A slipper lobster (*Thenus orientalis*) broodstock at SEAFDEC/AQD's hatchery facility in Tigbauan, Iloilo. See more details on Page 7. [PHOTO BY JF ALDON]

aqdmatters

September-October 2021 | Newsletter of the SEAFDEC Aquaculture Department, Tigbauan, Iloilo, Philippines

Matters inside

Agreement inked to jumpstart aquaculture dev't in Mindanao

Officials of the Southeast Asian Fisheries Development Center/Aquaculture Department (SEAFDEC/AQD) and the Mindanao Development Authority (MinDA) sign the agreement on sustainable aquaculture development in Mindanao on 6 Sept. 2021 at Tigbauan, Iloilo.
Photo by RH Ledesma

MORE oysters and crabs may soon be spawning and growing in Mindanao aquafarms once a recently-inked partnership between the Mindanao Development Authority (MinDA) and the Southeast Asian Fisheries Development Aquaculture Department (SEAFDEC/AQD) gains traction.

Aiming to establish hatcheries to produce seeds and accelerate aquaculture development in the Philippines' second largest island, MinDA formalized a three-year partnership with SEAFDEC/AQD on 6 Sept. 2021.

"Let us build a facility that will just keep producing fingerlings, and for the next five years, why don't we support our fisherfolk with fingerlings, free for the next five years," said MinDA Chair Emmanuel Piñol in English and Hiligaynon as he shared his dream to build a truly modern hatchery in Mindanao.

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Piñol toured the aquaculture facilities of SEAFDEC/AQD at its headquarters in Tigbauan, Iloilo, and thereafter signed a Memorandum of Agreement with its Chief, Dan Baliao, to collaborate through techno-transfer programs, including verification and training in broodstock, hatchery, nursery, and grow-out operations of commercially viable finfishes, crustaceans, mollusks, and seaweeds.

"Let us start with the simple oyster breeding facility, and then from there we move on to crabs, we move on to high-value fish, and hopefully as we move forward, we will be able to find enough funding support to build that envisioned hatchery that I have for Mindanao," Piñol said.

Zamboanga Sibugay to host first hatchery

Visiting the research center with Piñol was Roberto Ballon, a recipient of the 2021 Ramon Magsaysay award and a fisherfolk leader in Zamboanga Sibugay where the first hatchery for oysters is intended to be established.

In July, Ballon sought Piñol's help to establish a hatchery in their town of Kabasalan to supply oyster spat, crablets, and fingerlings so the fisherfolk will not need to collect stocks from the wild and disturb the ecological balance.

The fisherfolk association that Ballon leads currently has fish cages, crab farms, and oyster gardens at the mouth of Kabasalan River.

Baliao supported Piñol's vision and agreed to provide technical assistance to the local government units and fisherfolk associations identified by MinDA. Chief Baliao also assured Piñol that SEAFDEC/AQD would grant his requests for the success of this project.

Despite the COVID-19 restrictions, Baliao said the research center will immediately meet its commodity leaders and find means to conduct trainings in Mindanao beginning at Kabasalan.

Aquaculture training for Mindanao now rolling

True to the essence of the agreement between SEAFDEC/AQD and the Mindanao Development Authority formalized in September, the first training on aquaculture technologies was held last 21–22 Oct. 2021.

Through a series of online lectures, trainees gained knowledge on the culture of oysters, mangrove crabs, and grouper. The lectures were streamed from SEAFDEC/AQD's Tigbauan Main Station in Iloilo to fisherfolk in Kabasalan, Zamboanga Sibugay and participants from other parts of the country.

Dr. Leobert de la Peña, head of the Research Division of SEAFDEC/AQD, expressed support for the project and said that SEAFDEC/AQD is willing to share its expertise and technical capabilities to make the collaboration successful.

— RD DIANALA/RH LEDESMA

Baliao is Chief for a 3rd term

DAN BALIAO, the current Chief of the Aquaculture Department (AQD) of the Southeast Asian Fisheries Development Center (SEAFDEC) was reappointed to a third term and will serve for another two years until 6 Sept. 2023.

