

Bubalus



Quarterly Newsletter of the Department of Agriculture-Philippine Carabao Center

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FEATURES

Full-blooded 'barako' in dairying

By Ronaline Canute

There is an old saying that "one of the great glories of married life is the opportunity to support one another and build dreams together." This quote is manifested in the lives of carapreneur couple

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8th NCC highlights convergence effort in championing Carabao Dev't Program

By Ma. Cecilia Irang-Mariano

The Department of Agriculture-Philippine Carabao Center (DA-PCC) underscored the culture of convergence in achieving transformative success, particularly in the implementation of the agency's flagship program—the Carabao Development Program (CDP).

"Braven! Let us coexist as creative leaders of making great changes happen," DA-PCC Executive Director Dr. Liza Battad exhorted as she reported the progress briefer on the CDP.

Dr. Battad delivered the message

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Editor's Word



It has been several months since the onset of COVID-19 pandemic and ensuing health protocols to prevent the spread of the virus. For us working at the DA-PCC, we have continued performing our functions and delivering our services to the public while observing and practicing said protocols with the aid of information and communication technologies.

Many of DA-PCC's regular in-person gatherings pre-pandemic have now been replaced with virtual events. While the latter took away the intimate and more interactive nature of these events, they nonetheless were equally effective in achieving the desired outputs. Three of these regular events that have gone virtual included the 5th National Carabao Conference, the annual R&D In-House Review, and the 5th International Livestock Biotechnology Symposium. It was also the first time that the agency hosted a Technology Pitch event, wherein promising technologies from DA-PCC (e.g., A2 milk, Blockmate, Nyogurt, Quickcare, Buro Booster, etc.) were presented virtually by proponents to persuade or invite potential adopters or investors. Likewise, the Coconut-Carabao Development Project (CCDP), which seeks to benefit participating farmers in 17 provinces was successfully launched online.

While all these virtual events were taking place, in-person activities with strict health protocols have, likewise, been held successfully. These included the groundbreaking ceremonies for the construction of the dairy processing plants and stores in Orani, Bataan and Victoria, Tarlac both in support of the Carabao-based Business Improvement Network (CBIN), the CCDP strategic planning workshop in Tubigon, Bohol, and the capability enhancement activity on carabao care and management in Tayasan and La Libertad, Negros Oriental under the Special Area for Agricultural Development (SAAD) Program.

In the future, we foresee a more blended approach to these various activities or events to maximize outputs and at the same time ensuring the safety of everyone.

It goes without saying that behind all these activities of the DA-PCC are the combined knowledge and skills of previous and current rosters of dedicated individuals which helped shape what the agency is now. We pay homage to the new retirees led by Dr. Arnel del Barrio (former Director of DA-PCC at UPLB and Executive Director of DA-PCC), Dr. Annabelle Sarabia (former Director of DA-PCC at WVSU and R&D Division Chief), Prof. Franklin Rellin (former Director of DA-PCC at CSU), Dr. Daniel Aquino (former Director of DA-PCC at CLSU), and Ms. Gloria Dela Cruz (former Director of DA-PCC at DMMSU). We also welcome newly appointed OIC-ED of DA-PCC Dr. Claro Mingala, Director of DA-PCC at USF Dr. Maria Dinah Loculan, and Director of DA-PCC at VSU Prof. Francisco Gabunada, Jr. Finally, we decided to feature on our cover story the Fujihara couple from Japan, who for the past 10 years have generously extended their expertise and support (pro bono) to the agency and to the wider community of farmers in the province via a livelihood project.

For as long as there are remarkable and committed individuals who embrace both or a blend of traditional and novel technologies for the common good, DA-PCC shall continue to serve its clients and we will be more than glad to share such stories with you.


Dr. Eric P. Palacpac

About the cover

All smiles as the Fujiharas spend their time feeding the carabaos at the DA-PCC Gene Pool. What started as a volunteer work has turned into a calling and led them to what they deem as a passion with a purpose. More than ever, they are now one in spirit and heart with the Filipino people.

(Photo by Charlene Joanino)



Editorial Staff

ERIC P. PALACPAC
ROWENA GALANG-BUMANLAG
Editors

MA. CECILIA IRANG-MARIANO
Managing Editor

MA. CECILIA IRANG-MARIANO
RONALINE C. CANUTE
DINE YVE D. DAGANOS
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Staff Writers

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LILIAN P. VILLAMOR
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MARAH A. ARQUERO
MIKEE A. ANTONIO
Contributors

MA. CECILIA IRANG-MARIANO
Layout and Illustrations

RHEA MAE B. RUBA
RONALINE C. CANUTE
Circulation

LIZA G. BATTAD
Editorial Adviser

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Email us your comments, feedbacks, and suggestions at ilivestockbiotech@gmail.com or mail them to: The Editor, Bupalus Newsletter, Knowledge Management Division, Philippine Carabao Center National Headquarters and Gene Pool, Science City of Muñoz, 3120 Nueva Ecija. You may also call us at (044) 456 0731 to 35.

59th PSAS convention underscores growth of the animal industry

By Rhea Mae Ruba



Outgoing PSAS President Dr. Jesus Antonio G. Derije (left) handed over the gavel (symbol of authority) to Dr. Salces proclaiming that he will hold the duties and responsibilities as the new head of the organization from 2022-2023.

Once again, the significant role of science and technology (S&T) in the animal industry was highlighted during the 59th Scientific Meeting and Annual Convention of the Philippine Society of Animal Science (PSAS), hosted by the Department of Agriculture-Philippine Carabao Center (DA-PCC) on October 19-20.

Said event featured plenary and parallel sessions, which are anchored on the theme: “Inclusive Growth of the Livestock and Poultry Industry through Future-ready S&T Innovations”.

Plenary speakers included Dr. Claro Mingala for the topic “Innovative Livestock Tools for Inclusive Growth”, Dr. Noel Lumbo for the topic “Innovative Energy and Protein Substitutes for Swine and Poultry Diets”, and Dr. Ramon Maluping for the topic “Understanding the use of bacteriophage to tackle Antimicrobial Resistance”.

In his message as the Convention Chair, DA-PCC Deputy Executive Director Dr. Caro Salces said that scientific paper presentation is the lifeblood of PSAS and that the

latter is the society of choice for the researchers, extension workers, and industry key players in the livestock and poultry sector.

