

# 2018

## NATIONAL RICE R&D HIGHLIGHTS



### PHILRICE ISABELA

BRANCH STATION



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# PHILRICE ISABELA

*Branch Director: Leo C. Javier*

## EXECUTIVE SUMMARY

As the PhilRice Hybrid Rice Center adhering to 2018-2022 Station Development Plan, the station expanded its seed production area from on-station to on-farm to increase production of hybrid rice parentals. Trainings for potential hybrid rice seed growers were also intensified with the Department of Agriculture (DA) in Cagayan Valley and Cordillera Administrative Region (CAR). Inactive hybrid seed growers were also re-engaged on hybrid rice seed production.

The station's projects and studies also focused on the development of location-specific technologies to address local rice production problems. PhilRice Isabela worked on the development of package of technologies for Nueva Vizcaya, Isabela, Cagayan and Kalinga. Development of rice integrated crop management for saline-prone rice areas, WaterRICE, Rice Crop Manager, and 7-7 project were implemented. The station is also involved in National Cooperative Tests (NCT) for potential rice lines and varieties.

Area-based technology promotion in each congressional district in Region 2 was initiated to promote newly-released inbred and hybrid varieties. Integrated rice-based learning farms in partnership with seed growers and farm owners from Region 02 and CAR were implemented. Policy makers in the provincial level and new agriculture graduates attended Science and Technology Updates (S&T Updates) and Rice Boot Camp. Promotion of direct seeded rice using mechanical drum seeder was also intensified through season-long Farmers' Field School (FFS) with National Irrigation Administration. The *Madiskarteng Pagsasaka* was maintained due to demand from the listeners. Experts also served as resource persons in trainings conducted by Agricultural Training Institute (ATI), Bureau of Plant Industry – National Seed Quality Control Services (BPI-NSQCS), State Universities and Colleges (SUCs), and Local Government Units (LGUs).

# PROMOTION OF RICE AND RICE-BASED TECHNOLOGIES IN NORTHEAST LUZON

*OC Malonzo*

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Guided by the area-based approach, the project promoted rice and rice-based technologies in Region 02 and CAR. Specifically, it aimed to 1) design area-based technology promotion packages for rice farming communities; 2) increase accessibility and adoption of newly-released rice varieties; 3) enhance the capacities of partners in sharing rice and rice-based technologies; and 4) engage partners in the promotion of rice and rice-based technologies through model or learning farms.

Four studies were conceptualized and implemented. Study 1 focused on capturing the needs, opportunities, and challenges related to rice production in the area. Results of this study will serve as a guide in packaging area-based technology promotion plans. Study 2 promoted newly-released varieties and envisioned to develop a local seed multiplication and distribution scheme. Study 3 aimed to train stakeholders who will serve as partners in the promotion of rice and rice-based technologies in the region. Study 4 engaged farmer-partners as technology promotion agents and farm advisors in their area through learning farms.

During its first year of implementation of Study 1 in 2018, needs assessment was conducted and area-based technology promotion plans for Cagayan and Quirino were developed the LGUs, which will be presented to the DA Regional Office. This is to ensure harmonized rice programs.

For study 2, technology demonstration sites were established in 9 congressional districts showcasing: 7 inbred and 1 public hybrid rice varieties, to 853 farmers, AEWs, and other stakeholders. Station partners planned to develop a local rice seed system for the area to secure enough seed supply. For study 3, 195 professionals, legislators, farmer leaders, and other partners were updated and trained on rice and rice-based technologies. Two partner-managed learning farms are also being established in Isabela.

## **Designing Area-Based Technology Promotion Packages for Rice Farming Communities in North East Luzon**

*MV Baloy and OC Malonzo*

This study developed a Technology Promotion Plan for Cagayan and Quirino provinces, which will be presented to rice stakeholders for review. As benchmark, review of the existing rice knowledge transfer was conducted. Data was drawn from the identified Key Informant Interviews (KII) with the provincial, municipal, and barangay stakeholders. To complement the data from KII, program, activities, and projects (PAPs) implemented by DA- RFO 02, PhilRice-Isabela, and ATI-RFO 2 were reviewed. Budget, manpower, awareness and accessibility of rice technology, and mobilization were identified as constraints in rice knowledge transfer. However, this review only included the public sector extension. Rice knowledge transfer approaches/mediums carried out by other rice stakeholders such as state universities and the private sector were excluded.

## **Increasing Accessibility and Adoption of High-Yielding Rice Varieties for Sustained Productivity in Rice Farming Communities**

*HR Pasicolan, NR Gawat, and OC Malonzo*

The study promoted newly-released varieties, which would contribute to the development of a sustainable rice seed multiplication and distribution scheme in the locality. Eight varieties were promoted in 9 sites covering 5 provinces in Region 2 and the CAR. NSIC Rc 2014 224H, Rc 226, Rc 400, Rc 402, Rc 438, and Rc 442 were showcased to 683 farmers, extension workers, and more stakeholders during Farmers' Field Days and Forum. Although majority of the participants during Field Days were men, the women were represented in all sites. All varieties include in field demonstrations performed well with yield ranging from 5.1 to 6.3 t/ha during the dry season. Meanwhile, yield ranged from 3.9- 5.5 t/ha in the wet season owing to the onslaught of typhoon *Omping*, which occurred during the crop's booting and flowering stage. Rc 222 performed well across sites and seasons.

