Philippine Rice R&D Highlights 2013

DEVELOPMENT COMMUNICATION DIVISION

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DEVELOPMENT COMMUNICATION DIVISION

Division Head – KET Barroga

Executive Summary

As an R&D organization, PhilRice generates large amounts of information and knowledge on rice and rice-based farming systems that must be communicated to its stakeholders so that they could respond successfully to opportunities and challenges. The Development Communication Division contributes largely to this institutional mandate through strategic and innovative uses of communication for and about development interventions and results. Specifically, the Division manages and shares these information and knowledge, and studies communication processes and strategies in development interventions to facilitate learning, foster innovations, and inform decision-makers.

Major accomplishments this year include the following: (1) new set of recommendations to enhance knowledge sharing and learning (KSL) using mechanisms/modalities, such as infomediaries, agrigames, e-learning, and community fora under the Civic Welfare Training Service (CWTS) of universities; (2) a generally successful National Year of Rice campaign, which was led mainly by the Division; and (3) integration of the infomediary module in the curriculum of agricultural high schools of the Department of Education (DepEd).

Of the KSL mechanisms/modalities field-tested, the community fora under the CWTS seemed to show the least potential to enhance KSL while the infomediary strategy, the most. The latter has led to replication of the infomediary campaign in DepEd's 81 Technical Vocational (TechVoc) high schools. Four batches of teachers were trained in support of its implementation. Developing and tapping infomediaries (i.e. high school students) can enhance KSL but to sustain their interests, it is recommended to package our sets of rice-related information in a more youth-friendly manner, particularly for information on varieties, pest management, and the weather.

These are the topics of their most frequently asked questions to the PhilRice Text Center. Computer-based agri-games, on the other hand, as a mechanism to engage out-of-school youths (OSYs) in KSL of rice information is greatly limited by the OSYs access to computers. The engagement of university students in developing the agri-games, however, showed potential especially with strong support from schools and knowledge centers to come up with innovative and relevant agri-games. For e-learning, it is recommended to be applied in areas or to people with good internet access; supported with a website that is easy to navigate, with modules that are well-written, and with a course administrator who is committed in attending

to the needs of the students. The use of community fora did not turn out well in view of difficulties encountered in getting the students' and faculty's commitment, and in reaching out to underserved communities.

The NYR campaign, which was implemented and completed in 2013, led to greater awareness of advocacies toward rice sufficiency, 150 partnerships, and with three provinces issuing half-cup rice ordinances. Initiatives were also started in the Upper and Lower Houses of Congress for the filing of a half-cup rice bill to minimize rice wastage. Various strategic and innovative communication strategies were used such as photo contest, fun runs, event sponsorship, putting up of museums, exhibits, concerts, songs, dance, videos, pledge recitation, and posters, among many others.

In view of the demands of the NYR campaign, compounded by personnel matters (i.e. graphic artist not renewing his contract, newly-hired staff still learning and adjusting) and major Institute events, a number of activities had been shelved or delayed. Nevertheless, there were notable improvements in: (1) content and quality of the Institute's quarterly magazine; (2) production of localized knowledge products such as Ghaby Ghas in Bicolano, PalayTips for Region 3, translation of PalayCheck into Ilocano for the PinoyRice Knowledge Bank, and technology posters for the Autonomous Region of Muslim Mindanao; (3) media engagement; and (4) visits to PinoyRice Knowledge Bank.

I. Promoting Rice Science for Development

Co-project Leaders: AB Lanuza, KET Barroga

This project is vital for greater appreciation, access, understanding, and use of information and knowledge on rice S&T, including a favorable perception of PhilRice as a research and development organization. This is where strategic and innovative uses of communication are applied to inform decisions of rice stakeholders and report how research findings are being used by PhilRice in its development interventions.

