

Crop Manager for Rice-based Systems Bihar Version1.0 (For NON-KHARIF only)

Crop Manager for Rice-based Systems provides a farmer with personalized crop management recommendations for rice, rabi maize, and wheat grown in both rainfed and irrigated conditions.

Instructions:

The farmer should answer the following questions for their field before the establishment of their next rice, rabi maize, or wheat crop. If the farmer has more than one field, the questions should be answered separately for each field for which a recommendation is desired.

1. Where is the field?

District: _____

Block: _____

Village: _____

A field is one or more parcels with similar management, variety, and soil fertility.

2. How do you name the field for identification? _____

Note: Use a descriptive name that the farmer can easily associate to the field to be provided with CMRS recommendation. Only 3 to 30 alphanumeric characters can be used for field name.

3. What is the size of the field?

_____ kattha

_____ acre

If kattha,

How many kattha in 1 acre?

32

22

17

Other: _____

If the selected district is any of the following: Darbhanga, Katihar, Kishanganj, or Purnia,

- 4a. For which upcoming crop do you need a recommendation?

Kharif rice

Rabi maize

Wheat

Boro rice

Otherwise,

- 4b. For which upcoming crop do you need a recommendation?

Kharif rice

Rabi maize

Wheat

If rabi maize, continue answering the questions in SET B1.

If wheat, continue answering the questions in SET C1.

If boro rice, continue answering the questions in SET A2.

SET A2. If the selected crop is boro rice:

5. What rice variety do you plan to grow in the upcoming boro?

Name of the variety: _____

Not in the list. Please provide the name of the variety: _____

If not in the list,

What is the growth duration of the variety from sowing to harvest?

81-90 days

91-100 days

101-110 days

111-120 days

121-130 days

131-140 days

141-150 days

Proceed to SET A3.

SET A3.

6. How will rice be established?

Manual transplanting Mechanical transplanting

Wet seeding

Dry seeding

If manual or mechanical transplanting

7a. Will you raise your seedlings?

Yes

No

If no,

What is your source of seedlings?

Purchased

Borrowed

If yes or no,

When will rice be sown in the nursery?

Select a month:

May

June

July

August

Enter a date: _____

If wet or dry seeding,

7b. When will **rice** be sown in the field?

Select a month:

- May
- June
- July
- August

Enter a date: _____

If manual transplanting,

8a. What is the approximate seedling age at transplanting?

- 15-20 days
- 21-30 days
- 31-40 days
- Older than 40 days

If mechanical transplanting,

8b. What is the approximate seedling age at transplanting?

- 15-20 days
- 21-30 days

9. What rice variety did you grow **last year** in your field in **kharif**?

Name of the variety: _____

10. What yield of fresh, unmilled rice did you harvest **last year** from your **insert field size in local unit** field using **insert selected variety in question 15**? Sum amounts of grain marketed, retained for household consumption, and provided to laborers.

If grain yield is expressed in quintal,

Grain yield: _____ quintal from **insert field size in local unit**

Note: 1 quintal = 100 kg

If field size is expressed in kilograms,

Grain yield: _____ kilograms from **insert field size in local unit**

Proceed to SET D2.

SET B1. If the selected crop is rabi maize:

5. How will **rabi maize** be established?
 Zero or reduced tillage Conventional tillage
6. What **maize** variety will you grow for the upcoming **rabi** season?
 Hybrid Open-pollinated variety (OPV)
7. When will **rabi maize** be planted in the field?

Select a month:

- October
 November
 December
 January
 February

Enter a date: _____

8. What is the local unit used for yield of **rabi maize**?
 Quintal Kilograms
9. Have you grown **maize** in your *insert field size in local unit* field in the **rabi** season within the past two years?
 No Yes

If yes,

How much sun-dried, shelled **maize** do you typically harvest from your *insert field size in local unit* field in the **rabi** season using *insert selected variety type* with planting in *insert selected month of planting*?

If grain yield is expressed in quintal,

Grain yield: _____ quintal from *insert field size in local unit*

Note: 1 quintal = 100 kg

If grain yield is expressed in kilograms,

Grain yield: _____ kilograms from *insert field size in local unit*

10. Indicate below your planned spacing of **maize** seed in the upcoming **rabi**.
Between rows: _____ cm
Within a row: _____ cm

Proceed to SET D1.

