

DA - PHILRICE

BLOCKBUSTERS

RICE FARMING TECHNOLOGIES

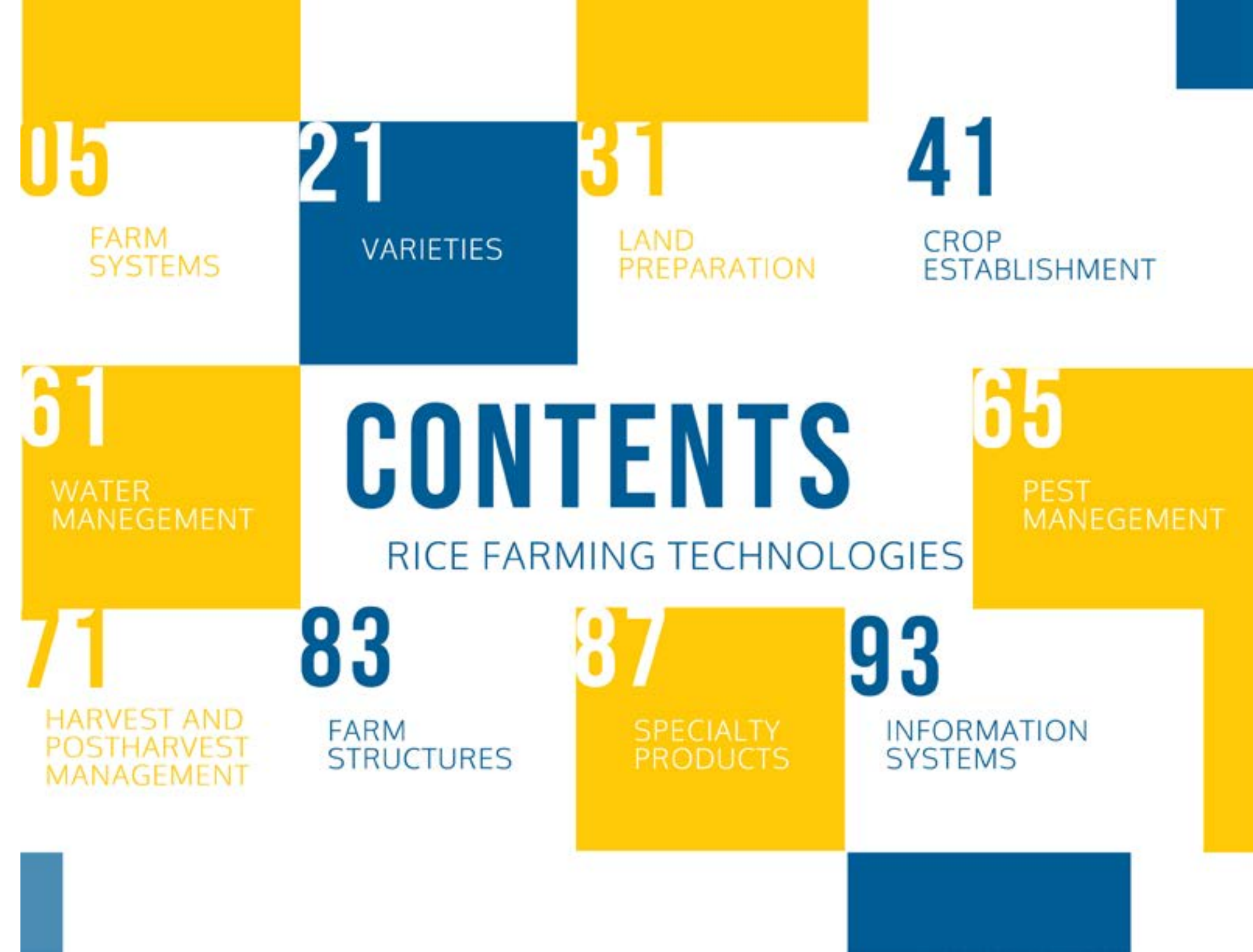


This catalogue showcases the rice technologies being used by extension workers and farmers in the Philippines.

