Dr. Aya visited the Ministry of Agriculture, Fisheries and Forestry in Tokyo and met with their officials to discuss his training experience and other matters regarding the eel industry, both in Japan and the Philippines. He also met with officers of the National Research and Development Agency of FRA with whom he discussed some projects for future collaboration. **a**

SEAFDEC/AQD collects seaweeds for tissue culture propagation

● NG ARMADA

ZAMBOANGA CITY — SEAFDEC/AQD’s research team, composed of Mr. Joseph Faisan and Mr. Edcel Jed Samson, collected *Kappaphycus* seaweeds on 19 September 2024 from a local farm in Arena Blanco.

The seaweed collection was a collaborative effort between SEAFDEC/AQD and the Department of Agriculture–Bureau of Fisheries and Aquatic Resources (DA-BFAR) Region 9.

The collected seaweeds, according to Mr. Faisan, will be used as explants for the research center’s tissue culture propagation efforts to support SEAFDEC/AQD’s long-standing program that aims to provide fast-growing and resilient seedlings to farmers.

SEAFDEC/AQD began its work on seaweeds in the late 1980s. The primary aim is to increase production of seaweeds in the Philippines by modifying culture practices and developing new strains of cultivable seaweeds. **a**



SEAFDEC/AQD explores Liguasan Marsh for prawn farming potential

● NG ARMADA

A team from SEAFDEC/AQD conducted a site visit at Liguasan Marsh, Mindanao, from 16 to 18 September 2024 to assess the potential of the area for giant freshwater prawn (*Macrobrachium rosenbergii*) farming as part of the research center’s efforts to identify sustainable aquaculture sites in the Philippines.

The team, composed of Dr. Sheryll Santander-Avanceña, Mr. Marwin Dela Cruz, Ms. Janice Tambirao, and Ms. Therese Marie Geanga, was joined by former agriculture secretary Mr. Manny Piñol who is from the area. The group collected water samples as part of their assessments to evaluate the suitability of the area for prawn farming.

In addition, the team engaged with local leaders, including the municipal officials of Datu Piang, Maguindanao, and former Congresswoman Bai Sandra Sema.

Liguasan Marsh, also known as Ligawasan Marsh, is the largest swamp and marsh area in south-central Mindanao, covering approximately 2,200 square kilometers across the provinces of Cotabato, Maguindanao del Norte, Maguindanao del Sur, and Sultan Kudarat. **a**



SEAFDEC-NFRDI research on pompano yields 1.1 tons in partial harvest

SEAFDEC/AQD, in collaboration with the DA-National Fisheries Research and Development Institute, is making strides in pompano aquaculture through their ongoing joint project, “Grow-out Culture of Snubnose Pompano in Brackish Water Ponds.”

A partial harvest was done on 3 September 2024 at the Freshwater Fisheries Research and Development Center in Butong, Taal, Batangas; yielding 1.1 tons of snubnose pompano after six months of culture. **a**





SEAFDEC/AQD organizes 2nd sandfish training of 2024

● NG ARMADA

SEAFDEC/AQD conducted a 15-day face-to-face Training Course on Sandfish (*Holothuria scabra*) Seed Production, Nursery, and Management at its Tigbauan Main Station in Iloilo, Philippines.

Held from 7 to 22 October 2024, the training was attended by two participants—one from the Philippines and another from Papua New Guinea.

The course provided trainees with technical knowledge on sea cucumber culture techniques through expert-

led lectures. To enhance their skills, the participants engaged in hands-on exercises and demonstrations, including broodstock preparation, spawning induction, setting up spawning and larval rearing tanks, as well as egg collection, counting, and stocking.

The training is the second done this year, after a first session that concluded in May which was attended by three participants from Germany, Hungary, and Vanuatu. [a](#)



Fukui Prefectural University trains at SEAFDEC/AQD

● RD DIANALA

Thirteen undergraduate students of the Fukui Prefectural University (Japan), accompanied by three faculty members, trained at SEAFDEC/AQD from 2 to 12 September 2024.

For ten days, the trainees, who were taking a degree on advanced aquaculture science, received an overview of SEAFDEC-developed aquaculture technologies, specifically

on mangrove crab, sandfish, and marine fish.

