2019

PHILRICE R&D HIGHLIGHTS

ISABELA BRANCH STATION

Contents

STATION

PhilRice Isabela

Branch Director: Leo C. Javier

Executive Summary

PhilRice Isabela develops and promotes rice and rice-based production technologies to address production constraints in the Cordillera Administrative Region and Region II. It is also envisioned as the R&D center for hybrid rice.

For 2019, PhilRice Isabela implemented three program-based and two station-initiated core-funded projects; two externally-funded projects; and 20 CES-based research and development studies. It also led the implementation of the Rice Competitiveness Enhancement Fund-Seed Program, which covered around 270,000ha in 2019 DS.

This year, MarDag RiceBIS Association composed of smallholder farmers in San Mateo, Isabela, was formed. With eight production clusters of 85 farmer-members, the association is now registered in the Department of Labor and Employment. Harvest of the association members increased from 5.72t/ha to 6.87t/ha or an average increase of 1.15t/ha during 2019 DS. Production cost was reduced from P14.18/kg to P10.68/kg or an average of P3.5/kg.

Ninety-five technology promotion partners were also trained who will assist the station in disseminating rice technologies. R&D personnel also served as resource persons in training activities conducted by the Agricultural Training Institute (ATI) in Region II and in the Cordillera Administrative Region (CAR).

Five partner-managed learning farms were established. In two sites in Cagayan and Nueva Vizcaya, season-long training programs on *PalayCheck* System for irrigated lowland rice were conducted for 54 men and women farmers. Of the five learning farms, one had been accredited as a Farm School by Technical Education and Skills Development Authority (TESDA) while another was endorsed to ATI for validation.

Farmers totaling 129,381 were reached through mass-based technology promotion platforms including *Lakbay Palay*, on-site farmers' field days, *PalayAralan*, exhibits, Facebook posts, one-stop information shops, distribution of knowledge products, and technical dispatch.

The station is also a member of the Cagayan Valley Regional Research and Development Consortium (CVARRD), Regional Agricultural Research and Development Network (RAFEN), and Regional Research and Development Extension Network (RRDEN).

A tracer study of the 2015 Rice Boot Camp graduates showed that the training helped most of the participants in getting agriculture-related jobs.

The station also assisted in selecting the best breeding lines through Multi-Environment Test and National Cooperative Testing for release of new rice varieties. The station also assisted in verifying technologies and training of highland farmers in increasing the yield of heirloom rice.

The station also implemented Philippine Rice Information System, Rice Crop Manager, and other CES-led studies.

DA-Bureau of Agricultural Research (BAR) granted the station a three-year project, which will end in mid-2020, on documenting the dynamics of pests and diseases in non-synchronous planting areas of Nueva Vizcaya. It also implemented a follow-up project on attaining 10t/ha yield at P5/kg.

PROJECT 1

On-Farm Validation and Analysis of the 10-5 Technology for POT Development

AL dela Cruz Jr., JV Galapon, and DA Santos

Three package of technologies (POT 1, POT 2, and *PalayCheck* System) were evaluated in 2019 WS. This batch of POTs obtained the highest yield and lowest cost of production since the study started in 2018 WS. The study was conducted in Roxas, Isabela; Balong, Tabuk City; and Sampaguita, Solana Cagayan.

Plant spacing, age of seedlings transplanted, and fertilizer rate were superimposed in the three POTs. The study was laid out using Split Plot Design, in which POTs are factor A and treatments are factor B. Each site has an area of 5,000m^2. It was divided into three main plots with three subplots. Each subplot was further divided into three plots. Yield data of different treatments were gathered in each site. Package of Technology 3 or *PalayCheck* System obtained the highest yield using 18-day-old seedlings in transplanting. POT 1 obtained 8.5t/ha. In Cagayan and Kalinga, POT 1 with 100-30-30 NPK gained the highest yield with 10.1t/ha in Cagayan and 6.8t/ha in Kalinga.

