



BARChronicle

BUREAU OF AGRICULTURAL RESEARCH

www.bar.gov.ph

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ISSN 1655-3942

Dr. Mamaril is new DA-BAR director, Dr. Eleazar retires at 60

Following the early retirement of Dr. Nicomedes P. Eleazar, Dr. Vivencio R. Mamaril is the new director of the Department of Agriculture-Bureau of Agricultural Research (DA-BAR) through DA Special Order no. 699, series of 2020 signed by Agriculture Secretary William D. Dar on 14 October 2020. Dr. Mamaril assumed office on 3 November 2020.

During his first flag ceremony as the new director of DA-BAR, Dr. Mamaril emphasized that the bureau will focus its investments on research for development (R4D) projects that have farmers' and fishers' organizations or cooperatives as partners at the onset.

He also directed the Program Development Division to study good R4D models that promote value-chain approach toward a market-driven agriculture that can be adopted for R4D program management.

With respect to the bureau's role as the central coordinating agency of all DA R4D programs, Dr. Mamaril also instructed the Program Monitoring and Evaluation Division to formally solicit the current R4D programs, projects, and activities of DA national and regional offices to serve as reference for planning and evaluation of projects.

Prior to this position, Dr. Mamaril served as the director of DA-Bureau of Agriculture and Fisheries Standards from August 2017 to October 2020 and DA-Bureau Plant Industry from July 2016 to July 2017.

He earned his Doctor of Philosophy in Management, Master



During his first flag ceremony as the new DA-BAR director, Dr. Mamaril urges everyone to work together in ensuring that the projects supported by the bureau will yield immediate and lasting benefits to Filipino farmers, fishers, and consumers.

and Bachelor of Science degrees in Agriculture from Gregorio Araneta University Foundation in 1993, 1988, and 1979, respectively.

Dr. Mamaril replaced Dr. Eleazar who held the post for 16 years.

As the longest serving director of the bureau, Dr. Eleazar pioneered the bureau's flagship programs: Community-based Participatory Action Research (CPAR) and National **turn to page 8**

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DA-CVRC distributes Pinoy GOURmix during Typhoon Ulysses relief ops



Farmers Roosevelt Cortez (left) and Magdalena Yanuraria (right) from Delfin Albano, Isabela receive vegetable seeds and food products developed by DA-CVRC such as Pinoy GOURmix and Mang Bean soup during the Bangon Magsasaka Relief Operation. PHOTO COURTESY OF DA-CVRC

The Department of Agriculture-Cagayan Valley Research Center (DA-CVRC) distributed 1,000 packs of Pinoy GOURmix during the relief operations on 17 November 2020 in Alcala, Cagayan, and 26 and 28 November 2020 in Cabagan, Tumauni, and Delfin Albano, Isabela. These two provinces were badly hit by Typhoon Ulysses.

Dubbed as “Bangon Magsasaka Operation Tulong,” the relief operations also gave 100 packs of instant mungbean soup or *pablad* and 100 packs of PandeRISE. These were produced by DA-CVRC and DA-Northern Cagayan Experiment Station.

Pinoy GOURmix is an instant lugaw made of rice, white corn, adlay grits with *malunggay* powder, soybean texturized vegetable protein,

ground mungbean, and turmeric.

The DA-Bureau of Agricultural Research, through its National Technology Commercialization Program, supported the product’s commercialization covering the packaging, labeling, and shelf life improvement.

The bureau also supported the upscaling and continued commercialization of the enhanced Pinoy GOURmix through its Resiliency Response Research for Development program in line with DA’s Ahon Lahat, Pagkaing Sapat (ALPAS) Laban sa COVID-19.

DA-BAR also provided a PhP 500,000-worth processing equipment grant which includes a corn milling machine, flour milling machine, vacuum sealer machine, and food mixer.

To further commercialize the product, DA-CVRC inked a memorandum of agreement with Providers Multi-Purpose Cooperative, one of the project’s partner beneficiaries.

The said cooperative also assisted DA-CVRC in the relief operations by producing 500 packs of Pinoy GOURmix.

