2019

PHILRICE R&D HIGHLIGHTS

NEGROS BRANCH STATION

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STATION

PhilRice Negros

Branch Director: Gerardo F. Estoy, Jr.

Executive Summary

PhilRice Negros develops, improves, and promotes rice and rice-based technologies that address the needs of Western and Central Visayas, with special focus on organic rice farming.

The station handles four projects: (1) Rice Areas Toward Intensified and Sustainable Environment (PRAISE); (2) Collaborative Rice Extension for Achieving Community Transformation (REACT); (3) Rice Business Innovations System (RiceBIS); and (4) Strengthening Regional Rice Seed System (RSS) in the Visayas.

This year, the PRAISE project evaluated three cropping patterns, and initial results showed that rice-peanut cropping combination produced the highest income followed by the rice monocropping. Yield-limiting factors in the station were also addressed by mapping the field based on soil characteristics and analyzing the soil. The second to the last week of November and the first week of June were initially found as promising planting schedules for inbred rice varieties in the dry season and wet season. A mobile android application was also developed to further hasten the monitoring and generation of recommendations.

For the REACT project, intercropping of okra + bitter gourd generated the highest return on investment at 92%. Intercropping of tomato + pechay + kangkong + mungbean was also the most diversified pattern. Rice varietal demonstration of traditional, recommended, and modern rice varieties were established in the station and three other sites in Central Philippines State University (CPSU) campuses (Kabankalan, Cauayan, and Moises Padilla). The consistent performing varieties were NSIC Rc 426 and Rc 216 with average yields of 4t/ha and 3t/ha, respectively, while farmers' preferred varieties based on the standing crop at ripening phase included NSIC Rc 300 and Rc 430. For traditional varieties, the Arabon (pigmented) performed well at 4t/ha across seasons.

Knowledge Sharing and Learning (KSL) activities resulted in the establishment of two rice info hubs in Victorias City, Negros Occidental and in Dumaguete City, Negros Oriental. Aside from this, 5,470 copies of knowledge products were distributed in Negros Occidental, Negros Oriental, Bohol, and Iloilo. Fifteen invitations for experts' dispatch covering 27 topics were facilitated this year, which included training of trainers, and seed inspectors, and seed growers' training. Engagement in social media increased by 15% through constant

updating of the social media sites. As of writing this report, 2,110 Facebook users followed the page activities, while 324 messages were received.

To explore possibilities in adding value to rice, two cooking contests with brown rice and oyster mushroom were conducted, which were participated by local government unit representatives and students from senior high school.

For the RiceBIS project, one rice hub was formed in Negros Occidental from two associations in Victorias City and the Municipality of Murcia, comprising of 26 women and 48 men in seven clusters. These farmers were capacitated following a rice production module developed specifically for them.

Under the Rice Seed System (RSS) project, the station partnered with four farmer-cooperators in establishing technology demonstration cum seed production, which had a yield increment of 1t/ha. Irrigated and rainfed varieties were also demonstrated in two separate barangays in Murcia, Negros Occidental.

Aside from the stations' four projects, PhilRice Negros also implemented the Multipurpose (MP) Seeder in Negros, Iloilo, and Antique with positive outcome in Cabatuan, Iloilo; evaluation and screening of promising rice selections including (1) Pre-National Cooperative Testing (NCT) for Micronutrient-dense rice selection (2) NCT for hybrid rice, and (3) NCT for special purpose; the Philippine Rice Information System (PRISM); the Rice Crop Manager (RCM) experimental trials; and the Weather Rice-Nutrient Integrated Decision Support System (WeRise) Project.

Report for the station's activities under RiceBIS were reflected under the Program's 2019 Highlights.

These projects are expected to address the following outcomes: (1) increased productivity, cost effectiveness and profitability; (2) enhanced partnerships and knowledge management for R4D; (3) enhanced value, availability, and utilization of rice, diversified rice-based farming; (4) advance rice and science technology; and (5) improved rice trade through efficient post production, better product quality, reliable supply and distribution system.