The best practices identified for wet season in each province will be tested in 10 farms per province (Isabela, Cagayan, and Kalinga). Each site will have 1,000m^2. Current sites will be used for evaluating and identifying each province's best practices for DS.

PROJECT 2

Promotion of Rice Production Technologies in North East Luzon

OC Malonzo, AJA Bernardo, CPA De Leon, JNA Lacbayan

This project sought to: (1) enhance the capacities of men and women partners in sharing gender-friendly rice and rice-based technologies; (2) engage men and women partners in the promotion of gender-friendly rice and rice-based technologies through the establishment of learning farms; and (3) increase the awareness of various clients on gender-friendly rice and rice-based technologies. To meet the objectives, three studies were implemented. Study 1 was composed of training activities focusing on strengthening the capacity of partners in sharing rice and rice-based technologies; Study 2 engaged partners in showcasing rice and rice-based technologies through learning farms; and Study 3 promoted technologies to large groups of audience using mass-based platforms including on-station *Lakbay Palay*, on-site farmers' field days, rice awareness campaign, rice in a canvas, *PalayAralan*, technology demonstrations, exhibits, one-stop information shops, social media posts, distribution of knowledge products, and technical dispatch.

Under Study 1, PhilRice Isabela trained 95 technology promotion partners who have committed to partner and help PhilRice in disseminating its technologies. These training courses included: (1) ICT-based tools and resources for technical and vocational teachers of the Department of Education; (2) hybrid rice technology for ATI, BPI-NSQCS, and PhilRice Isabela staff; and (3) rice boot camp for new graduates of agriculture. Through this activity, PhilRice Isabela can simultaneously reach the end-users with the help of its allies.

Aside from the training activities, four in-house seminars were also conducted to further strengthen the capacity of PhilRice's research and development staff: (1) nurturing effective trainers and technology promoters through efficient government services, (2) understanding the dynamics of the brown planthopper stem borer for effective pest management in rice, (3) principles and management of rice disease, and (4) Philippine Rice Information System and Rice Crop Manager.

For the first time in the branch, a tracer study was conducted to 2015 Rice Boot Camp graduates. Results showed that all respondents are now currently employed and that the training was very helpful in landing agriculture-related jobs.

Under Study 2, five partner-managed learning farms were established in Cagayan, Isabela, and Nueva Vizcaya where three technologies were showcased per site to address identified gaps: high seeding rate, high labor cost, and farmers' lack of fertilization basis. In Cagayan and Nueva Vizcaya sites, season-long training programs on *PalayCheck* System for irrigated lowland rice were conducted involving 54 men and women farmers. Results showed that farmer-participants increased their adoption rate of rice production technologies by 64% in Cagayan and 27.78% in Nueva Vizcaya. This adoption led to a yield increase of 0.63t/ha during 2019 WS. The two sites registered average knowledge gain of 32.92%. Of the 5 learning farms, one was accredited as Farm School by TESDA while another was endorsed to ATI for validation. The newly-accredited Farm School owner can now accept farmer-scholars.

With the established learning farms under Study 2, farmers in the disadvantaged areas are seldom visited and prioritized by the government now have training sites that are strategically located.

For Study 3, PhilRice Isabela reached 129,381 next and end-users through mass-based technology promotion platforms; most were reached through the social media.

Strengthening the Capacity Partners in Sharing Rice and Rice-Based Technologies for Impact

AJA Bernardo, OC Malonzo, CPA De Leon, and JNA Lacbayan

The study aimed to deliver training courses to enhance the capacities of stakeholders and development partners. Furthermore, tracer study was conducted to determine the efficiency and impact of the training.

Three training programs, four seminars, and a tracer study were implemented under the study. Training courses/programs included: Training on ICT-based Tools and Resources on Rice and Agriculture, Rice Boot Camp Training for New Agriculture Graduates and other Techno Promo Partners, and the Hybrid Rice Production for Trainers and Technology Promoters. Seminars were on: (1) nurturing effective trainers and technology promoters through efficient government services, (2) understanding the dynamics of brown planthopper and stem borer, (3) principles and management of rice diseases, and (4) Philippine Information System and Rice Crop Manager.