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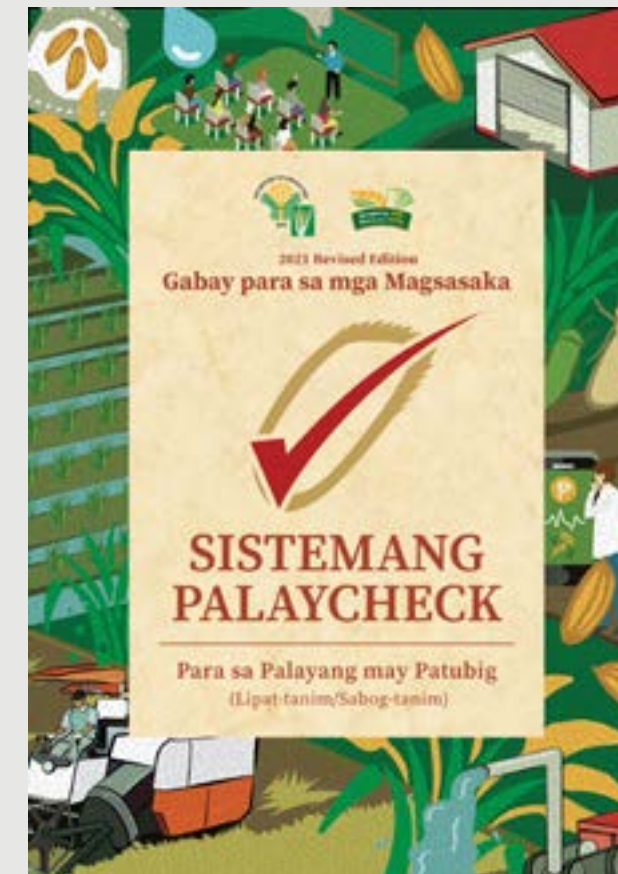


FARM
SYSTEMS



PALAYCHECK

- Integrates the nine best key technology and management practices called as **Key Checks**.
- Contains **recommendations** from seed selection until postharvest.





RICE-BASED MUSHROOM PRODUCTION

Highlights the [use of rice straw](#) in mushroom enterprise.

Recommends the cultivation of common mushroom strains that can be grown with rice straw: [paddy-straw mushroom](#) (*Volvariella volvacea*), [oyster mushroom](#) (*Pleurotus sp.*), [milky mushroom](#) (*Calocybe indica*), and [reishi mushroom](#) (*Ganoderma sp.*)



MILKY MUSHROOM



PALAYAMANAN PLUS

Multi-crop, rice-based farming system suitable in a changing environment and can provide additional income.

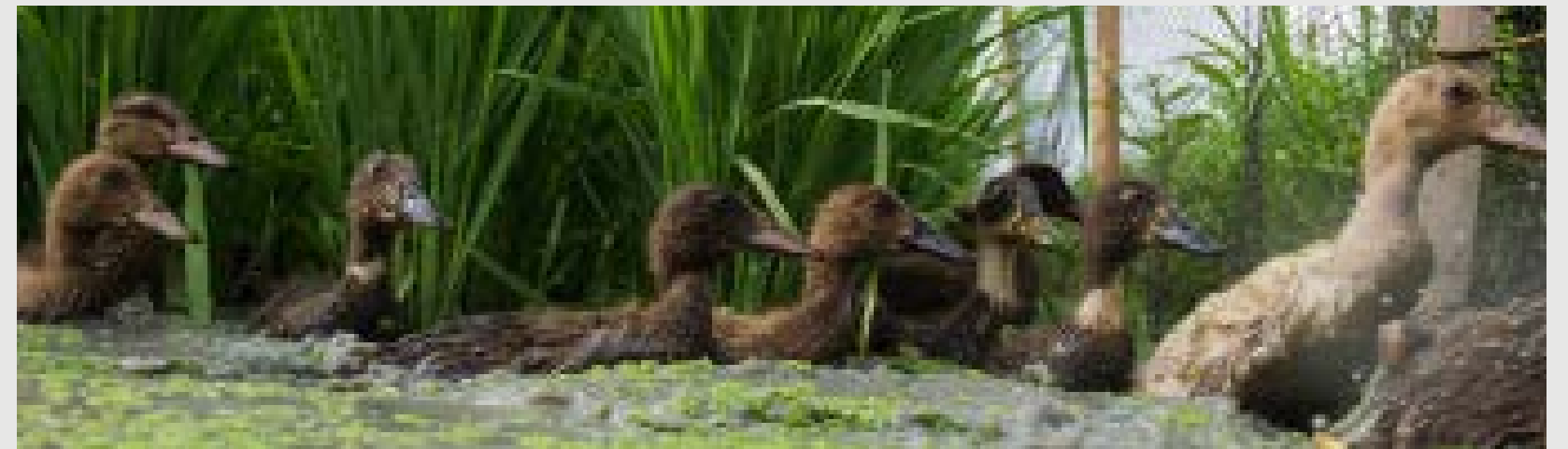
In Lupao, Nueva Ecija, farmers have increased their income by 20-30% through vegetable growing.





RICE-DUCK FARMING

maximizes duck raising for controlling golden apple snail and rice black bug and for additional income.





MOBILE GASIFIER

utilizes rice husk biomass as a [source of energy](#); minimizing gasoline fuel to run an engine.