The group was led by Dr. Koichi Okuzawa, who served as deputy chief of SEAFDEC/AQD from 2005 to 2007. Apart from lectures, the research center's hatcheries in Tigbauan, Iloilo, and marine fish cages at Nueva Valencia, Guimaras, provided the trainees with both theoretical and hands-on experience. [a](#)



FAO team visits SEAFDEC/AQD

● NG ARMADA

A team from the Food and Agriculture Organization (FAO) visited SEAFDEC/AQD's Tigbauan Main Station on 18 October 2024, where they gained insights into the institution's aquaculture advancements and contributions to food security.

The five-member FAO delegation included Mr. Lionel Dabbadie, FAO Representative in the Philippines; Ms. Mele Tauati, Fishery Officer from FAO Headquarters; Mr. Ruben Sanchez Daroqui, Small-Scale Fisheries Specialist at FAO Headquarters; Ms. Rebeca Andong, Fisheries Specialist, FAO Philippines; and Mr. Len Garces, Technical Consultant, FAO Philippines.

They toured SEAFDEC/AQD facilities such as the FishWorld Museum, the Integrated Marine Finfish Broodstock Hatchery Complex, the Multi-species Freshwater Hatchery, and the Sandfish Hatchery, where they learned various aquaculture techniques and practices in place at the research center.

Following the tour, the FAO representatives paid a courtesy call to SEAFDEC/AQD Chief Dan Baliao, where the Chief shared updates on the Center's ongoing research and studies, underscoring SEAFDEC/AQD's commitment to promoting sustainable aquaculture practices and contributing to food security in the Southeast Asian region. [a](#)



SEAFDEC/AQD trains BFAR staff on milkfish culture

● NG ARMADA / RD DIANALA

Fulfilling its mandate to empower national government agencies, SEAFDEC/AQD recently held two sessions of a milkfish culture training course for technical staff sponsored by the Bureau of Fisheries and Aquatic Resources (BFAR) in the Philippines.

The training sessions, funded by BFAR Region 3 (BFAR-3) as part of the National Bangus Development Program of the Philippines, involved 25 participants from different BFAR regional offices, as well as some

of BFAR's partners from local government units and project sites around the country.

The first batch, consisting of 12 trainees, trained from 30 September to 11 October, while the second batch, consisting of 13 trainees, trained from 14 to 25 October.

During the opening program for the second batch, BFAR-3 Director Wilfredo Cruz expressed high hopes that participants would gain technical knowledge and improve their skills in milkfish culture.



Throughout the training course, SEAFDEC/AQD's specialists provided lectures on topics such as milkfish biology, broodstock management, hatchery design, natural food culture, biosecurity protocols, brackishwater nursery management, pond site selection and preparation, milkfish grow-out culture, fish diseases, and feed formulation.

In addition to lectures, trainees took part in hands-on activities, including larval rearing tank setup, plankton identification, and milkfish fry harvesting, packing, and transport.

Lectures and practical exercises were conducted at SEAFDEC/AQD's Tigbauan Main Station and Dumangas Brackishwater Station, both in Iloilo, and Igang Marine Station in Guimaras. **a**

Future tiger shrimp breeders find new home in broodstock facility

● NG ARMADA

SEAFDEC/AQD transported approximately 1,757 black tiger shrimp (*Penaeus monodon*), each weighing around 27 grams, from the Dumangas Brackishwater Station to the Tigbauan Main Station (TMS) last 23 September 2024 as part of its "Oplan Balik Sugpo" program.

The shrimp, produced in SEAFDEC/AQD's hatcheries and grow-out ponds, were transferred to Tank 2 of

the Black Tiger Shrimp Broodstock Facility at TMS.

The future breeders tested PCR-negative for White Spot Syndrome Virus (WSSV), Acute Hepatopancreatic Necrosis Disease (AHPND), and *Enterocytozoon hepatopenaei* (EHP).

Upon arrival, the shrimp underwent an acclimatization process to help them adjust to their new environment. This process involved gradually adapting them



to the destination tanks' temperature, salinity, and water quality, minimizing stress and ensuring their well-being. They were then disinfected with iodine before they were transferred to the broodstock facility.