Development and production of knowledge products

MGLayaoen, CLB Gado, CTBriones, MMPrado, AFT Caballero, MGOplas, CA Frediles, AB Lanuza, KET Barroga, JA Manalo IV, CG Dacumos, JQAmacanin, JPBerto, APCanilang, CLCabrera, DARamos, MADSolsoloy, EAParac, MET Lozano, and SPRazon

This component aims to develop and produce knowledge products in various formats that are appropriate to the needs of rice stakeholders, and thus enable them to understand and appreciate the benefits of rice science for development.

Highlights:

- 4 magazine issues produced; 3,000 copies
- 2 issues of RTB (rice husk gasifier stove, upland rice farming); 1,500 copies each
- 3 Q&A (Golden Rice, INM, and Hybrid Rice) updated/ reprinted; 1,000 copies each
- 4 Q&A under revision
- 1 Gabby Ghas (bicolano) published, 3,000 copies
- 8 posters printed (3 for TCP5); 10,000 copies
- 1 PalayTips booklet printed; 10,000 copies
- 3 leaflets/brochures (PRKB/Text Center, Golden Rice, and Varieties); 10,000; 5,000; and 1,000 copies, respectively
- PalayCheck manual for review
- R&D Highlights uploaded (incomplete)
- Book on birds – first draft for submission
- Book on breeding – technical review
- 1 RS4DM on rice smuggling, 1,000 copies
- 20 titles for NYR materials

Design and execution of information/social marketing campaigns

AB Lanuza, HV Antonio, MM Prado, MET Lozano, CLB Gado, JQ Amacanin, AFT Caballero, KET Barroga, JP Berto, AP Canilang, CL Cabrera, ADO Ramos, MAD Solsoloy, EA Parac, SC Maniquiz, OC Domingo, and FA Saludez

Using a creative and purposive mix of communication media as well as clear and persuasive messages, this component aims to promote and support rice science for development through campaigns and advocacies that could help create favorable changes in knowledge, attitude, and practice among intended rice stakeholders.

Highlights:

- 13 exhibit events attended & distributed some 15,000 info materials of various content to visitors and clients

- Campaigns/info awareness: on Golden Rice, on RS4DM/ CleanGPSforCSR, on NYR, on services conducted

Management of communication resource bases and support services
MM Prado, CG Dacumos, CA Frediles, KP Balmeo, FA Saludez, OC Domingo, AFT Caballero, JP Berto, MET Lozano, JQ Amacanin, MG Oplas, AP Canilang, and KET Barroga

To facilitate the promotion of rice science for development, this component aims to effectively manage the PinoyRice Knowledge Bank and other resource bases (i.e. knowledge products, videos, and images), and ensure quality and timely communication support services (i.e. PhilRice Text Center, circulation and knowledge product design and editing).

Highlights:

PhilRice Text Center

- 60,425 total messages received; 11.5% increase from 2012; 42.33% increase from 2011; Highest bulk of messages received in June (6,819)

- 5,035 average SMS received/month; 5% higher than 2012 with only 4,792 SMS/month

- 26,321 active Texters; 25% higher than 2012 with only 21,098 active texters

- 2,193 average Texters/month; 72 average Texters/day; Most number of active Texters in June (3,227)

- Top 3 SMS received classification – (1) Seed quality & Varietal Info, (2) Seed availability, (3) Pest management

- 3,363 new registered clients; top (5) new registered clients from – Zamboanga del Sur (400); Bulacan (195); Nueva Ecija (156); Albay (152); Northern Samar (151)

- 15,153 total number of registered clients; deleted 13, 481 inactive clients in May 2013; 9,000 plus are farmers

- Received 375 phone calls; 61% higher than 2012 with only 233 calls

- Received 3,525 SMS from infomediary pax; 284% higher than 2012 with only 919 SMS received
- 125 new info-on-demand keywords; received a total of 19,225 keywords or 1,602 keywords/month; Highest No. of keywords received in June (2,193)
- Sent 17 rice tips to all regions