Tracer study was conducted to Rice Boot Camp Batch 2015 graduates. Participants said that the training helped them in securing employment in agriculture.

Training activities and seminars were attended by 143 male and 168 female. Results showed that the average knowledge gain for the ICT-based tools was 57.67%, Rice Boot Camp was 95%, and hybrid rice training was 327.44%. Over-all evaluation and satisfaction were rated excellent.

Engaging Partners in Showcasing Rice Production Technologies Through Learning Farms

CPA De Leon, OC Malonzo, and JNA Lacbayan

This study aimed to identify and promote gender-friendly rice production technologies adapted in the area, identify and engage capable local farmer-partners in the establishment of learning farms, and train partners to be farm advisors and agricultural educators of the community.

This study involved scouting and engaging partners and operating learning farms. Five sites were identified: Rizal, Santiago City and Marasat Grande, San Mateo in Isabela; Ineangan, Dupax del Norte in Nueva Vizcaya; and La Suerte, Amulung in Cagayan.

During the focus group discussion with farmers, most claimed that they suffer from the high cost and unavailability of labor during land preparation and transplanting. In terms of fertilization, most of the farmers have no basis on applying fertilizers other than their own belief as to the amount, source, and timing. Although farmers are already using quality seeds, seeding rate is high at 80-120kg/ha.

To address these challenges, the following were showcased in the learning sites: seeding rate of 40kg/ha for inbred and 15-18kg/ha for hybrid; drumseeder; mechanical transplanter; and RCM-based, *PalayCheck*, and soil test-based fertilizer recommendations.

In Nueva Vizcaya and Cagayan sites, season-long training programs on *PalayCheck* System for irrigated lowland rice involving 54 rice farmers (42 male, 12 female) were conducted. Average knowledge gain was at 32.92%. Results showed that after the training, participants' adoption rate of rice production technologies increased from 34.36% to 96% in Cagayan and from 71.56% to 99.34% in Nueva Vizcaya. Yield increase was also recorded at 0.63t/ha.

Learning farm in Brgy. La Suerte, Amulung was accredited as Farm School by TESDA. With this, the farm owner can now accept farmer-enrollees with corresponding remuneration from TESDA.

Strategic and Mass-Based Technology Promotion

JNA Lacbayan, OC Malonzo, and CPA De Leon

The study aimed to: (1) share gender-friendly rice and rice-based technologies in the region using mass-based approaches and (2) strengthen the partnership with rice stakeholders. The study used mass-based technology promotion strategies to reach a larger part of the target audience and clients, involving men and women, indigenous groups, persons with disabilities, and those who belong to other gender groups. These include on-station *Lakbay Palay* and on-site farmers' field days, rice awareness activity, rice in a canvas, *PalayAralan*, technology demonstrations, exhibits, one-stop information shop, social media posts, distribution of knowledge products, and technology briefings to visitors.

Results showed that 129,381 men and women were reached by PhilRice Isabela through various mass-based platforms. Specifically, 609 participants were reached through on-station *Lakbay Palay*; 402, on-site farmers' field days; 134, PalayAralan; 5 schools in Isabela, rice in a canvas; 750, exhibits in Kalinga, Nueva Vizcaya, and Cagayan; and 163 , rice awareness activity. Also, 77 activities, events, and corporate matters were posted in the PhilRice Isabela Facebook page with 126,683 total reach, 3,285 total likes, and 421 total shares. There was an increase of 101.16% in total likes, 139.21% in total share, and 88.24% in total reach from last year's performance.

Moreover, 195 knowledge products were distributed to Cagayan Valley Agriculture, Aquatic and Resources Research and Development (CVAARRD) partner agencies, while 204 participants were reached through seminars on Drone Technology and Rice Bailing Machine. Seventy-five agricultural extensionists visited the station for technology briefings.