SEAFDEC Secretary-General Malinee Smithrithee confirmed the reappointment of Baliao after the approval by a majority of the SEAFDEC Council Directors composed of representatives from 11 member countries.

The approval comes after his endorsement by the Department of Agriculture and nomination by Philippine President Rodrigo Duterte to the SEAFDEC Council.

Baliao was first appointed as Chief of AQD on 7 Sept. 2017. Since then, he has prioritized development programs to uplift the sufficiency of aquaculture seeds in the Philippines, the host country of SEAFDEC/AQD.

He has also pushed for SEAFDEC/AQD's development of cost-efficient aquafeeds, rallied for the intensive training of fisheries graduates to develop a critical pool of aquaculture technicians, organized

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Dan Baliao gets third term as Chief of the Aquaculture Department (AQD) of the Southeast Asian Fisheries Development Center (SEAFDEC) and will serve for another two years from 7 Sept. 2021 to 6 Sept. 2023.

Baliao is Chief...

activities to accelerate techno-transfer in aquaculture, and promoted the revival of the tiger shrimp industry in the Philippines.

Baliao also extended assistance to the Bureau of Fisheries and Aquatic Resources (BFAR) in conducting feasibility studies towards establishing over a dozen legislated multi-species hatcheries in various parts of the Philippines. He also advocated for the rehabilitation of abandoned and underutilized hatcheries in Region 6, one of which is already operational in Batan, Aklan, and one is nearing completion in Concepcion, Iloilo.

Under his leadership, new broodstock and hatchery facilities were recently completed at the SEAFDEC/AQD headquarters in Tigbauan, Iloilo, to expand the research center's capacity to produce and supply both marine and freshwater seeds such as milkfish, tiger shrimp, giant freshwater prawn, and catfish.

To support food security during the COVID-19 pandemic, SEAFDEC/AQD ramped up its own production and delivery of aquaculture seeds and extended technical assistance to farmers through BFAR.

The Department also developed and conducted a series of online training courses in aquaculture for the National Fisheries Research and Development Institute (NFRDI) to equip BFAR personnel. In light of the pandemic, Baliao also enabled the online release of numerous books and farmer-oriented manuals authored by SEAFDEC/AQD experts so the public may freely download them from the Internet.

— RD DIANALA

Trainees complete aquaculture course

(L-R) The graduates of the Training Course on Aquaculture Technologies for Manpower Development Mr. Jan Marico Postigo, Ms. Shielame Catayas, Liezel Lipat, and Angela Bacuyong together with SEAFDEC/AQD Deputy Chief Dr. Sayaka Ito (seated, in green) and SEAFDEC/AQD Chief Dan Baliao (seated, in white) during the closing ceremony on 5 Oct. 2021. *Photo by JF Aldon*

FOUR fisheries graduates completed a three-month intensive training course at SEAFDEC/AQD as part of a program to build a pool of highly skilled technicians to operate government hatchery facilities being prepared in the Philippines.

Three trainees from Mindanao and one from Luzon successfully hurdled the last stage of their training – individual oral reporting and oral examination on hatchery and grow-out procedures – before a panel of evaluators, including resource persons, area supervisors, and SEAFDEC/AQD Deputy Chief Dr. Sayaka Ito.

This came after they were given lectures and hands-on experience in SEAFDEC/AQD facilities in Tigbauan and Dumangas in Iloilo, and at Nueva Valencia in Guimaras.

Their evaluation lasted from 29 Sept. to 5 Oct. 2021 and covered hatchery techniques for tiger shrimp, mangrove crab, marine fish, and giant freshwater prawn. Cage and pond grow-out culture of fish, as well as seaweed micropropagation, were also covered.

"The graduates of this training course are equipped with the skills and knowledge to translate research results for technology transfer. With the learnings and experiences they gained from SEAFDEC/AQD, I am looking forward to the roles they will play in boosting the aquaculture industry," said Chief Dan Baliao during the closing ceremonies of the Training Course on Aquaculture Technologies for Manpower Development last 5 Oct. 2021.

The trainees were thoroughly screened from among the graduates of fisheries schools near the areas where the Philippine government will build new hatchery facilities.