## **Strengthening the Capacity of Partners in Sharing Rice and Rice-Based Technologies**

*AB Acierto, OC Malonzo, LC Javier, NMC Bernal, MC Manubay, GB Amar, AL Dela Cruz Jr., J Galapon, FM Ramos, HR Pasicolan, and NR Gawat*

The study aimed to design gender-friendly training courses and develop corresponding modules, deliver training courses to enhance the capacities of various stakeholders and development partners, and determine the immediate impact of training activities among training graduates. One-hundred ninety-five partners were trained including legislators, technical vocational school teachers, farmer-leaders, agricultural extension workers, and new graduates of agriculture and related sciences. Two new courses were designed to further improve the skills of partners in sharing technologies. The graduates are expected to become PhilRice allies in the promotion of rice and rice-based technologies and contribute in increasing technology adoption.

## **Engaging Partners in Showcasing Rice and Rice-Based Technologies Through Model Farms**

*OC Malonzo*

This study aimed to identify and promote rice and rice-based technologies adopted in the area, engage farmer-partners in establishing model or learning farms, and train partners to be farm advisors and agricultural educators of the community.

Five potential farms were identified and validated, of which, the farms of Christian Paolo Magsino and Jay Eslava, both in Santiago City, Isabela, were established as learning farms in 2018 WS. Magsino's farm showcased high-quality seeds, use of 20kg seeds for seed production and 40kg seeds for commercial production, science-based application of nutrients, pest management, controlled irrigation, and harvest and postharvest management. The 2018 WS Farmers' Field Day and Forum was conducted in this farm, and was participated by 90 farmers including 31 RiceBIS cluster members from San Mateo, Isabela. Meanwhile, climate-smart rice-based technologies like capillarigation and *kwebo*, were promoted in Eslava's farm. His farm was used as a venue for climate-smart business school training involving 30 farmers and for a three-day *Agrisurvivor* event by ATI.

## **LAKBAY PALAY ISABELA**

*AL Dela Cruz*

With the theme, “Quality Rice, Quality Life,” the station’s Lakbay Palay was participated by about 500 rice stakeholders including seed growers, farmers, agricultural workers, farmers’ cooperative officers, and private companies from the region.

The station showcased on-station rice researches and technologies highlighting hybrid and inbred seed production and varietal and adaptation trials. Private companies also exhibited their products.

## **AGROMET-ISABELA**

*JV Galapon*

This study generated weather data that enables optimal timing and control of field operations. Data were gathered, stored, viewed, and analyzed to enable more profitable decisions with less risk in farm management. Highest average temperature was recorded at 35.2°C in June 2017 while the lowest temperature was recorded at 19.7°C in February 2017. High temperature ranged from 26.2°C to 35.2°C while the low temperature ranged from 19.7°C - 25.6°C. Total rainfall for 2017 was recorded at 1,181.6mm, in which highest was recorded in May 2017 at 281.1mm. August registered the second highest total rainfall at 198.7mm.

## **Strengthening the Promotion of Direct-Seeded Rice Culture: A Strategy in Climate Change Adaptation**

*HR Pasicolan*

The study aimed to intensify the promotion of direct seeding technology as a strategy to mitigate effects of climate change in rice production. Mechanical drum seeder – a light weight equipment also suitable for women farmers, was demonstrated in the four barangays in San Mateo, Isabela: Villa Fuerte, Daramuangan, Victoria, and San Marcos; and to the neighboring municipalities of Cabatuan, Alicia, and Ramon. The study conducted two component activities: a) season-long training on PalayCheck System focusing on direct seeding as method of crop establishment and b) method and technology demonstrations in learning fields.

In the training component, 12 women and 105 men rice farmers completed the four batches of season-long trainings conducted from 2017 to 2018. The highest average knowledge (75%) was noted in Brgy. Victoria. Participants from San Marcos gained 30%; Villa Fuerte, 20%; and Daramuangan, 29%.

Results showed that a hectare will only require 5-man days for crop establishment using the mechanical drum seeder. In conventional method, this will take 30-35-man days. With the reduced manpower requirement, cost is reduced by at least P8,500/ha.

## **Rice Business Innovation System (RiceBIS) Community in Isabela and Kalinga – reflected in the RiceBIS Program**

# RESEARCH PROJECTS

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

*AL Dela Cruz, DA Santos, and RC Inovejas*

In the first semester of 2018, the study focused on the identification of farmers with yield records of 10t/ha in the past 4 years. The purposive sampling was conducted in Isabela, Cagayan, and Kalinga – the major rice-producing provinces in northeastern Luzon. It was found that farmers have already recorded 13.4t/ha yield during the dry season and 12t/ha yield during wet season. The identified farmers were thoroughly interviewed and their best practices were initially documented through interviews. Of the five farmers initially identified for every province, two farmers per province were selected for on-farm validation. Meanwhile, other POTs, specifically *Palayabangan*, had produced 10t/ha yield at P5/kg production cost.

## **Mechanizing Hybrid Rice Seed Production Transplanting and Harvesting**

*LC Javier, J Aguiran*

This study determined whether the transplanter can be used for PSB Rc 72H seed production. This can be adopted by NSQCS as alternative protocol on hybrid rice seed production. A walk-behind transplanting machine with row spacing of 30cm and hill spacing of 15cm was used. A male-to-female row ratio of 2:8, 2:6, 1:4, and 1:3 were evaluated. Mechanized transplanting may be used in hybrid rice seed production, following the protocol for manual transplanting. Sowing density in the seedling tray, time-motion studies, and financial advantage, will be studied.





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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