

Bubalus



Quarterly Newsletter of the Department of Agriculture-Philippine Carabao Center

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FEATURES

ALAB Karbawan projects kick-start development of local dairy industry

By Ma. Cecilia Irang and Paul Andrew Texon

The implementation of the Accelerating Livelihood and Assets Buildup (ALAB)-

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Agri Chief William Dar leads inauguration of 'Nat'l Livestock Cryobank'

By Ma. Cecilia Irang

Department of Agriculture Secretary Dr. William Dar led the unveiling of the facility marker of the National Livestock Cryobank (NLC), which serves as a national repository of germplasm and biological samples from diverse livestock species, on September 3. The NLC, situated at the Livestock

Innovations and Biotechnology Complex of the DA-Philippine Carabao Center (DA-PCC) in the Science City of Muñoz, Nueva Ecija, will aid in the advancement of research for development (R4D) on ex-situ cryoconservation for animal genetic resources

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The thrust of the Department of Agriculture (DA) to implement programs that redound to bountiful harvest and increased income among the farming communities is in full display at the Philippine Carabao Center (PCC). Relevant activities are particularly anchored on the ALAB-Karbawan projects, which draw support from the Office of the Senate Committee on Agriculture, Food, and Agrarian Reform headed by Senator Cynthia Villar. These projects include the Carabao-Based Business Improvement Network (CBIN) and the Coconut-Carabao Development Project (CCDP). Since its launch in 2019, the CBIN has now proliferated in 25 provincial sites across the country. Meanwhile, the CCDP, a collaboration between DA-PCC and the DA-Philippine Coconut Authority (DA-PCA), which was launched in 2020, has also been introduced and implemented in 17 sites in 14 provinces.

Key elements for these two province-wide projects include dairy carabao entrustment to farmers, capability-building, installation of dairy processing facility and products outlet, and other production and post-production support services. We share some developments related to these projects in this issue of Bubalus particularly the construction and inauguration of Dairy Box (dairy products) outlets in Iloilo and Cotabato City along with the entrustment of crossbred buffaloes to farmers in Nueva Viscaya.

Complementing the ALAB-Karbawan projects are equally important programs that address social issues such as poverty and hunger. These are illustrated by the DA-PCC's participation in the Enhanced Partnership Against Hunger and Poverty (EPAHP) Pilot Gatasang Kalabaw Convergence Project and with Gawad Kalinga's "Walang Iwanan" Program. Likewise, agricultural produce in the adopted city (San Jose City) of DA-PCC was made even more accessible through the KADIWA ni Ani at Kita stalls installed at the Milka Krem grounds.

Meanwhile, R&D at DA-PCC, especially the application of biotechnology continues to play a strategically supporting role in all these undertakings, with the recent inauguration of the National Livestock Cryobank hosted by the agency's Livestock Innovations and Biotechnology (LIB) Complex. The latter was constructed via a previous project funded by the US PL480, which continues to provide funding support to DA-PCC, this time, thru the Intensified Community-Based Dairy Enterprise Development Project, co-implemented with the National Dairy Authority (NDA) and as facilitated by the Philippine Council for Agriculture and Fisheries (PCAF).

We also welcome our newly appointed DA-PCC Executive Director Dr. Liza Battad who, as of this writing, is stationed at the DA-Central Office to serve temporarily as DA's Assistant Secretary for Regulations and PCAF's OIC-Executive Director. We also congratulate fellow PCCeans who were awarded recently by the CSC's Regional Honor Awards Program as well as those who were either newly conferred or upgraded as Scientists under the NAST's Scientific Career System.

These are evidences that despite the challenges of the pandemic, DA-PCC continues to serve with excellence and relevance. Kudos to us all!

Eric P. Palacpac
Dr. Eric P. Palacpac

About the cover

The ALAB-Karbawan envisions a picture of empowered and self-sustaining farming communities as thousands more are expected to benefit from myriads of interventions provided under the project. This is being implemented by DA-PCC and sponsored by the Office of the Senate Committee on Agriculture, Food, and Agrarian Reform Chairperson Senator Cynthia Villar in hopes of increasing the country's milk production and creating livelihood opportunities to farmers.



(Photo by Rowena Bumanlag)

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DA-PCC hosts 'DA-Kadiwa ni Ani at Kita' in N.E.

By Ma. Cecilia C. Irang

Novo Ecijanans can now easily access and buy fresh, affordable, and quality agri-fishery products through the Department of Agriculture (DA)-Kadiwa ni Ani at Kita farmers' exhibit currently set up at the DA-Philippine Carabao Center grounds.

The Kadiwa (Katuwang sa Diwa at Gawa) ni Ani at Kita program at DA-PCC was put up at the Milka Krem compound in the Science City of Muñoz, Nueva Ecija on September 3 in support of the DA's twin objectives of "masaganang ani (bountiful harvest)" and "mataas na kita (higher income)" for farmers and fisherfolk.

Said program, launched in September 2019 and rolled out across the country, serves as a direct marketing link between farmers and fisherfolk and consumers. This initiative makes farm produce accessible and affordable to consumers.

Leading the opening of the Kadiwa stores at DA-PCC were Agriculture Secretary William Dar, Assistant Secretary for Strategic Communications Noel Reyes, Assistant Secretary-designate for Regulations Dr. Liza Battad, DA-



(R-L) DA-PCC OIC Executive Director Dr. Ronnie Domingo, DA Secretary William Dar, Asec. for Regulations Dr. Liza Battad, and Asec. for Strategic Communications Noel Reyes happily flaunt carabao's milk-based products during the Kadiwa ni Ani at Kita farmers' exhibit in Nueva Ecija.

PCC's OIC Executive Director Dr. Ronnie Domingo, Deputy Executive Director for Administration and Finance Dr. Caro Salces, and Deputy Executive Director for Production and Research Dr. Claro Mingala.

A total of 10 booths were set up, eight of which were manned by DA-PCC's assisted cooperatives in Nueva Ecija including Eastern Primary Multipurpose Cooperative (MPC), Simula ng Panibagong Bukas MPC, Brotherskeeper MPC, all in San Jose City; Catalanacan MPC, Licaong Agriculture Cooperative, Aling Maria Homemade sweets in Science City of Muñoz; Caudillo Prutas at Gulay Producers Cooperative in Cabanatuan City; and Bongabon Dairy Cooperative in Bongabon.