Farmers can save [PhP2,000 to PhP15,000](#) from irrigation cost.



CONTINUOUS-TYPE RICE HULL CARBONIZER

converts rice husk into [carbonized rice husk](#) that can be used for seedbed preparation, organic fertilizer, and soil conditioner.

enables farmers to [grow mushrooms](#) economically and in a much easier and convenient way

used in [poultry raising](#) and roasting chicken



CONSOLIDATED RICE FARM MODEL

cultivates a [4-hectare land](#) with enlarged and dry laser-leveled plots, improved irrigation and drainage facilities, gravel roads, and concrete ramps

VARIETIES



— NSIC 2012 Rc 298 (TUBIGAN 23)

- first direct-seeded variety for irrigated lowland
- average yield: 5.3t/ha, direct wet-seeded; 5.6t/ha, transplanted
- maximum yield: 8t/ha, direct wet-seeded; 9.9t/ha, transplanted

— NSIC 2020 Rc 600 (PANG-MAINIT 1)

- first heat tolerant variety for irrigated lowland ecosystem
- average yield: 5.7t/ha, direct wet-seeded
- maximum yield: 7.1t/ha, direct wet-seeded



*Recommended varieties under the Rice Competitiveness Enhancement Fund
Seed Program from the Participatory Performance Testing and Validation*