Meanwhile, the parallel sessions featured competing scientific papers in various categories. The winning papers include the following:

- Socio-economics category - “Measuring Economic Efficiency of Dairy Buffalo Farms in Nueva Ecija Using Data Envelopment Analysis” presented by Dr. Eric Palacpac
- Breeding and genetics category - “Development of Selection Indexes for Milk Production Traits in Dairy Goats in the Philippines” presented by Dr. Nora Cabaral-Lasaca
- Biotechnology category - “Evaluation of the Cryopreservation Protocol for the Blood Primordial Germ Cells (bPGCS) from Gallus gallus domesticus (Linnaeus, 1758)” presented by Dr. Sarah Micah Dalisay
- Nutrition category - “Effect of Digestible Lysine to Metabolizable Energy Ratio on Growth Performance, Nitrogen and Energy Balance in

Improved Philippine Mallard Ducks (ItikPINAS) from 0 to 8 Weeks of Age” presented by Dr. Julie Ross Datuin

- Disease and diagnostics category - “Persistence and Antimicrobial Resistance of Salmonella in Native Chickens: A Sustainability Challenge in the Free-range Production System” presented by Dr. Lotis Balala
- Production and processing category - “Growth and Sexual Maturity Performance of Crossbred Doe Kids Fed with Different Sources and Levels of Dietary Protein” presented by Dr. Adelia G. Putri
- Undergraduate thesis - “Genotypic Analysis of Kappa-Casein, Beta-Casein and Beta-Lactoglobulin Polymorphisms in Siquijor Native Cattle and Sahiwal x Holstein Hybrid Cattle Stocks in the Philippines” presented by Luis Alfonso Pefianco

Business meeting was also held, which updated the members on the current status of the society through the president’s report and financial report. Induction of new regular PSAS members and online election of new

Dairy buffalo production takes center stage thru SOA in Mindanao

By Dine Yve Daganos

A total of 519 farmers and dairy buffalo keepers from Southern Mindanao were capacitated on Dairy Buffalo production by Department of Agriculture-Philippine Carabao Center (DA-PCC) at University of Southern Mindanao (USM) and Agricultural Training Institute (ATI) Region XI in a 16-episode School-on-the-Air (SOA) conducted from November to September 2022. They are the third set of graduates in Mindanao since the initial broadcast of said SOA course in 2021.

The SOA episodes included lectures on Carabao Development Program (CDP), forage and feed resources for carabaos, forage establishment, forage and feed conservation, feeding of dairy buffaloes in different physiological stages, health management for physiological stages, proper housing of carabaos, buffalo diseases, agricultural insurances, heat detection and breeding services, forage and manure-based enterprise, meat-based and milk-based enterprise, and technology transfer.

The pool of resource persons were composed of various staff members from DA-PCC, ATI Region XI, Philippine Crop Insurance Corporation (PCIC) Region XI, as



well as seasoned dairy buffalo farmers who are DA-PCC assisted.

The participants expressed their appreciation for having been selected as recipients of new knowledge and this ignited their enthusiasm to continue pursue dairy buffalo production.

“In DA-PCC at USM, we say that ‘in dairy the income is daily.’ This is the vision that we want to realize with our every client. Through the learning course you took, we hope that you will be able to bring this statement into actuality and keep a sustained daily income,” DA-PCC at USM Director Benjamin John Basilio said.

Aside from Dir. Basilio, the mass graduation ceremony, which was held at Carmen, Davao del Norte on November 29, was also attended by DA Regional Field Office XI representative Marie Ann Constantino, Provincial Agriculture Office of Davao del Norte representative Juna Sanchez, Davao del Norte Governor and guest speaker Edwin Jubahib, and Jerry Nalupa, Joey Ariola, Samuel Anay, who are representatives from the local government units of Carmen, Dujali, and Panabo City, respectively. **B**

“If coconut is dubbed as the tree of life because of the many products you can derive from its roots to its leaves, then carabao can also be regarded as the animal of life because of the many enterprises it offers from milk, meat, to the manure and the forage that we feed them.”

Joel Aleon

SOA-DBP participant from Braulio E. Dujali municipality

DA-PCC gears up for more GAD-responsive projects

By Ma. Cecilia Irang-Mariano



DA-PCC GAD focals and project implementers undergo a workshop to evaluate if GAD elements are incorporated in their respective project proposals.

DA-PCC's gender and development (GAD) focals and project implementers nationwide convened in a hybrid training to mainstream GAD elements in the project design development cycle using the gender analysis tools.

May Angelica Saludez, supervising GAD specialist of the Philippine Commission on Women, served as the resource person for the training and orientation on the use of Harmonized GAD Guidelines (HGDG) held on November 29.

HGDG, according to Saludez, is a tool used to ensure that programs and projects undertaken by the government in their various stages are gender responsive.

The training specifically aimed to integrate gender perspectives in the project cycle development particularly in identifying and mitigating strategies to address gender gaps in program implementation, monitoring, and evaluation.

"As we revise our internal policy and at the same time calibrate our processes, let's include GAD elements. From here on, let us see your research projects addressing the concerns of both men and women," DA-PCC Executive Director Dr. Liza Battad said.

She also recognized the efforts of DA-PCC to promote gender equality in the carabao sector.

The participants were divided into three groups and put through a workshop to evaluate if the GAD perspective was integrated in the design, implementation,

management, monitoring, and evaluation of their respective projects and programs. The workshop was conducted using the HGDG checklist.

The results of the projects evaluated have a "Promising GAD Prospect" based on the scoring system and application of means of verifications (MOVs), albeit it may need several revisions to get a fully gender-responsive score.

The workshop also serves as a planning tool for the agency's GAD Plan and Budget, and Accomplishment Reports. **B**

"The agency is consistent in recognizing both men and women. One example is the leadership of DA-PCC. It's not only about men, but we recognize women leaders also to set forth the plan and vision for the carabao industry and the livestock sector."

Dr. Liza Battad

DA-PCC Executive Director

Farmer co-ops, DA-PCC scale up to international food safety practices

By Dine Yve Daganos



Farmer co-ops and DA-PCC scale up food safety practices and standards through a Food Safety and Hygiene Academy of the Philippines (FoodSHAP®) accredited training conducted in Caanawan, San Jose City, Nueva Ecija.

The 6-day training included discussions and hands on activities for Food Safety Compliance Officer (FSCO™), Hazard Analysis & Critical Control Point (HACCP) principles and practices, and basic food safety for food handlers.

This was participated in by 42 individuals actively involved in the buffalo dairy industry who are select DA-PCC-assisted co-op members throughout the country, and DA-PCC regional centers' staff.

The topics were discussed by Trainovate™ associates, Elsie M. Gatpayat, a food safety officer and food safety trainer, and Lesly M. Gatpayat, also a food safety officer and HACCP consultant. Trainovate™ is among the few authorized providers of FoodSHAP®.

DA-PCC Executive Director Dr. Liza Battad also graced the activity with an inspirational message.

“Food safety is so relevant especially with the implementation of milk feeding programs. When you have that certificate, more lucrative business opportunities will open up—on our end, we will do our role in the management to find the necessary resources and funds for the conduct of sustained monitoring, reviews, and consultations,” enthused Director

Battad.