This activity is a key step in SEAFDEC/AQD's flagship program, "Oplan

Balik Sugpo," which aims to revitalize and strengthen the black tiger shrimp industry in the Philippines. The program focuses on producing high-quality postlarvae in biosecure hatcheries and promoting sustainable, environment-friendly practices in pond grow-out systems. **a**

SEAFDEC/AQD harvests over 5 tons of black tiger shrimp

SEAFDEC/AQD's "Oplan Balik Sugpo" program achieved a significant milestone in 2024 with the harvest of more than five tons of black tiger shrimp (*Penaeus monodon*), during a series of harvests conducted on 10, 16, and 19 September 2024, at its Dumangas Brackishwater Station (DBS) in Iloilo.

The shrimp, locally known as "sugpo" or "lukon," were cultured for 120 days in a pond and were raised from 200,000 postlarvae produced at SEAFDEC/AQD's black tiger shrimp hatchery at its Tigbauan Main Station. The shrimp postlarvae were stocked at a density of 25 pieces per square meter. **a**





SEAFDEC/AQD joins PH's 'biggest' agribusiness trade fair

● NG ARMADA

PASAY CITY – SEAFDEC/AQD was one of the exhibitors at the 29th Agrilink, the Philippines' largest international agribusiness exhibition, held 3–5 October 2024 at the World Trade Center.

During the three-day event, SEAFDEC/AQD highlighted its different aquaculture training programs, showcased its latest research initiatives, and offered a wide range of publications on sustainable aquaculture technologies.

Chief Dan Baliao, accompanied by Dr. Roger Edward Mamauag and Dr. Leobert de la Peña, represented SEAFDEC/AQD at the opening and ribbon-cutting ceremony, wherein distinguished guests included Congresswoman Camille Villar, Assistant



Secretary for Agribusiness, Marketing, Consumer Affairs, and head of the KADIWA Program Atty. Genevieve E. Velicaria-Guevarra, and various ambassadors and dignitaries.

Senior Scientist Dr. Frolan Aya, along with research and information staff, engaged stakeholders by sharing insights on SEAFDEC/AQD's programs

and technologies. The booth became a focal point for discussions on sustainable aquaculture solutions.

A live display of giant freshwater prawn ("ulang") and silver tharapon ("ayungin") sparked interest to breed and grow the aquaculture commodities.

The research center also brought its bookstore, which attracted hundreds of fish farmers, government

personnel, and other stakeholders. Visitors had the opportunity to purchase hard copies of aquaculture manuals or scan QR codes for electronic versions of SEAFDEC/AQD's publications.

Interested individuals also had the opportunity to pre-register for SEAFDEC/AQD's hands-on aquaculture training courses in the coming year. [a](#)



Aquaculture innovations promoted at 26th Davao Agri Trade Expo

● NG ARMADA

DAVAO CITY – Attendees of the 26th Davao Agri Trade Expo, Mindanao's largest and longest-running trade show, learned about SEAFDEC/AQD's contributions to the aquaculture sector as they visited the research center's booth from 19 to 21 September at SM Lanang Premier.

SEAFDEC/AQD featured its bookstore, offering

hard copies of aquaculture manuals for fish farmers, government personnel, and other stakeholders. It also provided free electronic copies of its publications via QR codes to make information even more accessible.

SEAFDEC/AQD was represented by nutrition expert Mr. Joseph Biñas, freshwater specialist Mr. Marwin de la Cruz, and



information staff, who catered to queries regarding the Center's programs and technologies. Those interested in enrolling in hands-on training courses for 2025 also had the opportunity to pre-register.

"It's a great opportunity to connect with stakeholders and provide them with technical advice and information on aquaculture," remarked Mr. de la Cruz. [a](#)



MO, BFS employees enjoy team-building activity

SEAFDEC/AQD's Binangonan Freshwater Station (BFS) and Manila Office (MO) held a team-building activity on 1 October 2024 at Bakasyunan Resort and Conference Center in Tanay, Rizal.