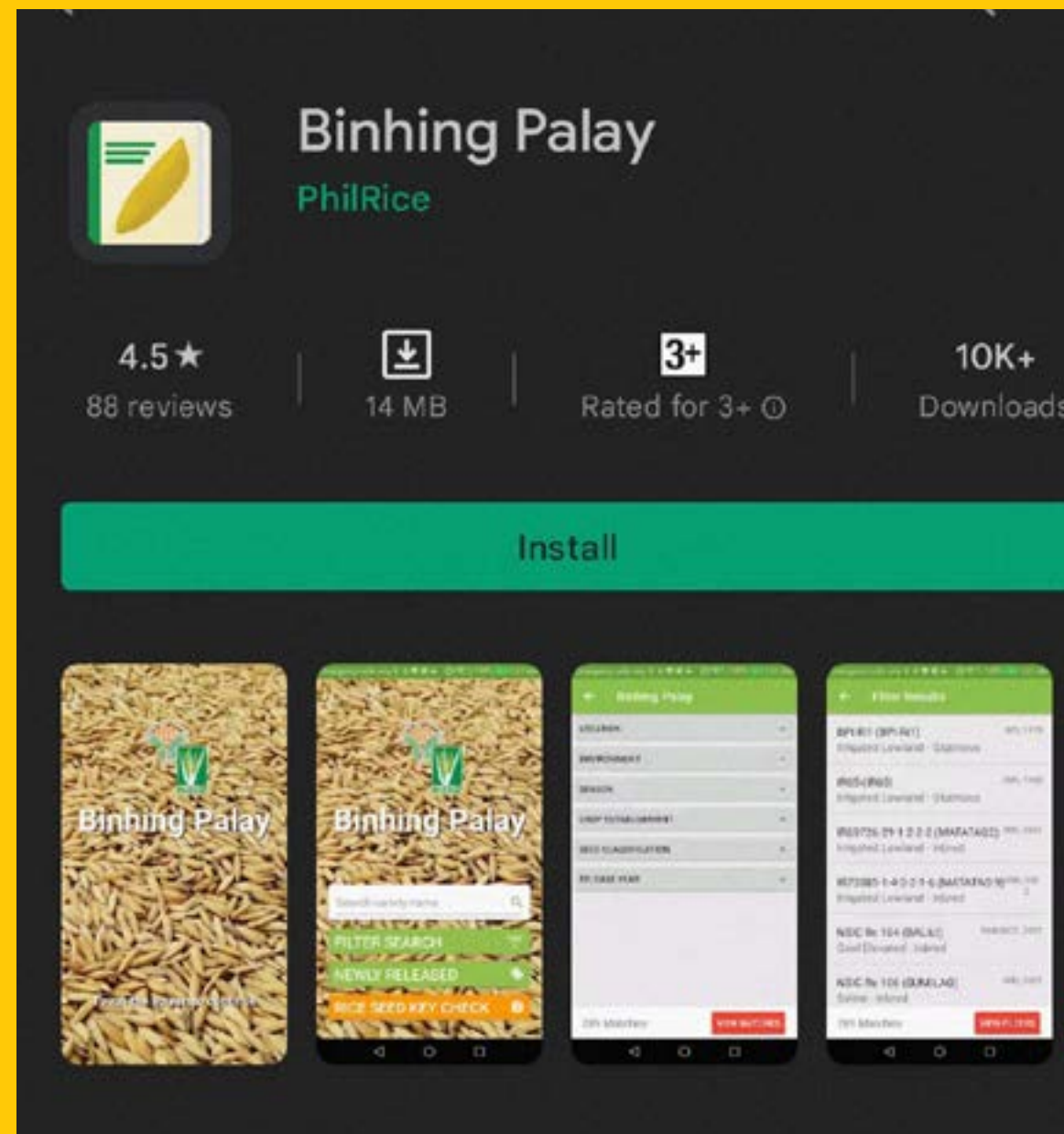
— **NSIC Rc 216 (TUBIGAN 17)**

- average yield: 6t/ha
- maximum yield: 9.7t/ha

— **NSIC Rc 402 (TUBIGAN 36)**

- average yield: 5.5t/ha
- maximum yield: 14t/ha

SEED
SELECTION

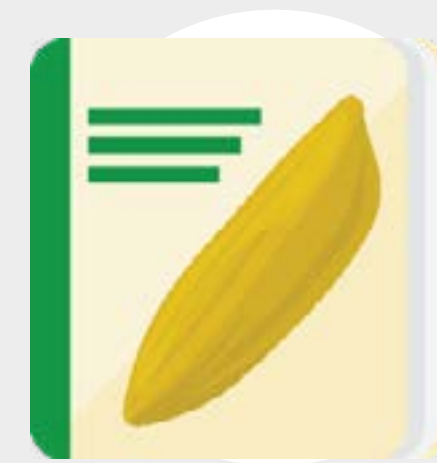


BINHING PALAY APP

catalog of [Philippine rice varieties](#) containing release year, characteristic, suited environment, and other related information.

"Prior to using the Binhing Palay app, I just planted any variety. I always want what's best. With this app, I get the best-suited varieties for my farm and always know what to say every time someone asks me about the rice I plant."

Floro Bernal



**LAND
PREPARATION**



LABOY TILLER



Field Capacity	
1st Pass	1ha/day
2nd Pass	2.5ha/day
Labor requirement	1 person
Width of cut	1.1m
Weight	100kg
Dimension (LxWxH)	1.75x1.2x0.8m

- intended for puddling the soil with deep harden depth
- has a floatation component that keeps the tiller working even on deep mud field



MICRO TILLER



Field Capacity	0.5ha/day	<ul style="list-style-type: none">• lightweight equipment for tilling small size paddies
Labor requirement	1 person	
Width of cut	0.6m	
Power requirement	6hp gasoline engine	
Weight	60kg	
Dimension (LxWxH)	1.5x0.7x0.7m	



RIDING-BOAT TILLER

Field Capacity	
1st Pass	0.54ha/h
2nd Pass	0.45ha/h
Working speed	4-8kph
Labor requirement	1 person

lightweight riding boat tiller
that can operate on shallow
and waist-deep fields

CROP
ESTABLISHMENT



DRUM SEEDER

portable [lightweight seeding alternative](#) over broadcast seeding seeds grains in straight rows, allowing better weed management through the use of mechanical weeder.

"Our seeding rate per hectare was slashed from 120kg/ha to 70kg/ha using drumseeder. At first, we were unsure of this machine, but with this saving and seeing our crops produce more tillers without yield reduction, we're convinced to use the drumseeder every cropping season."

Victorino Dumanig



MULTIPURPOSE SEEDER

attachment to local handtractor for mechanical dry direct seeding of un-germinated rice, mungbean, and corn seeds in dry pulverized soil in the furrow created and later close it to protect from birds and rodents.

"Back then, it would take four persons hired for Php300 each per day to plant half a hectare. But with this machine, I can now plant my 0.80ha by myself. Not only did it save me on labor but my seeding rate was also reduced from 90 to 60kg."

Noel Galut



MULTI-CROP REDUCED TILL PLANTER

establishes ungerminated rice
seeds in rows for dry or reduced
tilled soil

NUTRIENT MANAGEMENT



Minus-one Element MINUS-ONE-ELEMENT TECHNIQUE (MOET)

farmer-friendly and [quick analysis kit](#) for
nutrient status of the soil

"I have been a farmer for a very long time. I was born into a family of farmers but I only realized now that my practices in terms of fertilizer management need to change. When I tried MOET, 20 cavan (62kg/ cavan) was added to my harvest from 0.8-ha field."

