PhilRice Magazine

A quarterly publication
of the Department of Agriculture–
Philippine Rice Research Institute

GROWTH

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ABOUT THE COVER

While restrictions during the peak of COVID-19 response had slowed down our institutional operations, the quality of our technologies that reached the farmers still enabled a record-high 2021 *palay* output of 19.96 million metric tons. In this issue, we share stories of recovery and growth as we continue to live up to expectations as the country's premier rice research for development institution.

We take pride in our farmers' achievement, which we showcased in our latest paddy art.

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Our culture of growth

JOHN C. DE LEON

Erin Meyer's *The Culture Map: Decoding How People Think, Lead, and Get Things Done Across Cultures* (2014) certainly provides superb insights and clues for navigating fruitfully the diverse cultural contexts of workplace – that's even more agile and teched-up today!

Interestingly the style of that book, a rich sharing of stories to underscore the principles or lessons, jives well with this issue of our magazine. Even in the specialized lens of the proverbial Research, Development, and Extension continuum, the "low-context and high-context" communication styles loom large (though obscured). Communication is effective – and by rough extension the experience or travel likely more positive and fulfilling – when it is simple, clear, and explicit as is the philosophy of low-context culture.

"High-context cultures tend to have a long-shared history. Usually they are relationship-oriented societies where networks of connections are passed on from generation to generation, generating more shared context among community members." Messages and experiences (again by rough extrapolation) are thus both spoken and read between the lines, often implied but not plainly expressed.

The patterns and tones of our stories told herein may veer along this high or low-context culture in retrospect. But they unfolded spontaneously, naturally and most importantly, sincerely, in a culture where rice is center and literally diverse by itself.

RiceLytics provides data useful for decision-makers in crafting interventions for rice farmers.

I am happy that RiceLytics is now available for us to know the situation of PH rice industry. This will help us improve and make our programs under RCEF more responsive.

ATTY. RHAEGEE TAMAÑA
Chief of Staff
Office of Senator Cynthia Villar

Data dashboard on PH rice industry, farmers now accessible online

Information on the characteristics of the Filipino rice farmers and the Philippine rice industry situation are now publicly accessible in the Rice Data Analytics (RiceLytics) website developed by DA-PhilRice.

"RiceLytics is a public rice data analytics that aims to aid decision and policy-making bodies at different government levels," Nehemiah Caballong, ICT specialist and project proponent, said.

The website presents data on rice area, production, yield per hectare, characteristics of rice farmers, farming methods and technologies used by Filipino farmers, and status of rice industry at the national, regional, and provincial levels.

Before the development of the RiceLytics website, such data were released through published briefers, infographics, books, and slide presentations.

Atty. Rhaegee Tamaña, Sen. Cynthia Villar's chief of staff, said that the dashboard is helpful as its contents are presented in a comprehensive and easy-to-grasp manner. Villar chairs the Senate Committee on Agriculture and Food.

"I am happy that RiceLytics is now available for us to know the situation of PH rice industry. This will help us improve and make our programs under Rice Competitiveness Enhancement Fund more responsive," Tamaña said.

The project is funded by the Department of Science and Technology – Philippine Council for Industry, Energy, and Emerging Technology R&D.

Visit the RiceLytics website here: https://www.philrice.gov.ph/ricelytics/.

▪ **MERVALYN O. TOMAS**

Branch stations now ISO-certified

DA-PhilRice Batac, Isabela, Los Baños, and Negros were each awarded ISO 9001:2015 (Quality Management System) certification by SOCOTEC Certification Philippines in 2021. This makes all stations ISO-Certified. Agusan, Midsayap, and Bicol were certified earlier.

The Central Experiment Station (CES) was declared compliant with ISO 9001:2015 and ISO 14001:2015 (Environmental).

The certifications covered Rice R4D, Business Development (seed production, marketing and distribution, and other products), Rice Competitiveness Enhancement Fund - Program Management Office, General Administrative Support Services, and Executive Management of the entire institute.

An ISO Management Standard is a set of internationally recognized guidelines covering key areas in business management such as resources, operational planning and control, performance management, business risks, and communication. ▪

PRECIOUS MAE C. GABATO


JAN P. BAUTISTA

DFA-TCCP officials and staff and DA-PhilRice training specialists discuss the progress of the ongoing course.

DA-PhilRice trains Sri Lankans

Sri Lankan rice research and extension officers, and subject matter specialists are being trained online on the PalayCheck System for irrigated lowland rice.

PalayCheck is an integrated crop management system for transplanted and direct wet-seeded irrigated lowland rice farming. It promotes localization of relevant technologies and crop management options through collaborative and experiential group learning with farmers to improve productivity and profitability in an environment-friendly manner.

In partnership with the Department of Foreign Affairs-Technical Cooperation Council of the Philippines (DFA-TCCP), 30 key staff members from regional rice R&D centers and stations, schools of agriculture, and training centers across Sri Lanka started their online training on March 24. It is conducted for 4 hours every Tuesdays and Thursdays until June 24.

"The course aims to enhance the participants' knowledge and skills on the production of high-quality inbred rice and seeds, and farm mechanization, including how to teach farmers," said Lea Abaoag, training coordinator.

Shobini Gunasekera, Sri Lanka Ambassador to PH, said that paddy cultivation is deeply permeated in all aspects of the history, culture, and way of life of Sri Lankans, but the country is now importing rice to satisfy its demand.

"This training program is a vital platform for [Sri Lanka] to explore beneficial innovations in increasing the yield on rice cultivation. I encourage the participating Sri Lankan stakeholders to take this opportunity to learn the Philippines' best practices and system, and explore how we can integrate them in our initiatives to develop our own industry," Gunasekera said.

Lilybeth R. Deapera, DFA-TCCP director general, said that this training program happened two years after the Sri Lankan government requested the Philippines to identify areas where it could provide assistance.

She anticipates that the participants will be able to train farmers in their country after the training. [with reports from Ev P. Angeles] ▪ **MERVALYN O. TOMAS**

JEMUEL C. SOTTO

RICE PADDY ART HONORS FILIPINO FARMERS. In recognition of the farmers' achievement in 2021, the record-high *palay* output is showcased in this year's dry season paddy art at the DA-PhilRice FutureRice Farm in Nueva Ecija. The farmer's image along with the 19.96MMT figure signifies that this accomplishment was through the hard work of rice farmers. Another paddy art was objectified in support of Comelec's "Vote SAFE (Safe, Secure, Accurate, Free and Fair Elections) Pilipinas" campaign.


JOSE MARI Z. NOMBRERE

LAKBAY PALAY. This year's dry season field days were held face-to-face, April 6 - 7, for the first time since 2020, following the Nueva Ecija-Inter Agency Task Force rules and guidelines on COVID-19. Conducted at the Central Experiment Station, around 500 farmers, partners, and other stakeholders from Ilocos Norte, Isabela, Nueva Ecija, Pampanga, Bulacan, Quirino, Ifugao, Aurora, Bataan, and Zambales learned about new varieties, farm machines, and right nutrient application.


SARAH JOY N. RUIZ

KOPIA is now a partner of the RiceBIS program in increasing farmers' income in Zaragoza, Nueva Ecija through rice-based agripreneurship.

KOPIA turns over greenhouses to Nueva Ecija farmers

The Korea Program on International Agriculture (KOPIA) Center in the Philippines turned over 13 greenhouses to farmers' associations in Zaragoza, Nueva Ecija, May 18.

Three greenhouses were awarded to the Buklod ng Nagkakaisang Magsasaka ng Batitang (BNMB) farmers' association and four to Ugat-Uhay Farmers' Association (UUFA). These are in addition to the six greenhouses already turned over to them.

"These greenhouses will help raise farmers' income [with the crops they will grow]. Let's continue to work together to make this project successful so more farmers would benefit from it. Korea, through KOPIA, will continue to share its resources to uplift the farmers in this country," Dr. Kyuseong Lee, director of KOPIA Philippines Center, said.

Meanwhile, Dr. Karen Eloisa Barroga, DA-PhilRice deputy executive director for development, encouraged the farmers to continue with their hard work, perseverance, and unity as a response to the trust KOPIA gave them.

"There is really an advantage in being organized and in planting other crops aside from rice," she emphasized. The rice farmers are planning to grow tomato, green pepper, and cucumber in the greenhouses.

Farmer-leaders Cresencio Marcos of BNMB and Reynaldo Mariano of UUFA Mayamot expressed their gratitude for the opportunity and their commitment to wisely use the greenhouses to achieve higher income.

The project is being implemented in partnership with the Municipal Agriculture Office of Zaragoza by DA-PhilRice through its Rice Business Innovations System (RiceBIS) Community Program. ▪

SARAH JOY N. RUIZ

Abonong Swak! cuts costs by P2-4K – experts

Farmers could save P2,000-P4,000 per hectare if they complement inorganic fertilizers with organic, nutrient experts said.

Wilfredo Collado of DA-PhilRice said that farmers must optimize the benefits of natural sources of nutrients.