“The cooperative will now serve as the manufacturer and distributor of the enhanced Pinoy GOURmix with a DA-HALAL approved product label to cater to the needs of the government and private agencies program on nutrition and relief food packs distribution during disasters and pandemic,” DA-Cagayan Valley Regional Technical Director Rose Mary Aquino said. ### (Ma. Eloisa H. Aquino)

BAR CHRONICLE highlights the bureau’s activities as the country’s national coordinating agency for agriculture and fisheries R4D, and provides updates on NaRDSAF-member institutions.

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Editor and Layout: Rena S. Hermoso

Writers: Ma. Eloisa H. Aquino, Clarisse Mae N. Abao, Chantale T. Francisco, Rena S. Hermoso, Jireh Alodia R. Laxamana, and Jhon Marvin R. Surio

Circulation: Lyn D. Pardilla

Consulting Editor: Julia A. Lapitan

Advisers: Dr. Vivencio R. Mamaril and Digna L. Sandoval

ISU enters into 3 technology licensing agreements to promote mature cacao technologies

To upscale and increase the adoption of mature cacao technologies in Cagayan Valley region, the Isabela State University (ISU) entered into a technology licensing and confidentiality agreements with Beacon Cacao Agricultural Development Corporation, Isabela Cacap Farmers Association, and Nicolas Integrated Farm on 10 November, 23 and 19 October 2020, respectively.

“Our Technology Licensing Agreement and Confidentiality Agreement will allow access to established intellectual property and [be] able to enter the global market more quickly. Licensing Agreement means the right to use a brand name, trademark, patented products/technology and ability to produce and sell quality goods and services,” ISU President Ricmar Aquino said.

Registered utility models include the process of producing fine tablea, natural cacao vinegar from cacao sweatings, and dark chocolate from tablea. The licensing covers the adoption of the ISU-CVCDC mature technology on producing fine tablea,

dark chocolate, polvoron, pastillas de cacao, caramelized nibs, and cacao butter.

ISU-Cagayan Valley Cacao Development Center (CVCDC) shall provide the three farmer groups with the necessary information on the technology and the products, conduct trainings, provide technical and consultancy services, and conduct performance appraisal on the use of the technology and product commercialization.

As counterpart, the three partners shall strictly comply with the requirements and specifications of the technology and its use, maintain the quality and safety of the product provided by ISU-CVCDC, and provide necessary facilities and labor in all aspects of the production, marketing, and commercialization of the product.

The Guam-based corporation, Beacon Cacao Agricultural Development Corporation, is engaged in cacao production from seedlings to chocolate and cacao by-products. They are exporting cacao products in Guam, USA, Europe and China. Their

local office is located at Palinlang, Arayat, Pampanga.

The Nicolas Integrated Farm is based in Payac, Jones, Isabela while the Isabela Cacao Farmers Association is in and Panang, San Agustin, Isabela.

The Department of Agriculture-Bureau of Agricultural Research supported the production, processing, postharvest handling, and promotion of generated technologies on cacao. The bureau funded the ISU project that promoted generated cacao technologies and developed new value-added products.

Through various research for development projects supported by the bureau, cacao farmers and stakeholders in the region increased from 50 in 2012 to 310 cacao farmers in 2019.

Also in 2019, 120 tons of cacao were produced and 723.60 hectares were planted with cacao production. Of which, a hectare with 610 cacao trees intercropped with banana/coconut/coffee could let a farmer earn PhP 305,000 in fermented cacao beans in a year. ### (Ma. Eloisa H. Aquino)



(Seated L-R) Atty. Romano Cammayo, ISU vice president for finance and administration; Dr. Ricmar Aquino, ISU president; Tomas Borja, Beacon Cacao Agricultural Development Corporation chief executive officer; and Carlo Borja, Beacon Cacao Agricultural Development Corporation director sign the licensing agreement. PHOTO COURTESY OF ISU



PHOTO COURTESY OF LAOAG CITY GOVERNMENT

600,000 tilapia fries stocked in Laoag village hatchery

Six hundred thousand tilapia fries were provided to the Nature's Wealth Probiotic Fish Farm on 5 November 2020 in Laoag City, Ilocos Norte.

It was part of the project "Adoption of Modified Intensive Fry Production and Nursery Rearing of *Oreochromis niloticus* for Village Level Production in the Northern Luzon."