SET B2

11. How many times do you plan to irrigate the **rabi maize** crop from establishment to harvest?
- Zero (Full rainfed)
 - 1 to 4 times (Partial irrigation)
 - 5 times or more (Full irrigation)

If full rainfed or partial irrigation,

12. Based on experience in past years, what do you anticipate for the upcoming **rabi maize**?
- Adequate irrigation and rainfall during maize growth; no yield loss from drought
 - Shortage of water during maize growth; yield loss from drought

13. Which best describes the soil in your field?
- Clayey
 - Loamy
 - Sandy

14. Did you apply zinc to the previous **rice** crop?
- No
 - Yes, at less than 10 kg Zn sulfate/acre
 - Yes, at 10 kg Zn sulfate/acre or more

15. Which best describes your planned rate of fertilizer application for the upcoming **rabi maize** crop?
- Apply less than 70 kg N fertilizer/acre
 - Apply 70 or more kg N fertilizer/acre

Proceed to SET D2.

SET C1. If the selected crop is wheat:

5. How will **wheat** be established?

- Zero tillage
- Conventional tillage, broadcast sowing
- Conventional tillage, line sowing

6. What **wheat** variety will you grow for the upcoming season?

Name of the variety: _____

7. When will **wheat** be sown in the field?

Select a month:

- November
- December

Enter a date: _____

Proceed to SET D1 .

SET C2

8. How many times do you plan to irrigate the **wheat** crop from establishment to harvest?
 1 time 2 times 3 or more times

9. What kind of weeds predominates in your field during the **wheat** crop?
 Phalaris minor only
 Broadleaves
 Mix of broadleaves and grasses
 Not known

If the selected district is any of the following: Kishanganj, Purnia, Araria, Saharsa, or Supaul,

10. Was there a problem in recent seasons with sterility of **wheat** such as chaffy grain?
 No Yes

If yes,

Did you apply boron to **wheat** in recent seasons?
 No Yes

11. Did you apply zinc to the previous **rice** crop?
 No
 Yes, at less than 10 kg Zn sulfate/acre
 Yes, at 10 kg Zn sulfate/acre or more

Proceed to SET D2.

SET D1. If the selected crop is rabi maize or wheat:

1. What rice variety was used in the last **kharif**?

Name of the variety: _____

2. How was the previous **rice** crop harvested?

- Manual Combine

If manual harvest,

3a. What portion of residue from your previous **rice** crop was retained in the field?

- Short standing biomass, about 10 cm height
 Tall standing biomass, about 20 cm height

If combine harvest,

3b. How was residue from your previous **rice** crop managed?

- Standing biomass and straw retained in field
 Straw removed and standing biomass retained in field
 Standing biomass and straw removed after harvest

If maize, proceed to SET B2.

If wheat, proceed to SET C2.

SET D2. If the selected crop is rabi maize, wheat, or boro rice:

4. What fertilizer sources in addition to urea will you apply to **rice**?

- DAP (18-46-0) and MOP NPS (20-20-0-13) and MOP
(0-0-60)
 NPK (12-32-16) and MOP NPK (10-26-26) and MOP

5. Has a soil test been obtained for the field in the past 2 years?

- No Yes

If yes,

What was the result for nitrogen (N)?

- Low Medium High

What was the result for phosphorus (P)?

- Low Medium High

What was the result for potassium (K)?

- Low Medium High

What was the result for zinc (Zn)?

- Low Medium
- High Not available
- What was the result for boron (B)?
- Low Medium
- High Not available

For the person operating *Crop Manager for Rice-based Systems*

Did you answer the questions through an interview of a farmer who wants to receive a recommendation?

- Yes
- No, the recommendation will not be given to the farmer

If yes, continue answering the last few pages.

Information about the farmer

Given name: _____

Gender:

- Male Female

If Male,

Father's name: _____

If Female,

Father's name / Husband's name: _____

Age:

- <30
- 31-40
- 41-50
- 51-60
- >60

Indicate which of the following represents you: *(Allow selection of more than one.)*

- I have seen a demonstration on mechanical transplanting.
- I have seen a demonstration on dry seeded rice.
- I have seen a demonstration on zero tillage wheat.
- I have used submergence tolerant rice in previous years.
- I have used drought tolerant rice in previous years.
- None of the above.

Mobile phone number (optional): _____

Email (optional): _____

Information about the person operating *Crop Manager for Rice-based Systems*

Given name: _____

Gender:

Male Female

If Male,

Father's name: _____

If Female,

Father's name / Husband's name: _____

Do you reside in Bihar, India?

Yes No

Profession:

Extension worker or agent

Farmer

Researcher

Fertilizer dealer

NGO

Others, please specify: _____

What is your organizational affiliation?

BAU

CRS

CSISA

ICAR

RAU

Others, please specify: _____

Mobile phone number (optional): _____

E-mail (optional): _____

END