"One hundred cavans of *palay* (5t-yield) produces 5t of rice straw. If this is incorporated into the soil and decomposed, it can produce 30kg nitrogen, which is equivalent to 1.3 bags (65kg) of urea," he explained. A 50-kg bag of urea today costs P2,500 or more.

Promoted through the "*Abonong Swak* (*Swak sa budget, swak sa palay*)" campaign launched during the DA-PhilRice Lakbay Palay in April, balanced fertilization is being disseminated as a strategy to help cut fertilizer costs in rice production.

Collado added that it is important for farmers to know the specific nutrients and the amount needed by their crops to avoid over or under application.

Needed nutrients are better estimated through the Minus-One Element Technique, Leaf Color Chart, Leaf Color Computing App, or Rice Crop Management Advisory Service.

"Aside from saving money, organic fertilizer application has a long-term benefit as it improves soil fertility," Dr. Gina Nilo, Bureau of Soils and Water Management assistant director, told participants who received soil test kits from the Bureau.


PAYSON C. BERTO

Around 500 onsite participants and 15,000 online viewers of the two-day Lakbay Palay were briefed about organic-inorganic fertilizer combinations to choose from based on their budget and current yield. ▪

MERVALYN O. TOMAS

NEW KNOWLEDGE PRODUCTS

COMPILED BY HANAH HAZEL MAVI B. MANALO

FOR POLICYMAKERS

RICE SCIENCE FOR DECISION-MAKERS
- How may we help rice farmers in drought-prone areas?

FOR ACADEMIC-SCIENTIFIC COMMUNITIES

MAGAZINES
- Raising the bar for more agile and future-ready agri workforce
- Scaling technologies for impact

FOR FARMERS

MAGASIN
- Matatag ang magsasakang Pinoy
- Modernong Teknolohiyang Pangmagsasaka

BROCHURES
- Peste at sakit labanan
- Tipid ka sa Abonong Swak

VIDEO
- Abonong Swak

POSTER
- Tipid ka sa Abonong Swak

HANDOUT
- Responsableng pamamahala ng sustansiya

RADIO PLUGS
- Overview of Abonong Swak
- Pili na ng Combo na swak sa'yo
- Combo Swak
- Tipid ka sa Abonong Swak
- Organiko at inorganikong pataba, pagsamahin

If you want to grab a copy of any of these knowledge products, you may contact the DA-PhilRice DevCom Division via e-mail at prri.mail@philrice.gov.ph. You can also access them at www.pinoyrice.com.

The many uses of heat from the carbonizer

The continuous type rice hull carbonizer (CT-RHC) developed by DA-PhilRice is boosting livelihood opportunities for rice farmers who use the heat from the carbonization process as alternative energy source.

Rice hull is often seen as a mere waste material. But DA-PhilRice experts led by Dr. Ricardo Orge have developed the carbonizer that harnesses rice hull as biomass feedstock.

The carbonizer converts rice hull into biochar. It is used as soil conditioner, nutrient and microbial carrier, remediation agent for toxic materials in organic contaminants, catalyst for industrial applications, and porous material for mitigating greenhouse gas emissions, feed supplements, and odorous compounds.

The carbonization process produces heat, which is an alternative to the expensive and fossil fuel-based liquefied petroleum gas (LPG).

"We are now in the process of commercializing the technology," according to Orge, Scientist II at our Rice Engineering and Mechanization Division.

This carbonizer is now enabling farmers to grow mushrooms economically and in a much easier and convenient way while processing rice hull into biochar. The heat from the carbonization process is used to pasteurize mushroom fruiting bags. Mushroom production at DA-PhilRice in Nueva Ecija has a batch capacity of 500 fruiting bags.

DA-PhilRice helps farmers' cooperatives adopt the technology in other income-generating activities. Rice diversification and multi-livelihood engagements for farmers are thrusts of "Palayamanan Plus".

"My dream is simply for my children to have better jobs and lives. If we were to rely on farming, it will not be

"With appropriately designed attachments and while producing biochar, farmers can use this carbonizer in processing high-value products for additional income."

DR. RICARDO F. ORGE
SCIENTIST II
DA-PHILRICE

enough," said Daniel Danilo, farmer from Bagong Pagasa sa Bagong Talavera Primary Multipurpose Cooperative in Nueva Ecija.

"With the steel drum that we used before to pasteurize mushroom fruiting bags, we burned wood, which we had to continuously nudge. Burning takes a long time. Now it's fast, we just push it forward, and the flame is continuous," he added.

"Using the drum was truly difficult. While it was raining, a roofing sheet should be placed over the firewood. It was such a slow process. With the carbonizer, it's easy to watch over it. When the fire dies out, I no longer have to go down on my knees and blow on the firewood. Now it's convenient," Liwayway Danilo concurred.

While a drum only produces 76 pieces of mushroom fruiting bag per day, the rice hull carbonizer turns out 500 pieces a day.

"After one month, it's already cash!" Liwayway said.

Heat from the carbonizer also works in poultry raising. It keeps the chicks warm during their first two weeks. A poultry raiser in Cuyapo, Nueva Ecija has already tried it. It is also being tried in roasting chicken.

The rice hull carbonizer can operate continuously almost without smoke. It contributes to climate change mitigation.

"With appropriately designed attachments and while producing biochar, farmers can use this carbonizer in processing high-value products for additional income," Orge said.

Aside from rice hull, the machine can also carbonize chopped rice straw, coconut husk, and wood. However, amount of air should be regulated to diminish smoke emission.

"The cooking attachment was primarily developed for entrepreneurs who want to sell cooked products such as boiled green corn, banana, or peanut along the roads," Orge said.

One housewives' group in Aurora also tries to use the heat for cooking salted eggs while producing biochar as ingredient of organic fertilizer.

Another attachment is a baking/ drying oven.

Other potential uses of the heat are production of essential oils from herbs or medicinal plants, distilled water, and diesel fuel from plastic wastes.

"Because the heat generated by the carbonizer is stable, it is possible that we can use it for household lighting," the scientist added.

DA-PHILRICE LOS BAÑOS

DA-PHILRICE MIDSAYAP

Stations comply with HEALTH PROTOCOLS as they operate

PHILRICE BATAC

- Employees imposed self-discipline in taking turns attending to office work for undisrupted operations
- Field workers were separated from the office personnel. Pregnant women and staff with co-morbidities were allowed to work from home.
- Allowed temporary use of dormitory rooms in place of more spacious offices.

PHILRICE ISABELA

- Constantly communicated with the San Mateo health office to coordinate COVID-19 tests and vaccination of its 110-member workforce
- The only branch station that hired its own nurse to help ensure that the health of its staff is prioritized above any responsibility
- Staff cooperated in doing extra tasks that they never used to do such as disinfection and confinement. Oxygen tanks were bought so emergency help is just around when needed
- Designed a confinement system that prevented people from Building A from stepping foot in Building B. An assigned vehicle was also dedicated to the same group of staff.

PHILRICE CES

- Established the COVID-19 Protection Fund as approved by the Board of Trustees
- Constituted COVID-19 Task Force
- Designated contact tracers and established the tracing system
- Enforced guidelines on quarantine, isolation, testing, vehicle dispatch, return to work of close contacts and recovered patients, and 100% on-site reporting
- Released protocols on the conduct of mass gatherings, face-to-face meetings and conferences, and visitors' use of our facilities.

PHILRICE LOS BAÑOS

- Constituted COVID-19 Task Force to help disseminate information to the staff
- Created chat groups to help accelerate communication among employees from anywhere. Constant communication with partners and collaborators was also sustained
- Designated a skeletal workforce in extreme lockdowns ensuring continuous and unhampered public service while protecting employees' health
- Partnered with the Los Baños authorities in conducting vaccinations resulting in 100% fully vaccinated staff
- Implemented a ferry-and-fetch scheme to assist personnel who had difficulty reporting to work due to lack of public transportation.

The most difficult of times have again proven that gold comes out from the purifying agent in fire. In our branch stations, solutions emerged from partnerships and teamwork amid the restrictions imposed by different alert levels in the ups and downs of the pandemic.

PHILRICE BICOL

- Collaborated with the Ligao City healthcare frontliners in operationalizing the station's quarantine protocol
- Formed the Health and Safety Committee that handled the tracing of primary and secondary contacts, monitoring of infected staff, and coordination with local authorities regarding health protocols
- Erected wall dividers or barriers that maintained physical distancing.

PHILRICE NEGROS

- Tapped the assistance of LGUs in Panay Island, Negros provinces, and Bohol to enforce protocols based on alert levels set by the national Inter-Agency Task Force (IATF)
- Staff coordinated with LGUs on the requirements for conducting activities, while seed cooperatives were instructed to submit needed documents as advised by the local IATF.

PHILRICE AGUSAN

- Negotiated with the IATF the deployment of staff and seed deliveries
- Disinfected office and work areas every Friday
- Conducted house-to-house survey interviews replacing group consultations.