Village-level tilapia hatchery operators, backyard growers, and fishers in the municipality were among the beneficiaries of the project.

The activity aimed to ensure the continuous availability, accessibility, and affordability of tilapia in the community.

PhP 42,000-worth of tilapia fries were given for free to the project beneficiaries.

The project seeks to ensure

sustainable quality seed stock of tilapia by engaging village level hatcheries and nurseries in the region. This is through the adoption of mature technologies on modified intensive fry production and nursery rearing of tilapia for village level production.

"This would definitely contribute an additional source of income among fishers. This was the first time that there was a wide-scale distribution of fingerlings to around 300 fish cage and fishpond operators in the city, including inland and urban barangays" Laoag City Mayor Michael Keon said.

"This is a joint project of the National Fisheries Research and Development Institute, Department of Agriculture-Bureau of Fisheries and Aquatic Resources (DA-BFAR), and Nature's Wealth Probiotic Fish

Farm in cooperation with the City Government of Laoag, through the 'Magsasaka at Mangingisda sa Kanayonan Program' spearheaded by the City Agriculture Office," Mayor Keon added.

The project was funded in 2020 through the Resiliency Response Research for Development program of the DA-Bureau of Agricultural Research.

Emilio Perucho, owner of Nature's Wealth Probiotic Fish Farm, was one of the partner-beneficiaries of the preceding BAR-funded project on tilapia hatcheries.

Marilyn Martin, city agriculturist; and Dario Doctolero, DA-BFAR Ilocos Region Agricultural Center chief, were among those present during the said activity. ###
(Jireh Alodia R. Laxamana)

SEARCA project on calamansi value chain hosts virtual seminar



Participants of the online seminar include stakeholders from the academe, industry, and several government units and attached agencies. PHOTO COURTESY OF AGVALLEZ/SEARCA

After its two-year implementation, the Southeast Asian Regional Center for Graduate Study and Research in Agriculture (SEARCA) project on upgrading the calamansi value chain in Oriental Mindoro hosted a virtual seminar on calamansi product development opportunities and waste utilization on 13 October 2020.

Farmer-leaders, processors, and representatives from the Department of Agriculture (DA), Department of Science and Technology (DOST), Department of Trade and Industry (DTI), and private sector attended the said activity.

Christine M. Pine, Oriental Mindoro provincial agriculturist; Fides Z. Tambalo, University of the Philippines Los Baños (UPLB)-National Institute of Molecular Biology and Biotechnology university researcher; and Oliver C. Evangelista, DOST-Industrial Technology Development Institute senior science research specialist served as the resource speakers.

Pine talked about the calamansi roadmap of the province. She also explained the current production trends, products, markets, and major

constraints in the calamansi value chain.

Tambalo discussed the different food and non-food products derived from calamansi pulp, rind, and peels and its market potential.

Evangelista introduced calamansi dietary fiber, an insoluble type derived from the pulp and peel. The said product prototype can be in the form of tablet, powder, and cookies.

The seminar concluded with a pledge of support and commitment from the representatives of DA-MIMAROPA High-Value Crops Division, DOST-Oriental Mindoro, DTI-Oriental Mindoro, and Mindoro State College of Agriculture and Technology (MINS CAT).

Dr. Matilde V. Maunahan, study leader from UPLB, shared that the activity took off from the results and recommendations of the earlier value chain analysis and the validation workshop of stakeholders that set the tone for further initiatives.

SEARCA, in collaboration with UPLB, MINS CAT, and the local government units in Victoria, Naujan, and Pola, Oriental Mindoro, implemented the said project titled

“Upgrading the Calamansi Value Chain towards Improving the Calamansi Industry of Oriental.”

Funded by DA-Bureau of Agricultural Research, the project intended to address the technical and market constraints of the calamansi industry in Oriental Mindoro, which has 6,872 hectares allocated for its production. The municipality of Victoria has the widest production in the region.

Some of the technologies promoted through the project were integrated pest management strategies and disease indexing to produce tolerant variety and clean planting materials.

Project implementers also introduced hot water treatment, modified atmosphere packaging, and off-season fruiting through pruning, using plant growth regulators, and nutrient and water management.