Ryan Alvar



MOET APP

complementary device for the MOET kit
provides the right amount, combination, and
type of fertilizer to be applied through a soil
nutrient calculator

**"I used to harvest 5.5t/ha. With the help of
MOET, my yield went up to 7t/ha."**

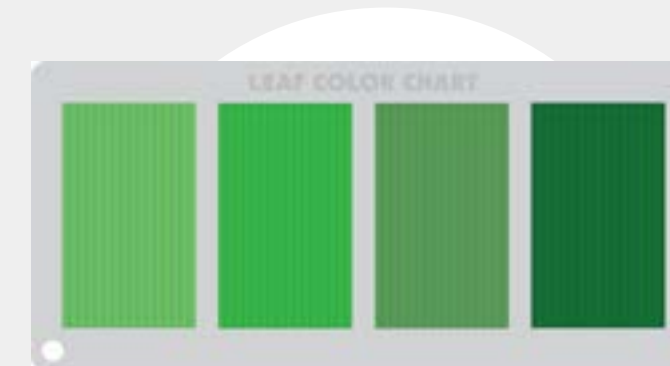
Raymundo Peter Bañaga





LEAF COLOR CHART

plastic, ruler-shaped strip
containing four panels, which
measures nitrogen content through
the green color intensity of leaf





LCC App

Leaf Color Computing Application



Real-time Nitrogen fertilize recommendations for your rice farm

- 1 Scan**
- 2 Compute**
- 3 Apply**



LEAF COLOR COMPUTING APP

derived from the Leaf Color Chart, it **generates nitrogen recommendations in just under a minute** based on the digital images of intact rice leaves photographed directly from the field

"It's good to know that my front cam has other use. Other than taking selfie, I could use it as guide on right fertilizer application. Through this app, getting fertilizer recommendations from the experts is easy, fast, and efficient."

Roy Jacalan

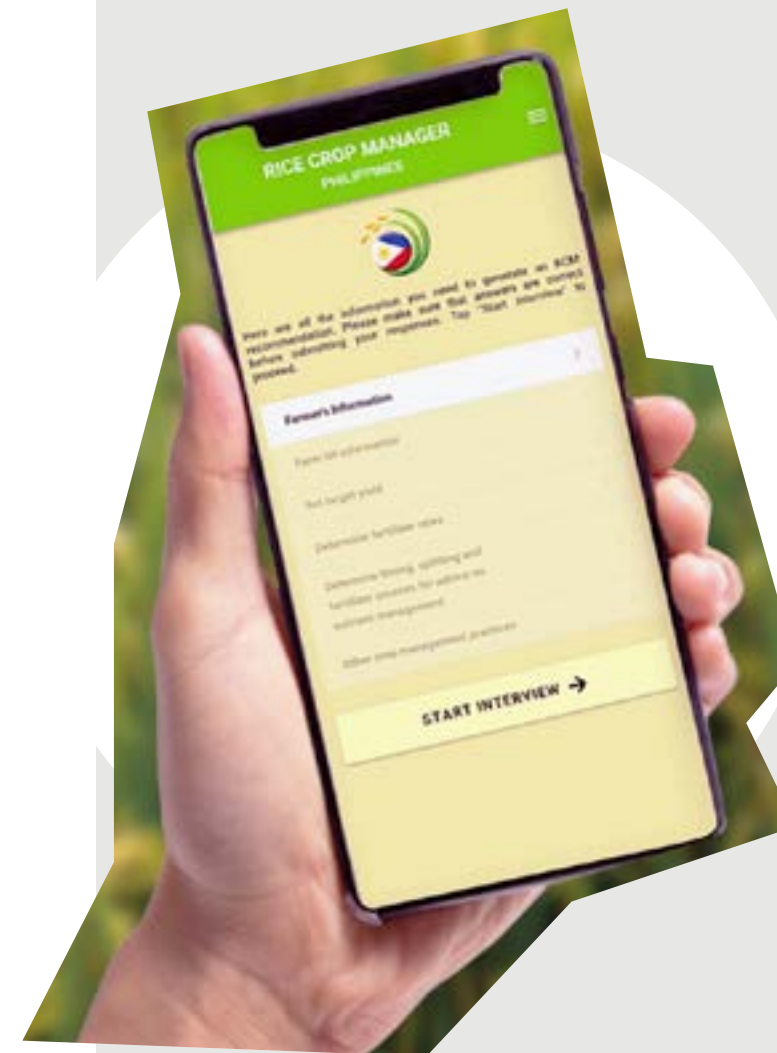


AGRIDOC APP

allows users to keep information about their farm activities and expenses then categorize them to major farming operations; view their farms through satellite images provided by Google Maps; and plan tasks and get reminders of their activities in the calendar view.

"I was into conventional farming and copied my neighboring farmers' practices. Now, my way of farming is quite modern. I use the AgriDOC app in managing pests and diseases that may infest my plants."

Andre Jake Montilla



RICE CROP MANAGER

optimized digital agriculture application for improved crop and data management for rice farmers and agricultural extension workers.

"Through this app, I was able to give out science-based fertilizer recommendations to more than 1,000 farmers."