PHILRICE MIDSAYAP

- Conducted regular swab testing among the staff and personnel. Interfaced with the Midsayap health office, which deployed its nurses to administer the tests
- Waged a "get vaccinated campaign" to encourage all personnel to take the jab.

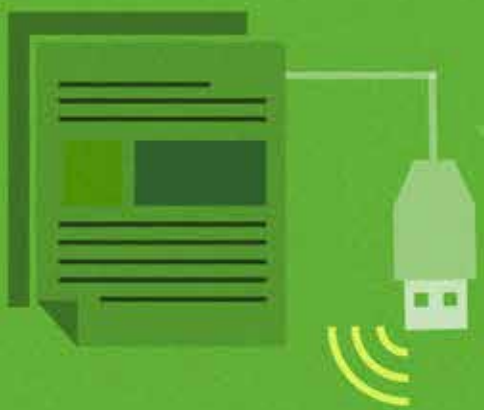
BOOSTING WORKPLACE AUTOMATION

INFOGRAPHICS: JAYSON C. BERTO
SUBJECT MATTER SPECIALISTS:
LUIS ALEJANDRE I. TAMANI AND ARTURO C. AROCENA JR.

DA-PHILRICE IS LOADED with administrative and services tasks across divisions, offices, and programs that it got entangled with the ill effects of the COVID-19 pandemic, which vibrated a shock on its daily operations.

As the pandemic shifts the rhythms of our workplaces, it also opens opportunities to upgrade our administrative processes and upskill staffers with new technologies and process automations like never before. Our Information Systems Division developed and improved systems that are web and mobile-based to keep our administrative services going.

Let's check out how our systems grew amidst the pandemic:



VIRTUAL PRIVATE NETWORK (VPN)

Admin staffers were provided with access to VPN, which served as a gateway to work on the internal administrative systems even in a work-from-home (WFH) setup.

CONTACT-TRACING SYSTEM

Employs web-based, mobile, and text alert systems for centralized data management, monitoring, and control.

Web-based system for servers to manage and monitor data and update quarantine protocols

Mobile android for staffers to fill up health declaration forms and monitor health status, scan QR codes for daily time record

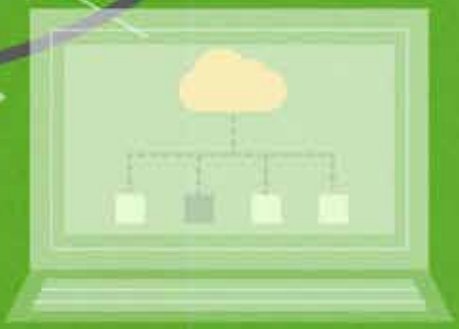
Text messaging on health declaration recommendations, quarantine protocols, and WFH arrangements

PHYSICAL PROPERTY INVENTORY SYSTEM APPS

Shift from barcodes to QR codes facilitated the storage of more information about an office property. Aside from its physical dimension, staff in-charge could easily update the inventory system real-time.

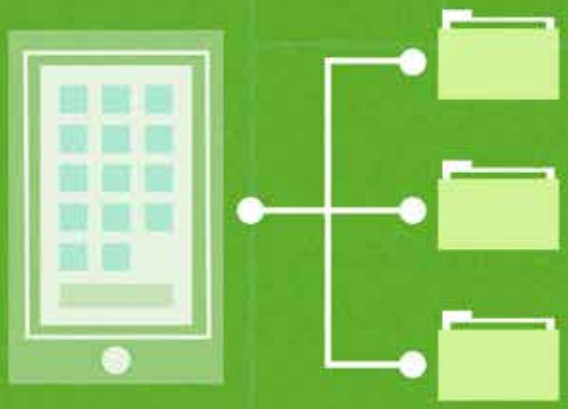
VIRTUAL MEETING PLATFORMS

(Zoom, Webex, Google meet, Microsoft teams) – for meetings, conferences, and webinars.



RCEF SEED DISTRIBUTION SYSTEM

Uses a combination of web, mobile, and text messaging to facilitate processes in the Rice Competitiveness Enhancement Fund (RCEF)-Seed Program from planning to distribution.



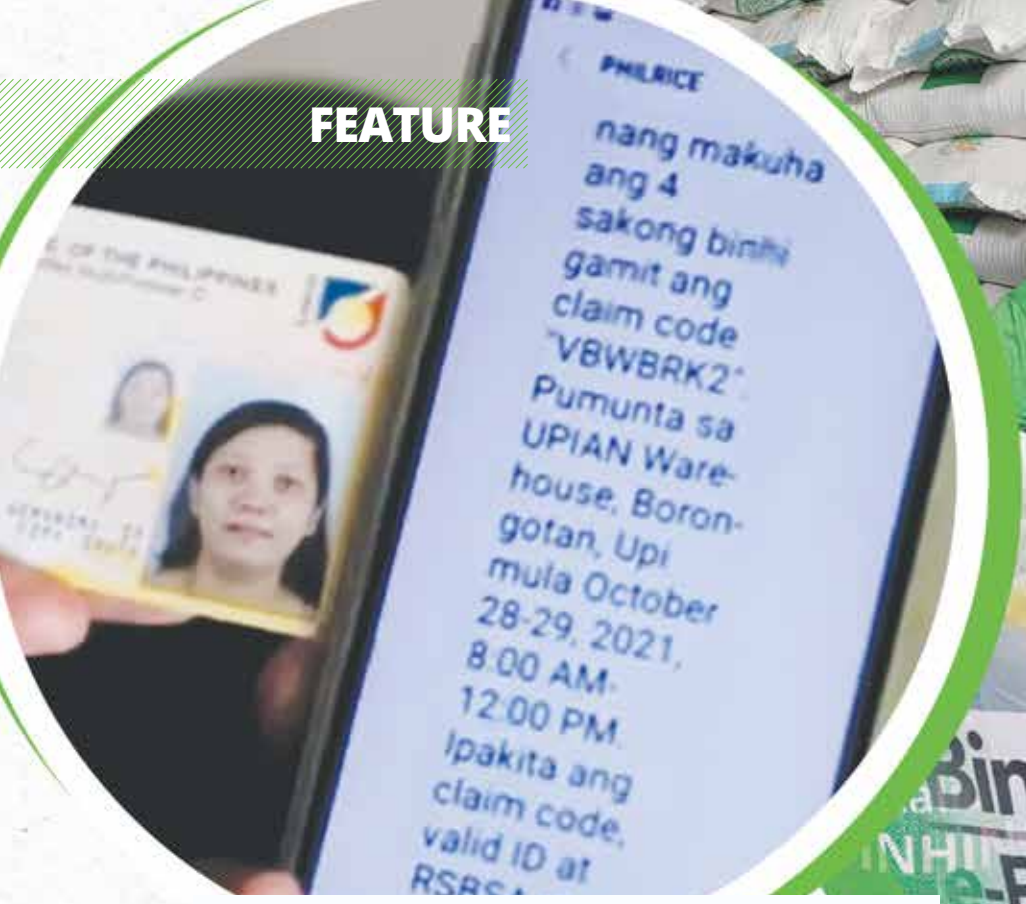
Web-based system to manage and monitor data and facilitate information access of RCEF seed distribution

Mobile android for RCEF seed positioning, delivery, inspection, and distribution

Text messaging sends claim codes, distribution schedules and locations to farmer-beneficiaries through the Binhi E-padala and PhilRice Text Center

IMPROVED SYSTEM FOR THE PHILRICE TEXT CENTER (PTC)

Say goodbye to manual encoding and sharing of information. With the improved platform, the PTC can now use one-time inputting of contact lists and sending personalized text blast contents per batch, which is a faster and more efficient way of disseminating information.



Less waiting, less risks through seed system apps

Claiming subsidies from the government is a pleasure; but waiting in a long queue is a pressure. This is why through digital technology, the Rice Competitiveness Enhancement Fund (RCEF)-Seed Program has reduced farmers' "agony" in seed distribution areas.

Documentation reports during the program's first year of implementation show farmers waiting in long lines before finally getting their bags of certified inbred rice seeds. With Binhi e-Padala, a digital voucher system launched in 2020, farmer-beneficiaries with active telephone numbers would just wait for a text message about their scheduled seed distribution and pick-up points. They then get their seeds in as fast as two hours.

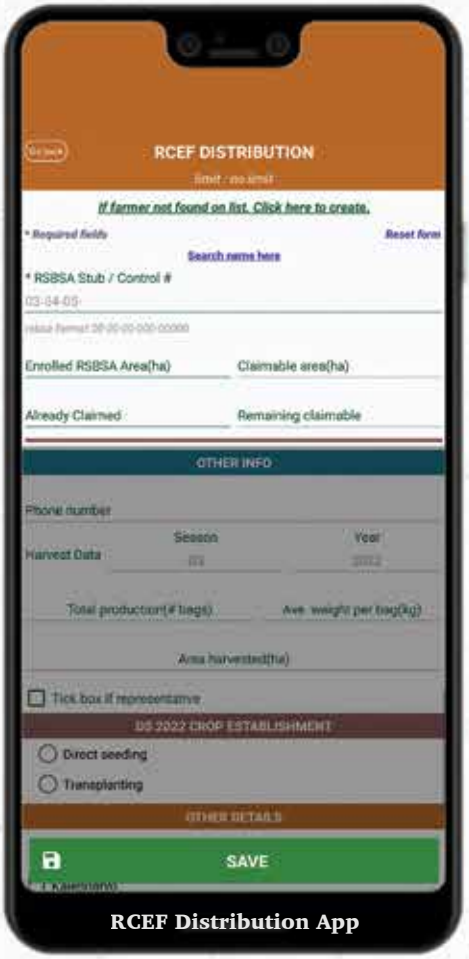
Jayson Albay of La Union, one of the farmer-beneficiaries, said Binhi e-padala is convenient for farmers who reside in remote areas.