Pinoy Rice Knowledge Bank

- 1,562 resources (15% increase from 2012)
- 54,360 total number of visits, 30.17% increase from 2012
- 35,184 unique visitors; 32.78 increase from 2012
- 234,895 page views; 24.70% increase from 2012
- 4,333 downloads (learning modules); 23.66% increase from 2012; 1,421 downloaders, 295 are farmers
- 1,520 video downloads; 15.06% increase from 2012
- Designed new website interface; added rice tips corner

Services

- Some 26 events provided with services

Communication Resource Base

- Developed graphic database for fonts, vectors, e-signatures, textures, etc
- Collection now includes more than 114,000 photos; 18 videos; 268 publications

Managing stakeholder's perception of PhilRice through corporate communication

CLB Gado, MG Oplas, AFT Caballero, MM Prado, CG Dacumos, CA Frediles, MET Lozano, and KET Barroga

This component generally aims to foster favorable perception and support from the general public and media practitioners as to how PhilRice uses rice science for development.

Highlights:

- Ninety-seven news, photo news, and features were uploaded in the corporate website, which is 75 percent higher than of last year. News articles were re-wired or re-published in about 200 print, online, and social media sites; generating a savings of more than P2M on advertising cost.

- Five press conferences were conducted to brief journalists and reporters about the hybrid rice congress, Palayabangan, new programs, R&D conference, and rice exhibit at Mind Museum.

- Radio and television stations also featured our programs and technologies. Eight experts were featured during the broadcasts of DZEC, DZXL, DZAS, ABS-CBN, and UNTV to talk about issues on trade liberalization, water scarcity, nutrition, ICT divide, entrepreneurship, and biotechnology. PhilRice programs, strategies, and technologies such as Palayabangan, brown rice, golden rice, rice-based products, controlled irrigation, and infomediary campaign were highlighted as one of the solutions to the issues.

- To promote Clean GPS for CSR as our new advocacy, new sets of corporate PowerPoint and poster templates were produced.

- The Rice Matters FB fan page went up by 76 percent from last year. Posts had an average reach of about 1,000 fans. "Top fans" and "Welcome" applications directing to PhilRice website were uploaded.

- Milestones 2012 or the annual report was produced at 500 copies.

- PhilRice style guide was revised and produced at 100 copies.

- E-magazine was initiated this year to reach more PhilRice magazine readers, especially the media, without additional production cost.

II. Enhancing Knowledge Sharing and Learning

Co-project Leaders: MG Layaoen, KET Barroga

In recent years, a growing movement has emphasized that improved understanding and use of KSL result in more equitable and sustainable development outcomes. It likewise said it helps promote informed and timely decision-making, consequently enabling stakeholders to actively engage in the change process and respond better to opportunities and challenges. Thus, this project aims to understand and help enhance knowledge sharing and learning (KSL) processes and practices for better development interventions and outcomes.

Documentation and analysis of KSL processes/practices, and knowledge profiling

CLB Gado

The study aims to document and analyze existing KSL practices and processes, including the preconditions, and lessons shared and learned; and to profile stakeholders' knowledge in the context of a particular development intervention to document and illumine its meaning in the farmers' lives.
Extension workers' knowledge on and attitude toward Nutrient Manager and other ICT-based information resources
This study highlights the perceptions of extension workers about the Nutrient Manager and other ICT-based information resources including the websites of the International Rice Research Institute (IRRI), Philippines Rice Research Institute (PhilRice), Pinoy Rice Knowledge Bank, and Farmers' Text Center.

ICTs, with its power on limitless sharing and learning information, can be used in disseminating information that will help the farmers improve their farm practices to increase their income. Studies show that extension workers "are connecting to the Internet and searching for extensional-related business and farm information and that PC and internet usage has become a component of many extension agents' extensional tools (Hefny, 2013)."

However, informal interviews gathered during the IFAD-Philippines' extension workers' training on ICT use, showed some barriers in fully adopting computer-based technologies, which includes lack of knowledge and skill to use the technology.