Results of the client satisfaction survey conducted during the station's *Lakbay Palay* and field days in Santiago City and Alfonso Lista, Ifugao showed that 78.29% of the 268 participants were satisfied with the activities; while 21.71% said the activities need improvement. For the PalayAralan learning sessions, 91.16% of the participants were satisfied.

PROJECT 3

Enhancing Rice Seed Distribution for Improved Farmers' Accessibility of High-Quality Seeds for Various Ecosystems in Cagayan Valley and CAR (Rice Seed Systems for Northeastern Luzon)

AL Dela Cruz, Jr., LC Javier, OC Malonzo, JD Batcagan, HR Pasicolan, and AJB Acierto

This project aimed to enhance the existing rice seed distribution system in Northeastern Luzon by improving the seed production, promotion and utilization of high-quality seeds, and seed distribution network. Study 1 gathered baseline information on the existing rice seed production protocols in the production of higher classes of seeds; Study 2 obtained relevant data and information on existing rice seed distribution system in Cagayan Valley and CAR, and conducted SWOT analysis; Study 3 collected baseline information on the current promotional strategies for high-quality seed use, as well as in the utilization of these seeds; and Study 4 developed rice seed training programs for rice seed value chain.

Boosting Production of Registered Seeds at the Branch Stations for Sustained Seed Availability

JD Batcagan, AL Dela Cruz Jr., and VS Rocabo

This study aimed to improve Isabela station's inbred and hybrid rice seed production efficiency to enhance high-quality seed availability in Northeast Luzon. Specifically, it aimed to: a) increase registered seeds yield to 4.0t/ha during WS and 4.5t/ha during WS @12%MC; b) achieve and sustain the station's seed production efficiency of 95% (except for effects of calamities); c) determine and supply seasonal registered seed requirement of inbred seed growers in Cordillera and Cagayan Valley in partnership with DA-RFO stations, Rice Seed Cooperatives and Farmers' Associations; and d) identify and address problems/gaps in rice seed production and processing of the station.

Baseline on the seed production processes, based from the Business Development Division record for the past four cropping seasons, was accomplished. From the information, areas for improvement on the management practices and gaps in the production up to processing in seed production of the station were identified.

Seeds produced by the station supplied the needs of the seed growers in Region II and CAR. Excess volume served as buffer seeds for future use. The 2019 WS yield recorded a range of 4.61-6.12t/ha fresh weight produce. Recovery of clean seeds with 14% moisture content was recorded at an average of 5.5t/ha (85%). Though some varieties lodged days before harvesting due to strong winds, all the samples taken for the National Seed Quality Control Services (NSQCS) laboratory analysis passed the necessary tests.

Updating current management practices thru the adoption of new innovations could further increase the yield of the seed production areas in the station (Table 1). The fertilizer rate for the inbred seed production areas of the station is at 75-30-60. From the study methodology, a comparative research using MOET App Based, LCC N application + double K rate, and current seed production application eate, will be conducted in the next cropping. Results will be used to adjust the existing rate for higher seed production yield.

Table 1. Summary of seed production practices for each management area in PhilRice Isabela

Management Area/ Activity	Practice	Duration
Seed Bed Preparation	◘ The start of seedbed and land preparation for the inbred seed production of the station is based on the planting schedule of the A x B seed production. The activity starts at least 21 days earlier or later to meet the time isolation requirement of the A line propagation. ◘ The seed beds are situated in the same field every cropping. ◘ Upon setting the sowing date, dry (saturated condition) primary tillage in the seed bed area begins 1 week ahead. Double pass secondary tillage follows after three days. Hand tractor puddling, harrowing, and leveling are done 1-2 days before sowing. ◘ Seed beds are raised to 5-7cm at 2-m wide by 50-m long plots. Usually, various varieties are being sown side by side in the same parcel so construction of border bunds are necessary. These prevent seeds from mixing or being carried by the current during strong rains or irrigation flooding. ◘ Application of organic materials/fertilizers is not a practice.	21 days