"We no longer need to wait for long hours to get our seeds. Today, I received the seeds with no hassle," Albay shared.

He also mentioned that the new system helps limit the crowd and minimize possible exposure to COVID-19 because of the assigned schedules.

RCEF SEED PROGRAM

RCEF Seed Monitoring System



RCEF Distribution App

“This digital system informs us about the seed distribution schedule so farmers don’t need to travel back and forth just to check their schedules. Now, we can also select our preferred varieties unlike before when we were left with whichever variety is delivered in our area.”

VICTORIANO PETINA JR
FARMER-BENEFICIARY
ROSARIO, LA UNION

Meanwhile, Victoriano Petina Jr., also of La Union, president of the BUED CIS DAM 1 Irrigators’ Service Association, Inc., said the system allowed them to choose their preferred varieties.

“This digital system informs us about the seed distribution schedule so farmers don’t need to travel back and forth just to check their schedules. Now, we can also select our preferred varieties unlike before when we were left with whichever variety is delivered in our area,” Petina was impressed.

Dr. Flordeliza Bordey, RCEF Project Management Office director, said the Binhi e-Padala accelerated seed distribution and enabled farmers to receive the certified seeds before planting schedule starts. They are now also exploring the online pre-registration scheme as another way to reduce long queues during seed distribution.

The RCEF seed monitoring system and RCEF seed distribution app were also developed to document the program activities and beneficiaries. In areas with limited internet connectivity, the seed distribution app can be used for offline encoding that can be sync online. The data on seed distribution can also be manually documented using paper-based documents, which will be encoded later and synched with the seed monitoring system.

While receiving seeds is expedited by online technologies, releasing the seeds was enhanced by offline interactions through cooperation and mutual help and assistance that sustained operations amid the toughest COVID-19 restrictions. These human connections helped resolve limited staff mobility, reduced face-to-face activities and mass gatherings, and travel restrictions.

DA-PhilRice recognizes the efforts of the local government units (LGUs) — provinces, towns, cities — as partners and prime movers on the ground. The operational shift rendered a dynamic approach to seed distribution as city/municipal LGUs employed strategies tailored to adapt to local circumstances (e.g., community-level health and safety protocols).

Seed distribution has improved significantly across five seasons of implementation on account of the close coordination of DA-PhilRice with and support from the DA-Regional Field Offices (DA-RFOs), LGUs, and the Bureau of Plant Industry-National Seed Quality Control Services (BPI-NSQCS). Partnerships with the seed grower cooperatives and associations were also tightened.

From its maiden implementation in 2020 dry season (DS) with a 69% delivery rate and 65% distribution rate, the RCEF Seed Program had achieved 104% delivery rate and 98% distribution rate in the 2022 DS (Sept. 16, 2021 - March 15, 2022), thanks to the system.

On its sixth season of operationalization, processes are being maintained and polished to ensure that farmers are well-served amidst the overstaying health crisis. [with reports from **FRANZEL MONIQUE D. BONILLA**]

Rice: A symbol of hope in pandemic times

DIADEM G. ESMERO
Anthropologist

Rice, the grain that feeds half of the world's population, is as old as civilization — since the first man raised his voice in song and incantation in times of plenty, famine, and pandemics. It is of little wonder then that "Filipinos eat rice with almost everything, and normally with more than just one cup, three times a day — it's the staple that completes the meals on the table. Without rice, it's not a meal at all."

Relief goods

As the world was taken by surprise by the pandemic, governments, non-government organizations, private sector, and civil society organizations launched various efforts in different approaches to mitigate the impact of hunger among every household. The most common intervention is the provision of packages of relief goods.

A typical relief pack in communities consists of a few kilos of rice, canned goods or processed meats, instant noodles, sachets of instant coffee, and a pack of sugar. Colloquially known as "relief goods", food packs are distributed to poor and low-income households in times of disaster. They serve as immediate aid, a stop-gap measure; but for the poor, they are a lifeline until "normalcy" – a return to familiar rhythms of certainty – is restored.

In 2020, for example, Mayor Emerson Pascual of Gapan City, Nueva Ecija said one 50-kg sack of rice and P1,000 cash will be delivered to every doorstep, including non-residents stuck in his locality due to the enhanced community quarantine, which has been extended.

"Yun pong bigas, andiyan na kumpleto. Sinigurado po namin bawat bahay, bawat pintuan ay malalagyan ng bigas (The rice is already here and it is complete. We want to assure that every house, every doorstep will be spared rice)," Pascual said.

In Cabanatuan City, Mayor Myca Elizabeth Vergara told his father, Vice Mayor Julius Cesar Vergara, in a televised conversation that the city government has so far delivered in three waves 30kg of rice (10kg per wave) and a whole dressed chicken. These were augmented with 10kg of rice from third district Rep. Rosanna Vergara's personally funded "Kalinga para sa Distrito" program that covers Cabanatuan City, Palayan City, and the towns of Bongabon, Gabaldon, Laur, Gen. Natividad, and Santa Rosa. The provincial government, on the other hand, distributed rice through the Nueva Ecija Provincial Food Council.

In the National Capital Region, as reported by Asian Development Bank more than 100,000 households have received critical food supplies through Bayan Bayanihan, their partnership program with the Department of Social Welfare and Development, and the private sector, in coordination with the Philippine Army.

Relief goods distribution through the Bayan Bayanihan Program.

Evidently, as different groups assembled bayanihan acts to help feed Filipinos, rice became the central item in putting up acts of volunteerism, partnerships, and cooperativism.

When a soldier brought food packs to Rowena P. dela Cruz' doorstep one Saturday afternoon in April 2020, tears streamed down her face.

"Finally, we have food for our children," said the 29-year-old housewife. Her family of six lives in a 20-sqm dwelling in Navotas City.

"We were so happy, as well as all our neighbors. The relief goods were a big blessing to us, especially since my husband is a passenger jeepney driver and he can't work now, so we don't know where to get money for food."

The declaration of various quarantine classifications also implied varying degrees of limited mobility in each locality. The restricted movements applied to persons and goods. However, the transport of rice, along with other food products, was never hampered. The free movement of rice was symbolic of the sustenance and continuing nourishment of people in the midst of the pandemic.

Symbolic value

Evidently, as different groups assembled *bayanihan* acts to help feed Filipinos, rice became the central item in putting up acts of volunteerism, partnerships, and cooperativism. Despite risks to their health in ensuring rice on every table, various groups in different parts of the country toiled almost daily to pack rice and other food items at the height of the pandemic and in times of disasters.

"We derive satisfaction and fulfillment out of helping these poor people, the needy," Lieutenant General Gilbert Gapay, Philippine Army chief said.

Rice and its consumption have been interwoven in the culture of the Filipino across its times and identities — defining who we are as a people. Applying these simple narratives to anthropological analysis, rice grains strengthen its symbolic value of cultural unity, hope, well-being, economic growth, and sustenance for all Filipinos across the country. We are what we eat, as it were.

It is not surprising at all that rice's symbolism as a cultural badge had gained greater prominence during the pandemic. Symbolism has been central to definitions of culture since 1952 when Kroeber and Kluckhohn wrote "culture considers patterns explicit and implicit, of and for behavior acquired and transmitted by symbols, constituting the distinctive achievement of human groups." This definition was echoed by Clifford Geertz in 1973 when he formulated his culture concept as "a historically transmitted pattern of meanings embodied in symbols, a system of inherited conceptions expressed in symbolic form by means of which men communicate, perpetuate, and develop their knowledge about and attitudes toward life." We think and act so we can serve a plate of rice on the table!

MORE READY THAN EVER

LAKBAY PALAY

This field day is a bi-annual event, which gives opportunities for farmers and extensionists to visit DA-PhilRice and interact with its experts.

TECHNICAL BRIEFING

Conducted during the distribution of Rice Competitiveness Enhancement Fund (RCEF) seeds, farmer-beneficiaries are educated on growing the seeds using PalayCheck – a dynamic rice crop management system that presents the best technologies and management practices as Key Checks.

TOURS

Farmers, extensionists, youth, officials, and other stakeholders visiting the Institute are toured around its laboratories, experimental fields, and facilities. The latest rice varieties, organic and inorganic approaches, machines, rice-based farm practices, and other technologies are showcased.