In 2013, the Improving Livelihoods and Overcoming Poverty in the Drought-prone lowlands of Southeast Asia team in the Philippines conducted series of trainings on Basic ICT Use. About 200 extension workers in Region I, II, and III participated in the one-day training.

Extension workers were briefed about the Nutrient Manager for Rice – its background and benefits and the data to be filled-out; and were informed about other Internet-based information sources managed by IRRI and PhilRice. Hands-on training followed after the lecture.

Of the 200 extension workers, 83 were included in pre- and post- knowledge and attitude evaluation. Five questions and 10 attitudinal statements were used to gauge their knowledge gain and attitude change towards Nutrient Manager for Rice and other ICT-based sources of information. Half of the trainees were old, ranging from 47-59 years old; 30% were middle aged (34-46); only 15 percent were young (21-33). Interestingly, more than half (62%) of the respondents were women.

Highlights:

- Majority of the respondents (65%) do not access the Internet. Among the three regions, Region II had the most number of non-ICT users. Region III, considered as the Philippines' rice granary, had equal number of non- and ICT users, and had the most number of ICT users.

- Interestingly, young extension workers (21-33 years old), rarely access the Internet.

- Almost half (31%) of the respondents registered a very high (more than 101%) score in knowledge gain, mostly from Region II. Others scored high (24%) and average (18%). Although majority performed well in the test, 18 respondents did not gain knowledge from the training.

    a. In terms of attitude, extension workers, including those in the old-age bracket, have generally favorable attitude towards the Nutrient Manager for Rice, Farmers' Text Center, and PinoyRice Knowledge Bank even before the training.

    b. Nutrient Manager for Rice is useful for farmers

    c. Nutrient Manager for Rice, Farmers' Text Center, and PinoyRice Knowledge Bank are useful to extension workers

    e. Farmers' Text Center, and PinoyRice Knowledge Bank are reliable sources of agricultural information

    f. Nutrient Manager for Rice will help increase rice yield

and farmers' income

g. It's easy to browse PinoyRice Knowledge Bank

- On the other hand, majority of the respondents disagreed on the following attitudinal statements:

  a. Questions on Nutrient Manager for Rice page are hard to answer

  b. Farmers' Text Center, and PinoyRice Knowledge Bank are not credible sources of information.

  c. I do not trust the agents of Farmers' Text Center

  d. Prefer other nutrient diagnostic tools such as Minus-One Element

  e. Technique and Leaf Color Chart over Nutrient Manager for Rice

- Despite Internet-related issues, majority of them agreed that Nutrient Manager for Rice and ICT-based sources of information are useful to them and will bring benefits to the farmers.

Exploration and field-testing of KSL-enhancing mechanisms

JA Manalo IV, HV Antonio, CA Frediles, MM Prado, MG Layaoen, EA Parac, KP Balmeo, FM Saludez, OC Domingo, CG Dacumos, JP Berto, and SC Maniquiz

This study explores and designs possible mechanisms to enhance KSL practices and processes, and evaluate the outcome and lessons learned. This allows for continuous improvement on how knowledge is shared and learned.

Pilot-testing of the infomediary campaign as an innovative KSL mode

In its aim to create new communication pathways, the infomediary campaign was piloted in three sites: Apolinario S. Bernardo Memorial National High School (Tacurong City, Sultan Kudarat), Maria Aurora National High School (Aurora) and Bayanihan National High School (also in Aurora). The piloting was geared towards documenting best practices to guide campaign implementation should it be implemented in a wider scale in the future.

Highlights:

- Graduation ceremonies were conducted in three sites participated in by the students, teachers, local executives and officials from the respective local field units of the Department of Agriculture
- Resulted in the conduct of three more national training programs for teachers in the agricultural technical-vocational high schools
- Active engagement through the PhilRice Text Center of the high school students who participated in the campaign continued on even after campaign implementation
- KSL Tips on optimizing the infomediary strategy has been uploaded in the PhilRice Text Center

Participatory games development as edutainment tools in KSL

Five universities and colleges from Cabanatuan City and the Science City of Muñoz participated in the participatory games development project. They were the Nueva Ecija University of Science and Technology (NEUST), La Fortuna College, College of the Immaculate Conception (CIC), and AMA Computer College in Cabanatuan City and the Central Luzon State

University in the Science City of Muñoz. The participants were students taking Information Technology-related courses.