— JM DE LA CRUZ

Feed mill by aquafarmers, for aquafarmers

A FISH FARMERS cooperative is set to establish their own feed mill in Pan-ay, Capiz after an agreement with SEAFDEC/AQD was formalized for the research center to assist in planning and setting up the facility.

The feed mill will produce low-cost feeds using SEAFDEC/AQD's formulations to help local fish farmers reduce their cost of production. SEAFDEC/AQD Chief Dan Baliao said their researchers, engineers, and economists have been working on the project's feasibility study for almost a year, but it is now set to be completed very soon.

Chief Baliao signed the memorandum of agreement with the Panay Aqua Farmers Consumers Cooperative, headed by Chairperson Edwin Mayo, on 24 Sep. 2021 at the Tigbauan Main Station.

The Graduates of the Manpower Development Training-Batch 2

ANGELA BACUYONG

BS Fisheries
Kumalarang, Zamboanga Del Sur

SEAFDEC/AQD as a training ground helped Angela gain confidence. She is pleased to say that, with her aquaculture expertise, she is now prepared to assist and lead others in maximizing aquatic animal growth rates while lowering production costs.

SHIELAME CATAYAS

BS Fisheries
Bading, Butu-an City

"My experience in SEAFDEC/AQD helped me understand aquaculture in a deeper sense. As an aquaculturist, I have realized that it takes so much passion and dedication to be able to help solve aquaculture problems in the country. I know that I am no master for I have a long way to go but I can say that I have seen my growth, both as a professional and as a person, during my training experience."

LIEZEL LIPAT

BS Fisheries
President Roxas, North Cotabato

As a young fisheries technologist she was fascinated to witness how different commodities were cultured. The SEAFDEC/AQD training helped her grow in a sense of service in aquaculture, and gave her the desire to be someone who can help new aquaculturists.

JAN MARICO POSTIGO

BS Fisheries
Nato, Sagñay

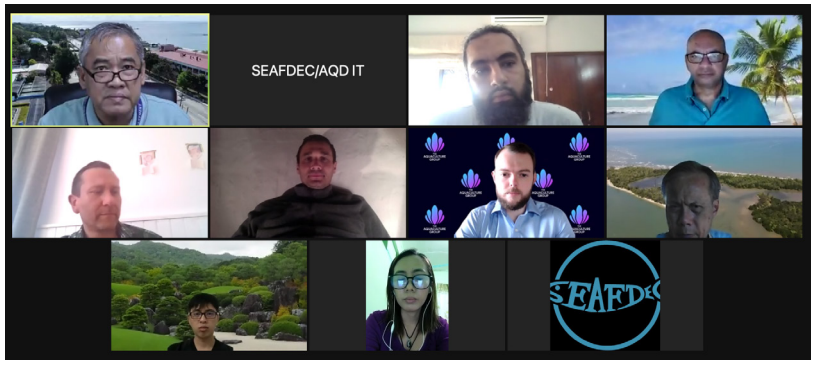
"The training provided a wide range of activities and field work that shaped me to be flexible in this field. Every day is a new learning moment where I gained meaningful and systematic experience from our actual exposures. I learned tremendous knowledge and it molded me to be useful in the field of aquaculture, most especially in hatchery works."

First online sandfish training course a success

TEN participants from France, Maldives, Pakistan, Turkey, Malaysia, Singapore, and the Philippines completed the online training course on sandfish (*Holothuria scabra*) seed production, nursery and management held from 6 to 15 Oct. 2021.

The online course had live lectures via Zoom on sea cucumber culture and management, grow-culture, community-based resource enhancement, and processing. There were also recorded lecture videos on biology, ecology and fisheries of sea cucumbers; spawning induction, larval rearing, and early juvenile management; and natural food production among others.

Ali Dada, one of the training participants and a CEO of a farm in Pakistan, said he liked everything about the training course.



A screenshot of the sandfish training participants with the SEAFDEC/AQD training coordinator Mr. Rosenio Pagador (upper left)

"The resource persons addressed the questions of the participants to the fullest, did not lie about anything and were very helpful," said Dada.