FACE-TO-FACE TRAINING

Regularly conducted to upgrade the skills and enhance the knowledge of extension workers and farmers, especially on rice machine operations, agro-ecosystem analysis, seed testing procedures, soil sampling, and other nutrient diagnostic tools. Participants are usually housed within the campus.

The pandemic may have been cruel, but it also brought out the best in us to survive, recover, and move forward. As an institute rich with knowledge, visitors and learners frequent DA-PhilRice to observe and learn about the latest in rice production technologies. They learn through Lakbay Palay, tours, technical briefings, and training programs/ courses.

From face-to-face interactions to purely online, the institute employs hybrid strategies on knowledge- sharing and learning to keep farmers, extensionists, and other stakeholders informed with or without a health threat. Furthermore, a 360° virtual tour is already accessible where visitors can hover around our laboratories, FutureRice farm, Palayamanan site, Genebank, seed processing facility, and museum: https://bit.ly/PhilRicevirtualtour.

SARAH JOY N. RUIZ

BLENDED LAKBAY PALAY

The interactive event went virtual during the height of the pandemic. On April 6 - 7, 2022 face-to-face Lakbay Palay resumed, which was complemented with a livestream on social media. This improves the activity with more reach and richer interaction with offline and online audiences.

PALAYARALAN

Launched in November 2018, PalayAralan catered to DA-PhilRice clients and visitors seeking information on specific aspects of rice production. Lectures are conducted on-campus free of charge. During the pandemic, it was livestreamed through the DA-PhilRice Facebook page and zoom, and filled in the technical briefing.

Currently, the online PalayAralan complements the onsite technical briefings with the information aired based on the rice growth stage. It broadcasts twice a month.

360° VIRTUAL TOURS

This platform complements the physical tour as it features the places included in the visits such as the Rice Science Museum, FutureRice Farm, Palayamanan Farm, Genebank, Seed Processing Facility, Rice Chemistry and Food Science Laboratory, and Plant Breeding and Biotechnology Laboratory. We also launched the PalayKamalayan webisodes in the https://www.facebook.com/ricesciencemuseum that showcase the sections displayed at the Museum. Visit us here: https://bit.ly/PhilRicevirtualtour.

BLENDED TRAINING

Number of days of physical contact now reduced. Topics that do not require demonstrations are discussed online.

Digital transformation: our next chapter

There's a hostile projection for companies that do not adopt new technologies. John Chambers, former executive chairman and CEO of Cisco Systems, estimated that "at least 40% of all businesses will die in the next 10 years... if they don't figure out how to change their entire company to accommodate new technologies."

Thinking ahead even before Chambers' prediction, DA-PhilRice has envisioned a digitally transformed system that will not only benefit the institute, but also will provide welfare to the rice farmers.

"We can imagine a future being redesigned further by the advances in so-called disruptive, exponential SMAC (social media, mobility, analytics, cloud) technologies that can enable our farmers to earn more from their farming and empower them to become better versions of themselves," Dr. John de Leon, executive director, said.

Adopting technologies is not only enough. Institutions and companies are urged to act fast to cope with the world's volatility.

As Jeff Bezos, the founder of Amazon, said, "In today's era of volatility, there is no other way but to re-invent. The only sustainable advantage you can have over others is agility...."

Pre-pandemic, digital farming has already come of age at DA-PhilRice with ICTs already applied in rice fields since early 2000s, which included the Open Academy for Philippine Agriculture and the DA-PhilRice Text Center. Presently, a long-term plan (2023 - 2028) for digital transformation (DX) has been mapped by the Institute as a strategic vision – harnessing the ubiquitous resources of internet and smartphone for farming.

"DX will definitely be a priority for PhilRice in its 2023-2028 strategic plan. We believe in its critical contribution to efficiency, resiliency, and transparency. We hope to regularly commit a certain percentage of our budget in support of DX," said Dr. Karen Eloisa Barroga, deputy executive director for development.

Three key areas are being developed for the DX–rice production technology through the rice integrated crop management system called PalayCheck; rice value chain and organizational processes and operations. The establishment of a Big Data Analytics Center is also eyed.

Apps/info systems to support digitalization of PalayCheck were already developed including the eDamuhan, an app that helps rice farmers identify weeds; Minus-One-Element Technique app that computes the soil's fertilizer requirements; and Binhing Palay app that gives farmers information on rice varieties, seasonal suitability for planting, seed and grain quality, and yield under local conditions.

Leaf Color Computing (LCC) app, which assesses the nitrogen status of rice plants based on leaf color; AgRIDOC app, which allows farmers to keep records of their rice farming activities and expenses; and RCMAS 4.0 (Rice Crop Manager Advisory Service) were also continually improved as complementary apps for the PalayCheck system. The following services are offered: farmer and farm lot registration, geo-referencing of farm lots, generation and printing of farmer ID cards, sending of auto-generated text messages to farmers' mobile phones, and farm monitoring to multiply benefits for farmers.

According to De Leon, the power of digital transformation can be tapped through big data analytics and open innovation to rationally help solve falling *palay* prices and other related value-chain activities. Among these are rice classification (by traders at the farmgate and retail market), and reporting of rice prices (both *palay* and milled rice) and production losses.

In the works are ePaalala, which will complement or serve as an added feature of our Text Center and the Bantay Palay app to help farmers negotiate for better prices for their produce.

Binhing Palay App

"We can imagine a future being redesigned further by the advances in so-called disruptive, exponential, SMAC (social media, mobility, analytics, cloud) technologies that can enable our farmers to earn more from their farming and empower them to become better versions of themselves."

DR. JOHN C. DE LEON
DA-PHILRICE

LCC App

The Statistical Laboratory and Data Center (StatLab) and the PhilRice Data Analytics Initiative (RiceLytics) are further expanding the Institute's data management and analysis capacity.

Statistician Aphrodite Ortiz said that StatLab provides Key Performance Indicators (KPIs) that help policy-makers come up with "evidence-based decisions through the provision of consultations, seminar-workshops, and other data science support services."

Meanwhile, RiceLytics provides critical KPIs on the status of rice farmers and rice value-chain through an online data analytics dashboard.

PRISM

The Philippine Rice Information System (PRISM) project also generates seasonal data on rice areas and yields, and assessment of crop health and damage in the event of typhoons, floods, or drought. Flooded rice area maps and drought-stricken areas are produced. It integrates remote sensing, crop modeling, standardized procedures for crop health assessment, and smartphone-based surveys to provide information on where, when, and how much rice is grown in the country.

Fast may sometimes be paired with furious as popularized by a series of action films largely concerned with street racing and chase. At DA-PhilRice, it's fast and gentle. Fast to adopt; gentle in pilot-testing the apps to ensure that the workings of our digitalization are evidence and science-based, and more importantly, user-friendly.

Minus-One Element Technique App

Supporting our mental health

As vaccination against COVID-19 rises, in-person interactions are booming up even as isolations and physical distancing are at times taken for granted. Despite this welcome development, neurologist Dr. Konstantinos Petsanis worried that in life post-pandemic, "mental health repercussions regarding what is happening during this pandemic for people, today and beyond, will really be a problem in general."

Data in 2020 suggest that Filipinos have the third highest rate of mental disorders in the Western Pacific. Mental illness has become the third most common disability in the country, wherein six million Pinoys live with depression and anxiety.

With its operations now running at 100% capacity, the institute maintains its helpline "Kumusta, Ka-PhilRice?" to provide psychosocial assistance, referral, or access for further professional help. The hotline was launched in April 2020 even before the Department of Health called for "building a resilient mental health system for all" in November 2020. The United Registered Social Workers, a team of mental health professionals that offers free, confidential, and psychosocial support services to those smothered by COVID-19, is a partner in maintaining this hotline.

During the peak of the health crisis in 2021, "Kumusta, Ka-PhilRice?" served as a tool in assessing the situation and monitoring the psychological conditions of personnel who were infected by the virus and had to be isolated.

A Psychological First Aid program was also put up by our Human Resource Management Office (HRMO) to handle health threats. Launched a few weeks after the Luzonwide lockdown in March 2020, trained psychological first aiders were deployed in the central and branch stations to cater to staffers who did not have immediate access to professional help. They provided counsel and conducted mindfulness and debriefing sessions.

Introduced to promote psychosocial well-being, resilience, and prevent mental impairment among the staff, mindfulness and debriefing sessions helped people who might be having feelings of distress, panic, fear, and worry by offering ways of healthy coping, providing feelings of safety, and hope. The sessions also empowered our workers in reducing distress caused by the pandemic and fostered short- and long-term adaptive functioning and coping. Several schedules of debriefing sessions were also done virtually from May to July 2020 and in March and April 2021 when the institute was stunned by the surge of positive COVID-19 cases.

The DA-PhilRice Mental Health Program Committee was put up in adherence to the Civil Service Commission MC No. 04, S. 2020, "Mental Health Program in the Public Sector."