Sec. Dar visited each booth and took cognizance of the farmers' plight amid the pandemic. He encouraged them to carry on and assured them of government's initiatives, one of which is the Kadiwa, to help them sell their commodities directly to buyers.

"This Kadiwa is a good opportunity for farmers and co-op members to bring their agri-fishery products to communities. Some of our products

like corn, sweet potato, and eggplant are outcomes of the Gatas, Gulay, Karne (GGK) project of DA-PCC. Consumers may opt to buy such products here instead of going and queuing to the market," Samuel Mercader, EPMPC member and one of the sellers, said.

Kadiwa stalls are open from 8 a.m. to 5 p.m. every Friday. Among the products on sale include carabao's milk-based and Kardeli carabao meat products, native delicacies, squash, string beans, sweet corn, calamansi, cucumber, tomatoes, papaya, sweet potato, native chicken, oyster mushroom, eggplant, okra, and other assorted lowland vegetables and fruits. **B**



DA-PCC names winners in 2021 R4D IHR of completed researches

By Dine Yve Daganos

In the recently concluded 2021 Research for Development In-House Review of Completed Researches and Research Symposium, the DA-Philippine Carabao Center (DA-PCC) announced the winners for the three-day review from September 28 to 30 via video conference.

The research paper titled “Prevalence, Molecular Epidemiology and Antibiotic Resistance Profiles of Methicillin-Resistant *Staphylococcus aureus* (MRSA) from Milk and Nasal samples of Dairy Buffaloes” authored by Claro N. Mingala, Alona T. Badua, and Paula Blanca V. Gaban received the “Best Completed Paper” award with 93.75% average score. Under the criteria for the said award, the Title consists 10%, Introduction 10%, Materials and Methods 25%, Results and Discussion 40%, and finally the Summary and Conclusion for 15%.

The DA-PCC at Ubay Stock Farm (DA-PCC at USF) was also given recognition for having the “Most Number of Papers Presented,” while Dr. Thelma A. Saludes from DA-PCC at University of the Philippines Los Baños (UPLB) received the award for “Best Oral Presenter.”

Apart from certificates, the winners will also be receiving cash prizes.

The panel of evaluators were Dr. Virginia Venturina, Dean of the College of Veterinary Science and Medicine in Central Luzon State University (CLSU); Dr. Joice San Andres, Department Chair of Animal Science, College of Agriculture, CLSU; Prof. Jessica Rustia, Associate Professor V of the Department of Food and Science Technology, College of Home Science and Industry, CLSU; and finally Dr. Consuelo Amor Estrella, Professor, Institute of Animal Science, College of Agriculture and Food Science UPLB. **B**

Carapreneurship gains ground in Region 2 thru ALAB Karbawan project

By Ma. Cecilia Irang

The DA-Philippine Carabao Center at Cagayan State University (DA-PCC at CSU) entrusted a total of 50 head of crossbred dairy buffaloes to Saint Vincent Parish Multi-Purpose Cooperative (SVMPC) in Dupax Del Sur, Nueva Vizcaya on August 6—a milestone marking the first ALAB-Karbawan project in Region 2.

Said activity is a component of the project titled Carabao-based Business Improvement Network (CBIN), popularized as Accelerating Livelihood Assets Buildup (ALAB)-Karbawan of the DA-PCC. It was funded by the Office of the Senate Committee on Agriculture, Food, and Agrarian Reform Chairperson Senator Cynthia Villar and is geared towards providing income opportunities to farmers and progressing the carabao dairy industry.

The entrustment activity was done after the co-op members underwent a series of trainings, which included social preparation and basic buffalo management.

Sen. Villar, through a video message, promotes dairy enterprise as additional source of income of farmers, hence the implementation of CBIN project.

DA-PCC OIC Executive Director Dr. Ronnie Domingo, in his message, imparted words of encouragement to co-op members saying they are blessed with “3 viable Ps: Pamunuan, Programa, and Properties (labor and carabaos).”

“You have to value these blessings and aim for higher milk production as there is a sure market for your milk produce due to the national feeding program,” he added.

Dupax Del Sur Mayor Ruben Basconcillo expressed his utmost gratitude to Sen. Villar, DA-PCC, and Provincial Government for choosing their town as one of the beneficiaries for the project.

“Out of over 1,400 municipalities across the country, only 17 were selected for the project and we are beyond grateful to be included in



DA-PCC and local government officials in Dupax Del Sur lead the entrustment activity as a component of the ALAB-Karbawan project.

this undertaking. Employment- and economy-wise, the whole town will surely benefit from this,” he said.

SVMPC Chairperson Noel Amador committed to make the most of the project and never take it for granted. He said that they will cherish, nurture and propagate the carabaos entrusted to them and guaranteed that they too will thrive in this venture like others. He also envisioned for their co-op to launch an agri-tourism site in the long run.

With this project, SVMPC was urged by the office of Sen. Villar to establish a learning site and eventually a farm school, as accredited by ATI and TESDA, respectively.

Also gracing the turn-over ceremony were DA-PCC Planning and Information Management Division OIC Dr. Ericson Dela Cruz who gave an overview of the project, Municipal Agriculturist Elgine Iritan, DA-PCC at CSU Center Director Dr. Rovina Piñera, and other employees and SVMPC members.

Provincial Veterinarian Dr. Christopher Seraspi, DA-RFO 2 Dr. Roberto Busania, and Malen Galang also attended the event to represent Gov. Carlos Padilla, DA-RFO 2 Regional Executive Director Narciso Edillo, and Sen. Villar, respectively. They also delivered their respective messages of support to the project. **B**

DA-PCC WVSU, BNDC lead groundbreaking of Dairy Box in Iloilo

By Mary Antonette Andarza



The Philippine Carabao Center at WVSU, in partnership with Barotac Nuevo Development Cooperative, held a groundbreaking ceremony for the construction of the Dairy Box on September 27 in Brgy. Tabuc Suba, Barotac Nuevo, Iloilo.

The ceremony was led by former congressman Dr. Ferjanel G. Biron, Congressman Braeden John Q. Biron, Mayor Bryant Paul Q. Biron, PCC WVSU Center Director Arn D. Granada, BNDC Chairperson Antonio Belluga, Vice-chairperson Angelito Dasmarias, and Board of Director members Edwin Besana, Cyril Sazon, Dydu Bontigao, Romelo Velez and Manager Dinah

Denaque.