Moreover, Ms. Paloma De Chavez, a trainee from Marinduque State College in the Philippines, said that she likes the training modules since it covered all the needed information may it be for business, research, and stock enhancement.

Ms. De Chavez also added that the resource persons were very accommodating and answered the questions or clarifications of the trainees with full expertise.

— RH LEDESMA

SEAFDEC/AQD reviews achievements for 2021

TO assess the progress of SEAFDEC/AQD's current research programs and activities, a two-day review and planning meeting was conducted on 27–28 Sept. 2021 in a hybrid set-up at the Tigbauan Main Station, with some attending virtually via Zoom.

External evaluators from government agencies and the private sector were invited to give their impressions and recommendations during the SEAFDEC/AQD In-house Review and Planning Meeting. Dr. Maria Theresa Mutia from the National Fisheries Research and Development Institute, Dr. Emelyn Flores from the Department of Science and Technology Region 6, Mr. Wilfredo Delos Santos of the Bureau of Fisheries and Aquatic Resources Region 6, and Mr. Rene Bocaya of Finfish Hatcheries, Inc. graced the meeting.

Program and project leaders presented 40 ongoing research, verification, and extension programs. Meanwhile, section heads also presented the progress of training, information dissemination, and administrative activities.

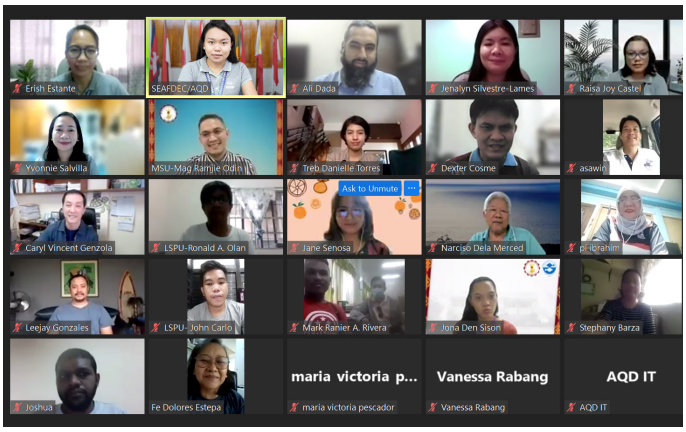
A screenshot of the external evaluators and the SEAFDEC/AQD senior staff who attended the review and planning meeting on 27–28 Sept. 2021

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.

"SEAFDEC/AQD will remain steadfast in fulfilling our goals and will face challenges with enthusiasm. As we continue to pursue excellence, we keep in step and in harmony with institutions of similar goals to increase fish production for the country and the Region," said Chief Dan Baliao.

— JM DE LA CRUZ

Asians acquire knowledge on mangrove crab hatchery



A screenshot of the mangrove crab training participants with SEAFDEC/AQD experts and training staff

TWENTY-THREE participants from Pakistan, Cambodia, Malaysia, Thailand, and the Philippines successfully finished the Training Course on Mangrove Crab Hatchery Operations offered by SEAFDEC/AQD from 13 to 20 Oct. 2021 via an online learning platform.

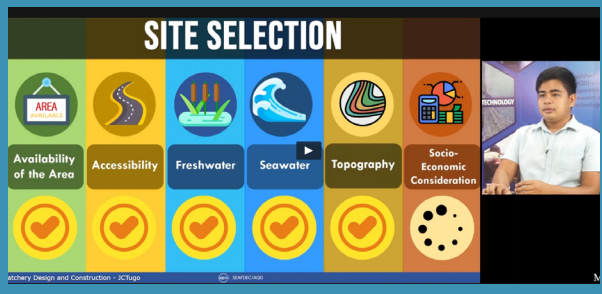
Mr. Lemuel Joseph Gonzales, a real estate broker from the Philippines, said he attended the training course to expand his knowledge as he wants to venture into mangrove crab culture.

Through a series of lectures and demonstration videos, SEAFDEC/AQD experts shared information on the biology of mangrove crabs, site selection, design and construction of hatcheries, broodstock management, nutrition, and disease prevention. Special topics, such as the design and construction of mangrove crab hatcheries and the environmental impacts of aquaculture were also included in the course.