PROJECT 1

Project on Rice Areas Towards Intensified and Sustainable Environment (PRAISE)

CU Seville

The project addressed the regional issues on low productivity, profitability, adaptability to climate change impacts, lack of labor, and high cost of production.

It identified and produced manual on highly productive rice-based farming models adapted to PhilRice Negros and similar environment, generated information on soil characteristics and biotic factors affecting low yield, generated real-time nutrient and pests management options to achieve optimum rice yield, generated manual for monitoring the production situation; and identified sustainable crop establishment. It has four studies: (1) Development of highly productive rice-based farming models, (2) Nutrient management for sustainable rice-based farming, (3) Insect pests and disease implications on rice yields and profitability, and (4) Development of production technologies to address climate change. These were carried out at PhilRice Negros in Cansilayan, Murcia, Negros Occidental.

To manage pests and minimize their effect on yield, fields were regularly monitored and real-time recommendations were given to Business Development (BD) unit. A mobile android application was developed to further hasten the monitoring and generation of recommendations.

To determine the suitable planting dates for inbred, six inbred rice varieties, NSIC Rc 302, Rc 354, Rc 360, Rc 398, Rc 400, and Rc 440 were established in 21 planting schedules from January 1 to November 15, 2019. Second to last week of November and 1st week of June were partially identified as promising planting schedule for dry and wet season establishment, respectively.

Development of Highly Productive Rice-Based Farming Models

LAG Dogeno, AO Pajarillo, and CU Seville

The study assessed and validated the efficiency of rice-based cropping patterns at PhilRice Negros' environment. This involved converting a 2,000m^2 paddy suitable for planting upland rice and other crops during 2019 DS. The patterns established were based on the common cropping combinations and those practiced by the farming communities. With the Randomized Complete Block Design (RCBD), three treatments (upland rice monocropping, upland

rice + legumes and upland rice + corn + legumes) were established in three replications in a 30mx7m plot. Rice was established at 25cmx25cm planting distance; peanut, 30cmx30cm; and corn, 30cmx50cm. General recommendation for nutrient management was used and minimum chemical spraying was employed in the area. Results showed that the combination of upland rice and peanut obtained the highest income of P58,721.75/ha, which is comparable with monocrop rice with a net income of P58,568.57/ha. The result has yet to be validated.

Nutrient Management for Sustainable Rice-based Farming

CC Mondejar, GE Bello, MO Palanog, KV Canto, RF Austria, CJE Parina, MO Etchon, MAD Norbe, and FLA Pantin

While many of the rice varieties today reportedly yielded up to 10t/ha, the yield estimates in Negros Occidental is only 3.62t/ha during the 1st semester (usually falls in the DS) and 3.77t/ha for the 2nd semester (usually falls in the WS) (PRISM data for 2018). The reasons behind the stagnated level in the increase of rice yield in the province should be identified. Soil fertility should be assessed as this is the first step to abundant harvest. As such, this study was conducted as there is no comprehensive information on the soil fertility status of rice fields in the province. The study first determined the fertility status of PhilRice Negros seed production area, then rice fields in Negros Island. Survey of the station's seed production area showed 27 groupings of rice fields based on soil physical characteristics. These groupings were used for soil collection and analysis to generate soil fertility map, which will be used for generating recommendation specific to each condition of the field. Fields prone to water stress were identified based on the dry spell experienced in 2019 DS. Piezometer will be set-up to strategic locations based on water limitation observed in 2019 DS to determine the depth of perched water table during different seasons.