The training was organized by the DA-PCC through its Product Development and Innovation Section (PDIS) and Central Dairy Collection and Processing Facility (CDCPF). PDIS staff Patrizia Camille O. Saturno and Teresita M. Baltazar, and CDCPF staff Marivic A. Orge facilitated the training, which commenced on November 20, 2022.

FoodSHAP® HACCP is a system developed to identify and control food hazards at each step of the flow of food in adherence to Philippine Food Safety Act 2013 and Code of Sanitation. FoodSHAP is also the first in the Philippines to develop a full national Food Safety Training & Examination System that is internationally accredited. **B**

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59th PSAS convention...

PSAS officers followed.

Newly elected officers include Dr. Claro Mingala as vice president, Dr. Maria Cynthia Oliveros as secretary, Dr. Ione Sarmago as treasurer, and Dr. Noel Lumbo as auditor. Meanwhile, new PSAS governing council members include Dr. Undine Hurtada-Quimio, Prof. Julie Ross Datuin, Dr. Mary Joy Cañolas,

Dr. Manuel Gacutan Jr., and Dr. Paul Limson.

Some 55 new regular members pledged an oath to share an effort in learning and engaging with the overall activities of the society. It signifies that PSAS shall continue to spread the value of S&T to the R&D community and to the animal industry.

“Let us never forget to contribute ideas and skills as it is not just about serving the economy and preventing health risks anymore. It deals with redesigning our roles as effective partners of policymakers and key decision-makers. Let us aim to be better than who we are than yesterday,” Dr. De Jesus underscored.

Next year, the 60th PSAS convention will be held in Bohol, hoping to have face-to-face interaction among its members. **B**

Hungarian delegation visits DA-PCC, commits to future collab, cooperation

By Paul Rigor

A delegation from the Hungarian University of Agriculture and Life Sciences (MATE) visited the DA-Philippine Carabao Center (DA-PCC) headquarters on October 4 on future cooperation and expert exchange.

Dr. László Máthé, head of External Relations and Coordination Centre and Dr. Gábor Lehócz, deputy head of Mission for the Hungarian Embassy in Manila, led the team.

The visit to the agency was part of their itinerary to tour the different government agencies in the Science City of Muñoz, Nueva Ecija.

DA-PCC Executive Director Dr. Liza G.



Battad and Deputy Executive Director for Production and Research Dr. Claro Mingala led the welcome party.

Drs. Battad and Mingala in their welcome message emphasized on the agency's pursuit of strengthening ties with international institutions to further partnerships on research and development.

Dr. Mingala had initial talks with the university on possible collaboration in these areas and a signing of Memorandum of Understanding during his visit to Hungary in May with Dr. Marvin Villanueva, OIC chief of the Research and Development Division.

Drs. Máthé and Lehócz positively responded to the warm welcome and said that they commit to any other future undertakings between the two countries.

Following a luncheon, the visiting party heard a short presentation from DA-PCC given by Dr. Excel Rio Maylem, Senior Science Research Specialist and head of the Reproductive and Physiology Section (RPS) of the RDD. Said presentation mentioned possible areas of research collaboration with the Animal Biotechnology and Embryo Breeding Lab MATE and the RPS and RDD of DA-PCC. **B**

Supplementary Feeding Program underway for children in Don Carlos, Bukidnon

By Ma. Cecilia Irang-Mariano

The DA-PCC at Central Mindanao University (DA-PCC at CMU) and LGU-Don Carlos, Bukidnon signed

on October 13 a Memorandum of Agreement (MOA) for the implementation and launching of the Supplementary Feeding Program.

Said initiative aims to combat and eventually eradicate the problem of undernutrition among children in the locality.

A total of 266 severely wasted children in Don Carlos will each receive a Karabun and 200 ml pasteurized carabao's milk daily for 90 feeding days.

Child wasting, according to the World Health Organization (WHO), refers to a child who is too thin for his or

her height and is the result of recent rapid weight loss or the failure to gain weight.

Severely wasted, meanwhile, is a very thin child whose body mass index-for-age is below -3 z-score line based on WHO-Child Growth Standards.

Present in the activity were DA-PCC at CMU Center Director Dr. Lowell Paraguas, Carabao-based Enterprise Development Coordinator Dr. Elena Paraguas, Municipal Nutrition Officer Lenie Baylo, Municipal Mayor Ma. Victoria Ontanillas-Pizarro's representative and executive assistant Rex Mercadera, and select beneficiaries. **B**

DSWD, DA-PCC, DTI, POPCOM ink MOA for EPAHP

By Ronaline Canute

The Department of Social Welfare and Development (DSWD), DA-Philippine Carabao Center (DA-PCC), Department of Trade and Industry (DTI), and the Commission on Population and Development (POPCOM) partner in the implementation of the Expanded Gatasang Kalabaw Convergence Project under the Enhanced Partnership Against Hunger and Poverty (EPAHP) program through the signing of a Memorandum of Agreement (MOA) on November 29 at the PCC National Headquarters and Gene Pool, Science City of Muñoz, Nueva Ecija.

Joel Cabading, DA-PCC National Milk Feeding Program coordinator who presented the overview of the

activity said that the MOA aims to contribute to the achievement of the objectives of the EPAHP and Zero Hunger Program and the attainment of the former administration's 10-point socio-economic agenda and development goals.

The above-mentioned agencies will work and provide capacity-building and agriculture-related livelihood interventions to qualified program participants in the agreed target and strengthen them by organizing Community-Based Organizations (CBOs).

On the part of DA-PCC, the agency will identify priority areas and participants for cooperation along the value chain for carabao and

carabao-based enterprises (CBEs) in coordination with partners, facilitate the acquisition of quality dairy buffaloes for the project as counterpart support to the DSWD's Sustainable Livelihood Program, and offer appropriate technical and support services.

The identified beneficiaries of the program for 2022 are farmers from Nampicuan, Nueva Ecija. They were accompanied by their municipal mayor, Hon. Victor M. Badar, who gave his pledge of commitment for the program's implementation.

DA-PCC's Executive Director, Dr. Liza Battad, challenged them to work hard and become successful carapreneurs. She emphasized that their success

Start-ups or spin-offs, NBW symposium tells the difference on research projects progressing bench to business

By Marah A. Arquero

Aligned with the 18th National Biotechnology Week (NBW) theme, "Responding to the Challenges: Business Opportunities in Biotechnology", today's symposium is an (NBW) build-up activity bearing its own theme entitled, "From Bench to Business: Bridging Biotechnology Updates for the Philippine Livestock Industry" on November 25-26, 2022 via a hybrid set-up at the Eusebio-Castillo Halls, DA-Philippine Carabao Center (DA-PCC) National Headquarters and Gene Pool and through virtual meeting platform.

The goal of the event's organizers, the DA-Livestock Biotechnology Center and DA-PCC's Research and Development Division, is to highlight

cutting-edge biotechnologies, products derived from them, or industry-specific biotechnology applications. They also hope to explore business, trade, and investment opportunities and to educate the general public about the advantages of biotechnology in terms of both the economy and the society.