Senator Cynthia A. Villar, chairperson of the Senate Committee on Agriculture, Food, and Agrarian Reform, gave her virtual message for the said ceremony.

“Kailangan nating palakasin ang milk production sa 4th District ng Iloilo, para ang kanilang mga magsasaka na miyembro ng Barotac Nuevo Development Cooperative ay magkaroon ng dagdag-kita sa gatas ng kalabaw na pwedeng isama sa milk feeding program ng DepEd at DSWD. Mahalaga sa akin ang pagpapaganda ng dairy

industry ng Pilipinas,” she said.

The event was in connection with PCC’s CBIN program that aims to establish Carabao - based Business Improvement Network propelling an inclusive, sustainable, and highly competitive local dairy industry.

The CBIN program in Panay island was pioneered in the Province of Antique, particularly in the municipalities of Hamtic and Pandan, Antique last 2019. The project initially provided assets, such as breeding carabaos, equipment, supplies, and technical support through training and extension services. **B**

First-ever Dairy Box outlet opens in Region 12

By Chrissalyn Marcelo



Members of Sta. Catalina Multi-Purpose Cooperative together with DA-PCC at USM officials show off the newly opened Dairy Box outlet in their area.

Another “Dairy Box” outlet and processing facility was formally opened and turned over by the Department of Agriculture-Philippine Carabao Center at University of Southern Mindanao (DA-PCC at USM) to farmers’ cooperative Sta. Catalina Multi-Purpose Cooperative (SCMPC) in Barangay Labuo, President Roxas, Cotabato City on August 5.

The facility was established as part of the Carabao-based Business Improvement Network (CBIN) project or popularly known as the “Accelerating Livelihood and Assets Buildup (ALAB)-Karbawan” implemented by DA-PCC and funded by the Office of Senator Cynthia

Villar.

This facility, which is a component of a Php10 million-project, aims to serve as a dairy hub where farmers can sell and market their nutritious and healthy carabao’s milk products.

Leading the turnover ceremony were key officials of the DA, local government, and SCMPC. Center director Benjamin John Basilio, community development specialist Paul Andrew Texon, Mindanao Development Authority Secretary Emmanuel Piñol, Congressman Jose Tejada, Municipal Mayor Jonathan Mahimpit, Officer-in-charge Municipal Agriculturist Romel Jaculba, SCMPC Vice chairperson Danilo Baliguat and SCMPC General

Manager Ma. Fe Pineda graced the ceremonies. DA-RFO XII Technical Director for Operations Zaldy Boloron, Second District Board Member Philbert Malaluan and Arthur Jared Go from the office of Senator Villar also graced the event to represent DA-RFO XII Director Arlan Mangelen, North Cotabato Governor Nancy Catamco, and Senator Cynthia Villar, respectively.

Other Dairy Box and processing facilities established by the DA-PCC under its ALAB-Karbawan project are located in the provinces of Pangasinan, Tarlac, Bataan, Albay, Palawan, Negros Oriental, Zamboanga Del Sur, and Zamboanga Del Norte. 

This facility, which is a component of a Php10 million-project, aims to serve as a dairy hub where farmers can sell and market their nutritious and healthy carabao’s milk products.



DA-PCC at CMU supports Gawad Kalinga ‘Walang Iwanan’ program

By Jeson Candole



Some of the beneficiaries of the “Walang Iwanan” project of the Gawad Kalinga supported by DA-PCC at CMU.

The Department of Agriculture-Philippine Carabao Center at Central Mindanao University (DA-PCC at CMU) extended supplementary support to the Feeding Program under the “Walang Iwanan” project of Gawad Kalinga (GK) Bukidnon Chapter launched last July 1.

Said program with the theme, “Hunger ends where caring begins” was spearheaded by GK Bukidnon Chapter and Bukidnon Tagoloan Mulahaya Ha Kabukalagan Agriculture Cooperative (BUKTAMACO) in partnership with DA-PCC at CMU.

As a supplementary component in the feeding program, the DA-PCC at CMU will provide 2,900 sachets of 200 ml pasteurized carabao’s milk every day for 40 feeding days to beneficiaries in the vulnerable sector, which include children, pregnant, and senior citizens from select barangays in Bukidnon identified by GK.

DA-PCC at CMU Center Director Dr. Lowell Paraguas said helping each other overcome this pandemic with various means will go a long way.

“We advocate the bayanihan spirit, walang iwanan, serbisyo muna bago benepisyo para sa Diyos at bayan,” Dr. Paraguas added.

“Walang iwanan (leave no one behind) is our commitment to the poor. It is a testament of patriotism fueled by faith. Insha’llah (God willing), together, we can end this poverty,” GK Executive Director Dan Bercasio said.

Moreover, GK Chairman Luis Oquiñena shared that GK is building a nation empowered by people with faith and patriotism; a nation made up of caring and sharing communities, dedicated to eradicate poverty and restore human dignity.

“We aim to engage at least 20,000 barangays through our platforms of solidarity, resulting in millions of lives transformed and their stories told. We are called to be heroes for the poorest. You are a part of that growing army,” Oquiñena added.

Harvey Maraguinot, head of GK in Mindanao, said the kindness of DA-PCC boosts their morale to continue helping those less

fortunate despite the risk of being exposed to the virus.

“We commend and appreciate DA-PCC’s contribution to this cause. It only shows how much our efforts are valued and we feel even more inspired to continue our advocacy to achieve zero hunger nation,” Maraguinot concluded. 

“We advocate the bayanihan spirit, walang iwanan, serbisyo muna bago benepisyo para sa Diyos at bayan,”

Dr. Lowell paraguas
CMU Center Director

DA-PCC joins national convergence project to end hunger and poverty

By Reinaly Garcia

The Department of Agriculture-Philippine Carabao Center (DA-PCC), through OIC-Executive Director Dr. Ronnie D. Domingo, participated in the virtual ceremonial signing of a Memorandum of Agreement (MOA) on Enhanced Partnership Against Hunger and Poverty (EPAHP) Pilot Gatasang Kalabaw Convergence Project facilitated and hosted by the Department of Social Welfare and Development Sustainable Livelihood Program-National Program Management Office (DSWD SLP-NPMO) on September 28.