Highlights:

- Seven games on various crop management practices were developed by students from NEUST and CIC.
- Prototypes of the games were pretested among out-of-school youth in Talavera, Nueva Ecija
- Students from CIC won the Best Research Paper Award during the college's Research Day
- Strong faculty support was central to the success of this initiative
- Participatory approach in game development worked. The intended beneficiaries were involved from conceptualization to evaluation.

E-learning as a KSL-enhancing mechanism

Cognizant of the fact that people prefer to learn at their own pace and place, the e-learning mechanism was evaluated. It should be noted, however, that this was not the first time that PhilRice explored e-learning as many similar initiatives transpired in the past. The aim for this activity was to document some good practices so a list of recommendations can be arrived at.

Highlights:

- Recommended in areas/people with good internet access
- Pleasant, attractive, and easy to navigate website is needed
- Course administrator must religiously attend to needs of students
- Modules must be well-written, with alternatives for technologies that are being promoted

Palay price advisory through text (Region 3)

In order to help farmers get better and easier access to market information and consequently help them acquire the benefits of having such information, a pilot-testing of a price advisory and a research on its effect was conducted. Through the PhilRice Farmers' Text Center (PFTC), participating farmers were provided with prevailing prices of rice (ramble) in the nearby markets. The price quotations were obtained from major rice millers and traders from Aurora and Nueva Ecija which were likewise fed to PhilRice through the PFTC.

Highlights:

- More than 50 traders and rice millers from Nueva Ecija and Aurora were asked to supply the buying prices of palay for April/May for the second season of implementation of the study. They were the same traders and millers who were respondents for the first season (October).

- The millers and traders who agreed to participate in the study were contacted from Monday to Saturday to ask for the buying price of fresh palay that is ramble. The names of the highest five buyers from each of the five municipalities and their buying prices were sent to the farmers of the province where the buying entity is located.

- An aggregate total of 250 farmers from Nueva Ecija and 100 farmers from Aurora in each season were sent the top five highest palay buying prices from each of the top five rice municipalities of their respective provinces through the PhilRice Farmers

  Text Center (PFTC). For Aurora, however, the top five buying prices from Nueva.

  Ecija were also sent to give them more options.

- The farmer-respondents were personally interviewed to find out their selling behaviours/habits and income after the price advisory.

- Initial findings showed that for Nueva Ecija, almost all respondents (99.2%) thought that the price advisory was beneficial to them. This was despite having barely 49 (19.6%) of the farmers directly benefitting from it. The rest did not benefit because they already have "suki" or usual buyer (125), they are indebted to a certain buyer (39), or they did not

receive a price advisory (36).

- For Aurora, 100% of the farmers thought that the price advisory was beneficial to them. However, there were only 16 farmers who acquired benefits from it. The rest of the farmers either already have "suki" (71), indebted to a certain buyer (1), or did not receive a price advisory (12).

- Analysis of data obtained during the second season of implementation is on-going.

Seed/Agricultural supply traders as information conduits (Region 3)

The study aims to analyze the efficiency of seed and/or agricultural supply centers as information conduits of the government on rice farming information. It explores the potentials of partnering with center owners to deliver information to rice farmers – their capability, willingness, and innovativeness.