The symposium underscored the opportunities through biotechnology and its products and by-products, which contribute immensely to agriculture and food security, equitable health care services, development of industries, business enterprises, sustainable environment, and economic

development. This activity also highlighted the goal of promoting judicious use of biotechnology and bringing the scientific advancement it carries in helping improve Filipino lives.

With the challenges and opportunities presented by biotechnology to researchers in both the government and private industry stakeholders, Dr. Liza G. Battad, Executive Director of DA-PCC, calls for, "strengthened policies and advocacy for strengthened research activities" to policy analysis and development as critical aspects of biotechnology development.

Featured presentations and open forum further highlighted how

DA-PCC preps 2 new suppliers of milk feeding program

By Ma. Cecilia Irang-Mariano

in the dairy industry will be contingent on their interest in and passion for it. “No matter how we try to help you, if it’s not your dream, nothing will happen. We pressure you because we trust that you can do it,” Battad firmly stressed.

The event was also graced by Luis Daniel De La Cruz, Chief, DSWD Operations Division; Marites Maristela, DSWD Assistant Secretary for Luzon Affairs; Richard Simangan, DTI-FO III Provincial Director; Aileen Serrano, Chief, POPCOM Policy Development and Database Management Division; and Venus Rebuldele, DSWD-FO III Assistant Regional Director for Operations. **B**



biotechnology applications can progress from laboratory benches to commercialization.

Resource persons include representatives from Technology Application and Promotion Institute, Ms. Cecil Dyann C. Daniel and Ms. Mylene A. Alano, Blitzkrieg Animal Diagnostic Center owner and veterinary medicine professor, Dr. Clarissa Yvonne J. Domingo, Commercialization and Extension Division Head of the Small Ruminant Center, Mr. Neal A. Del Rosario, Chief Technical Officer of Bionova Livestock Group, Dr. Alfonso E. Serrano, apiculture practitioner and owner of Pia’s Bee Farm, Mr. Lee S. Gaitana, and Dir. Battad. **B**

Two more cooperatives have been added to the roster of DA-PCC-assisted co-op suppliers for the milk feeding program—the Bongabon Agriculture Cooperative (BAC) and the Delaen Farmers Agriculture Cooperative (DFAC).

The DA-PCC conducted different kick-off activities to prepare the new supplier-cooperatives for the implementation of the 12th Cycle Supplementary Feeding Program of the Department of Social Welfare and Development Field Office III.

A “Milk Feeding Program Municipal Kick-off” with DFAC as the supplier took place on November 8 in Poblacion Sur, Rizal, Nueva Ecija, which was participated in by 150 guests and beneficiaries including the officials of the local government unit and Municipal Social Welfare and Development.

The activity served as a simulation for the milk feeding program’s actual implementation, allowing the DFAC to take into account the different parameters that may emerge before, during, and after the execution of

the program.

“Ang sarap po ng gatas ng kalabaw. Ito ay pandagdag nutrisyon at nakatutulong sa kabuhayan ng mga farmers natin. Buong-puso po ang aming suporta sa mga ganitong programa dahil alam po namin na makatutulong ito sa bayan ng Rizal,” Municipal Mayor Hanna Katrina Andres said.

The same simulation activity was conducted in the municipality of Bongabon, Nueva Ecija last October 17 with BAC as the supplier.

“Nagpapasalamat po kami sa DA-PCC dahil nabigyan kami ng pagkakataon na mapabilang sa Milk Feeding Program. Salamat din po sa suporta ng LGU Bongabon. Makakaasa po kayo na patuloy kaming maglilingkod sa ating bayan sa pamamagitan ng pagbibigay ng masustansyang gatas ng kalabaw para sa mga batang residente ng ating bayan dahil sila po ang mga susunod na henerasyon at balang araw ay magpapatuloy ng ating nasimulan,” Mario Dela Cruz, BAC chairperson, assured. **B**

Farmer-carabao tandem underscored in Mati City's Sambuokan Fest

By Ma. Cecilia Irang-Mariano



Nineteen “beautified” carabaos with carrozas or bamboo carriages paraded in the City of Mati, Davao Oriental to showcase the unique crafts and bountiful harvests of the town’s different barangays.

“Kabaw sa Kadalanan (carabao parade)” was one of the highlights for the week-long celebration of the 22nd Sambuokan Festival and 2nd Abunda Festival of the City of Mati on October 22-29—the first time that such activity was included in the festival.

Mati City Mayor Michelle Rabat

said that this activity not only shows off the farmers’ harvests but also demonstrates to the younger generation that the city still maintains its farming traditions in spite of new and developing farming technologies.

Mayor Rabat also pledged to regularly include this activity in the festival to pay tribute to the local farmers and their best ally, the carabao, as they are the original farming duo.

After a thorough evaluation, Barangay Badas was declared the

winner of the competition for the carabao parade. It received a trophy and a cash award of PHP60,000. Barangay Buso came in first runner-up with a cash prize of PHP40,000 and Barangay Don Martin Marundan came in second runner-up with PHP30,000. DA-PCC at University of Southern Mindanao Center Director Benjamin John Basilio served as one of the judges for the competition.

Derived from the Mandaya term “buok” meaning “one”, Sambuokan is a yearly celebration for oneness and unity among the general population of Mati. **B**

DA-PCC installs CDP KIOSK in Mati City, Davao Oriental

By Cristine Joy Del Rosario

The DA-PCC through its Knowledge Management Division-Learning Events Coordination Section headed by Khризie Evert Padre together with DA-PCC at University of Southern Mindanao (DA-PCC at USM) Center Director Benjamin John C. Basilio and staff members installed the CDP KIOSK (Karunungan Impormasyon Oportunidad sa Kalabawan) unit at the City Agriculture Office of Mati City Local Government. Mati City Mayor Hon. Michelle

Marie Denise N. Rabat shared her plans to continuously support the carabao dairy enterprise in the city by developing more products with carabao’s milk such as ice cream, milk bars, and Karabun.

She added that the CDP KIOSK will help her promote the DA-PCC’s programs as she plans to intellectually equip Mati’s carapreneurs in marketing as well as disseminating information about the DA-PCC’s services.

Mati has been an active partner of DA-PCC since 2019 when they received the 10-million project under the Accelerating Livelihood and Assets Build up or ALAB-Karbawan project sponsored by the office of Senator Cynthia Villar.

Rhodora Datar, chairperson of KARBeNA also attended the program and expressed her appreciation to the local government of Mati City and DA-PCC for their marketing support.