The EPAHP Pilot Gatasang Kalabaw Convergence Project is under the Zero Hunger Program headed by IATF-Zero Hunger Program Chair and Cabinet Secretary Hon. Karlo



PHOTO BY DR. RONNIE DOMINGO

Alexei B. Nograles. The Department of Social Welfare and Development (DSWD) thru Sec. Rolando Joselito D. Bautista; Department of Trade and Industry (DTI), thru Sec. Ramon M. Lopez; and Commission on Population and Development (POPCOM), thru Executive Director Dr. Juan Antonio A. Perez III also signed the MOA as project partners.

The project aims to establish viable enterprises along the buffalo value chain as source of additional income for farmers and members of community-based organizations. It also aims to increase the volume of locally produced milk that can be supplied to the National Feeding Program in proposed pilot areas in Regions I, VI, and IX. Ultimately, the

project is seen to contribute to the achievement of the objectives of the Zero Hunger Program and EPAHP Program through the convergence of government services in partnership with private sector partners and provision of immediate social preparation and intervention.

DA-PCC, through this project, is expected to: (1) identify priority areas and participants for cooperation along the value chain for carabao and Carabao-Based Enterprises (CBEs) in coordination with partners; (2) facilitate the acquisition of quality dairy buffalos for the project as counterpart support to the DSWD's SLP; and (3) offer appropriate technical and support services such as, but not limited to production support services, market development services, and extension support and training services.

Also part of the virtual MOA signing were DSWD Undersecretary for Operations Atty. Aimee S. Torre Franca-Neri and DSWD Assistant Secretary for Specialized Programs Asec. Rhea B. Peñaflor.

Messages of support from Senator Christopher Lawrence “Bong” Go and Department of Agriculture Secretary Dr. William D. Dar were also warmly received by the participating agencies during the ceremonies. **B**

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PHOTO BY MA. CECILIA IRANG

USDA visits DA-PCC for collab on strengthening livestock biotechnology

By Chamanei Elias

The United States Department of Agriculture (USDA)-Manila conducted an appreciation visit in line with the US PL480 Project: Strengthening the Livestock Biotechnology Center at the DA-Philippine Carabao Center National Headquarters and Gene Pool (PCCNHQGP) on August 5.

The on-going PL480 project is focused on the “Intensified Community-Based Dairy Enterprise Development”, which will be jointly implemented by the National Dairy Authority (NDA) and DA-PCC with the Philippine Council for Agriculture and Fisheries (PCAF) as fund manager.

With a budget of Php513 million, DA-PCC will focus on increasing the milk production and dairy buffalo herd through the following project components: dairy buffalo procurement and distribution, expanded artificial insemination, feed production and development, dairy buffalo enterprise development, capacity building, and project management, monitoring

and evaluation.

Florence M. Sevilla, Agricultural Specialist of the USDA Foreign Agricultural Service previously requested an appreciation visit with the agency intending to have a better understanding and insight on the status of the dairy industry in the Philippines.

Accompanying Sevilla was Ryan Bedford, Agricultural Attaché of the US Embassy. The visit included an observation at the Cryobank laboratory, Livestock Innovations and Biotechnology Complex to showcase DA-PCC technologies, dairy and meat products and the Total Mixed Ration (TMR) machine at the agency's Gene Pool. **B**



PHOTO BY MA. CECILIA IRANG

Scientist Dr. Eufrocina Atabay walks US Embassy Agricultural Attaché Ryan Bedford through the agency's technologies and research initiatives.

Pangasinan PLGU, DA-PCC gear up for Provincial Livestock Biotechnology program

by Danilda Hufana-Duran



PHOTO BY PAULYN SATURNO
OIC Executive Director (2nd from right) Dr. Ronnie Domingo accompanies PLGU-Pangasinan officials to the DA-PCC's products outlet.

The Provincial Government of Pangasinan, represented by Assistant Provincial Agriculturist Nestor Batalla and Prov. Engineer Nilo Buenconsejo, visited the DA-Philippine Carabao Center (DA-PCC) National Headquarters and Gene Pool on September 23 to see the agency's animal housing facilities, milking parlor, and practices, which can be adopted at the Laoac-Provincial Dairy Farm (LPDF) of Pangasinan.

The team of Mr. Batalla was accompanied by DA-PCC at Don Mariano Marcos Memorial State University (DA-PCC at DMMMSU) Center Director Vilma Gagni, who covers the Carabao Development Program operations in Pangasinan.

The visit of Mr. Batalla was based on earlier plans with the DA-PCC's Reproduction and Physiology Section (RPS), led by Dr. Danilda Hufana-Duran, to establish the livestock biotechnology program of Pangasinan. Since the buffaloes at LPDF are crossbreds, the bloodline of these animals needs to be upgraded to produce higher volume of milk and

support the province-wide milk feeding program.

Using reproductive biotechnologies, Dr. Edwin Atabay of RPS in partnership with DA-PCC at DMMMSU carried out the Fixed-Time Artificial Insemination using semen of selected river buffalo bulls last September 8-19 to produce 75% generations of crossbreds. With the expected calving of the pregnant animals, construction of the milking parlor is needed, hence the visit.

DA-PCC OIC Executive Director Dr. Ronnie D. Domingo welcomed the team and accompanied them

to the milking parlor at the DA-PCC National Gene Pool; Central Dairy Collection and Processing Facility; Milka Krem where dairy products are marketed; and the ACDI Farm in Lomboy, San Jose City.

The LPDF started their operation in February with 93 head of crossbred buffaloes. As these animals are crossbreds, facilitation of the production of purebred animals using advanced reproductive biotechnologies was proposed. Dr. Domingo instructed Dr. Hufana-Duran to craft the project proposal for funding by the Department of Agriculture. **B**

Since the buffaloes at LPDF are crossbreds, the bloodline of these animals needs to be upgraded to produce higher volume of milk and support the province-wide milk feeding program.

DA-PCC strengthens adaptive capacity of carapreneurs on the effects of climate change

By Chamanei Elias



Estella Valiente, OIC of Socio-Economics and Policy Section, explains the effect of climate change on the performance of carabaos in terms of milk production.

The Department of Agriculture -Philippine Carabao Center (PCC), through its Socio-Economics and Policy Section (SEPS), conducted a lecture-discussion to strengthen the adaptive capacity of carapreneurs on climate change on July 23.