Insect Pests and Disease Implications on Rice Yields and Profitability

CLC Mondejar, GE Bello, MO Palanog, KV Canto, RF Austria, CJE Parina, MO Etchon, MAD Norbe, and FLA Pantin

Decrease in yield is usually associated with pest infestation, specifically tungro, which is prevalent in PhilRice Negros. Station's pest manager was initiated through the creation of monitoring team. Business Development (BD) unit used the data gathered by the team in decision-making. Stem borer in the DS and Rice Tungro Virus (RTV) in the WS were the two major pests observed in the station. Damage of stem borer was observed during critical stages of 2019 DS,

while stem borer damage was reduced after the following crop stage. Some of the monitoring team's recommendations in managing RTV were not followed such as proper land preparation and planting susceptible varieties during WS, which included NSIC Rc 300, Rc 402, Rc 216, and Rc 160. Drop seeds with tungro infection germinated and were still present for 2-3 weeks before land preparation operations. These were some of the reasons why tungro was not controlled during 2019 WS. However, with the continuing support of the R&D to BD, PhilRice Negros will be able to sustain its attainable yield in 2022. Tools are being developed to ensure the real-time forwarding of advisory services to the BD. A mobile android application was developed for data collection of monitoring team. Using this app, recommendations were generated at real-time or right after information needed for evaluation were encoded. Another ICT-based database android application called Weed Identification Generator (WIDGEN) was also developed.

Development of Production Technologies to Address Climate Change

CU Seville, CJE Parina, AT Ruales, and LT Sta. Ines

Climate change is one of the challenges affecting all aspects of food security including access, utilization, and price stability. It also affects the incidence and emergence of pests and disease; thereby, affecting food production. One of the PhilRice Negros' efforts on addressing the issue is to identify suitable planting dates for rice establishment. Six rice varieties including NSIC Rc 302, Rc 354, Rc 360, Rc 398, Rc 400, and Rc 440 were established in a RCBD with 9m^2 plot size. A 1-week sowing interval was established in the 2019 dry and wet season. Results showed that sowing of these entries from the second to last week of November yielded the highest among other schedules, while the lowest yield was attained during mid- December for the DS establishment. NSIC Rc 354 and Rc 360 recorded the highest and lowest yield in the last week of November with 6.4t/ha and 3.4t/ha, respectively. First week of June is the promising establishment schedule for WS rice production.

PROJECT 2

Collaborative Rice Extension for Achieving Community Transformation (REACT)

GF Estoy, CU Seville, JAE Cordova, LG Dogeno, AO Pajarillo, KV Canto, CJE Parina, VA Tingson, and JMM Barrato

The Collaborative Rice Extension in Achieving Community Transformation (REACT) project is composed of development studies addressing regional issues on awareness, adaptive capabilities and value-adding, and partnerships and linkages.

Information dissemination of matured technologies for rice production is important as it needs to reach our next and end-users. These can be done through Knowledge Sharing and Learning (KSL) activities such as training, technical assistance, technology demonstrations, forums, farmers' group discussion, formal and informal gatherings, field walks, and field days. Tapping other farmers organization as allies in diffusing the science and technologies to other farmers' community can also be effective. These farmer-to-farmer knowledge and best practices sharing and learning can also happen during meetings, assembly, and other gatherings.

Palayamanan® plus that intensifies the use of land area was promoted thru the DiscoveRice study.

To enhance the value of rice and promote rice-based farming products and by-products for health, nutrition and income, rice festival and cook fest were conducted during the station's anniversary celebration, nutrition month, and *Lakbay Palay*. The events were participated by high school students and farmers from local government units (LGU) in Negros.

In 2019, Palayamanan® was demonstrated in the station thru DiscoveRice. Four cropping patterns were evaluated. Results showed that the intercropping okra + bitter gourd generated the highest return on investment at 92% and the most diversified system was the intercropping of tomato + pechay + kangkong + mungbean. Four varietal demonstrations were established in the station and in three agricultural universities – Central Philippine State University (CPSU) in Kabankalan, Cauayan, and Moises Padilla. Traditional, recommended, and modern rice varieties were showcased. NSIC Rc 426 and Rc 216 had average yields of 4t/ha and 3t/ha, respectively. The most acceptable entries based on the standing crop at ripening phase are NSIC Rc 300 and Rc 430. Among traditional varieties, Arabon (pigmented) yielded the highest across seasons at 4t/ha.