"Being away from family and feeling discriminated affected my mental health. Other than these concerns, I worried about my office tasks already piling up due to my isolation. The sessions lightened up my burden because I felt like a community full of love was supporting me," one of the researchers who contracted COVID-19 recalled.

As a rendezvous of graduates from different universities nationwide, the campus assisted rice workers "trapped" in their temporary residences and could not go home to their families.

Introduced to promote psychosocial well-being, resilience, and prevent mental impairment among the staff, mindfulness and debriefing sessions helped people who might be having feelings of distress, panic, fear, and worry by offering ways of healthy coping, providing feelings of safety, and hope.

"Many personnel struggled with and survived the lockdowns in their dorms and apartments or rented homes, solely relying on the internet to stay connected with their family and friends. This alone had some serious effects on the workers—the anxiety of being away and in isolation while also being worried about their family that is far from them," said Ma. Ethel Gibe, HRMO head.

Although back-to-normal was the society's dream during the height of the pandemic, studies show that the fear of missing out has been replaced by the fear of normal, which is manifested by the continued fear of infection, to being stressed with the resumed interactions outside the household.

Amidst advice on self-care in this pandemic, rice workers can always turn to the institute's established mental health program. As Vibrate Higher Daily founder Lalah Delia said, "self-care is how you take your power back."

Starting anew with rice-veggie agribiz easy with coop

MERVALYN O. TOMAS

When they lost their jobs because of the pandemic, licensed massage therapist Aila Grospe and her business consultant-husband Pierangelo Alejo were faced with the challenge to look for new sources of income.

Remembering her family's 1.3-ha farm, which they did not till for 15 years since her father passed away, Aila convinced her husband to try their hands in farming. With their two children, they decided to leave Alabang, Muntinlupa City and start anew in Lupao, Nueva Ecija.

New community

"The thought of personally cultivating our farm was daunting at first because I was not sure how we would do it. Thankfully, there were people who helped us start. With hired laborers, we were able to clean and revive the farm in one week," Aila recounted.

Her farmer-uncle provided them with seeds to try rice farming. He also introduced them to the Lupao Vegetable Growers' Association (LVGA) and urged them to join it.

"Joining LVGA made starting this business easier for us. We were provided with the machines and implements that we need in cultivating the land," she said.

The couple then became farmer-cooperators of "Sa Palay at Gulay – May Ani, Hanapbuhay, Oportunidad, at Nutrisyon (PAG-AHON-Phase II)" project of DA-PhilRice, in collaboration with the local government of Lupao, LVGA, and East-West Seed Company.

"We are thankful that through PAG-AHON, DA-PhilRice taught us the PalayCheck System, which we applied in the 1500m^2 we planted with rice. We learned to use the right element in the right amount at the right time when applying fertilizers," she detailed.

Through the project, they were also able to acquire *ampalaya* and cucumber seeds from East-West Seed planted in a 2,000m^2 part of their farm.

"While rearing the vegetables, we learned how to grow plants organically. The pests are challenging and fertilizer application is not easy but we are continuously learning," she said.

Their efforts to learn paid off a few months after they started. Their farm was Good Agricultural Practices (GAP)-certified in December 2021, which makes DA guide them in organic vegetable production.

New ideas, innovations

The couple's ingenuity surfaced when they started harvesting their first produce. Aila made her own recipe of cucumber juice and pickles.

"Since we are planting chili pepper this season, we also thought of making *dinagopa*, my husband's recipe of processed chili pepper with *bagoong*. We have been selling this product back in Alabang," she related.

The PAG-AHON project helped them gain around P24,000 from their first produce. She related that it was especially easy for them to sell their vegetables that contributed largely to their income.

"We already have buyers, who are partners of LVGA thru PAG-AHON, waiting for our harvests. And since we are GAP-certified, they buy our produce P5 higher for each kilogram," the mom-agripreneur said.

New aspirations

Aila and Pierangelo thought that they can make more products out of their farm's produce.

"I am thinking of making papaya jam and other products from our vegetable produce that we can sell. We are also thinking of producing more organic vegetables as we are now devoted to learning organic farming," Aila shares their aspirations.

More than building their own business, the couple is also teaching other farmers.

"We are also now certified paratechnicians trained by East-West Seed and DA. We are thankful that we were given the chance to guide farmers and share with them what we learned," she said.

For Aila, deciding to optimize her inherited farm is one of the most rewarding things she did in her life.

"I'm happy that in doing this, we have a source of income while we also have safe and healthy food everyday, and we can help other farmers too," she said with enthusiasm.

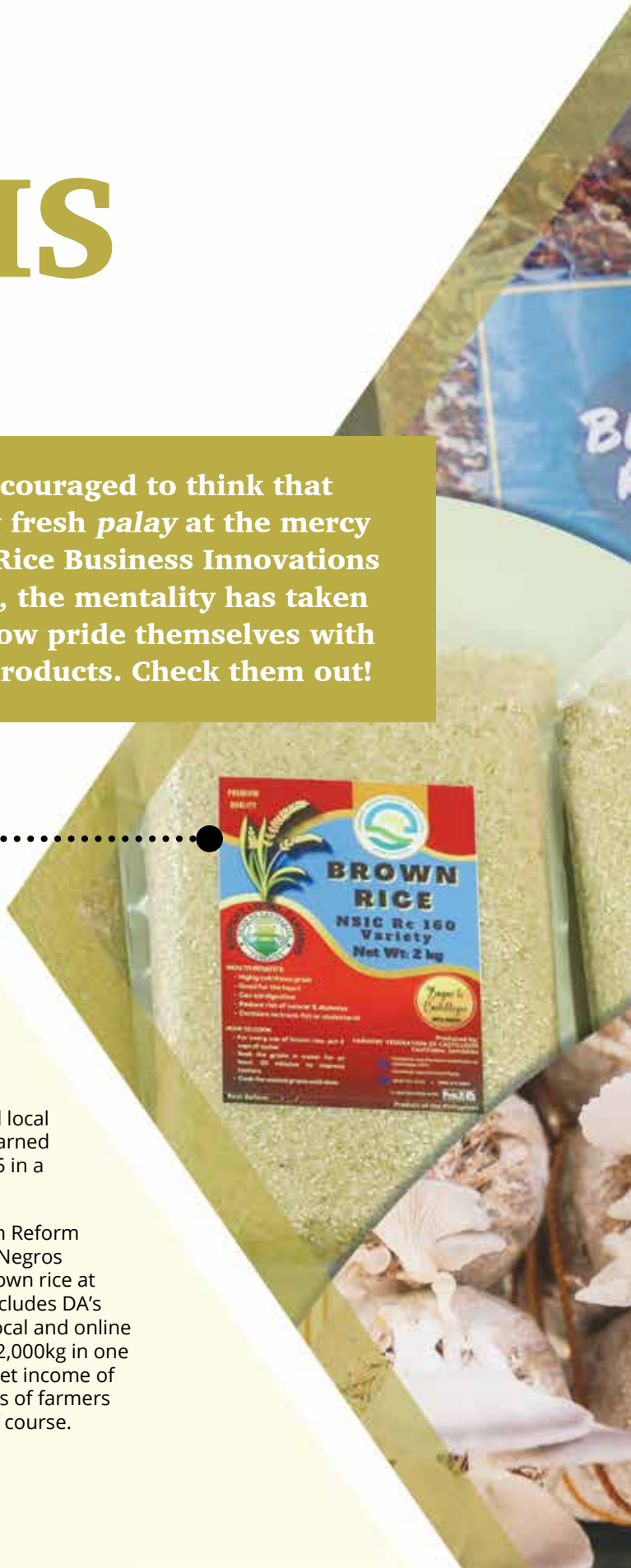
> **"I'm happy that in doing this, we have a source of income while we have a source of safe and healthy food everyday, and we can help other farmers too."**
>
> **AILA G. GROSPE**
> LUPAO. NUEVA ECIJA

REUEL M. MARAMARA

The best of RiceBIS

ANNA MARIE B. BERTO AND ALCEL B. ATANACIO

At long last, farmers are now being encouraged to think that business can go beyond merely selling fresh *palay* at the mercy of traders. Through the DA-PhilRice's Rice Business Innovations System (RiceBIS) Community Program, the mentality has taken shape as select rice farmers' groups now pride themselves with their best-selling rice and rice-based products. Check them out!



Brown rice

Also called "pinawa," these are milled but unpolished grains of any rice variety. Its niche is among consumers who value both health and affordability as it offers higher nutritional value than white rice.

It is soft and aromatic, high in fiber, and rich in antioxidants. Brown rice also helps control blood sugar levels so it is highly recommended for individuals with diabetes. It aids in weight loss owing to its short-term satiety or its eater feeling full faster, is good for heart health, and reduces threats of having cancer.

Brown rice enterprise has a 39% average return on investment (ROI) among all RiceBIS sites.

The Zambales-based RiceBIS Community, Farmers' Federation of Castillejos, champions this product. Farmers package it at 25kg/sack, retailed at P65 per kilo. With over 5,000kg produced per season, the group managed to market brown rice through institutional buyers and local rice consumers. They earned a net income of P98,195 in a season.