Highlights:

- Printing of 10,000 copies of materials (Palaytips booklet) for distribution to seed/agricultural supply centers

- Site visits and distribution of materials to 28 centers in the provinces of Nueva Ecija, Bataan, Bulacan, Tarlac, and Aurora

- Orientation of center owners on the distribution of the materials to clients

- Conduct of key informant interviews among selected seed center owners

- Transcription of interviews for processing

  Initial observations showed that seed centers as info conduits could be potentially rich as data source when studying the behavior patterns of farmers in seeking the latest farming practices and technologies. This can be further backed up by the seed centers' differing characteristics in terms of size, market reach, supply source, clients, knowledge (including support staff), and network linkages. Center owners were very receptive of the materials for distribution to their clientele. Most of them requested for more knowledge materials from PhilRice.

Civic Welfare and Training Service (CWTS) students as information conduits

This activity is a part of the ongoing exploration of the Development Communication Division to create alternative communication pathways in agricultural extension. Students of the CWTS of Central Luzon State University were mobilized to help organize community fora to promote rice production technologies.

Highlights:

- Community fora were conducted in rice farming communities in Nueva Ecija

- Should a similar initiative be conducted in the future, there is a need to highlight student participation, and perhaps to choose the students who will be engaged in this initiative. Reflecting on the composition of the students would help in ensuring some level of success.

- It may also be good to explore working with student organizations.

Application and promotion of field-tested KSL practices

KET Barroga, JA Manalo IV, KP Balmeo, FM Saludez, OC Domingo, JP Berto, and AFT Caballero

Cognizant of the need to have more KSL-enhancing mechanisms, it is imperative that they be tried and promoted for wider application. This activity seeks to push for the promotion and application of some of the KSL-enhancing mechanisms. This completes the KSL cycle, so to speak. At the risk of being simplistic, this study is all about bringing the products of development communication research to the intended users.

Highlights:

- Two KSL Tips issues completed/uploaded: on infomediary & on National Rice Awareness Month

- For Infomediary 2.0: Engagement of and support to schools implementing the infomediary curriculum

  Following the collaboration with the Technical-Vocational Unit of the Bureau of Secondary Schools of the Department of Education, Infomediary 2.0 has since been implemented in more than 70 schools nationwide. The need to support the infomediary campaign-participating schools became crucial

to ensure smooth implementation. Particularly, there was a need to check if the schools were on the same page as far as executing the different components of the campaign was concerned. Of importance were the establishment of school rice gardens and conduct of edutainment-based initiatives such as the Infomediary Quiz Bee and Face Off (an activity where the students use the Pinoy Rice Knowledge Bank offline version to search for answers to the questions raised by farmers).

- Ten schools of the 81 were randomly picked for evaluation. Baseline studies were conducted in these schools.

- Random visits, and oftentimes with infomediary quiz bee, were likewise conducted. A quick credibility survey was administered to farmers who attended the Face Off activity. The aim was to gauge the credibility of the students in relaying agricultural information. Of over 50 farmers surveyed, credibility rating was as high as 95%.

- One major activity, the Infomediary Congress, was conducted to follow on the implementation of the campaign. The Congress consolidated issues and milestones being encountered by the implementers.

- Various innovations were documented, such as publishing in the school's newsletters, some rice production technologies, promotion of the PhilRice Text Center, and promotion of the campaign during Parents and Teachers' Association meetings.

- Over 2,000 text messages from the infomediaries and more than 1,000 unique numbers were noted.

- Questions on varieties and pest management topped the list of frequently asked questions