The KSL study addresses the localized transfer of technologies thru communication and learning strategies. A *PalayTambayan* in Victorias City, Negros Occidental and One-Stop-Information Shop (OSIS) in Dumaguete City, Negros Oriental were maintained thru continuous restocking of rice-related KSL materials. *Lakbay Palay* in the station was conducted on March 28, 2019, which was participated by 165 male and 122 female farmers from Negros Occidental.

The last study pertains to increased value-adding opportunities for rice and rice-based products leading to higher income while enhancing creativity. Two cooking contests with brown rice and oyster mushroom as the main ingredients were organized.

DiscoverRice: Palayamanan Plus, One-Stop Information Shop, Demonstration and Learning Center, and Agromet

GF Estoy, Jr., LG Dogeno, AO Pajarillo, and CU Seville

This study showcased and evaluated five cropping systems and four varietal trials in Negros Occidental. The station-based varietal trial utilized 20 traditional and 15 inbred varieties. In 2019 DS, the traditional-pigmented (Arabon) yielded 5.2t/ha while AG-17 yielded 5.5t/ha (unpigmented). Among inbred varieties, NSIC Rc 400 yielded 8t/ha and Rc 222, 7.5t/ha. In the WS, Arabon recorded the highest yield (2.5t/ha) among the traditional varieties; while NSIC Rc 216 and Rc 426 yielded 3.6t/ha and 3.3t/ha, respectively.

Varietal demonstration trials conducted in state universities and colleges (Central Philippine State University in Kabankalan, Cauayan, and Moises Padilla) have uniform interventions except for CPSU-Kabankalan, which applied organic inputs (vermicast). In CPSU-Kabankalan, the top-performing varieties were NSIC Rc 300, Rc 484, and Rc 478; in CPSU-Cauayan, NSIC Rc 426, Rc 484, and Rc 300; and in CPSU-Moises Padilla, NSIC Rc 430, Rc 216, and Rc 400. In 2019 wet season, yield was affected due to high RTV infection. Result of field walk conducted in three campuses showed that PSB Rc 18, NSIC Rc 300, and Rc 478 were preferred by farmers; in CPSU-Main and Cauayan, NSIC Rc 300, Rc 430, and Rc 400; in CPSU-Moises Padilla, NSIC Rc430, Rc 358, and Rc 216 .

Farming systems had established five cropping systems (two under sorjan farming system, tomato+pechay+mungbean+upland kangkong, corn-rice-corn+mungbean+squash, and monocropping of cucumber). Among these cropping systems, the combination of tomato+pechay+mungbean+upland kangkong was the most diversified and resilient at 1.4 diversity index. Meanwhile, the combination of okra+bittergourd under Sorjan farming system generated the highest ROI of 92%. Data generated in various study components

will be used for location-specific recommendations to address rice farming challenges.

Localization of Knowledge Products and Enhancing KSL Activities

JAE Cordova, VA Tingson, and CU Seville

This study aimed to increase the productivity of farmers by raising awareness of research-based technology. Specifically, this aimed to identify areas where farmers do not have access to effective rice production technique, establish a Rice Info Hub, train farmers to be a farmer-trainer, and respond to farmers' knowledge need through technical dispatch.