Fil Victor Babanto

WATER
MANAGEMENT



ALTERNATE WET AND DRY

reduces irrigation water consumption without lowering rice yield through observation wells, which are used to monitor changes in groundwater levels.

"Prior to my use of AWD technology in 2016, I spent PhP8,000/ha for diesel from planting to harvesting. With AWD, I saved about PhP2,000/ha. Honestly, I was surprised with the result."

Mario Ermita

PEST
MANAGEMENT



E-DAMUHAN APP

identifies [rice field weeds](#)
and generates management
recommendations.



PRIME PEST RISK IDENTIFICATION AND MANAGEMENT

web-based app on [crop health assessment](#), surveillance, and monitoring.



THREE-ROW WEEDER

uses 4 stroke single cylinder
gasoline (grass-cutter) engine

HARVEST AND POSTHARVEST MANAGEMENT



MINI RICE COMBINE HARVESTER



Model	Crawler-type equipped with rubber tracks and hydraulic assisted reel and header
Field Capacity	2-2.5ha/day
Harvesting Losses	< 3%
Prime Mover	29hp multi-cylinder, water cooled diesel engine
Labor Requirement	2-3 persons
Weight	1500kg
Dimension	3.51x 1.72 x 2.22m

lightweight machine that combines cutting, threshing, cleaning, and bagging of grains in a [single pass](#).



REVERSIBLE AIRFLOW FLATBED DRYER

batch type mechanical dryer that is used to dry grains by introducing heated air at the bottom layer of the grains and then reversing the flow of the heated air at the later part of drying process



Drying bin	60-220cav/batch
Drying time	4-6h/batch (up to 14% MC)
Drying temperature	43-60°C
Fan	Single to two-stage tube-axial
Furnace	25-60kg/h rice hull fueled
Prime Mover	12.5-26hp diesel engine



VILLAGE-TYPE BROWN RICE MACHINE

designed for small enterprise to
produce and sell brown rice in
the community

PEDAL/MOTOR-DRIVEN BROWN RICE MACHINE

designed for all family
members even senior
citizens



MICRO MILL

Portable, lightweight for milling small quantities

Power: 6hp gasoline
Input capacity: 50-75kg/h
Energy consumption: 1L/h



SACLOB

improves seed viability by 6 to 12 months and prevents pest infestation such as weevils, rats, and birds during storage of palay seeds without using chemicals

low seed moisture content is maintained even if seeds are exposed to high humidity conditions during rainy season





SEED CLEANER

mobile cleaner with high capacity of up to 1.5 tons/hour for final cleaning after drying and less than 1% cleaning loss

Output Capacity	250cav/day
Paddy purity	490-99% depending on paddy MC
Cleaning losses	<1%
Labor requirement	1-2 person
Power requirement	1.5hp electric motor or 6hp gasoline engine
Weight	80kg
Dimension (LxWxH)	1.2x0.6x1.0m



FARM STRUCTURE



KWEBO

derived from kweba (cave) and kubo (nipa hut) denoting a farm structure that [has the strength of a cave](#) with the simple design of a nipa hut low-cost, typhoon-resistant [multipurpose storage](#) that can be used as a dwelling place for farm animals and safehouse for equipment



SPECIALTY
PRODUCTS



RICE WINE (TAPUY)