The activity was part of an awareness campaign to enhance livestock cooperatives' adaptation and mitigation strategies on the effects of climate change to their livelihood. It also highlighted the contribution of livestock industry to greenhouse gases and how to lessen its harmful effect on the environment. Studies show that 9.7% of unmanaged carabao manure contributes to greenhouse gases around the globe.

Gerardo F. Delos Santos, chairman of the Nueva Ecija Federation of Dairy Carabao Cooperatives (NEFEDCCO), shared that climate change had impacted their livelihood as carabao raisers.

"Masyadong nakakaapekto ang climate change sa kabuhayan ng mga tao. May mga 'di inaasahang pagbaha at kalamidad.

Nakakaapekto rin ito sa bukid kagaya ng pagdudulot nito ng sakit sa mga palay at mais. Nakakaapekto sa mga pagkain ng hayop, 'yong mga damo parang 'di na gaanong tumutubo. Dahilan din ang climate change sa pagkakasakit ng mga alaga naming hayop (Climate change has impacted our livelihood. From unexpected floods and disasters to causing diseases to our crops such as rice and corn. It also affects the growth of forages for our carabaos and causes illness to our livestock)," said Delos Santos.

Estella P. Valiente, OIC of SEPS, served as the resource speaker during the lecture-discussion. She explained that as the temperature rises, it affects the performance of carabaos in milk production. The shelf life of processed milk will also be shorter.

"Tumataas din ang gastusin nila sa tubig. Sa ngayong malamig-lamig, once or twice ang paligo nila sa kalabaw. Pero pag tag-init, 3 to 5 times nila pinapaliguan to keep them cool (Their water consumption has also increased. Now that the weather is cold they bathe their carabaos once or twice.

But during the summer, they need to bathe them 3 to 5 times to keep them cool)," added Valiente.

Valiente then urged the carapreneurs to use innovative materials in making climate-smart housing such as the installation of sprinklers, mists, and electric fan to cool off their livestock.

She reminded participants to utilize organic and eco-friendly ways to manage carabao manure such as vermicomposting. Valiente also encouraged to plant trees as a way to mitigate the effects of climate change as trees absorb carbon dioxide and produce oxygen and help cool the environment.

The lecture-discussion ended with an open forum and an interactive sharing of carapreneurs on their own effective ways of managing carabao manures. Approximately 50 participants from different dairy cooperatives from Nueva Ecija attended the activity.

Dr. Ronnie D. Domingo, DA-PCC OIC-Executive Director, was also present during the activity. **B**

Dr. Liza Battad named new DA-PCC Executive Director

By Ma. Cecilia Irang

“We are destined to serve the purpose of our existence. Let’s be felt as catalyst of significant reforms for our clients. It’s not about us at PCC, it’s about the result of the carabao development program for the welfare of the clients.”



Department of Agriculture (DA) Secretary William D. Dar has appointed former chief for planning and information management of DA-Philippine Carabao Center (DA-PCC) Dr. Liza Battad as the latter’s new executive director.

Dr. Battad was formally welcomed by the DA-PCC officials and employees on July 1 in a hybrid program (remote and on-site following standard safety and health protocols), as she assumed her functions, duties, and responsibilities as the newly appointed head of the agency.

DA-PCC OIC Executive Director Dr. Ronnie Domingo gave words of encouragement to Dr. Battad as she may face several hurdles in the service along the way, but assured her of PCCeans’ full support.

Deputy Executive Director for

Admin. and Finance Dr. Caro Salces believes that the DA-PCC will soar to greater heights and achievements under Dr. Battad’s leadership and that she will lead the agency to become frontrunner of research and development in the livestock sector.

Deputy Executive Director for Production and Research Dr. Claro Mingala congratulated her and anticipated her full service in leading the workforce to attain the tasks mandated to the agency.

Former Executive Director Dr. Arnel Del Barrio also extended his welcome message to Dr. Battad via phone call.

“We’re here to support you and we’re delighted that the new director is a PCCean. I hope that we’ll continue to implement our program as mandated and overcome whatever challenges we may encounter through the culture of PCC i.e., we work as a team, we solve the problem together, and we move forward,” Dr. Del Barrio

said.

Division Chiefs Dr. Eric Palacpac of the Knowledge Management, Dr. Eufrocina Atabay of the Research and Development (represented by Dr. Ma. Wynne Pagaduan), Aimee Fulgencio of the Admin and Finance, and Dr. Ericson Dela Cruz of the Planning and Information Management also gave their respective congratulatory messages and committed to give their unreserved support to her leadership, directives, and vision.

Moreover, DA-PCC regional center directors, represented by Grace Recta of DA-PCC at Mariano Marcos State University (Luzon cluster), Ariel Abaquita of DA-PCC at La Carlota Stock Farm (Visayas cluster), and Dr. Lowell Paraguas of DA-PCC at Central Mindanao University (Mindanao cluster), delivered their messages virtually.

In her message, Dr. Battad revealed that leading an organization has

always been her dream and one of her prayers, thus, she considers her appointment as “fate”.

“I draw inspiration from the former leaders of DA-PCC and the top management. We commit to the sets of success and milestones that we will all work together and let’s make DA-PCC’s presence felt across the country and viewed relevant at the level of DA,” she averred.

She shared that comfort, hope, renewal, inspiration, serenity, and truth serve as her mantra to become a relevant and innovative leader with well-felt effects on the agency’s overall performance.

“We are destined to serve the purpose of our existence. Let’s be felt as catalyst of significant reforms for our clients. It’s not about us at PCC, it’s about the result of the carabao development program for the welfare of the clients,” she said.

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Agri Chief William Dar leads...

(AnGR) from diverse livestock species towards conservation, management, and utilization, leading to sustainable animal production systems.

These endeavours are seen to sustain the genetic diversity of livestock species in the country and to provide a source of genetics to be used by farmers, livestock breeders, and other interested clients.

Secretary Dar, during the inauguration program, tried depositing frozen buffalo semen in the cryotank as part of a demonstration that the AnGR can be stored in an extremely cold temperature and can stay viable until future utilization. The NLC has

a total of six cryotanks that store AnGR in liquid nitrogen.