Seed Sowing	◘ Seeds of each inbred variety are placed in net bags to avoid contamination before soaking. ◘ Seeds are soaked in clean water for 12-24h, and incubated for another 12-24h. ◘ 20-kg pre-germinated seeds for 1-ha are sown at four 2mx50m plots, or equivalent to 400m^2 area.
Land Preparation	◘ Dry (saturated condition), single pass primary tillage using the 36HP 4-wheel tractor with a rotavator is done 2-3 weeks before the transplanting date. ◘ Wet secondary tillage operation using the same equipment follows 3-4 days before the transplanting schedule. Hand tractors are used for puddling to further soften the soil and incorporate decomposing organic materials. ◘ Leveling is done a day before transplanting using hand tractor-drawn riding-type leveler.
Crop Establishment	◘ Uprooting, transport, and transplanting of seedlings are done per variety to avoid mixing of planting materials. ◘ 18 to 21-day-old seedlings are transplanted at 1-2 seedlings per hill and 20cmx20cm spacing. Method of establishment is manual transplanting thru "straight kulong" technique. ◘ Replanting is done within 5-7 days after transplanting. ◘ To ensure varietal purity and good crop establishment, the same trained service providers are hired every cropping.
Nutrient Management	◘ The fertilizer rate being used in the seed production areas of the station is around 75-30-60. Fertilizers applied per hectare are 4 bags complete fertilizer (14-14-14), 2 bags Urea (46-0-0), and 1 bag Muriate of Potash (0-0-60). ◘ Timing of application for each fertilizer is as follows: 100% complete fertilizer application at 10-14 days after transplanting (DAT), 1 bag Urea per split application (at least 1-week interval), and 1 bag 0-0-60 from panicle initiation to booting stage.
Water Management	◘ Irrigation scheme is patterned from the *PalayCheck* System and Alternate Wetting and Drying Technology recommendation. ◘ Irrigation source like shallow tube well, drawn out using diesel pumps is needed during seedling care.

Pest Management	▫ No pesticide application. ▫ For the control of Golden Apple Snail, 1 box of Sure Kill per hectare is applied 1-3 days after transplanting. ▫ Roguing is done at least 3 times during the maximum tillering, heading, and ripening phase.	
Harvest Management	▫ Harvesting in seed production is done manually. At 90-95% maturity of the grains in the panicle, panicles are cut, piled, and threshed within the day if possible. Axial flow threshers are used to separate the grains. Cleaning the machine after use is strictly observed to avoid mixtures when used in threshing other varieties.	1-2 days
Postharvest Management	▫ Right after threshing, fresh grains are dried thru solar drying or by rice husk heated flatbed driers. For a one-hectare harvest, drying duration to lower the grain MC to 14% takes two days. Intense heat during solar drying is avoided. ▫ Dried seeds will be stored for at least 20 days (dormancy period). ▫ Before packing the seeds for sampling by NSQCS personnel, the grains are subjected to cleaning using the seed cleaning machine. This process removes half-filled and unfilled spikelets including inert matters. ▫ Laboratory analysis of samples takes at least 7 days. Tags for seed lots with passing laboratory analysis result will be released 1-2 days after the process.	2 days 20 days 7-9 days
Total Duration	**= 21 days + maturity of the inbred variety + 32 days**	

Practices on land preparation should also be improved to minimize mixtures from other variety seeds and impurities like weed seeds. The six foundation-registered seed varieties planted this 2019 WS passed the BPI-NSQCS laboratory tests. Duration of land preparation will be compared (3, 4, and 8 weeks) with a weekly rotavation come next cropping season. The best result based on the emergence of weeds and off-types, including cost analysis on fuel consumption, will be recommended for the improvement of the seed production management practices.