RiceBIS Negros Agrarian Reform Cooperative in Murcia, Negros Occidental also sells brown rice at P60/kg. Their market includes DA's Kadiwa platform, and local and online consumers. Producing 2,000kg in one season, they gained a net income of P21,492.62. Both groups of farmers have other products, of course.

RICEBIS PROGRAM

Pigmented rice

Colored or pigmented rices are known in the highland areas of Cordillera and Cotabato. In the RiceBIS Program, these exotic grains are now becoming more accessible not only for farmers to cultivate but also for more consumers to relish.

Pigmented rice can be black, red, or purple. Black rice contains the highest amount of antioxidants, proteins, and dietary fiber. Red is a great source of iron and Vitamin B6; purple has much antioxidants, too. Like brown rice, colored rice also helps lower blood sugar, helps prevent cancer and other chronic diseases, aids in weight loss, and is good for the heart.

Pigmented rice has a 42% average ROI.

The RiceBIS Bayambang Agriculture Cooperative in Pangasinan sells its red rice at P75/kg. The market counts on institutional buyers, wholesalers, retailers, and local consumers. In one season, they produced 650kg and earned an initial net income of P6,550 within two months.

The Makusog Farmers Organization, Cabitan-Masipag FO, and Alas Livelihood FO in Masbate sell their black glutinous rice at P80/pack. Farmers supply the Business Development Unit of DA-PhilRice Bicol, some retailers, food hubs/restaurants, DA's Kadiwa outlets, online customers, and some institutional buyers. They had a net income of P12,186 for their 300-packs produce during one season.

The Del Rosario and San Isidro Farmers Associations, both in Quezon, also sell black glutinous rice at P80/kg. With 1,100kg volume produce, their net income reached P13,216.

Oyster mushroom

One of today's most common rice-based products among RiceBIS Communities is the oyster mushroom. The fruiting bags where it grows use rice straw as substrate. This edible fungus aids in heart and immune system health, boosts blood sugar control, and provides antioxidant and anti-inflammatory effects. It can be an alternative to meat.

This product is an additional source of income for farmers.

The Ugat-Uhay Farmers Association in Zaragoza, Nueva Ecija produces oyster mushroom (locally called *kabuting pamaypay*) and sells it fresh at P200/kg. Farmers also sell fruiting bags at P20 each. Their net income from mushroom reached P8,143 in 2021.

One of their members buys the mushroom produce, then processes and markets it as mushroom chicharon.

CINDY S. REYES

JAYSON C. BERTO

Why combine organic & inorganic fertilizers

CHRISTINA A. FREDILES

Did you know that incorporating rice straw in the field can build up soil nutrients especially potassium? Combining rice straw with organic wastes also leads to nutrient buildup and accelerates rice straw decomposition. So, process chicken manure available in your yard into compost.

Q: Good day! May I know the organic fertilizers that I can apply [on my] rice farm? Fertilizers are currently expensive.

A: Organic fertilizer is advised to be used side by side with inorganic fertilizer to achieve a variety's potential. According to experts, combining them can save almost 50% on fertilizer input cost without compromising the yield. Using rice straw and other organic materials that are self-produced or available for free in combination with inorganic fertilizers can further lower cost.

How to make organic fertilizer

1. Cut and spread rice straw over the field right after harvesting.
2. Cut and pile-up the rice straw in one corner of the field. Scatter the straw after plowing or before the first harrowing, and incorporate it at 14 days before transplanting or at first harrowing. A kilo of an effective microorganism-based inoculant per 10kg rice straw may be used to hasten decomposition.
3. Use rice straw as a substrate in mushroom production. After harvesting the mushroom, incorporate the rice straw into the soil.
4. Feed the used rice straw substrate of mushroom to worms. Vermicast can be collected and used as organic fertilizer.

Try these nutrient diagnostic tools for site-specific fertilizer application

Leaf Color Chart/ Leaf Color Computing App

Assesses nitrogen status of the rice plant and generates nitrogen recommendations based on images of rice leaves photographed directly from the field.

Minus-One-Element Technique

Assesses soil nutrient status including nitrogen, phosphorus, potassium, sulfur, and copper that serves as basis of fertilizer recommendation.

Rice Crop Manager

ICT-based platform for improved nutrient and rice farming management technologies.

Soil Test Kit

Assesses soil health and provides fertilizer recommendation according to crop growth stage.

Abonong Swak: Save as much as P4,000/ha on fertilizers

Combine organic and inorganic fertilizers. PhilRice studies show that combining them produces the best results derived from soil fertility and productivity that promote growth and yield of rice plants. Organic fertilizer is not enough to sustain growth and reach optimum target yield; hence, inorganic fertilizer comes to the rescue.

Choose "combo" fertilizer recommendations* based on your budget and current yield. Check table below.

TIMING OF APPLICATION	COMBO 1 YIELD: 3,000-4,000kg/ha 60-80 sacks/ha**	COMBO 2 YIELD: 5,000-6,000kg/ha 100-120 sacks/ha**	COMBO 3 YIELD: 7,000-8,000kg/ha 140-160 sacks/ha**
30 days before transplanting	3,000-4,000kg rice straw	5,000-6,000kg rice straw	7,000-8,000kg rice straw
	Incorporate rice straw in the soil or use beneficial microbials for full decomposition		
14 days before transplanting	10 bags chicken manure, commercial organic fertilizer***, or vermicompost		
7-10 DAS		Incorporate to seedbed: 1-2kg zinc sulfate	
10-14 DAS	2-4kg 14-14-14		
VARIETIES WITH 100-110 DAYS OF MATURITY			
1st Application: Early growth 0-10 DAT/ 10-14 DAS	1.5 bags 14-14-14	2 bags 14-14-14 or 2 bags 16-20-0	4 bags 14-14-14
2nd Application: Active tillering 18-22 DAT/ 24-28 DAS		1 bag urea	2 bags urea
3rd Application: Panicle initiation 28-32 DAT/ 38-42 DAS	1 bag urea 0.5 bag 0-0-60	1 bag urea and 0.5 bag 0-0-60	2 bags urea 1 bag 0-0-60
VARIETIES WITH 111-120 DAYS OF MATURITY			
1st Application: Early growth 0-10 DAT/ 10-14 DAS	1.5 bags 14-14-14	2 bags 14-14-14 or 2 bags 16-20-0	4 bags 14-14-14
2nd Application: Active tillering 22-26 DAT/ 32-36 DAS		1 bag urea	2 bags urea
3rd Application: Panicle initiation 32-36 DAT/ 48-52 DAS	1 bag urea 0.5 bag 0-0-60	1 bag urea 0.5 bag 0-0-60	2 bags urea and 1 bag 0-0-60
VARIETIES WITH 121-130 DAYS OF MATURITY			
1st Application Early Growth 0-14 DAT/ 10-14 DAS	1.5 bags 14-14-14	2 bags 14-14-14 or 2 bags 16-20-0	4 bags 14-14-14
2nd Application Active Tillering 26-31 DAT/ 36-40 DAS		1 bag urea	2 bags urea
3rd Application Panicle Initiation 36-40 DAT/ 58-62 DAS	1 bag urea 0.5 bag 0-0-60	1 bag urea 0.5 bag 0-0-60	2 bags urea 1 bag 0-0-60

DAT - days after transplanting; DAS - days after sowing
**Fertilizer recommendation if without nutrient deficiency*
***50kg/sack*
****organic fertilizers that are own-produced or available for free so as not to add cost*

Leaders SHINE brighter in darkness

HANAH HAZEL MAVI B. MANALO

ILLUSTRATION BY MARK ANGEL P. MORELOS

Like the artist Rihanna singing "Shine bright like a diamond," Bong Saquing, a Christian pastor, preached on "Rebound." He reminded leaders that they SHINE brighter in darkness. It was a timely challenge for the leaders of DA-PhilRice in their Strategic Plan Preliminary Activity in April, especially that the pandemic is still a threat.

Pastor Bong explained that the pandemic paved the way for real leaders to SHINE as they rebound from the various 'losses' caused by the health crisis.

SHINE is an acronym for Strategy, Humility, Intricacy, Network, and Entreaty. And Pastor Bong shared these SHINE tips with the Institute's leaders.

S

STRATEGY

In the face of challenges, leaders revisit their mission and vision as an organization to remind them of their reasons for existence. They should understand their present situation and the changes that happened over time to adjust and move from where they are to where they should be. To strategize is to evaluate what needs to stop, start, and sharpen if it is to be continued.

H

HUMILITY

Leaders should be willing to listen, learn, and unlearn if necessary. They must be humble enough to accept what needs to be changed and improved.

I

Intricacies

Leaders need to think out-of-the-box, considering the ubiquity of technologies. They should create clarity, over-communicate it, and reinforce it to enable the organization to also think out-of-the-box. Leaders must be willing to embrace conflicts, be open, and put on the table what would be best for the organization.

N

Network

Connect with everyone as much as possible. Develop effective communication that will connect everybody. Create an environment where everyone involved can freely express their ideas in a language that everyone is comfortable speaking.