This study originated from the observation that farmers tend to listen more to their fellow farmers than other sources of information. Knowledge products on rice and rice-based technologies are also in English; thus, localization is needed. Although rice-related information are easily available and accessible thru the Internet, only few farmers have access to digital tools; thereby the need for intervention. Two Rice Hubs established in 2018 were maintained, while three knowledge products were localized. The stations reached out to 4,004 individuals (farmers, students, rice consumers, and agri-technicians) through four quarterly seminar series, one field day, and three exhibits. The quarterly seminar series cascaded 12 topics tackling updates on rice technologies and gender and development initiatives in agriculture. Technical staff were also dispatched to accommodate 27 topics requests from 15 municipalities in Regions VI and III to lecture about hybrid seed production. Among knowledge products distributed, *Kapakipakinabang na Insekto sa Palayan* was the most in-demand with most of the recipients coming from of Negros Occidental. Knowledge products were distributed during field trips, training, seminars, exhibits, and immersions.

Rice-based food product development

CU Seville, CJE Parina, JAE Cordova, VA Tingson, JMM Barrato, LG Dogeno, AO Pajarillo, and KV Canto

Visayas is rich in culinary traditions. The station banks on this richness to enhance rice-based food products. Four cookfests were conducted, which were participated by senior high school students, institute's field workers with their family members, and representative from LGUs. Each group of participants submitted a copy of ingredients with the amount, total cost, and procedure of the recipes. Collected recipes were compiled to be published as rice-based cookbook. Glutinous rice, brown rice, and mushroom were the key ingredients

utilized for the cookfest. Food products that stood out included: Glulucious Snack, Coco Curry Stick Rice, Gluthie, Tama-Motchi Rice Cake, Glutinous Sala Panara, Valenciana de Ebuen, Brown Garlic Rice with Sarsiadong Bola-bolang Gulay, Brown Rice with Seafoods, Brown Rice Balls, Brown Rice Cake, Mushroom Pinangat, Mushroom ala Bicol Express, and Mushrom Jam Puto with Cheese.

PROJECT 3

Strengthening Regional Rice Seed Systems in the Visayas

MO Palanog, HA Pajarillo, GE Bello, KV Canto, CLC Mondejar, LE Dogeno, MO Etchon, MA Norbe, RF Austria, CJE Parina, and CU Seville

The project is composed of studies generally aimed to improve the accessibility and availability of recommended and preferred varieties in Regions VI and VII: (1) Increase utilization of high-quality seeds to improve the rice seed systems in Central and Western Visayas, (2) Improving seed quality through research-based interventions, and (3) Promotion of high quality seeds of location-specific high-yielding varieties in Visayas.

The 1.1-ha technology demonstration cum seed production maintained by four farmer-cooperators, gained a yield increment of 1t/ha compared with the yield from previous season. The techno demo site served as the learning field for modified season-long *PalayCheck* System and quality seed production training. Twenty farmers (0.22 to 0.4-ha parcel Department of Agrarian Reform beneficiaries) participated in the season-long training. Although the site is just adjacent to PhilRice Negros, most of the farmers use low-quality seeds. Use of high-quality seeds (HQS), Leaf Color Chart (LCC), and Minus-One Element Technique (MOET) were introduced to the farmer-cooperators. Agro-ecological Systems Analysis (AESA) was also introduced to increase their appreciation on the principle of integrated pest management. Field Walk, which was a part of the training, was also organized to showcase the techno-demo area to other farmers.

PhilRice Negros seed production (CS 2016-2018) reported several cases of seed returns due to low germination, high weevil infestation, high number of off-types, and seed discoloration. To investigate the causes and produce solutions, benchmarking activities were conducted during 2019 DS and WS. Results showed that seeds produced in 2019 DS consisted of 30% abnormal seeds. Abnormal seed comprised 59% of discolored seeds. It was also observed that the moisture content of seeds stored in the warehouse increased at 0.42% per month (R2=0.92).