Mati is the fourth site to be installed with CDP KIOSK following Surallah, North Cotabato; Carigara, Leyte; and Caraga State University for information dissemination. **B**

Sarangani co-op receives complete dairy enterprise package thru CBIN project

By Chrissalyn Marcelo



The Pangni MultiPurpose Cooperative (PAMULCO) received a complete dairy enterprise package from the Department of Agriculture - Philippine Carabao Center at University of Southern Mindanao (DA-PCC at USM) on October 5 in Brgy. Maitum, Pangni, Sarangani Province through the Carabao-based Business Improvement Network (CBIN) project, also known as the Accelerating Livelihood Assets Buildup (ALAB)- Karbawan project of the DA-PCC.

The package comprised of animals and facilities that can be used for production and marketing purposes of carabao-based related livelihood. It includes the 35 head dairy buffaloes (34 female and 1 bull); and Dairy Box processing plant and marketing outlet, which was handed over to PAMULCO through a turn over ceremony.

In her message, DA-PCC's Executive Director Dr. Liza Battad encouraged the members of the cooperative to consider themselves as "proud carapreneurs" or "negosyante" and claim that they will become a millionaire business owners in the future through the carabao-based business.

She motivated the said members to first decide to dream on their own

because doing such is the first step to make their dream manifest in their lives.

In his message, DA-PCC at USM Center Director Benjamin John Basilio emphasized that the ALAB-Karbawan is a project which can be treated as both a project of DA-PCC and PAMULCO.

He added that while there is a partnership between the DA-PCC and the said cooperative, the former is only a channel of blessings for the latter to become successful in business.

"This project is very promising and we are expecting that through this, milk will overflow in the town of Maitum in the future. When that time comes, you may invite me again along with our executive director (Dr. Liza Battad) to help you count your money," Dir. Basilio humorously and happily added to imply that there is a lot of income on carabao-based business.

Meanwhile, Senator Cynthia Villar also provided her message to PAMULCO through a video presentation. In her message, she promoted the dairy enterprise as another income-generating venture in response to the pressing need for additional source of income of

farmers, hence the implementation of the CBIN project.

PAMULCO Chairperson Melecio Ubongen responded on behalf of his cooperative that they are very thankful to the DA-PCC, Senator Villar, and other stakeholders, i.e, the local and provincial governments of Maitum and the Sarangani province for handing to them the dairy enterprise package. During his speech, he promised that their cooperative will sustain the project and will deliver progressive results in the future.

Other stakeholders from the local and provincial governments of Maitum and Sarangani province also provided their message of support to PAMULCO. During their speeches, they promised to fully support the project and provide the needed technical and marketing assistance of the said cooperative. They are composed of Maitum Municipal Mayor Alexander Bryan Reganit, Municipal Agriculturist Noel Naungayan, Board Member Arnold Abequibel (Representative of Sarangani Governor Rogelio Pacquiao) Sarangani Committee on Agriculture and Food Chairperson James Reganit, Provincial Veterinarian Dr. Bernard Cababat, Provincial Agriculturist Jonathan Duhay Lungsod and Business Councilor Leah Patrimonio. **B**

8th NCC highlights convergence effort in championing Carabao Dev't Program



during the 8th National Carabao Conference (NCC) anchored on the theme “Mga Kwentong Tibay, Pagbangon at Pasasalamat sa Pagkakalabawan”, on November 15-16. The theme of the confab elucidated how working together toward a common goal becomes one of the gratifying reasons why the carabao subsector has been able to rise above adversities with mettle and resilience.

She emphasized the significance of the carabao as a multi-purpose commodity used for milk, meat, hide, draft power and many different agriculture purposes providing livelihood opportunities to legions of carapreneurs nationwide. She also thanked the lawmakers and implementers and staunch supporters of the carabao-related programs for making all these possible.

Similarly, former DA-PCC Executive Director and Licaong Agriculture Cooperative Business Manager Dr. Libertado Cruz substantiated the importance of convergence and cooperative development in a plenary session, citing a quote by Edward Everett Hale: “Coming together is the beginning. Keeping together is progress. Working together is success”.

Dr. Cruz also enumerated different levels of convergence in the carabao value chain such as technological

convergence at the level of production and dairy processing, policy convergence on smallholders and co-op development, and business convergence on smallholders and dairying.

He presented a concept program of convergence titled “Focused and Accelerated Sector Growth thru Resource Use Optimization (FASGROW)”, which is a possible platform in merging various entities along the value chain to support a common program initiative and enhancing sustainable rural development thru buffalo-based enterprises.

DA Senior Undersecretary Domingo Panganiban, represented by DA Regional Executive Director Crispulo Bautista, acknowledged the active participation and significant contribution of carapreneurs in supporting the projects implemented by the government such as the Carabao-based Business Improvement Network (CBIN) and the Coconut-Carabao Development Project (CCDP), and the DepEd’s and DSWD’s National and Supplemental Milk Feeding Programs.

“These programs and projects have truly catalyzed and invigorated the spirit of cooperativism and entrepreneurship among the many

players in the carabao industry,” he said in his statement.

The conference featured multi-sessions in the form of plenaries, techno-product exhibition, and fora that served as venues for meaningful interaction among key stakeholders, participants, and carabao value chain players.

The participants of this two-day learning event were provided with insights on DA-PCC’s unrelenting efforts and initiatives to promote the carabao industry; best practices on buffalo production; and government-funded activities through the following plenary sessions: Maalab na Pagkakalabawan by Estella Valiente, Science Research Specialist II; Investment Opportunities in Carapreneurship (iREB, MFO dashboards) by Catherine Santiago, manager of the Rosario Livestock and Agricultural Farming Cooperative; SINAG: Sun Safety and Skin Cancer Awareness for Filipino Farmers by Dr. Diane Paras of UP-PGH Department of Dermatology Community Committee Doctors; Corn Silage Production and Management by Albert Estrella, owner and chief operations officer of Cattle and Production Farm in Pangasinan; Victoria’s City Animal Health and Welfare Management by Dr. John Michael Cabuagason, City Veterinarian of Victorias City, Negros



Select co-ops receive fund for GIGK project

By Mikee Ayes Antonio

Occidental; Herd Upgrading Services by Crisanto Munoz, President of Pampanga AI Technicians Association; Production Management and Environmental Requirements of Dairy Animals by Dr. Cyril Baltazar, DA-PCC National Genepool Coordinator; Producing Superior Buffalo Genetics for the Philippines by Dr. Jesus Rommel Herrera, Supervising Science Research Specialist; Farm Management by Michael Pascual, owner of MCCR Pascual Dairy Training Center; DepEd School-Based Feeding Program Future Prospects by Dr. Lope Santos III, Director IV, DepEd-SBFP; Innovation in Product Development by Engr. Noel Laforteza, President and General Manager of Bagong Pag-asa Engineering Inc.; Milk Feeding Program Outlook and its Potential Contribution to the Dairy Carabao Industry by Joel Cabading, DA-PCC's National Milk Feeding coordinator; The Lamac MPC Way of "Unboxing" the Dairy Box Business by Justine Limocon, Business Manager of Dairy Box Parian and Dairy Box Pinamungajan of Lamac MPC; The Economic Viability of Value-Added Carabao Meat Products by Zadieshar Sanchez, OIC Chief, Administrative and Finance Management Division; and the Potential of Buffalo Meat as Beef by Dr. Arnel Del Barrio, Professor of the College of Agriculture and Food Science.