Enhancing Rice Seed Distribution for Improved Accessibility of High-Quality Seeds for Various Ecosystems in Cagayan Valley and CAR

AL Dela Cruz Jr. and JVE Adolfo

This study collected basic information that will serve as the foundation of all activities in the development of updated rice seed distribution protocol that can be used not only by PhilRice, but also by other DA-attached agencies mandated to secure rice seeds for farmers. SWOT analysis was conducted to identify factors that can potentially affect rice seed distribution protocol. Participants of the activity include men and women representatives from all rice seed sectors. Secondary data were also collected to validate result from SWOT analysis. Data showed that there is a surplus of rice seeds in Cagayan Valley. However, seed growers except those with personal irrigation source like shallow tube wells, cannot supply required seeds due to 1-2 months processing. In Cordillera, Kalinga and Apayao are rice seed sufficient, while the other provinces have limited access due to limited number of seed growers. Number of seed growers is affected primarily by the variety preference of farmers – which is traditional, topography, and farm size.

Informal interviews were conducted to identify rice seed production, availability, and accessibility concerns in rice ecosystem. It was found that only rainfed and irrigated rice areas have formal seed systems. Stress-prone environment such as upland, cool-elevated, and saline used the informal system, which involves seed exchange and own-produced seeds.

In the SWOT analysis, Cagayan Valley has very good rice seed distribution system because of the favorable factors in the seed production phase. The information gathered in the strength cell indicated that there is a surplus of rice seeds in the region. Because of the established credibility of seed growers in Cagayan Valley, cooperatives, rice seed outlets, dealers, and other rice seed producers' cooperatives in Ilocos, Cordillera, and regions in Mindanao tap them for their seed requirement.

However, factors like mismatch between time of seed tag releases and farmers' planting schedules and changing farmers' variety preferences affect timely seed availability. Limited rice seed processing equipment and facilities of seed growers and cooperatives, specifically mechanical dryers and warehouses, quality and volume of production also affect seed availability.

Survey results validated SWOT analysis, which showed that Cagayan Valley has an established rice seed distribution system. Farmers in the region have high usage of certified seeds and hybrids for both dry and wet seasons. Use of certified seed is also high in Cordillera for wet and dry seasons. However, some farmers are still using good and own-produced seeds, especially when their previously planted seed is certified. Rainfed areas also use same varieties like in irrigated. In Cagayan Valley, there are no accredited seed growers for upland and cool-elevated varieties and heirloom rices. Farmers are only dependent on their own-produced and exchange seeds to other farmers.

Enhancing Adoption and Utilization of Quality Seeds Through Intensified Promotion

HR Pasicolan, EE Agudong, and JVE Adolfo

This study aimed to: (1) establish on-farm technology demonstration trial of newly released rice varieties in the areas with low utilization of high-quality seeds in Cagayan Valley and CAR; (2) increase awareness of rice seed growers and farmers on the availability of newly released high-quality rice varieties through various platforms; (3) identify newly released varieties that can be recommended for use in a certain location through PVS and on-farm variety performance; and (4) develop variety promotion plan for Cagayan Valley and CAR.

Three newly-released varieties were tested in Cabatuan, Isabela: NSIC Rc 438, Rc 440, and Rc 442 with an area of 2,000m^2 per variety. The results showed that NSIC Rc 440 garnered the highest yield with 8.4t/ha, followed by Rc 442 (6.9t/ha), and Rc 438 (6.4t/ha). Majority of the 112 participants preferred NSIC Rc 440 because of its good crop stand and high yield.

In Cagayan, low utilization of high-quality seeds at 38% was identified in Tuao. In Isabela, utilization of high-quality seeds was identified in Ramon (33%), Cordon (76%), and Angadana (50%). Low utilization was noted in Dupax del Norte, Nueva Vizcaya (15%); and in Maddela (24%) and Aglipay (19%), Quirino. Techno demonstration on variety adaptation trial for newly-released varieties will be established in the areas next year.

