

Rice Crop Manager Odisha

A digital tool to provide plot-specific nutrient recommendation guideline and generalized weed and nursery management recommendation for rice crop, based on the crop management practices of the specific farmer

2025
1st Edition

Rice Crop Manager is designed for use by extension workers, crop advisors, input providers, and agricultural service providers who interview farmers using a personal computer, smartphone, or tablet. Collected information is then transmitted via the Internet to the RCM 'model', which calculates and transmits a crop management guideline for the rice-based cropping system within moments back to the computer, smartphone, or tablet. Each guideline provides an actionable and unique recommendation for the rice crop, which matches the location-specific cropping practices and needs of the farmer.

RCM was adapted, evaluated, and verified for rice cultivation in Odisha through collaboration of IRRI with Odisha University of Agriculture and Technology and National Rice Research Institute (NRRI-ICAR).

The development of Rice Crop Manager was made possible through support from the Cereal Systems Initiative for South Asia (CSISA), funded by the BMGF and the USAID.

SCIENCE PROGRAMS, BILATERALS, AND PARTNERS

LEAD PROGRAM

Digital Transformation Accelerator

CONTRIBUTING PROGRAM

Sustainable Farming Program

Scaling for Impact

Climate Pro

CONTRIBUTING CENTER

IRRI - International Rice Research Institute

PARTNERS INVOLVED

DA&FE - Department of Agriculture and Farmers' Welfare, Odisha



THIS INNOVATION IS CHARACTERIZED AS

Incremental Innovation

Innovations that already exist and undergo constant, steady progress and improvement.



THE NATURE OF THIS INNOVATION IS

Technological Innovation

Innovations of technical/material nature, including varieties/breeds; crop and livestock management practices; machines; processing technologies; big data and information systems.

IMPACT AREAS



Nutrition tag
1 - Significant



Poverty tag
2 - Principal



Gender tag
1 - Significant



Climate tag
1 - Significant



Environment tag
1 - Significant



ANTICIPATED INNOVATION USER(S)

ORGANIZATIONAL CLIENTS

Farmers

Sex and age disaggregation does not apply

Agricultural extension agents

Sex and age disaggregation does not apply

ORGANIZATIONS

Research organizations and universities

Government

OTHER QUATITATIVE MEASURES OF INNOVATION USE

more than 315,000 RCM Recommendations generated as of August 2025

Rice Crop Manager Odisha

Version 1.0

Reference Number: 307792

Name of farmer: Parvati

Field name: Test

Location: Test, Asti Panchayat, Ballapal, Balasore

Date generated: 25 March 2025

Crop establishment: Manual transplanting

Variety: Ajeay

Sowing date: 13 May 2025

Note: Use this recommendation for kharif 2025 only.

Target yield on 1 acre: 20 quintal (dry weight), 5 t/ha (14% MC)

Manage rice as shown below:

Apply Pre-emergence herbicide at 2-3 days after transplanting in 3-5-cm standing water in the field. Use butachlor 50 EC at 1.25-1.50 kg a.i./ha (2.5 to 3.0 liter/ha) or pretilachlor 50 EC 750 g a.i./ha (1500 ml/ha product dose). If Pre-emergence herbicide is not applied then apply Post-emergence herbicide at 15-25 DAT. Use dispyribac sodium 10 EC at 25 g a.i./ha (250 ml/ha product dose).

Hand weed before fertilizer application if necessary. Use raised seedbed for the nursery. Apply 3 t/ha organic fertilizer

Apply fertilizer as indicated below:

Growth stage	DAT*	Kilograms of fertilizer for 1 acre (0.4 ha)		
		DAP	urea	MOP (Potash)
Early	Basal to 10	19	19	16
Active tillering	23-27	---	33	---
Panicle initiation	40-44	---	33	---

*DAT - days after transplanting

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RESPONSIBLE INNOVATION

PROMOTE GENDER EQUALITY AND SOCIAL INCLUSIVITY

Usability testing is done prior the updating of the tool as part of human centered design approach

LIMIT UNINTENDED CONSEQUENCES

 No negative consequences or impacts expected

INNOVATION TEAM DIVERSITY

-  Gender diversity
-  Diversity in years of experience
-  Diversity in expertise
-  Disciplinary diversity

**THIS INNOVATION IS EXPECTED TO CONTRIBUTE TO THE FOLLOWING IMPACTS**

CGIAR IMPACT AREAS & COLLECTIVE GLOBAL TARGETS



SDGs AND SDG TARGETS



DEVELOPED, TESTED AND/OR SCALED ON THE FOLLOWING COUNTRIES





ACKNOWLEDGEMENTS

We would like to thank all Funders who support this innovation through their contributions to the **CGIAR Trust Fund** (www.cgiar.org/funders).



MORE INFORMATION

WEBSITES AND DOCUMENTATION

- <https://webapps.irri.org/in/od/rcm/>
- <https://hdl.handle.net/10568/172482>

CONTACT PERSON

For more information on this innovation please contact: **Shalini Gakhar** (s.gakhar@cgiar.org) and **Preeti Bharti** (p.bharti@cgiar.org)



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CITATION

Gakhar, Shalini, and Bharti, Preeti. *Rice Crop Manager Odisha IPSR Innovation Profile*. 1st ed., Sept. 2025, IRRI India.



CURRENT INNOVATION READINESS

9

PROVEN INNOVATION

The innovation is validated for its ability to achieve a specific impact under uncontrolled conditions

8

UNCONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under uncontrolled conditions

7

PROTOTYPE

The innovation is validated for its ability to achieve a specific impact under semi-controlled conditions

6

SEMI-CONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under semi-controlled conditions

5

MODEL/EARLY PROTOTYPE

The innovation is validated for its ability to achieve a specific impact under fully-controlled conditions

4

CONTROLLED TESTING

The innovation is being tested for its ability to achieve a specific impact under fully-controlled conditions

3

PROOF OF CONCEPT

The innovation's key concepts have been validated for their ability to achieve a specific impact

2

FORMULATION

The innovation's key concepts are being formulated or designed

1

BASIC RESEARCH

The innovation's basic principles are being researched for their ability to achieve a specific impact

0

IDEA

The innovation is at idea stage

INNOVATION READINESS JUSTIFICATION

RCM is being used by the extension staff of DA&FE, Odisha, NGO partners, rural youth and farmers to generate recommendations. It has been validated in farmers' fields and has been proven to improve yield (0.5-t/ha) and save cost in case of overfertilization by farmers.

EVIDENCE

<https://shorturl.at/hbVRI>

<https://shorturl.at/siWjt>