Another highlight of the program was the recognition of the 8th NCC awardees across the DA-PCC network. Joselino C. Cabino won the Outstanding Dairy Buffalo Farmer-Family Module Category, followed by Grace G. Boyles as the first runner-up and Narciso A. Dela Cruz as the second runner-up; for the Semi-Commercial Category, Joseph Nathaniel E. Caguimbal was declared as the champion and Dominic P.

Paclibar as the first runner-up; and for the Commercial Category, the ACIDI Aces Phil Producers Corporation bagged the award. The Rosario Livestock and Agriculture Farming Cooperative (TRLAFCO) was bestowed the "Best Dairy Buffalo Farmer Cooperative" title.

Other awards were also given to Outstanding Village-Based Artificial Insemination Technicians: Jesus B. Suson, Jr. (champion), Christopher Q. Sagadraca (1st runner-up) and Reyjohn R. Estañol (2nd runner-up); and Outstanding Bull Recipients: Rhommel C. Gamponia (champion), Enrico N. Napone (1st runner-up) and Angelito B. Cajés (2nd runner-up).

Also, awardees for Best Dairy Purebred-Junior Cow: ID no. 2NIZ17730-BMB managed by Arnold Cunanan (champion), 2LSC19004-BMB managed by Gregorio B. Cueco (1st runner-up), 2UMC19034-BMB managed by Rodel B. Estañol (2nd runner-up); for Best Dairy Crossbred-Junior Cow: 6MMC21312-CB75 managed by Rhommel C. Gamponia (champion); for Best Dairy Purebred-Senior Cow: ID No. 2LSC16013-BMB managed by Jeffrey B. Cueco (champion), IT20121135-ItMB managed by Melgin M. Zenith (1st runner-up), GR1566-ItMB managed by Tolentino A. De Leon (2nd runner-up); and for Best Dairy Crossbred-Senior Cow: ID No. 7LSC15015-CB87 managed by Jose Glenn P. Pabroquez (champion) and 6RDF10018-CB75 managed by Richard C. Reyes, were recognized.

The testimonial narratives video titled "Faces of Success in Carapreneurship" was also premiered followed by the holding of a Caragnayan with DA-PCC officials and media partners from the Philippine Information Agency, Sonshine Radio,

DA-PCC awarded a total of PHP2.3 million to the four assisted farmers' cooperatives of DA-PCC at Central Luzon State University (DA-PCC at CLSU). Said initiative is in support of the project Gatas, Isda, Gulay at Karne (GIGK).

GIGK is one of the components of Ahon Lahat, Pagkaing Sapat Kontra COVID-19 (ALPAS SA COVID-19) project, which was launched by DA-PCC last 2020 as a development intervention at the onset of the pandemic.

The recipient co-ops include Simulang Panibagong Bukas Multi-Purpose Cooperative (SIPBU), Delaen Farmers Agriculture Cooperative, Brotherskeeper Multi-Purpose Cooperative, and Eastern Primary Multi-Purpose Cooperative. Each will receive PHP575,000.

The DA-PCC is recognized by the San Jose City LGU and City Development Cooperative Council as its champion partner in cooperative development. Said award was given during the Cooperative Month Celebration yesterday, October 17, at the San Jose City LGU.

UNTV, and DWNE.

Apart from the above-cited activities, a Dairy Box convergence meeting, presided over by DA-PCC Deputy Executive Director for Administration and Finance Dr. Caro Salces, was also conducted to form a National Dairy Box Business Council. This council will examine the Dairy Box Business models and its local value chain hubs and provide recommendations to improve the business system. **B**

Biotechnology using SRY gene marker identifies swamp and riverine paternal: Application for animal selection and conservation

By Therese Patricka C. Cailipan and Lilian P. Villamor

Who am I? It is a simple yet important question to know the individual identity of different living organisms, including water buffaloes. Identifying water buffaloes leads to confirming the paternal breed for breeding and conservation and determining the fair market values, whether swamp for draft power or riverine for dairy.

The national upgrading program of water buffalo breeds poses animal traceability challenges. For example, animals raised in the backyard usually face the problem of not keeping the breed records. A common scenario is when animals have been sold to another farmer and moved from one place to another. Consequently, the next farm owner is limited to relying on the physical features to determine its breed.

How is it possible to determine swamp or riverine buffalo when lacking animal records? Morphological and DNA-based identifications are the two common options. First, the standard physical features of swamp buffaloes are white or light gray chevron-shaped markings in the lower jaw and brisket, and lighter skin and coat color than the riverine buffaloes. The horns are

sickle-shaped, spreading backward compared to riverine buffaloes, which have heavily curled horns. Species identification could still be unresolved when identifying the crossbred offspring of swamp buffalo crossed with riverine buffalo based solely on morphological characterization.

Second, a piece of hereditary information from the deoxyribonucleic acid (DNA) is a key for species identification. Since an individual has a unique DNA composition, which carries genetic information, molecular characterization is way more efficient for confirming its identity.

The SRY genetic marker on the Y chromosome or Y-linked DNA, which is exclusively present in males, is important in identifying male buffaloes. It also pertains to the sex-determining region of the Y chromosome. A total of 150 blood samples from Philippine carabaos or swamp buffaloes from 26 collection sites was screened with the single nucleotide polymorphism (SNP) or the single change in genetic information.

Results revealed the absence of nucleotide and amino acid sequence differences within swamp buffaloes. However, the SRY gene coding region sequences showed a SNP in which DNA

nucleotides such as cytosine (C) in riverine and guanine (G) in swamp type were observed. A point change for nucleotide and amino acid was informative to delineate *B. bubalis* subspecies for swamp and riverine buffaloes.

With few animals identified with the riverine paternal in some populations, what does it imply? It indicated that male introgression or introduction of riverine occurred in the Philippines' swamp populations. This was expected in areas where artificial insemination (AI) was introduced to upgrade the swamp buffaloes. The Philippines is known to implement large-scale crossbreeding and backcrossing programs to improve genetic potentials of animals for milk and meat. Crossbreeding and backcrossing in the Philippines were limited before 1974. However, in 1982, the upgrading of swamp buffaloes was initiated upon approval and implementation of the Philippine Carabao Research and Development Center project by the United Nations Development Programme-Food and Agriculture Organization (UNDP-FAO) (Cruz 2009).