Strengthening Support to RSS through Enhanced Capacities of Seed Production Network and Potential Patterns

AJA Bernardo, AL Dela Cruz Jr., and JC Batcagan

Seed system is the channel in which farmers have access to seeds. It is either formal (registered and accredited seed growers) or informal (co-farmers, starter seeds, or community seed banks) seed systems. Thus, there is a need for organized production system to have a readily available access on high-quality seeds. To produce high-quality seeds, capacity enhancement activities for the seed producers in both rice seed systems is needed.

Coordination with stakeholders and review of secondary data as basis for selecting training participants were conducted. Results showed that DA-Regional Field Units had attended 2-day seminars on informal. SWOT analysis on existing rice seed distribution system showed that municipalities under adverse rice environments need training. Stakeholders' workshop/close coordination with partner agencies is needed to harmonize activities and craft or modify curriculum for the training courses.

Abbreviations and acronyms

AYT - Advanced Yield Trial
ABE - Agricultural and Biosystems Engineering
AEW - Agricultural Extension Worker
ATI – Agriculture Training Institute
AESA - Agro-ecosystem Analysis
AC - Amylose Content
BLB - Bacterial Leaf Blight
BLS -Bacterial Leaf Streak
BCA - Biological Control Agent
BS - Breeder Seeds
BPH -Brown Planthopper
BPI - Bureau of Plant Industry
CGMS - Cytoplasmic Genic Male Sterility
COF - Commercial Organic Fertilizer
CDA - Cooperative Development Authority
DAS - Days After Sowing
DAT - Days After Transplanting
DF - Days to Flowering
DM- Days to Maturity
DAR - Department of Agrarian Reform
DA-RFOs - Department of Agriculture-Regional Field Offices
DoF - Department of Finance
DOLE - Department of Labor and Employment
DTI - Department of Trade and Industry
DSR - Direct-seeded Rice
DS - Dry Season
FBS – Farmers' Business School
FC - Farmers' Cooperative
FSM - Farming Systems Models
FAA - Fish Amino Acid
FGD - Focused Group Discussion
FSP - Foundation Seed Production
FRK - Farm Record Keeping
GABA - Gamma-aminobutyric Acid
GT - Gelatinization Temperature
GAD - Gender and Development
GYT - General Yield Trial
GCA - Genetic Combining Ability
GIS - Geographic information system
GEMS - Germplasm Management System
GAS - Golden Apple Snail
GL - Grain Length
GQ - Grain Quality
GW - Grain Weight
GY - Grain Yield
GLH - Green Leafhopper
GOT - Grow Out Test
HR - Head Rice
HRA - Heat Recovery Attachment
HIPS – Highly-intensified Production System
HQS - High-quality Rice Seeds
HON - Hybrid Observational Nursery
HPYT - Hybrid Preliminary Yield Trial
ICT - Information and Communication Technology
IEC - Information Education Communication
IBNM - Inorganic-based Nutrient Management
ICM - Integrated Crop Management
IPM - Integrated Pest Management
JICA - Japan International Cooperation Agency
IRRI - International Rice Research Institute
IA - Irrigators' Association
KP - Knowledge Product
KSL - Knowledge Sharing and Learning
LCC - Leaf Color Chart
LFT - Local Farmer Technicians
LGU - Local Government Units
LPS - Low Pressure Steam-operated
LE-CYPRO - Lowland ecotype Cyperus rotundus
MFE - Male Fertile Environment
MSE - Male Sterile Environment
MAS - Marker-assisted Selection
MRL - Maximum Root Length
MR - Milled Rice
MER - Minimum Enclosing Rectangle
MOET - Minus-One Element Technique
MC - Moisture Content
MAT - Multi-Adaptation Trials