According to Nen Phanna, an officer of the fisheries administration in Cambodia, he liked the training course because it had complete coverage of hatchery operations. He also said that he will transfer the technology he learned from the training course to the farmers in his country.

— RH LEDESMA/ JM DE LA CRUZ

NFRDI and BFAR staff attend online course on marine fish



A screenshot of the lecture video on hatchery design and construction by Engr. John Aldrin Tugo of SEAFDEC/AQD

SEVEN science research specialists of the National Fisheries Research and Development Institute (NFRDI) and a fishing regulations officer of the Bureau of Fisheries and Aquatic Resources (BFAR) completed the marine fish online course on 29 Oct. 2021.

The 12-day online training course on marine fish hatchery, which started on 18 Oct. 2021, had seven modules with one module devoted specifically to milkfish culture. The online course had pre-recorded lecture videos with topics on broodstock management, larval rearing, hatchery design and construction, nutrition, and health management among others. The course also had live discussions via Zoom with SEAFDEC/AQD experts.

"What I like about the training is the access we have to the speakers. They were all experts on their respective field and have shared to us theories and practices based on their actual research. They were also very accommodating to our queries and addressed them in a logical manner," said Clark Adrian Abao, a science research specialist in NFRDI.

On the other hand, another trainee who requested not to be named, said that the knowledge he/she gained from the training course will be of great use for creating researches that can later on be transferred to the fish farmers and other individuals or groups.

— RH LEDESMA

Universitas Airlangga learns abalone culture

ABALONE culture techniques developed by SEAFDEC/AQD were shared with the student body and faculty of Universitas Airlangga (UNAIR) in Indonesia via an online training course conducted last 20 to 22 Oct. 2021.

Thirty-eight participants were present during the three-day online course to learn about broodstock management and spawning techniques, nutrition, and health management for abalone through recorded lectures, video demonstrations, and live discussions.

"The training course is comprehensive and the resource persons are knowledgeable. I will certainly recommend it to others," said Syifania Hanifah Samara, a lecturer in Universitas Airlangga.

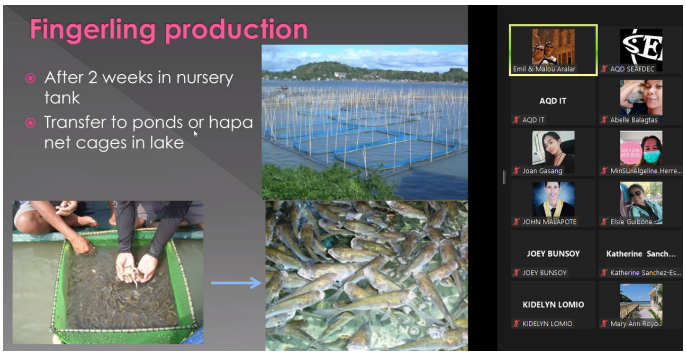
Sharing and disseminating sound scientific knowledge to an academic institution in Indonesia, a SEAFDEC member and host country, is a step towards sustainable and environment-friendly aquaculture in Southeast Asia.

— JM DE LA CRUZ

MinSu staff complete online training course on carp

AS the demand for an affordable protein source continues to increase, it was high time for a research group from Mindoro State University (MinSu) to join the online training course on carp hatchery and grow-out offered by SEAFDEC/AQD on 21–22 Sept. 2021.

Ten participants from MinSu learned about the SEAFDEC/AQD-developed breeding, propagation, and culture techniques for bighead carp. All participants were funded by the Department of Science and Technology - Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (DOST-PCAARRD).



A screenshot of the lecture on the fingerling production of bighead carp

Catfish online course rated 10/10

THREE Filipino trainees successfully finished the three-day online training course on catfish hatchery and grow-out operations conducted by SEAFDEC/AQD's Binangonan Freshwater Station from 26 to 29 Oct. 2021.