With this, the SRY genetic marker has a potential application in species identification of the male perspective in water buffaloes. In addition, the research findings

could be beneficial in selecting an animal for procurement as part of animal dispersal for the herd-build up program by the Department of Agriculture. The baseline information obtained on SRY gene information would provide knowledge of the paternal identity of water buffaloes that would be useful in planning effective strategies for selecting water buffalo genetic resources for conservation and management program.

Acknowledgement:

Full paper on the, “Molecular Characterization of SRY Gene in the Philippine Carabao (*Bubalus bubalis*) swamp buffalo populations,” can be accessed <https://scienggj.org/2021-291/>. The research outputs emanated from the DABIOTECHR1506 on, “Genetic Diversity of Philippine Carabao Using mtDNA (COI) and Microsatellite Markers (Food and Agriculture Organization (FAO) STRs,” by LPVillamor, EBFlores, ASSarabia, AMParaguas, AJDSEscuadro, and PC Cailipan, which was implemented by PCC and funded by DA-Biotech and DA-BAR.



Full-blooded ‘barako’ in dairying

From page 1

Bonifacio Alagar Sr., 51, and Flordeliza, 51 of Batangas.

Bonifacio, or fondly called Ka Facio among friends, looks at tending their dairy carabaos as an instrument that draws them closer as husband and wife and as a family. He said their carabaos bring happiness to their marriage.

Flordeliza fully supports him in his dairy venture, that is why, even when tending the carabaos could be exhausting at times, he won't mind working harder to provide for their family. He said he would just come home to his wife where he finds contentment and of whom he considers his source of joy and comfort.

Ka Facio and his wife said their greatest achievement in this business would be to see their children become professionals in their respective interests.

Because of their dairy business, the couple is able to send all their four children to private schools. Their eldest, Charlene, is pursuing a degree in Accountancy, followed by Charlie in Marine Transportation, Charmaine in senior high school, and Bonifacio Jr. in grade school.

These siblings look up to their parents as their “superdad” and “supermom”.

While looking after their children's future, Ka Facio is also preparing for the time when he and Flordeliza both grow old. He said, he doesn't want his children to have to worry about them when that time comes, that is why, he is saving up for their retirement fund.

He is also preparing his children to take over the business and he makes it his mission as a father to instill in them the value of farming and how this has made their family life better.

“When they are not in school, I would ask them to join me in the barn so that they will have an appreciation of our farm operations and for them to see that this is where provision for their schooling and for our daily needs comes from,” Ka Facio said.

Looking back at how he started with that lone carabao that was entrusted to him upon completion of his training at DA-PCC at UPLB, Ka Facio has nothing but gratefulness to the people who introduced him to this opportunity.

He is now earning a monthly income of Php100,000 to Php130,000.

“I see dairying as a blessing. I have never experienced earning like this before in rice farming especially when the price of palay was only at Php9.00 per kilo. No matter how hard I work, my income then was never enough for our growing family,” Ka Facio reminisced.

Aside from providing well for his own family, Ka Facio said he is also able to help provide job for his three helpers who assist him in milking, cleaning, and feeding. He pays each one of them Php4,000 monthly and gives them a bonus whenever he can.

When their time is ripe, Ka Facio said in a sentimental voice that he and his wife will be by their porch, enjoying freshly brewed barako coffee while looking out for their growing herd of dairy carabaos. Providing a perfect backdrop on that scene would be their children's diplomas hanging nicely on the wall.

That scenario, he said, would mark a milestone in his life that will truly describe that he is, indeed, one of the faces of success in carapreneurship.

ROSTER OF RETIREES



GRACE MARJORIE R. RECTA

DA-PCC at Mariano Marcos State University (DA-PCC at MMSU) Center Director

Her untiring commitment of 43 years to DA-PCC has significantly contributed in the implementation of the Carabao Development Program in the provinces of Ilocos Norte, Ilocos Sur, and Abra. During her term as center director of DA-PCC at MMSU, there was a significant increase in the population of crossbred buffaloes in those provinces. She was also instrumental in encouraging farmers to venture into dairying. Her leadership saw the transfer of DA-PCC-developed technologies to the farmers thereby increasing their farm productivity and income.

Dir. Recta spearheaded the privatization of AI services in the center's coverage area. She inspired the village-based AI technicians (VBAIT) to formally organize and establish boundaries of service areas as well as a payment scheme for their services. Their becoming a cooperative, through her initiative, has led them to be recognized as an institutional partner in the dairy development of the locality. Many VBAITS were also recognized, locally and at the national level, for their services mainly in the livestock upgrading program. *(Written by Mari Joan Nefulda)*



ARIEL L. ABAQUITA

DA-PCC at La Carlota Stock Farm (DA-PCC at LCSF) Center Director

A dynamic and outspoken leader, Dir. Abaquita has achieved a lot in his career with DA-PCC. Having been at the helm of DA-PCC at La Carlota Stock Farm (DA-PCC at LCSF) for 9 years, he has left a legacy with his notable accomplishments.

Under his leadership, a new DA-PCC at LCSF office building, an Institutional Herd building, and milking parlor were established and expanded the center's coverage area to Negros Oriental and Siquijor provinces. He also led DA-PCC at LCSF to its certification to ISO 9001:2015, an international quality management system standard.

Dir. Abaquita, also known for his talents in music and visual arts, has composed and arranged the music for two recent corporate AVPs of DA-PCC. He also had several kinds of research that were conducted. The most recent is the research entitled "Production, Conservation, and Potential Utilization of Sugarcane Plant as Feed for Growing and Lactating Buffaloes (*Bubalus bubalis*)". *(Written by Victor Geroche)*

OTHER RETIREES

WILMA T. DEL ROSARIO, Senior Science Research Specialist
GINA G. VILLAMOR, Science Research Specialist I
MAXIMO B. WANDAGAN, Science Research Specialist I
EMMANUEL A. FLORENTINO, Farm Worker II
JOEL DEIPARINE, Farm Worker I
MARLON B. OCAMPO, Supervising Science Research Specialist
JOELA C. MALIJAN, Training Specialist III
VICTORINO T. CAPIRAL, Administrative Officer V
MINA P. ABELLA, Supervising Science Research Specialist
LUDIVINA J. ESTIMO, Science Research Specialist II
ERNESTO N. CALUZA JR., Science Research Analyst
EDUARDO U. CORPUZ JR., Science Research Analyst
FLORENCIO T. MALICAD JR., Science Research Specialist I
HERNANDO V. VENTURINA, Supervising Science Research Specialist
PERLA D. FLORENDO, Supervising Science Research Specialist
RENEL T. PIOQUINTO, Farm Worker I

ROSTER OF NEWLY APPOINTED DIRECTORS



DR. ERICSON N. DELA CRUZ

DA-PCC at Central Luzon State University (DA-PCC at CLSU) Center Director

"We continually strengthen and enhance the accountability, integrity, and responsibility (AIR) philosophy of our center with a heart."