According to the 2012 Calamansi Value Chain Analysis of the DA-Philippine Rural Development Project, buyers prefer calamansi from Oriental Mindoro owing to its thicker rind, stronger taste, and longer shelf-life. ### (Rena S. Hermoso)

Something's fishy but definitely not this tilapia ice cream

Text by Jhon Marvin R. Surio | Photo courtesy of CLSU

Sure, there can be a handful of weird, exotic, or out of this world ice cream flavors but this ice cream with real tilapia fish has been making jaws drop in disbelief!

While Japan has first introduced fish-flavored ice cream to the world, the Central Luzon State University (CLSU) is the first in the Philippines and the world to use tilapia as ice cream flavoring.

In 2011, CLSU ventured into product development of ice cream, incorporating steamed tilapia meat into the all-time favorite dessert. Bizarre as it may sound, no—it does not smell or taste like fish at all.

According to project lead, Dr. Dana Vera Cruz, it all started when they challenged students to develop dishes using tilapia meat. What was lacking during the food festival then, they noticed, was a dessert.

Following that lightbulb moment, a dessert with tilapia meat was thought of. One thing led to another and the next thing they know, they are already developing an ice cream recipe with tilapia meat. A sensory evaluation was also conducted as part of product development.

Twelve parameters were considered in the process, namely: color, aroma, overall likeability, mouth-feel, taste, intensity of fish aroma, intensity of sweetness, intensity of fishy taste, amount of fish flakes, intensity of after taste, intensity of pleasant after taste, and buying attention.

After a rigorous research, the tilapia ice cream, tilapia ice cream



The Daerrys product line developed by CLSU features unique products such as the tilapia ice cream, tilapia ice cream sandwich, and tilapia praline crunch.

sandwich, and tilapia praline crunch were developed. It gave birth to CLSU's product line *Daerrys*.

The products earned good remarks and was then launched during the institution's Asian and Western Tilapia Cuisine Festival in September 2011.

The unique product has been gaining traction since then.

Conquering the food scene by storm

In 2016, the tilapia ice cream received the International Gold Award on Food Innovation during the Salon International de L'Agroalimentaire (SIAL) ASEAN Manila. That time, 350 exhibitors from 25 countries around the world participated. The product then went viral on the internet.

This paved way for the product to reach markets in Manila and be known even on international markets.

Further, as the winning product,

the tilapia ice cream was also shown in SIAL Paris Food Exhibit during the latter part of that year.

The tilapia ice cream of CLSU received numerous positive feedback from SIAL. Its success has taken the world by storm and brought the product to represent the Philippines in innovation exhibits held in New York, Indonesia, Abu Dhabi, Canada, and China in 2016 and 2017.

Support for Upscaling and Commercialization

Novelty aside, one of tilapia ice cream's selling point is its nutritive content, having lower fat and higher protein content than existing ice creams in the market. Imagine,

protein and omega 3 in an ice cream! Now that is really something to look forward to.

Because of its potentials, the Department of Agriculture-Bureau of Agricultural Research gave further support for technology transfer and its commercialization through upscaling and technology business incubation.

The bureau gave funding support to the project through the Agricultural Competitiveness Enhancement Fund, as part of its refocused program launched during the time of pandemic.

The target beneficiary of the project is the Manggagawang Bukid ng Guimba Agriculture Cooperative of Guimba, Nueva Ecija.

Members of the cooperative will be capacitated in the sustainable production of tilapia ice cream and cookies.

Trainings on tilapia grow out culture, sustainable production, good

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3 R4D facilities inaugurated in Cebu



PHOTOS COURTESY OF DA-CENTRAL VISAYAS



To enhance the capacity of the Department of Agriculture (DA)-Central Visayas in developing research for development (R4D) projects, three facilities were inaugurated on 25 November 2020 in Mandaue, Cebu.

The Plant Genetic Resources Center aimed to strengthen the region's support in agricultural crops diversification for conservation and utilization.

While, the Cebu Experiment Station Multipurpose Research Development Center intended to enhance the capability of the center in delivering R4D functions.