The construction of this facility was made possible through the technical assistance and generous support of DA-PCC’s international partners, which include the United States of America through the PL480 project and the Republic of South Korea through the Korea International Cooperation Agency (KOICA).

Following the inauguration activity was the signing of administrative order and memorandum circular to formally declare DA-PCC’s cryobank facility as the National Livestock Cryobank towards conservation and management program.

The agriculture chief was also briefed on the agency’s technologies and research initiatives, in which he urged researchers and technology developers to not only focus on publication but also dwell more on the application and impact of such technologies for the benefit of rural farming families.

Apart from the inauguration activity, Secretary Dar also presided the 22nd Advisory Board Meeting composed of the following: DA-PCC’s top management, DA-PCC former executive director, DA Undersecretary for Livestock, Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development (PCAARRD) Executive Director,

Bureau of Animal Industry Director, Chancellor of the University of the Philippines at Los Baños (UPLB) and presidents of Central Luzon State University (CLSU), Central Mindanao University (CMU), Cagayan State University (CSU), Don Mariano Marcos Memorial State University (DMMMSU), Mariano Marcos State University (MMSU), Visayas State University (VSU), West Visayas State University (WVSU), University of Southern Mindanao (USM), and farmers’ representatives. The 23rd AdBoard meeting will be held in December.

He also led the opening of the Kadiwa ni Ani at Kita farmers’ exhibit at the DA-PCC grounds. **B**

(With reports from Lilian Villamor)



PHOTO BY CHRISALYN MARCELO

DA-PCC executives recognized in CSC Regional Honor Awards

By Dine Yve Daganos

Three executives from DA-Philippine Carabao Center (PCC) received recognition during the Regional Honor Awards-Region 3 under the Civil Service Commission (CSC) Honor Awards Program (HAP) for displaying exemplary work performance in the field of public service.

Knowledge Management Division (KMD) Chief Dr. Eric P. Palacpac and Head Researcher of the Breeding and Genetics Unit Dr. Ester B. Flores were conferred the CSC Pagasa Award (Individual Category), while Unit Chief of Livestock Biotechnology Center Dr. Claro N. Mingala received the Presidential Lingkod Bayan Award. Dr. Flores also advanced to join the semi finalists for the National Level who are set for screening from the National Committee on Awards.

In addition, Anna Reylene from DA-PCC University of the Philippines Los Baños (UPLB) also bagged the Pagasa Award in Region IV.

The CSC HAP is an annual program that aims to motivate or inspire government employees to improve their quality of performance and instill deeper involvement in public service. The program consists three categories for nominations namely the Presidential Lingkod Bayan Award, Pagasa Award, and the Dangal ng Bayan Award. Lingkod Bayan is awarded to individuals or groups for rendering outstanding services having nationwide impact, while Pagasa Award recognizes exceptional contributions benefitting several government agencies. On the other hand, the Dangal ng Bayan Award recognizes employees with exemplary behaviour projecting positive influence to others.

The program is synchronous to the 121st Philippine Civil Service Anniversary Celebration this September accentuating the theme “Transforming Public Service in the next Decade: Honing Agile and Future Ready Servant-Heroes.” **B**



DR. ESTER B. FLORES
Philippine Carabao Center, Nueva Ecija



DR. CLARO N. MINGALA
Philippine Carabao Center, Nueva Ecija



DR. ERIC P. PALACPAC
Philippine Carabao Center, Nueva Ecija



Unlocking the maternal lineages of Philippine swamp buffaloes

By Lilian Villamor

Determining the maternal lineage of swamp buffaloes directly impacts on genetic improvement including plans and strategies for breeding, crossbreeding, and conservation management.

PHOTO BY NICKSON ECLARINAL

From Page 13 Dr. Liza Battad named ...

“I hope that we will all be ready for a chance to change. Let us all be strong and stay afloat,” she concluded.

Dr. Battad took her oath of office before DA Secretary Dar last June 9. She was appointed following the retirement of Dr. Arnel Del Barrio, who had held the position of executive director for more than six years. Before filling the position, she had served as DA-PCC's chief administrative officer and planning officer. Most recently, Dr. Battad

served as the acting executive director of the Philippine Council for Agriculture and Fisheries and was also designated, in a concurrent capacity, as DA Assistant Secretary for regulations.

Her mettle and exemplary performance in government service is manifested by her notable accomplishments as DA-PCC's planning officer; as lead for partnership development and international cooperation; and

as head of the agency's business development and commercialization unit.

Dr. Battad was a graduate of Bachelor of Science in Agricultural Economics at the Pampanga Agricultural College, holds a master's degree in Agribusiness Management at the University of the Philippines-Los Baños, and a PhD degree in Community Development in the same university. Her stint at DA-PCC started as a Project Development Officer II in 1996. **B**

Characterization and classification of swamp buffaloes, however, could be a lot complicated. Merely relying on a swamp buffalo's physical traits such as skin color, the shape of horns, and body type, would be impractical and inaccurate given a huge population size.

Another way to properly classify an animal's ancestry is through genetic analysis based on their deoxyribonucleic acid (DNA) traits, which are unique to each living organism but will require different biotechnological processes and trained personnel to produce scientific results.

It has been a long-standing question whether the maternal lineage of Philippine swamp buffaloes is just one that is represented by maternal lineage A. There are limited reports on the presence of maternal lineage B wherein China is one of the few countries in the world where swamp buffaloes thrived and existed over time. Other Asian countries like Taiwan, Vietnam, and Laos got minor reports of maternal lineage B in their countries.

The DA-PCC's study on detecting the maternal lineages of Philippine swamp buffaloes was funded through the project

DABIOTECHR1506. Its primary objective is to resolve the maternal lineages of Philippine swamp buffaloes.

Different concepts and techniques involving physical characterization and imploring molecular biotechnology tools and processes in analyzing the DNA characteristics of the swamp buffalo's population were performed. This involved collecting blood from the animals where DNA was extracted from, making more copies of DNA using the Polymerase Chain Reaction (PCR) Method, sequencing, and statistical and bioinformatics analysis.

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PHOTO BY NICKSON ECLARINAL

Researchers record the body measurements of animals as part of gathering baseline information on morphological characterization of swamp buffalo in the Philippines.