pure wine that captures the unique taste of naturally-fermented glutinous rice



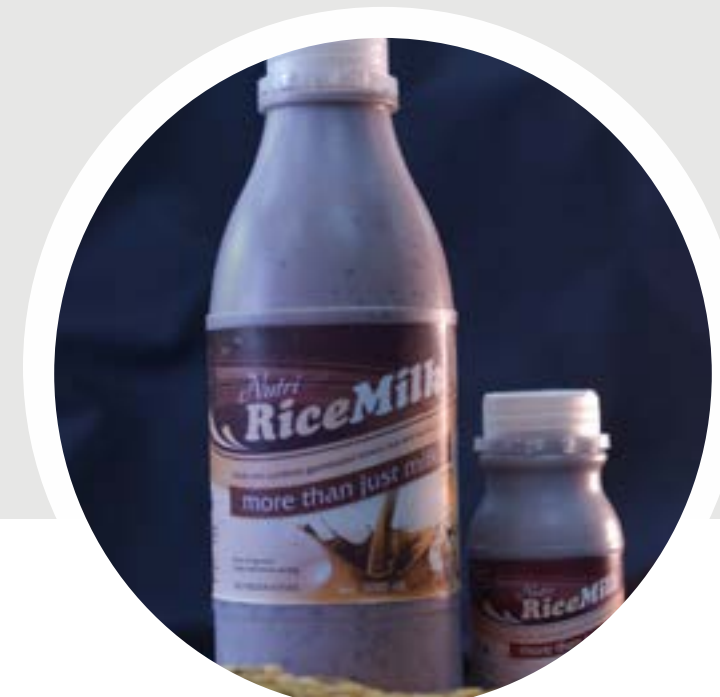


NUTRI-RICE MILK

nutritious drink loaded with nutrients from pigmented rice and buffalo's milk

NUTRI-RICE MILK

nutritious drink loaded with nutrients from pigmented rice and buffalo's milk



INFORMATION
SYSTEMS



RICELYTICS

<https://www.philrice.gov.ph/ricelytics>

contains data on Philippine rice industry situation and the characteristics of the Filipino rice farmers

One website for your rice data needs

Provincial Overview • Survey Results • Rice Statistics • Resources



POPULAR TOPICS

Production

Use Estimates

Special Rice Prices

Farmer Profile

Physical Area

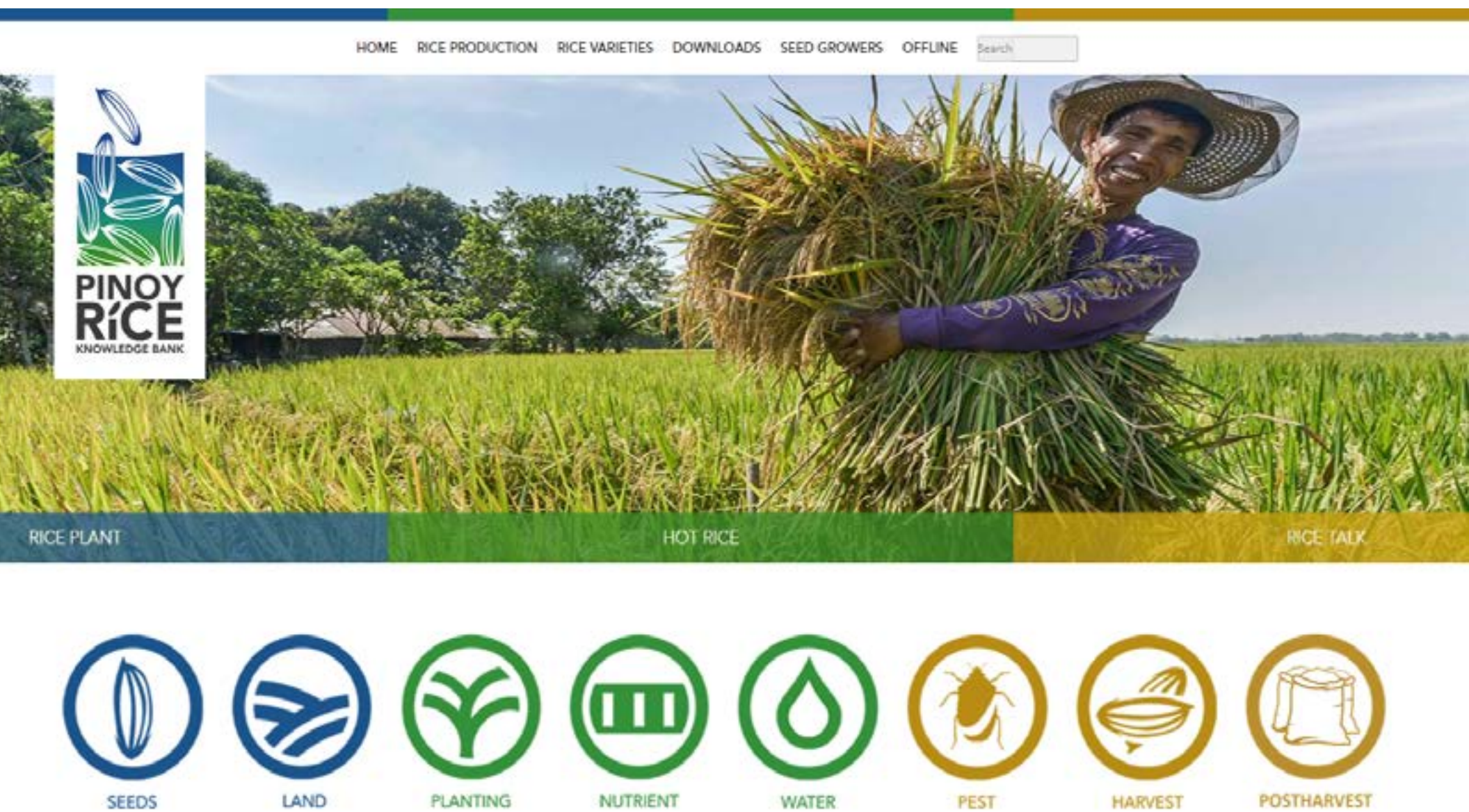
Cost and Returns



PALAYSTAT

<https://palaystat.philrice.gov.ph>

interactive web-based system containing data derived from the [Rice-based Farm Household Survey \(RBFHS\)](#) conducted every five years including farm inputs, costs and returns, and yield