The event aimed to foster camaraderie and strengthen social bonds among employees through sports and traditional Filipino games. The employees engaged in activities that promoted teamwork, effective communication, and problem-solving skills, creating a fun and collaborative atmosphere for everyone involved. [a](#)



aqd matters

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SEAFDEC/AQD holds annual review and planning meeting

● NG ARMADA

SEAFDEC/AQD conducted its annual “In-house Review and Planning Meeting” on 26-27 September 2024, at its Tigbauan Main Station in Iloilo, gathering key personnel to review the progress of projects, assess accomplishments, and strategize for the upcoming years.

The meeting focused on research, verification, information dissemination, and administrative thrusts, with the goal of consolidating efforts for 2025.

Chief Dan Baliao, during the opening program,

emphasized SEAFDEC/AQD’s commitment to working closely with government agencies and stakeholders to drive the growth of aquaculture in the Philippines. He remarked, “Our projects and studies aim to create a significant, positive impact on the aquaculture industry, not just in Southeast Asia but also across the Asia-Pacific region through our South-South Cooperation initiatives.”

The first day of the meeting featured updates on Technology Verification and Extension Division (TVED) and Research

Division (RD) activities, including collaborations with the Philippine government in line with SEAFDEC/AQD’s current priorities. Program leaders also presented new and ongoing research, verification, and extension studies.

On the second day, Deputy Chief Dr. Sayaka Ito provided an update on SEAFDEC/AQD’s regional programs, while program and project leaders detailed the progress of research and extension initiatives. Section heads also reported on advancements in training, information



SEAFDEC/AQD Chief Dan Baliao emphasizes, during the Opening Program, SEAFDEC/AQD’s commitment to working closely with government agencies and stakeholders to drive the growth of aquaculture in the Philippines. Photo by JF Aldon

dissemination, and administrative activities.

The annual evaluation meeting allows SEAFDEC/AQD to align its activities and priorities with the needs of the Southeast Asian Region, especially its host country, the Philippines. **a**

DA-BAR keen to partner with SEAFDEC/AQD

● RD DIANALA

Dir. Junel Soriano of the Philippine Department of Agriculture’s Bureau of Agricultural Research (DA-BAR) expressed his interest to partner with SEAFDEC/AQD during his visit to the research center’s headquarters in Tigbauan, Iloilo on 29 October 2024.

“This is my first time to visit SEAFDEC and I was surprised because we have almost common services and programs with DA-BAR,” Dir. Soriano remarked.

“I think we have to explore our partnership for us to strengthen the fisheries R&D program of the country,” he added.

Dir. Soriano, accompanied by DA-BAR’s Fisheries R&D Team Leader Marnelie Gadong-Subong and Information Officer Lyn



Pardilla, toured FishWorld, SEAFDEC/AQD’s visitor center, to gain an overview of SEAFDEC/AQD’s research activities and priority programs. They also made a stop at the mangrove crab hatchery where he exchanged ideas with research and production staff. **a**

PhilHealth seminar updates staff on benefits, Konsulta Package

● NG ARMADA

To keep employees informed about recent upgrades to benefit packages, including laboratory and diagnostic exams covered under the *Konsulta Package* and an overview of the PhilHealth Employee Portal, SEAFDEC/AQD partnered with PhilHealth to conduct an “Onsite PhilHealth Refresher Seminar” on 25 October 2024 at the Research Division Lounge, Tigbauan Main Station.

The seminar featured Ms. Jonalyn G. Genizera, Social Insurance Officer I and Officer-in-Charge of PhilHealth Express Office Guimbal, who provided an overview of PhilHealth membership and the latest benefit packages.

On the other hand, Ms. Maechelle D. Subebe, Administrative Aide VI and Information Officer Designate of PhilHealth Express Office Guimbal, talked about the *PhilHealth Konsultasyong Sulit at Tama (Konsulta) Package* and emphasized the importance of the PhilHealth Employee Portal for managing benefits.

Employees from both the Tigbauan Main Station and Binangonan Freshwater Station attended the event, either in person or virtually. This activity is part of the research center’s commitment to supporting staff health and well-being by providing the latest information on employee benefits. **a**