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Significant findings were derived from a sample of 107 Philippine swamp buffalo in 23 different populations of Luzon, Visayas, and Mindanao islands. The study revealed the presence of both maternal lineages A and B in the sample population using the mitochondrial DNA D-loop region variation. Also, the relationship analysis for the three main islands groupings of the Philippines, namely Luzon, Visayas, and Mindanao, was determined. Results showed the presence of maternal lineages A in all these major island groups of the country. However, it should be noted that a strong presence or affinity of maternal lineage B was observed in Occidental Mindoro in Luzon and Capiz in the Visayas.

A distant relationship was also observed on the genetic relationship per inter island basis in animals living in Luzon and Mindanao. The close relationship observed between Visayas and Mindanao swamp buffaloes can be attributed to the vast distance

between these major island groups. This can also be explained by the historical event of the early migration of Visayan farmers and their carabaos to cultivate the agricultural land of Bukidnon province in Mindanao. Furthermore, the results of the study tried to shed some light on the disputed claim that there is no maternal lineage B present in the Philippines. It refuted previous studies claiming that only maternal lineage A is currently present in the country.

These findings set new priorities in R&D pertaining to both on-site (in situ) and off-site (ex situ) conservation management processes like actual conservation of animals in their natural habitat and storing animal genetic traces such as semen and blood samples, respectively.

Efforts along this line could pave the way for future planning and strategies that will enhance the implementation of native animal genetic resource conservation. **B**

Acknowledgment:

The research outputs emanated from the DABIOTECHRI506 by LPVillamor, EBFlores, ASSarabia, AMParaguas, AJDSEscuadro, and PC Cailipan, which was funded by DA-Biotech and DA-BAR. In addition, an extension work as part of the dissertation of LPVillamor was conducted under the mentorship of Dr. Koh Nomura, Dr. Yukimizu Takahashi, and Takahashi Amano in Tokyo University of Agriculture, Atsugi Campus, Japan through the Ph.D. by research Tokyo NODAI-SEARCA scholarship.

From Page 1

ALAB Karbawan projects kick-start...

Karbawan projects has become a harbinger of hope not only in providing business opportunities to carapreneurs but also in boosting the local dairy industry.

This has been corroborated by the recent accomplishments of the ALAB-Karbawan development project across the country, which is currently being spearheaded by the Department of Agriculture-Philippine Carabao Center (DA-PCC).

ALAB-Karbawan is an umbrella program initiative and popularized name for two province-wide Carabao-based Enterprise Development implementation projects namely Carabao-based Business Improvement Network (CBIN) and Coconut-Carabao Development Project (CCDP), both initiated and funded by the Office of the Senate Committee on Agriculture, Food, and Agrarian Reform Chairperson Senator Cynthia Villar.

Sen. Villar has long been a strong advocate for spurring the local dairy industry, thus, she promotes dairy enterprise as another income-generating venture for smallholder farmers.

ALAB-Karbawan also supports the main goal of the government to increase the country's milk production and create livelihood opportunities, hence Sen. Villar allotted a total budget of PHP545 million for the implementation of CBIN (PHP295M for FY2019 and FY2020; on process budget of PHP110M for FY2021) and CCDP (PHP140M).

The CBIN and CCDP are expected

to start up or improve dairy development in the identified provinces through entrustment of dairy buffaloes, engagement of processing plants and outlets to pursue carabao-based business ventures, and provision of capability-building and technical support services.

The project sites include Ilocos Sur, Pangasinan, Tarlac, Bataan, Oriental Mindoro, Quezon Province, Camarines Sur, Albay, Sorsogon, Palawan, Negros Occidental, Negros Oriental, Antique, Aklan, Leyte, Biliran, Northern Samar, Samar, Zamboanga Peninsula, Misamis Oriental, Davao Del Sur, Davao De Oro, Davao Oriental, South Cotabato, and North Cotabato.

CBIN

The CBIN project, launched in October 2019, aims to establish a robust carabao-based enterprise in recipient provinces, thereby creating livelihood for farmers.

The project is being implemented in 28 project sites covering 26 provinces nationwide. As of August 13, 2021, it has entrusted a total of 937 female crossbred buffaloes to farmer recipients in different provinces. Likewise, DA-PCC has entrusted a total of 151 buffaloes, including bulls, to further intensify herd build-up in the provinces.

More than 700 farmers and LGU partners were capacitated through a series of learning events, which included Farmer Livestock School on Dairy Buffalo Production (FLS-DBP) and trainings on social preparation, organization, and management. Also, the project sites in Pangasinan, Tarlac, Bataan, Albay, Palawan, Negros Oriental, Zamboanga del Norte, Zamboanga del Sur, Davao Oriental and North Cotabato have already established their respective processing facilities and dairy market outlets.

Cooperative-partners were, likewise, engaged to supply milk and milk

products in support of RA 11037 or Masustansyang Pagkain para sa Batang Pilipino Act, wherein one of the components is the Milk Feeding Program. In 2020, more than 100,000 children benefited from the locally sourced milk produced by the said cooperatives. It is estimated that by 2021, participating cooperatives nationwide will earn more than PHP50 million through the Milk Feeding Program.

CCDP

As for the CCDP, which was launched in October 2020, the DA-PCC and DA-Philippine Coconut Authority (DA-PCA) have collaborated to develop the dairy carabao value chain in a coconut farming system.

Coconut farmers through sustainable carabao-based livelihoods are expected to earn additional income and venture into new business opportunities.

As of December 31, 2020, the project's budget amounting to PHP37,305,000 has been downloaded to identified DA-PCC regional centers where preparatory

activities have been conducted to mobilize provincial partners. Currently, a total of 89 dairy buffaloes have also been entrusted in three recipient provinces.

The project also aims to ensure the availability of locally produced milk in support of RA 11037 to help address the problem of undernutrition among school children.

Moreover, the DA-PCA will download the Year 2 budget amounting to PHP102,695,000 once the budget for the 1st year has been obligated. Included in this budget are the construction of dairy processing and marketing infrastructure and start-up dairy equipment.

The DA-PCC will implement initiatives with the assistance of DA-PCA in the entrustment of dairy carabaos, provision of processing and marketing equipment and facilities, capability-building activities, and technical support services. The project will be implemented in 17 project sites in 14 provinces. **B**

(With reports from Chamanei Elias)



Roster of DA-PCC's SCIENTISTS

By Ma. Cecilia Irang

Five DA-PCC researchers took their oaths either as newly conferred or upgraded scientists, under the Scientific Career System (SCS) by the Department of Science and Technology (DOST) and the Civil Service Commission (CSC) in a virtual ceremony held on September 22.