PINOYRICE

<https://www.pinoyrice.com>

rich source of information to help farmers **improve and localize** their farming practices

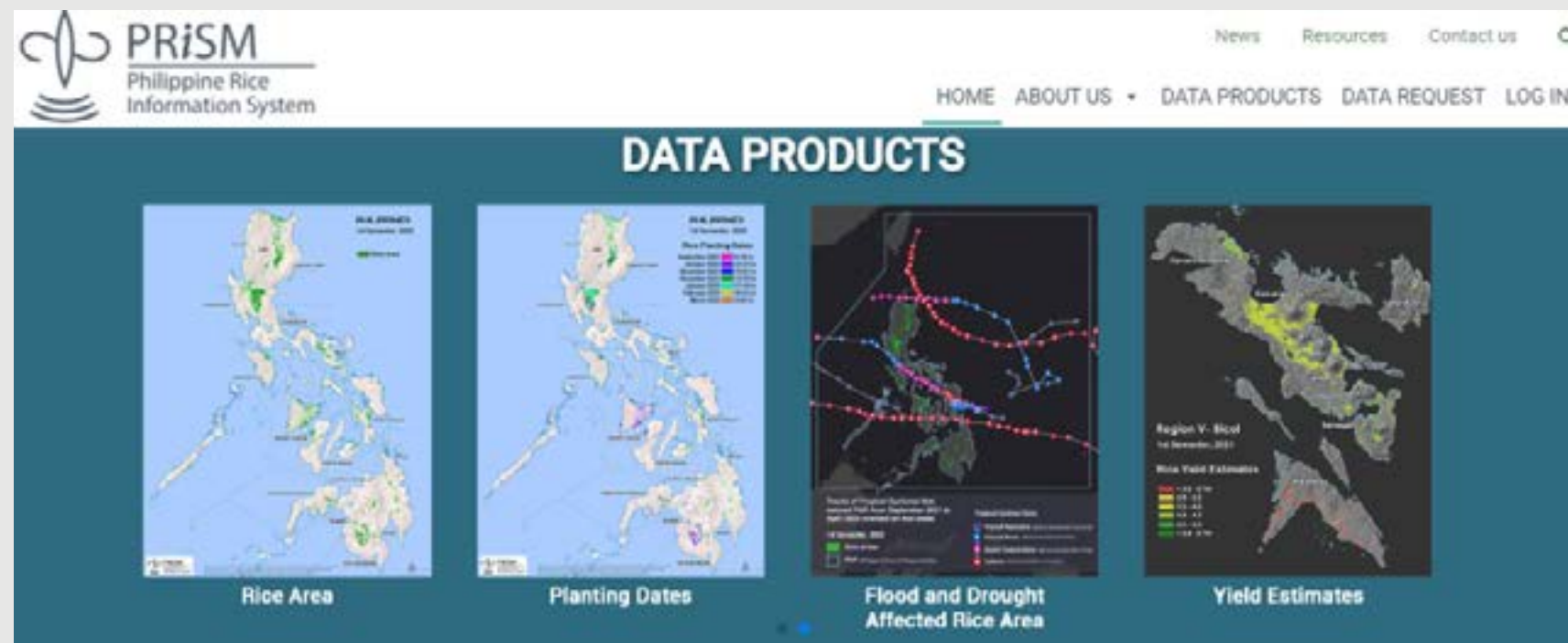
DECISION-MAKING AIDS

PHILIPPINE RICE INFORMATION SYSTEM (PRISM)

<https://prism.philrice.gov.ph>

first rice monitoring system in Southeast Asia that uses satellite imagery and Information and Communication Technology

generates seasonal data on rice areas and yields and assessment of crop health and damage during typhoons, floods, or drought so officials and government agencies may position the priority interventions and mitigate the effects of disasters on rice areas



ORYZA GERMPLASM MANAGEMENT SYSTEM (ORYZA GEMS)

<https://gems.philrice.gov.ph/gems>

improves breeders' access to genetic resources and quality information in support of breeding new rice varieties

generates inventories, regeneration priorities, and germplasm status to guide genebank curators on conservation





SOIL INFORMATION SYSTEM

https://dbmp.philrice.gov.ph/dbmp_main/login

features soil productivity index, color, texture, pH, coarse fragments, and mottles of most common soils in the area to help farmers and agricultural extensionists identify suitable crops and generate recommended crop management practices



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