Catalyzing a Sustainable Delivery System for Golden Rice

Ronan G. Zagado, PhD
Chief Science Research Specialist & Lead
Golden Rice Program, DA-PhilRice

Nov. 10, 2023
Golden Rice, registered as Malusog Rice (*Malusog means healthy*) in the Philippines, is a new type of rice that contains beta carotene (a source of vitamin A) and gives the grain its golden color.

- It is the first GM rice with nutritional benefits and the Philippines is the first country to approve its commercial propagation.
Deployment Objectives

To catalyze a delivery system to:

1. Ensure availability and accessibility of GR (both as seeds and milled rice)
2. Raise product awareness, promote public acceptance, and induce desirable behaviors for uptake; and
3. Create a science-based supportive policy and enabling environment, and governing structures to ensure successful deployment of GR, especially at the local government unit (LGU) level

Accessibility to affordable, safe, and nutritious rice that benefit all Filipinos
(Strategy Agenda 2 of DA’s Strategic Agenda 2023-2028)
Deployment/delivery Pathways

Seed Systems for Commercializing New Rice Varieties:

- Formal Seed System (With seed certification)
- Informal Seed System (Without seed certification)

Program-Based Approach:
- Integrate Malusog Rice in existing agriculture and nutrition programs
- Partnership
- Policy advocacy
- Mode of production: contract growing

Market-Driven Approach:
- Position Malusog Rice in existing market channels
- Conduct of Value chain analysis/Consumer acceptability
- Marketing and promotion
- Product/recipe development

2
Ensuring SUPPLY
Biosafety and Varietal Registration Process

1 variety of Malusog Rice already registered; 5 Golden Rice lines in the background of popular, high-yielding varieties in the pipeline

Seed certifications guidelines for Golden Rice are currently being finalized.

Deployment stage: “Seed Testing” using high-quality seeds from PhilRice
OBJECTIVES

- Ensure product purity, integrity, and traceability
- Prevent unintended release
- Manage critical control points and establish mitigating measures
- Educate and train stakeholders on stewardship protocols

Breeding / Selection of Lines

- SOPs anchored on existing quality standards re: seed increase at PhilRice is in place
- Seed certification guidelines for Golden Rice is being developed by NSIC
- A seed-to-seed information system is in place to ensure traceability
- Briefing/training conducted prior to seed transfer and utilization
Currently, Golden Rice is being cultivated on approximately 152 hectares in 18 provinces with produce for use primarily in market testing and promotion particularly especially to support existing programs aimed at promoting food and nutrition security.

Implemented through the PhilRice branch stations in close collaboration with partners, local government units, and other agencies/organizations.
Building Demand
Program-based Deployment Approach

Golden Rice is being integrated in existing agri-nutrition programs.
Golden Rice complements existing nutrition programs to address vitamin A deficiency.
**Market-based Deployment Approach**

Golden Rice is being made available through existing market channels.

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>PhP 33/kg</strong></td>
<td>Golden Rice Wholesale Price</td>
</tr>
<tr>
<td><strong>Yield</strong></td>
<td>4,000 kg/ha</td>
</tr>
<tr>
<td><strong>Production cost</strong></td>
<td>PhP 14.34</td>
</tr>
<tr>
<td><strong>Marketing Cost &amp; Profit Margin</strong></td>
<td>PhP 9.50</td>
</tr>
<tr>
<td><strong>Cost of producing 1kg of milled rice</strong></td>
<td>PhP 23.82</td>
</tr>
</tbody>
</table>

Malusog Rice Cost Estimate and Wholesale Price
(based on the 2022 WS production data)

Picture taken during the Market test on February 23, 2023 in Concepcion, Tarlac Public Market
Initial Acceptability Study Results from Consumer HH in Catanduanes

It is just like ordinary rice in terms of taste, cooking quality, and aroma.

Yellow-colored rice is not an issue; children actually liked it.

All are willing to buy Malusog Rice when it becomes available in the market.