The Regional Research and Development Organic Agriculture Center was established to aid in the promotion of organic agriculture in Central Visayas.

DA-Bureau of Agricultural Research (BAR) through its Research Facilities Development Grant funded the Php 3-million worth facilities equipped with laboratory materials and equipment.

Cebu 6th District Representative Emmarie Ouano-Dizon; Atty. Salvador Diputado, DA-Central Visayas regional executive director; Joel Elumba, DA-Central Visayas regional technical director; and Dr. Fabio Enriquez, DA-Central Visayas research division chief, attended the inauguration.

The DA-Central Visayas has been collaborating with DA-BAR on projects that intensifies research utilization and dissemination. ###
(Chantale T. Francisco)

Something's fishy...from page 6 manufacturing practices and food safety, and food processing will also be done to enhance the capabilities of stakeholders.

New milestone amid the pandemic

Another milestone was reached by the tilapia ice cream despite the persisting pandemic.

CLSU, through its spin off company Vera Bella Enterprise, inked

a joint venture agreement with PWD Smart FarmAbility, a social enterprise based in Malaysia, which advocates for the empowerment of the disabled community through urban farming.

Under the said agreement, the tilapia ice cream will be brought to and distributed in Malaysia. Further, a manufacturing facility will be established to sustain the production of tilapia ice cream there.

PWD Smart FarmAbility aims to make people with disabilities be the champion of nutritious food such as the tilapia ice cream. ###

For more information:

Dr. Dana G. Vera Cruz
College of Home Science and Industry
Central Luzon State University
(044) 8940 0510 | (0917) 847 4982
dgveracruz@clsu.edu.ph

DA-BAR 2020 accomplishments reviewed, 2021 plans laid out

The Department of Agriculture-Bureau of Agricultural Research (DA-BAR) conducted the 2020 Annual Performance Assessment and Management Review on 26-27 November 2020 in Diliman, Quezon City.

The two-day activity was held to keep track of the bureau's accomplishments and to discuss its plans in line with the New Normal economic recovery geared towards elevating the relevance and responsiveness of the operations and programs of the office for 2021.

Dr. Vivencio Mamaril, new DA-BAR director, led the discussion focusing on quality management system management review; deliberation and evaluation of the bureau's physical and financial accomplishments on its banner and the national commodity and thematic programs, projects, and activities; the 2021 program plans; and the organizational restructuring effective January 2021.

"When funding [research for development (R4D)] projects, let us always look for the value and benefit of the investment. We should also provide clear pathways for our developed and commercialized technologies towards market mainstreaming and technology adoption," said Dr. Mamaril.

One of the prominent highlights raised was the bureau's strategic realignment towards market- and

results-oriented implementation of its initiatives that underscores concrete impact felt by its intended stakeholders.

"All project outputs should have a tone of inviting the targeted investors or telling the farmers and fishers to adopt, utilize, and retain the technologies for their benefit. Highlight the advantages that are digestible for them and entice them to become the enablers for the next users and adopters," said Dr. Mamaril.

Digna Sandoval, DA-BAR assistant director, officially closed the workshop by recognizing everyone's

commitment and encouraging synergy of efforts to actualize the bureau's plans and strategies towards the empowerment of farmers and fishers through R4D.

Facilitated by the Program Development Division, the annual performance assessment and management review is a collaborative activity among the bureau's divisions and units conducted to ensure its plans are properly and effectively operationalized based on the overall strategies and targets set by the bureau. ### (*Clarisse Mae N. Abao*)



Dr. Vivencio Mamaril, DA-BAR director, formally welcomes the attendees to the 2020 Annual Performance and Management Review. PHOTO: RPCABRERA | TEXT: CMABAO

BAR Chronicle

RDMIC Bldg., Elliptical Road corner Visayas Avenue
Diliman, Quezon City, Philippines 1104

Entered as second class mail at the Quezon City Central Post Office under permit no. 2C-14-01-148 NCR

Dr. Mamaril is new...from page 1
Technology Commercialization
Program (NTCP).

CPAR and NTCP gave opportunities to researchers to implement responsive and impactful research for development undertakings that helped farmers, fishers, agripreneurs, and consumers across the country. ### (*Rena S. Hermoso*)