Dr. Dela Cruz revealed that the DA-PCC at CLSU will continue to improve its practices in community engagement and people empowerment for community development for all stakeholders and advocates who support the carabao development program's implementation.

His priority concerns as a center director are to ensure that all staff members will achieve their full potentials through capacity building for them to be empowered and prepared to lead, inspire, and motivate various customers and stakeholders in Central Luzon and to contribute to the carabao value chain by investing in novelty items out of carabao's hide (i.e. wallet, belt, passport holder, slipper), horn (back scratcher), bone and teeth (jewelry).

Dr. Dela Cruz's vision is to make DA-PCC at CLSU an agri-ecotourism site destination in Central Luzon highlighting and showcasing the dairy buffalo farm and products outlet as significant contributors for the sustainability of the center's operation. He envisioned that the DA-PCC at CLSU will be accredited by the Philippine Tourism Authority as a model agri-ecotourism in terms of dairy buffalo entrepreneurship in the Philippines.



EVA C. ROM

DA-PCC at La Carlota Stock Farm (DA-PCC at LCSF) Center Director

"Sustainable carabao production in partnership with local government units is our way forward. Our goal is to optimize efficiencies on carabao milk and meat production as well as promote it for draft power and tourism. Ultimately, we see ourselves instrumental in bringing a prosperous and harmonious way of life for all our stakeholders."

Director Rom said in order to achieve this, the strategy is to replicate the center's best practices, such as the importance of quality and timeliness in its delivery of tasks and introduce sustainable and innovative ideas that will prosper the Carabao Development Program in Negros island and Siquijor.

Under her leadership, Rom's priority concern is to increase the efficiency of calf drop and milk production at the institutional herd.

Prior to her appointment, Rom was engaged in the conduct of researches. She also supported farmers in animal health management and carapreneurship. She assisted trainings for AI technicians and learning events on animal health and nutrition. She also actively contributed in the implementation of the milk feeding program.



DR. THELMA A. SALUDES

DA-PCC at University of the Philippines-Los Baños (DA-PCC at UPLB) Center Director

“I yearn to develop our staff professionally and personally to optimize their full capacity and performance to lead and serve for the research, market, and product development of the Philippine Dairy Buffalo Industry.”

Dr. Thelma A. Saludes, who continually serves the people as a staff of the DA-PCC for 13 years, disclosed her focus as the new center director is to strengthen the research and development in animal health management, and develop and capacitate the PCC at UPLB staff.

In addition, she aspires to focus on marketing and demand analysis and product development to utilize the possible outcomes of research in order to develop the carabao dairy product industry and open opportunities for the DA-PCC-assisted cooperatives. With her dynamic and broad expertise regarding the carabao dairy industry anchored on research, experiences and further studies, Dr. Saludes believes in the importance of both micro and macro level management to utilize the full potential of both the staff and the developments to promote and position the Philippine Dairy Buffalo industry in a global scale. (Written by Jeremie Marinella Ledesma)



VILMA C. GAGNI

DA-PCC at Don Mariano Marcos Memorial State University (DA-PCC at DMMMSU) Center Director

“Now that the dairy enterprise is becoming known in the region because of the development interventions funded by the government, I am also envisioning to develop the carabao’s meat industry in Region I.”

Director Gagni bared her plans as the new center director, which include strengthening the Carabao-Based Enterprise Development Program in the center’s area of coverage to help the rural farmers attain comfortable and affluent living through buffalo dairying and focusing more on ISO certification to improve the delivery of services to the clients.

Since she was appointed in 2021, she has helped the DA-PCC at DMMMSU’s assisted cooperatives access funds for production, processing and marketing of their milk by coordinating with LGUs and other agencies, among others. (Written by Jan Rose Maon)

GOT QUESTIONS OR SUGGESTIONS? CONTACT US



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Philippine Carabao Center



DA-PCC NETWORK

DA-PCC AT MARIANO MARCOS STATE UNIVERSITY

Batac City, Ilocos Norte
Telephone No.: (+63) (077) 792.3187
(+63) 927.965.5724
Email: pccmmsu@gmail.com

DA-PCC AT CAGAYAN STATE UNIVERSITY

Tuguegarao City, Cagayan
Telephone No.: (+63) (078) 377.9315
Email: pccpiat07@yahoo.com

DA-PCC AT DON MARIANO MARCOS MEMORIAL STATE UNIVERSITY

Rosario, La Union
Mobile No.: (+63) 920.982.9666
Email: pccdmmsu2020@gmail.com

DA-PCC AT CENTRAL LUZON STATE UNIVERSITY

Science City of Muñoz, Nueva Ecija
Telephone No.: (+63) (044) 940 3061
Mobile No.: (+63) 968.853.5754
Email: pccclsu@gmail.com

DA-PCC AT UNIVERSITY OF THE PHILIPPINES AT LOS BAÑOS

Los Baños, Laguna
Telephone No.: (+63) (049) 536.2729
Mobile No.: (+63) 908.811.2841
Email: pccuplb@gmail.com

DA-PCC AT VISAYAS STATE UNIVERSITY

Baybay City, Leyte
Telephone No.: (+63)(053) 563.7649
Mobile No.: (+63) 917.145.4772 | (+63) 908.895.2461
Email: pccvsu@gmail.com

DA-PCC NATIONAL HEADQUARTERS AND GENE POOL

Science City of Muñoz, Nueva Ecija
Telephone No.: (+63) (044) 456.0734
Email: pccoed2021@gmail.com

DA-PCC AT WEST VISAYAS STATE UNIVERSITY

Calinog, Iloilo
Telephone No.: (+63) (033) 323.4781
Mobile No.: (+63) 999.991.6115
(+63) 928.945.7760
Email: pccwvsu@yahoo.com

DA-PCC AT LA CARLOTA STOCK FARM

La Granja, La Carlota City, Negros Occidental
Mobile No.: (+63) 919.006.8392
Email: pcclesf@yahoo.com

DA-PCC AT UBAY STOCK FARM

Ubay, Bohol
Mobile No.: (+63) 997.111.7680 | (+63) 945.119.3998
Email: pccusf.ubay@yahoo.com

DA-PCC AT MINDANAO LIVESTOCK PRODUCTION CENTER

Kalawit, Zamboanga del Norte
Mobile No.: (+63) 912.784.4668 | (+63) 906.726.0979
Email: pcc_mlpc09@yahoo.com

DA-PCC AT CENTRAL MINDANAO UNIVERSITY

Maramag, Bukidnon
Mobile No.: (+63) 939.916.9719 |
(+63) 966.645.6292
Email: pccmusuan@yahoo.com

DA-PCC AT UNIVERSITY OF SOUTHERN MINDANAO

Kabacan, North Cotabato
Mobile No.: (+63) 919.397.0872 |
(+63) 920.621.9722
Email: usm_pcc@yahoo.com

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