Abbreviations and acronymns

ABA – Abscicic acid
Ac – anther culture
AC – amylose content
AESA – Agro-ecosystems Analysis
AEW – agricultural extension workers
AG – anaerobic germination
AIS – Agricultural Information System
ANOVA – analysis of variance
AON – advance observation nursery
AT – agricultural technologist
AYT – advanced yield trial
BCA – biological control agent
BLB – bacterial leaf blight
BLS – bacterial leaf streak
BPH – brown planthopper
Bo - boron
BR – brown rice
BSWM – Bureau of Soils and Water Management
Ca - Calcium
CARP – Comprehensive Agrarian Reform Program
cav – cavan, usually 50 kg
CBFM – community-based forestry management
CLSU – Central Luzon State University
cm – centimeter
CMS – cystoplasmic male sterile
CP – protein content
CRH – carbonized rice hull
CTRHC – continuous-type rice hull carbonizer
CT – conventional tillage
Cu – copper
DA – Department of Agriculture
DA-RFU – Department of Agriculture-Regional Field Units
DAE – days after emergence
DAS – days after seeding
DAT – days after transplanting
DBMS – database management system
DDTK – disease diagnostic tool kit
DENR – Department of Environment and Natural Resources
DH L– double haploid lines
DRR – drought recovery rate
DS – dry season
DSA - diversity and stress adaptation
DSR – direct seeded rice
DUST – distinctness, uniformity and stability trial
DWSR – direct wet-seeded rice
EGS – early generation screening
EH – early heading
EMBI – effective microorganism-based inoculant
EPI – early panicle initiation
ET – early tillering
FAO – Food and Agriculture Organization
Fe – Iron
FFA – free fatty acid
FFP – farmer's fertilizer practice
FFS – farmers' field school
FGD – focus group discussion
FI – farmer innovator
FSSP – Food Staples Self-sufficiency Plan
g – gram
GAS – golden apple snail
GC – gel consistency
GIS – geographic information system
GHG – greenhouse gas
GLH – green leafhopper
GPS – global positioning system
GQ – grain quality
GUI – graphical user interface
GWS – genomwide selection
GYT – general yield trial
h – hour
ha – hectare
HIP - high inorganic phosphate
HPL – hybrid parental line
I - intermediate
ICIS – International Crop Information System
ICT – information and communication technology
IMO – indigenous microorganism
IF – inorganic fertilizer
INGER - International Network for Genetic Evaluation of Rice
IP – insect pest
IPDTK – insect pest diagnostic tool kit
IPM – Integrated Pest Management
IRRI – International Rice Research Institute
IVC – in vitro culture
IVM – in vitro mutagenesis
IWM – integrated weed management
JICA – Japan International Cooperation Agency
K – potassium
kg – kilogram
KP – knowledge product
KSL – knowledge sharing and learning
LCC – leaf color chart
LDIS – low-cost drip irrigation system
LeD – leaf drying
LeR – leaf rolling
lpa – low phytic acid
LGU – local government unit

LSTD – location specific technology development
m – meter
MAS – marker-assisted selection
MAT – Multi-Adaption Trial
MC – moisture content
MDDST – modified dry direct seeding technique
MET – multi-environment trial
MFE – male fertile environment
MLM – mixed-effects linear model
Mg – magnesium
Mn – Manganese
MDDST – Modified Dry Direct Seeding Technique
MOET – minus one element technique
MR – moderately resistant
MRT – Mobile Rice TeknoKlinik
MSE – male-sterile environment
MT – minimum tillage
$mtha^{-1}$ - metric ton per hectare
MYT – multi-location yield trials
N – nitrogen
NAFC – National Agricultural and Fishery Council
NBS – narrow brown spot
NCT – National Cooperative Testing
NFA – National Food Authority
NGO – non-government organization
NE – natural enemies
NIL – near isogenic line
NM – Nutrient Manager
NOPT – Nutrient Omission Plot Technique
NR – new reagent
NSIC – National Seed Industry Council
NSQCS – National Seed Quality Control Services
OF – organic fertilizer
OFT – on-farm trial
OM – organic matter
ON – observational nursery
OPAg – Office of Provincial Agriculturist
OpAPA – Open Academy for Philippine Agriculture
P – phosphorus
PA – phytic acid
PCR – Polymerase chain reaction
PDW – plant dry weight
PF – participating farmer
PFS – PalayCheck field school
PhilRice – Philippine Rice Research Institute
PhilSCAT – Philippine-Sino Center for Agricultural Technology
PHilMech – Philippine Center for Postharvest Development and Mechanization
PCA – principal component analysis
PI – panicle initiation
PN – pedigree nursery
PRKB – Pinoy Rice Knowledge Bank
PTD – participatory technology development
PYT – preliminary yield trial
QTL – quantitative trait loci
R - resistant
RBB – rice black bug
RCBD – randomized complete block design
RDI – regulated deficit irrigation
RF – rainfed
RP – resource person
RPM – revolution per minute
RQCS – Rice Quality Classification Software
RS4D – Rice Science for Development
RSO – rice sufficiency officer
RFL – Rainfed lowland
RTV – rice tungro virus
RTWG – Rice Technical Working Group
S – sulfur
SACLOB – Sealed Storage Enclosure for Rice Seeds
SALT – Sloping Agricultural Land Technology
SB – sheath blight
SFR – small farm reservoir
SME – small-medium enterprise
SMS – short message service
SN – source nursery
SSNM – site-specific nutrient management
SSR – simple sequence repeat
STK – soil test kit
STR – sequence tandem repeat
SV – seedling vigor
t – ton
TCN – testcross nursery
TCP – technical cooperation project
TGMS – thermo-sensitive genetic male sterile
TN – testcross nursery
TOT – training of trainers
TPR – transplanted rice
TRV – traditional variety
TSS – total soluble solid
UEM – ultra-early maturing
UPLB – University of the Philippines Los Baños
VSU – Visayas State University
WBPH – white-backed planthopper
WEPP – water erosion prediction project
WHC – water holding capacity
WHO – World Health Organization
WS – wet season
WT – weed tolerance
YA – yield advantage
Zn – zinc
ZT – zero tillage