E

Entreaty

Leaders should learn to entreat the Lord. They should trust and believe in God. In planning and leading, leaders should also be seeking God's help and wisdom.

Let's cook BINIGNIT

REUEL M. MARAMARA

CARLO G. DACUMOS

As the children go back for their physical classroom attendance, boosting their immunity must be prioritized. Try this healthy, rich, and creamy snack, which originated from the Visayas! It is also one of Cebu's iconic dishes during Holy Week.

Ingredients

- 2 cups each of glutinous rice
- 4 cups coconut cream
- 1 cup each of diced sweet potato, purple yam, gabi, saba banana, and sliced ripe jackfruit
- 1 cup each of landang, Muscovado or brown sugar, and pre-cooked sago/tapioca pearls
- 16 cups water

Instructions

1. In a pot over medium heat, combine glutinous rice, landang, and water. Bring to a simmer.
2. Add gabi, purple yam, sweet potato, and bananas. Cook, stirring occasionally for 15 - 20 minutes or until tender.
3. Add sago, jackfruit, coconut cream, and sugar. Stir to combine. Continue to cook for 8 - 10 minutes or until all ingredients are completely cooked.
4. Serve hot or chilled.

DA-PHILRICE

Dr. Riza Abilgos-Ramos: nutritionist, researcher, and living a healthy lifestyle

ALLAN C. BIWANG JR.

Rice nutrition content is obviously not a research priority for now as we are more focused on increasing yield. My wish is that in the next 5-10 years, we'll give more importance on rice nutrition research.

DR. RIZA ABILGOS-RAMOS
DA-PHILRICE

We eat, work, and pray every day. Why not add exercise in between? Dr. "Reeze", our recently conferred Scientist I, shares her journey as a nutritionist and her insights on work-life balance.

Becoming a nutritionist

During her childhood in Camarines Norte, Doc Reeze was skinny and very sickly. She was among those who lined up for their school's feeding program for underweight pupils.

It was partly the reason she decided to take BS Nutrition at UP Los Baños. "I was amazed with the importance of nutrition in our lives; hence, I became interested on how our body processes anything that we eat," she said.

She was fascinated as to how diseases can be prevented or cured through healthy diet and lifestyle. She wanted to become a surgeon but financial difficulties stood in the way.

Nutrition research in the UK and PH

In 2006, Doc Reeze started her PhD at the University of Nottingham in the United Kingdom under the Ford Foundation International Fellowship Program. Her research on the folate content of rice showed that overexpression of rice folylpolyglutamate synthetase genes enhances folate concentration in the rice grain. Folate, one of the B vitamins for normal growth and development and very important to prevent underdevelopment of the spine in the first three months of life, is also needed for rice seed development.

"I continued my research here in the Philippines with our traditional varieties, which are proven to have

high folate content. A major challenge, however, is finding a plant breeder who also focuses on rice nutrition to serve as my collaborator," she shared.

She was part of the team of researchers behind MS 13 or IR68144, a high-iron rice, which was released as a special variety for farmers under the auspices of the Rice Biofortification project of the HarvestPlus Program. It was funded by the International Food Policy Research Institute.

Doc Reeze, through her research works, has developed complementary food and beverage from rice and locally available, nutrient-dense, and low-cost crops designed for malnourished older infants, pre-school and school children, teenagers, and pregnant and lactating women.

She initiated the development of the buffalo-milk ice cream bar enriched with vegetables and colored rice, which is being manufactured and sold since 2019 by Nueva Ecija's Dairy Box of Catalanacan Multi-purpose Cooperative, and of the brown rice-ice cream sandwich adopted by NutriDense Corporation.

She developed the Macarse rice brew being sold by the Rice Business Innovations System (RiceBIS) Zaragoza in Nueva Ecija and has recently gained the One Town, One Product label from the Department of Trade and Industry. Women farmers were capacitated in producing and marketing these rice-based products for additional income. She also led the study on the acceptability and nutritional quality of malunggay-supplemented rice crackers and salt bread with chili pepper leaves.

Health at home

Doc Reeze is not your typical scientist! She is good in basketball and volleyball, loves sports, dancing, and other highly physical activities. She enjoys outdoor adventures such as rappelling and hiking.

On her diet, she prefers dishes with chilli and coconut milk as they are also good for metabolism—and the fact that she's proud of her Bicolano roots!

"Healthy diet always starts at home. For my family, I usually cook nutritious dishes. I love to experiment on food and I sometimes share my discoveries to my research staff," she said.

Pinoy rice diet

Given that Filipinos are heavy rice eaters, she recommends eating brown rice. Doc Reeze explained that it has more protein, fiber, vitamins and minerals, and antioxidants, which are mostly removed from milled or polished rice. Fiber, she emphasized, helps in weight maintenance and digestive health.

"Rice nutrition content is obviously not a research priority for now as we are more focused on increasing yield. My wish is that in the next 5-10 years, we'll give more importance on rice nutrition research," she hoped.

With the carbohydrate-rich diet of most Filipinos, which is unhealthy according to Doc Reeze, she pushes for further enhancement of micronutrient content in rice such as iron, folate, and zinc to lessen micronutrient deficiency in the country.

Applause to our servant staff

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VOX POP

What's your pandemic story?

COMPILED BY
AURA SHAZNAY TUMULAK

Jayson Marturillas, 35, DA-PhilRice Laborer

Science City of Muñoz, Nueva Ecija

Receiving many blessings in an otherwise dark time made me grateful but I didn't allow myself to turn my back on those who were facing their own difficulties. I'm fortunate my employers were considerate and helpful.

When we were in a bubble here at PhilRice, we stayed at the head house in the Genetic Resources Division and not only did we go about our daily tasks but we also helped those who couldn't.

Only select laborers could work inside the Institute and we took care of our colleagues' rice fields. We worked together to make things easier for each other and that cooperation built trust.

To this day, our bond and respect for each other were strengthened, with the comfort of knowing that there are people we could lean and depend on when circumstances get tough.

The restriction of movement was very hard to deal with especially that aside from being a farmer, I also run a farm school. We were forced to halt our school operations because of the imposed health protocols and lockdown. My fellow farmers who were students of our school were expecting me to find a way around the situations. We all knew they needed to learn at that moment more than ever due to the new challenge brought about by the pandemic.

Even after a few months, gatherings and traveling were still forbidden so I decided to go to the farmers' barangay for lectures as it posed less risk than the entire group going to the farm school. We secured clearances, permits, booked venues, and organized lectures just so the farmers could continue learning.

On top of that, I also had my personal difficulties–in terms of harvesting my own rice fields, but I had gone through it and I did the work. In trying times, you keep the grind. Determination and resiliency kept me going.

It didn't take long for me to figure out that I had a role to play in encouraging my fellow farmers to push forward and we did just that.

I'm happy that 300 rice farmers graduated during that time and they are now more confident and productive.

Alex Equias, 52, Farmer

Victoria, Oriental Mindoro

Leila Ortega, 44, Farmer

San Rafael, Bulacan

"As a woman farmer, president of our farmers' cooperative (Pasong Bangkal Farmers Association), and mother, the pandemic added to the long list of difficulties I faced daily.

What do you do if you have to raise your family, run a household, and also tend to your rice field? If you ask me, you just have to work hard.

What do you do if you can't meet with the members of your association and execute usual duties? You work hard.

'Keep pushing and keep it moving,' that's what I tell myself because you can never go wrong with hard work and it pays off, so no problems are forever.

Janine Viola, 45, Farmer

San Rafael, Bulacan

You never really appreciate what you have until it's taken from you. That was how it was for me in the beginning of the pandemic. I knew that the lockdown would rob me and my family of freedom, but I didn't expect it to last for so long.

Sure, I would have a little bit of trouble come harvest time knowing I won't be able to hire laborers, but I didn't anticipate we'd also be alone come another season.

After those three suffocating months of health protocols and travel limitations, I've learned the importance of gratefulness.

It's a skill to be in the moment and be aware of all the things you have to appreciate and be thankful for, despite all the challenges that sometimes overshadow the good things you have and enjoy.

There's comfort in knowing that you will rise above whatever it is that you're facing because you know for yourself that despite all these hardships, there are always blessings.

You either just have to look for it and appreciate it or wait for it and be grateful when it finally comes your way.

Sister Ailyn Cayanan, 48, Agricultural extension worker

Calapan City, Oriental Mindoro

Many would consider the pandemic the darkest times of their lives but to me it also brought the best out of people. People came together to help others and everyone witnessed that globally and within our communities.

That same unity and spirit of volunteerism were present as we were reopening our farm school for students again.

The local government unit and the local police helped us establish a safe place for our students not just by giving us the permit to open our school but also in terms of telling us how to better implement the much-needed safety protocols.

Some of our students were in dire need of financial assistance and we were happy to help through the training scholarships we offered that were with allowance.

It was important for us to be constantly surrounded by groups and communities who always give to the unfortunate because that also urged us to do the same.

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