MCRTP - Multi-crop Reduced Till Planter
MET - Multi-environment Trial
MYT - Multi-location Yield Trial
NAAP - National Azolla Action Program
NCT - National Cooperative Test
NFA - National Food Authority
NRAM - National Rice Awareness Month
NSIC - National Seed Industry Council
NSQCS - National Seed Quality Control Services
N - Nitrogen
NBSP - Nucleus and Breeder Seed Production Project
NFGP - Number of Filled Grains Panicle
ON - Observation Nursery
OSIS - One-Stop Information Shop
OBNM - Organic-based Nutrient Management
PL - Panicle Length
PW - Panicle Weight
PVS - Participatory Varietal Selection
PWD - Person with Disabilities
PHilMech - Philippine Center for Postharvest Development and Mechanization
PRISM - Philippine Rice Information System
PhilRice - Philippine Rice Research Institute
PSA - Philippine Statistics Authority
PTC - PhilRice Text Center
P - Phosphorus
PVS - Plant Variety Selection
K - Potassium
QTL - Quantitative Trait Loci
RCBD - Randomized Complete Block Design
RSP - Registered Seed Production
RBB - Rice Black Bug
RCEF - Rice Competitiveness Enhancement Fund
RCEP - Rice Competitiveness Enhancement Program
RCM - Rice Crop Manager
RHGEPS - Rice Hull Gasifier Engine Pump System
RPH - Rice Planthopper
RSTC - Rice Specialists' Training Course
RTV - Rice Tungro Virus
RBFHS - Rice-based Farming Household Survey
KQ - Kernel Quality
SV - Seedling Vigor
ShB - Sheath Blight
ShR - Sheath Rot
SMS - Short Messaging Service
SNP - Single Nucleotide Polymorphism
SWRIP- Small Water Reservoir Irrigation Project
SRB - Stabilized Rice Bran
SUCs - State Universities and Colleges
SB - Stem Borer
TESDA - Technical Education and Skills Development Authority
TDF - Technology Demonstration Farm
TRV - Traditional Rice Varieties
TOT - Training of Trainers
TPR - Transplanted Rice
URBFS - Upland Rice-Based Farming
WS - Wet Season
WCV - Wide Compatibility Variety
YSB - Yellow Stem Borer

We are a government corporate entity (Classification E) under the Department of Agriculture. We were created through Executive Order 1061 on 5 November 1985 (as amended) to help develop high-yielding and cost-reducing technologies so farmers can produce enough rice for all Filipinos.

With a "Rice-Secure Philippines" vision, we want the Filipino rice farmers and the Philippine rice industry to be competitive through research for development in our central and seven branch stations, coordinating with a network that comprises 59 agencies strategically located nationwide.

We have the following certifications: ISO 9001:2008 (Quality Management), ISO 14001:2004 (Environmental Management), and OHSAS 18001:2007 (Occupational Health and Safety Assessment Series).

PHILRICE CENTRAL EXPERIMENT STATION Maligaya, Science City of Muñoz, 3119 Nueva Ecija
Tel: (44) 456 -0277 • Direct line/Telefax: (44) 456-0354

BRANCH STATIONS:

PhilRice Batac, MMSU Campus, Batac City, 2906 Ilocos Norte
Telefax: (77) 772-0654; 670-1867; Tel: 677-1508 Email: batac.station@philrice.gov ph
PhilRice Isabela, Malasin, San Mateo, 3318 Isabela
Mobile: 0908-875-7955; 0927-437-7769; Email: isabela.station@philrice.gov.ph
PhilRice Los Baños, UPLB Campus, College, 4030 Laguna
Tel: (49) 536-8620; 501-1917; Mobile: 0920-911-1420; Email: losbanos.station@philrice.gov.ph
PhilRice Bicol, Batang Ligao City, 4504 Albay
Tel: (52) 284-4860; Mobile: 0918-946-7439; Email: bicol.station@philrice.gov.ph
PhilRice Negros, Cansilayan, Murcia, 6129 Negros Occidental
Mobile: 0949-194-2307; 0927-462-4026; Email: negros.station@philrice. gov.ph
PhilRice Agusan, Basilisa, RTRomualdez, 8611 Agusan del Norte
Telefax: (85) 343-0768; Tel: 343-0534; 343-0778; Email: agusan.station@philrice.gov.ph
PhilRice Midsayap, Bual Norte, Midsayap, 9410 North Cotabato
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Tel/Fax: (02) 920-5129

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