HIGHLIGHTS

- Suggested Retail Price: PhP 25-50/kg
- Supplied: 5kg
- Lasted from 2-14 days
- Used provided MR as alternative to their table rice and served it as much.
Promotional Materials and Collaterals

Pagkain masustansya
Ang Malusog Rice ay maunay na pinakapangilangan ng anim. Itong malusog na palay ay magagamit sa paggawa ng malusog at masustansya na paghamon.

Mas pinahusay na barayti
Ang Malusog Rice ay isa sa pinakamataas na endosperm at maaaring magpatuloy sa paggawa ng mas mataas na barayti.

Ligtas kainin
Ang Malusog Rice ay sapatos, a masustansya na paghamon ng mga presyon at mga gamot na maaaring magkaroon ng kahirapan sa paghamon nito.
Marketing/Promotional Activities

Exhibits
Promotion during Market Test
Marketing/Promotional Activities

Marasat Pequeño champs Golden Breakfast Cookfest

Marasat Pequeño shined in the final judging of Golden Breakfast Cookfest this November 23, 2022 at the Banchetto di Riso, DA-PhilRice, Isabela.

Cookfest
Marketing/Promotional Activities

Malusog Moms: Nanay Hacks Dinner
Do you have a time-tested hack in serving healthy food to your kids?

Children are very picky when it comes to food. If you are a Nanay with a trick, make a video blog about it, allow us to use it, and in return, you will receive a new and healthy form of rice that will soon be in the market: Malusog Rice.

Malusog Rice is biofortified rice that contains natural beta carotene, which becomes Vitamin A as needed by the body. It is one certified hack for kids to eat healthier.

Send us your 60-90 sec vlog thru philriceisabela3318@gmail.com for posting on our FB page. You can also call us at 0927-652-7304 to take your video. Hack sharing ends 31 March 2023.

JOIN NOW!

Vlog Challenge
Marketing/Promotional Activities

Distribution of promo packs to stakeholders
Marketing/Promotional Activities

Proposed Packaging Design
Marketing/Promotional Activities

Taste Testing
Marketing/Promotional Activities

Techno demo/Farm Walk
Marketing/Promotional Activities

Social Media
GOVERNANCE

Creating Enabling Environment
Creating an enabling environment

A. Establish structure and multi-level processes
   - TWGs (national, local, counterpart committees)
   - Policy support (local resolutions, institutional policies, public statements)
   - Policy support in the form of local resolutions and public statements
A. Integration into agri-nutrition and other programs
   - PPAN, DSWD, NFA (ongoing)
Creating an enabling environment

**Stakeholder Engagement**

- 294 stakeholder engagements conducted

  Briefings, dialogues, conferences, symposia, seminars, webinars, promotional activities, orientations, market-testing, and milled rice distribution activities

**Stakeholder Profile**

- 8,065 stakeholders reached F2F

  Profile of the stakeholders:

  - 16.4% Consumers,
  - 20.6% Farmers,
  - 47.1% Intermediaries (incl. policymakers)
  - 15.8% General Public

**Outputs**

- 22 Resolutions issued in 22 provinces/municipalities
- 9 Institutional policies issued
- 25 Statement of supports
- 15 Buyback arrangements
- 3 Partner-initiated cookfests
- 9 Partner-initiated feeding programs
## Challenges and Actions Taken

<table>
<thead>
<tr>
<th>Challenges</th>
<th>Actions Taken</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Pending Approval of the Seed certification Guidelines for Golden Rice</td>
<td>Production established in the form of techno demo; seed production mainly for grains and not for commercial seeds</td>
</tr>
<tr>
<td>2. High demand; Low supply of seeds and milled rice</td>
<td>Prioritize areas with high incidence of malnutrition/VAD</td>
</tr>
<tr>
<td>3. Organic ordinance that prohibits GMOs</td>
<td>Clarify with LGUs the areas designated solely for organic farming</td>
</tr>
<tr>
<td>4. Oppositions</td>
<td>More active information campaign on the benefits of Malusog Rice in the target areas; Urgent situation Plan activated including prep for holding statements and and risk comm guidelines</td>
</tr>
</tbody>
</table>