Site-specific variety recommendations for Visayas were evaluated in Study 3 with initial implementation conducted in Murcia, Negros Occidental. Irrigated and rainfed varieties were demonstrated. Result of 2019 WS trial (irrigated lowland) showed that NSIC Rc 222 outyielded other entries with 4.95t/ha harvest followed by Rc 400 and Rc 442 at 3.81t/ha and 3.35t/ha, respectively. In rainfed trial, all varieties produced high yields with NSIC Rc 216, which yielded 5.13t/ha

as the preferred variety. NSIC Rc 472 yielded 6.36t/ha, Rc 426 got 6.23t/ha, and Rc 478 had 5.66t/ha. NSIC Rc 472 (100%) and Rc 478 (76%) gained the highest acceptance rate based on the participatory variety selection.

Increase utilization of HQS to improve the RSS in the Central and Western Visayas

HA Pajarillo, GE Bello, KV Canto, MO Palanog, and CLC Mondejar

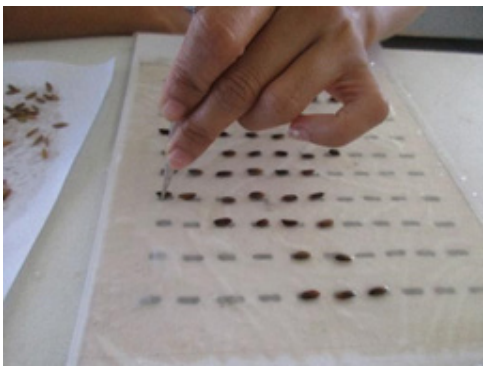
This study aimed to increase the utilization of high-quality seeds (HQS) in Regions VI and VII through benchmarking on the rice seed systems, enhancing the capacity of selected farmers to produce HQS, and updating seed growers with the new technology in seed production. For 2019 WS, a 1.10-ha technology demonstration cum seed production was established in the farmer-cooperator's rice farm. NSIC Rc 222 foundation seeds were used as planting material. The farmer-cooperator was introduced to a package of seed production technology including HQS seeds, chemical inputs, technical assistance, and labor. A modified farmer field school was also conducted with invited local farmers to promote *PalayCheck* System and recent updates on seed production. Leaf Color Chart and Minus-One Element Technique (MOET) Kit were introduced to the farmer-partners. AESA was also regularly conducted to teach farmers on integrated pest management (IPM). A field walk was conducted to showcase the package of technology in the techno demo area. A 1-ton yield increase was gained from the fresh yield. The produce was intended for seed so the price was not significantly affected. The cooperator profited P55,000 gross income.

A MOET set-up was conducted and introduced to the partner-farmers

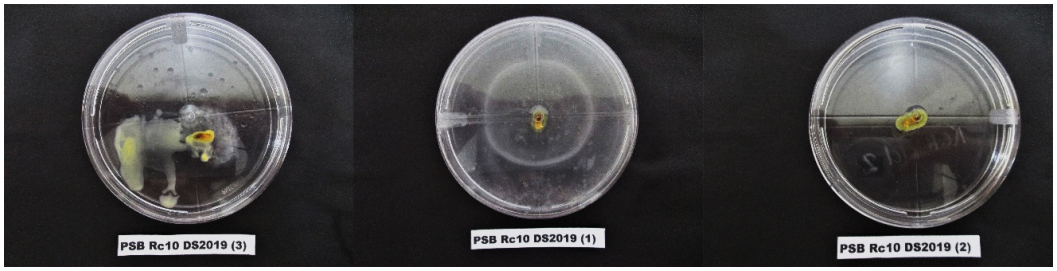
Improving seed quality through research-based interventions