National Genetic Improvement Program (GIP) Coordinator Dr. Ester Flores and Senior Science Research Specialist Dr. Lerma Ocampo have been conferred the rank of Scientist I under the Agricultural Sciences Division effective December 3, 2020 and May 21, 2021, respectively, joining the agency's growing pool of career scientists.

DA-PCC's scientist couple Dr. Edwin and Eufrocina Atabay were conferred Scientist II rank on May 21 while Deputy Executive Director for Production and Research Dr. Claro Mingala was upgraded to career Scientist IV effective January 26.

Their significant contributions and noteworthy accomplishments in the agricultural science made them qualified and eligible to the career scientist rank, granted by the Scientific Career Council (SCC), which is the

governing body of the SCS.

The SCS is "a system of recruitment, career progression, recognition and reward of scientists in the government service as a means of developing a pool of highly qualified and productive scientific personnel". Its program is being administered by the National Academy of Science and Technology (NAST).

Meanwhile, Senior Science Research Specialist Dr. Marvin Villanueva was also recognized as the 2021 Outstanding Young Scientist of NAST in the field of Veterinary Medicine. The virtual awarding ceremony was held last July 14 during the 43rd Annual Scientific Meeting.

Significant contributions, accomplishments

Dr. Flores, DA-PCC's supervising science research specialist, has significantly contributed to the establishment and implementation of separate structured breeding program for riverine and swamp buffaloes; development of a suitable genetic evaluation model for estimation of genetic parameters and estimated breeding values (EBVs); and marker assisted selection, which all paved

the way to DA-PCC becoming the only livestock agency in the DA that has a well-organized and -structured breeding program demonstrated with locally produced riverine buffalo and swamp buffalo bulls with EBVs.

These initiatives, coupled with genomic selection using high density single nucleotide polymorphism (SNP) genotyping, provide the latest generation of performance and progeny tested Philippine dairy buffalo bulls with pedigree-based and genomic breeding values.

Dr. Flores' team has also extended their research to cattle and pigs with the development of genetic testing protocol for genes associated with fertility, growth rate, meat yield and quality in commercial swine and cattle breeds.

Dr. Ocampo, on the other hand, is a technical expert in animal reproductive and physiology and works on the development of practical cryopreservation methods suitable for native farm animals and other ruminant species endemic in the Philippines.

Her research contributes significantly in ensuring frozen semen from indigenous farm/food animals as well



Dr. Edwin Atabay
Scientist II

as endangered wildlife ruminants, which will be added to the core collections of the National Animal Genetic Resources Cryobank Repository.

Dubbed as "Sperm Rescue 911", she was able to recover live sperm from the epididymis of post mortem testes of slaughtered bucks which were later proven to be physiologically fertile with subsequent embryonic development after utilization thru IVF and embryo culture.

Newly upgraded Scientist IV Dr. Mingala spearheaded the optimization, development and application of molecular-based protocols for the detection of various livestock diseases that have economic and public health importance in the country. These protocols included loop-mediated isothermal amplification (LAMP), polymerase chain reaction (PCR), nested-PCR, as well as combination of nanotechnology (using Nano-gold) in which two of these are now on the pipeline for intellectual property (IP) applications.

He also works with various international and national scientific agencies on Leptospirosis and Tuberculosis surveillance and detection in the Philippines and vaccine development for schistosomiasis while continuously exerting efforts to address pressing concerns in the livestock industry.

Moreover, he completed the Private-Public Partnership Research on Enhancing Milk Production of Water Buffaloes through S&T Interventions



Dr. Claro N. Mingala
Scientist IV

as the leader of the Development of health care technologies and practical farm practices project 3 in support of increasing buffalo milk production under the Philippine Council for Agriculture, Aquatic and Natural Resources Research and Development of the Department of Science and Technology (DOST-PCAARRD) grant.

Dr. Mingala is concurrently the center chief of the DA-Livestock Biotechnology Center.

Meanwhile, Dr. Edwin is an expert in animal physiology and reproduction and actively engaged in S&T projects and activities directed towards improving fertility of water buffaloes and other ruminant species.

He spearheaded the implementation of Intensified Reproductive Management Program that promotes the use of modern reproductive biotechnologies such as Fixed Time Artificial Insemination, Ultrasonography, and early pregnancy detection to improve the overall reproductive efficiencies in livestock.

Moreover, he leads the conduct of embryo transfer activities for dairy production, which later successfully produced the first calf, named "Pag-asa", from this technology.

Another reproductive biotechnology and physiology expert is Dr. Eufrocina, whose works are focused on enhancing fertility and reproductive performance of livestock in general through embryo in-vitro techniques, Multiple Ovulation and Embryo Transfer (MOET), cryopreservation of embryos



Dr. Marvin Villanueva
2021 Outstanding Young Scientist
(Veterinary Medicine)

and oocytes, and Fixed Time Embryo Transfer.

Likewise, she spearheaded the team on the use of sex-sorted semen for FTAI which resulted in the birth of first female calf from sexed-semen, named "Liwanag". Currently, Dr. Eufrocina is involved in the project on semen sexing to boost the local dairy production.

She has also been involved in the development of Intensified Reproductive Management Program dubbed as the Triple E strategy for water buffaloes and other livestock and also established an IP-Technology Commercialization Office and a system which facilitates effective translation of research into products and services for the benefit of the clients, general public and livestock industry.

Outstanding Young Scientist Dr. Villanueva, a graduate of Doctor of Philosophy in Veterinary Medicine at Hokkaido University in Sapporo, Japan, is the officer-in-charge of the DA-PCC's Research and Development Division.

His research undertakings include (1) food safety especially on antimicrobial resistance and drug residues, (2) livestock biotechnologies (animal health and diagnostics), (3) epidemiology, detection and control of bacterial zoonotic diseases, and (4) addressing operational health problems in ruminant farming. He authored numerous ISI/ Scopus indexed journal articles, electronic book and book chapter with focus on his fields of interests. **B**



Dr. Ester Flores
Scientist I



Dr. Lerma Ocampo
Scientist I



Dr. Eufrocina Atabay
Scientist II

GOT QUESTIONS
OR SUGGESTIONS?
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