Department of Agriculture

PhilRice

PHILIPPINE RICE RESEARCH INSTITUTE

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

We accomplish this mission through research and development work in our central and seven branch stations, coordinating with a network that comprises 57 agencies and 70 seed centers strategically located nationwide.

To help farmers achieve holistic development, we will pursue the following goals in 2010-2020: attaining and sustaining rice self-suffiency; reducing poverty and malnutrition; and achieving competitiveness through agricultural science and technology.

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

PhilRice Central Experiment Station
Science City of Muñoz, 3119 Nueva Ecija
TRUNKLINES: 63 (44) 456-0277, -0258, 0285
Direct Line/Telefax: (044) 456-0112
prri.mail@philrice.gov.ph

PhilRice Agusan
Basilisa, RTR Romualdez, 8611 Agusan del Norte
Tel: (085) 343-0778
Telefax: (085) 343-0768
agusan.station@philrice.gov.ph

PhilRice Batac
MMSU Campus, Batac City, 2906 Ilocos Norte
Tel: (077) 670-1867
Telefax: (077) 792-4702, -2544
batac.station@philrice.gov.ph

PhilRice Bicol
Batang Ligao City, 4504 Albay
Mobile: 0906-935-8560; 0918 946-7439
bicol.station@philrice.gov.ph

PhilRice Isabela
San Mateo, 3318 Isabela
Tel: (078) 664-2954
Telefax: (078) 664-2953
isabela.station@philrice.gov.ph

PhilRice Los Baños
UPLB Campus, College, 4031 Laguna
Tel: (049) 501-1917
Telefax: (049) 536-8620
losbanos.station@philrice.gov.ph

PhilRice Midsayap
Bual Norte, Midsayap, 9410 North Cotabato
Tel: (064) 229-8178
Telefax: (064) 229-7242
midsayap.station@philrice.gov.ph

PhilRice Negros
Cansilayan, Murcia, 6129 Negros Occidental
Mobile: 0928-506-0515
negros.station@philrice.gov.ph

PhilRice Field Office
CMU Campus, Maramag, 8714 Bukidnon
Tel: (088) 222-5744

PhilRice Liason Office
3rd Flr. ATI Bldg, Elliptical Road
Diliman, Quezon City
Tel/Fax: (02) 920-5129
Mobile: 0920-906-9052

PhilRice Text Center
0920-911-1398

PhilRice Website
www.philrice.gov.ph

PhilRice Website
www.pinoyrkb.com

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