One of the trainees, Mr. Jeffrey John Lozano, a Business Management Supervisor from Pangasinan rated the expertise and information shared by lecturers a perfect 10. Although he still prefers gaining the actual experience through hands-on activities, Lozano said that the virtual alternative, consisting of a comprehensive module presented through lectures and videos, covers all the fundamental topics.

A screenshot of the participants and the SEAFDEC/AQD staff in-charge of the catfish training

SEAFDEC/AQD to breed slipper lobster

SEAFDEC/AQD, with assistance from the Government of Japan Trust Fund, is looking to develop culture technologies for the slipper lobster to begin a new industry and open more livelihood opportunities.

SEAFDEC/AQD's hatchery facility for slipper lobster in its station in Tigbauan, Iloilo

Locally known as 'pitik-pitik' in Hiligaynon, slipper lobster (*Thenus orientalis*) derives its name from its flattened carapace. It is one of the few endemic and edible lobsters in the Philippines and is more affordable than the commonly traded spiny lobster.

Oyster study presented in symposium

TO help address the declining number of spat fall in natural oyster beds, SEAFDEC/AQD studied the potential of hatchery-bred oyster spat as seeds for grow-out culture.

Scientist Dr. Ma. Junemie Hazel Lebata-Ramos virtually presented the findings of this research during the 41st Annual PAASE (Philippine-American Academy of Science and Engineering) Meeting and Symposium held last 8 to 11 Oct. 2021. The conference was conducted in hybrid form, virtual and in-person in Baltimore, Maryland, USA.

A screenshot of Dr. Ma. Junemie Hazel Lebata-Ramos' presentation on oyster during the 41st Annual PAASE (Philippine-American Academy of Science and Engineering) Meeting and Symposium

AQD is now an IODE associate info unit

THE library of SEAFDEC/AQD is now among the associate information units (AIUs) of the International Oceanographic Data and Information Exchange (IODE).

IODE is part of the Intergovernmental Oceanographic Commission of United Nations Educational, Scientific and Cultural Organization (UNESCO) that recognizes and accredits marine science libraries and information centers to become AIUs.

The objective of IODE in establishing AIUs is to promote greater communication with the global marine information community and offer it a stronger voice to influence IODE strategic plans for data and information products and services.

The official endorsement was granted to SEAFDEC/AQD last 16 Sept. 2021.

SEAFDEC lab now ISO accredited

World-class quality testing can now be enjoyed by fish farmers and researchers for their feeds and water samples at the Centralized Analytical Laboratory (CAL) of the Southeast Asian Fisheries Development Center Aquaculture Department (SEAFDEC/AQD) in Tigbauan, Iloilo.

Recently, the Philippine Accreditation Bureau (PAB) granted the ISO/IEC 17025:2017 accreditation for the biological and chemical testing of the laboratory, which means that the facility meets internationally accepted standards in its analytical procedures and has an effective laboratory quality management system.

Accredited laboratory services include water analyses such as total coliform count, fecal coliform count, pH level, ammonia-nitrogen, nitrite-nitrogen, and phosphate-phosphorus. Also included in the accreditation is the chemical testing of agricultural products and materials for moisture, ash, and crude protein analyses.

CAL, which analyzed almost 2,000 samples in 2020, caters mainly to SEAFDEC/AQD's own researchers, but also accepts samples from the public.

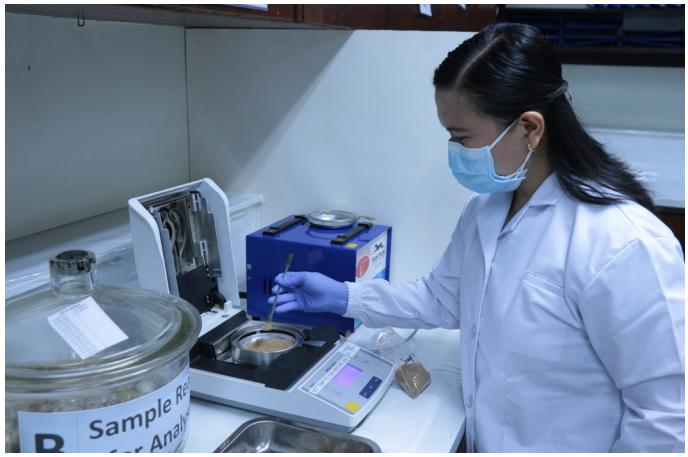
"CAL's ISO accreditation is good news to our clients especially the academe. The academe is a major client of our laboratory facilities in conducting chemical and biological tests needed for student research," said SEAFDEC/AQD Chief Dan Baliao.