KV Canto

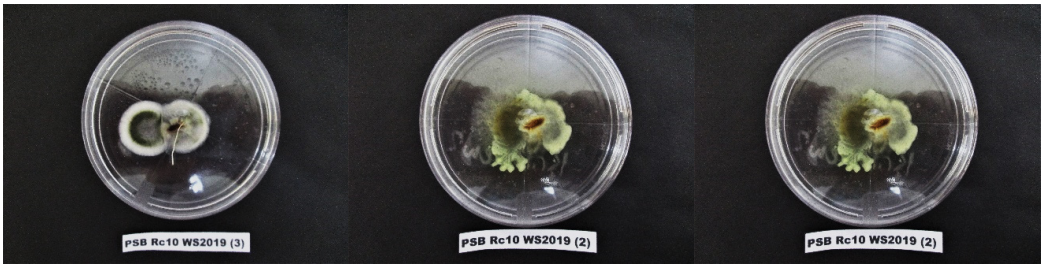
PhilRice Negros produces an average of 4t/ha quality seeds every cropping season for the seven provinces in the Western and Central Visayas. However, relatively high frequency of seed return was documented in 2018 due to low or non-germination of seeds in the field, high weevil infestation, seed discoloration, and high number of off-types when planted in the field. Thus, this study was conducted to recommend interventions that will improve the quality of seeds produced by PhilRice Negros. This study will also be useful on developing technologies that will further enhance the quality of seeds in the farmer's level. Moisture content and seed germination from harvest, drying, seed cleaning, and storage (up to 12 months) were monitored. Samples were collected to determine the percentage of normal, discolored, immature, damaged, and inert seeds. Discolored seeds underwent an isolation test to determine the presence of microorganisms that potentially resulted in low-quality seeds. Preliminary results showed that NSIC Rc 438 (48%), Rc 218 (40%), and PSB Rc 10 (24%) had the highest percentage of discolored seeds in 2019 DS. NSIC Rc 438 exhibited lower germination of 86% at 1-month storage and further decreased to 79% at 7-month storage (11.97% - 14.1% MC). It was also observed that the moisture content of seeds increased at an average of 0.42% per month as it stays longer in storage (Figure 1). At 6-month storage, five seed lots were observed to be heavily infested by weevils affecting NSIC Rc 218, Rc 27, Rc 358 (2 seed lots), and Rc 442.



Germination of sample after %MC monitoring



Trial isolation test conducted for individual discolored seeds of PSB Rc 10 harvested in 2019 DS



Trial isolation test conducted on individual discolored seeds of PSB Rc10 harvested in WS2019

Promotion of HQS of location-specific high-yielding varieties in Visayas

LG Dogeno, CU Seville, AJE Parina, and AJT Ruales

The study is a component of Rice Seed Systems (RSS) project at PhilRice Negros that addresses varietal constraint across Visayas especially in areas with limited access to information and seed sources. It showcased popular and modern inbred rice varieties for irrigated and rainfed ecosystems and identified well-performing varieties. In 2019 WS, trials for irrigated and rainfed ecosystems were conducted in two barangays of Murcia, Negros Occidental. Popular varieties used were NSIC Rc 216, Rc 10, and Rc 222 for irrigated; NSIC Rc 216 and PSB Rc 10 for rainfed; NSIC Rc 358, Rc 400, and Rc 442 for irrigated; NSIC Rc 426, Rc 472, Rc 474, and Rc 478 for rainfed. The six varieties were established in 3 replications with 36m^2 plot size per entry. Seedlings were planted at 20cmx20cm distance and seeding rate of 2-3 per hill. Other management followed the best practices in locality. Results showed that NSIC Rc 222 produced the highest yield in irrigated ecosystem at 4.95t/ha followed by NSIC Rc 400 and Rc 442 with 3.81t/ha and 3.35t/ha yields, respectively. Yield was affected by the high RTV infection in the area. NSIC Rc 216 yielded 5.13t/ha, NSIC Rc 472 had 3.63t/ha, Rc 426 got 6.23t/ha and Rc 478 had 5.66t/ha under the favorable rainfed condition. NSIC Rc 472 and Rc 478 gained higher acceptability rate with 100% and 76%, respectively, during the field walk.

Participatory varietal selection (PVS/Field Walk) in RSS irrigated site

Preparation of seedlings (Dapog Method) and field establishment of set-up at Brgy. Salvacion, Murcia, Negros Occidental (by Mr. Joery Espirito, Farmer-cooperator)

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).

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