Baliao added that they give 20 percent discount on fees as consideration for student researchers.

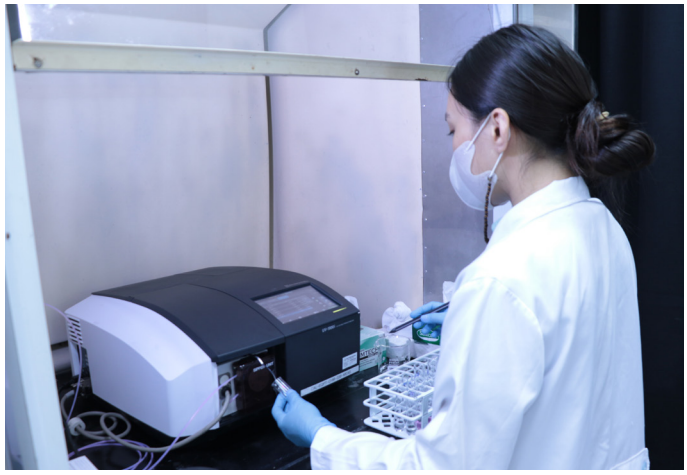
"We are grateful to our team for working hard to receive the ISO accreditation. This is important to our stakeholders since it gives them confidence that our laboratory is releasing accurate analytical test results," said Dr. Leobert de la Peña, head of SEAFDEC/AQD's Research Division.

The ISO advantage

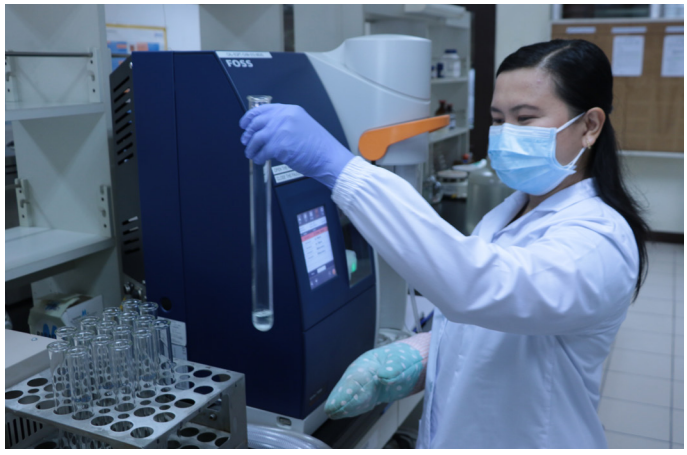
"ISO/IEC 17025:2017 is the most recent version of ISO standard for testing and calibration laboratories. This specifies the general requirements for the competence, impartiality and consistent operation of testing and calibration laboratories," explained Ms. Jeralyn Panizales, officer-in-charge of SEAFDEC/AQD's Laboratory Facilities for Advanced Aquaculture Technologies where CAL belongs.



Ms. Jeralyn Panizales, a chemist and officer-in-charge of SEAFDEC/AQD's Laboratory Facilities for Advanced Aquaculture Technologies, weighs feed sample for moisture determination. *Photo by JF Aldon*



SEAFDEC/AQD Chemist Ms. Angel Ann Juanillo conducts nitrite-nitrogen analysis in water. *Photo by JF Aldon*



SEAFDEC/AQD Chemist Ms. Jeralyn Panizales performs crude protein analysis. *Photo by JF Aldon*

The accreditation also shows that the laboratory has technical competence and provides reliable, accurate, and defensible test results with the highest attainable standard of quality recognized internationally.

"A laboratory with ISO/IEC 17025:2017 accreditation will set it apart from other laboratories since it is an ideal management system model that aims to control quality costs, improve measurement accuracy, and guarantee valid and reliable results," Panizales added.

— RH LEDESMA

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