

RC Maniphou-10 (RCM-10) is a medium tall (70-90cm) derivative of cross between Prasad and IR-24. It is tolerant to neck blast and leaf blast. Its average yield is 5 tonnes per hectare. This variety matures in 120 -125 days and is suitable for main *kharif* season (July-September). It has anthocyanin pigmentation at the base, stigma and grain apiculus with well exerted erect flag leaves. It has a high tillering ability and bears about 150-250 spikelets per panicle.

Seed rate and sowing

Use pure, well filled, disease free seeds, cleaned after proper winnowing. For wet fields, soak seeds for 24 to 36 hours and incubate for 24 hours.

Seed rate:

- | | | |
|--------------------------------|---|---------------|
| a) Transplanted crop | - | 60-65 kg/ha |
| b) Broadcast (Puddled field) | - | 65 kg/ha |
| c) Broad cast (dry field) | - | 80-100 kg/ha. |
| d) Direct in rows (wet sowing) | - | 65-70 kg/ha |

Sowing time

1st week of June to 1st week of August.

Planting methods

A. Transplanted crop

1. Nursery raising

- Bed preparation:** About 700-800 m² area of nursery is required for transplanting of one hectare area.
- Nursery bed preparation:** Preparation of nursery bed may be started from May to July depending on availability of water. The nursery bed should be well puddled and levelled to avoid uneven patches of water.
- Manure and fertilizers:** Apply well decomposed FYM/compost @ 1 t/700 m² at final leveling of nursery bed. When seedlings are 4-5 cm tall (7-10 days of sowing), apply N @ 8-10 kg (17-20 kg Urea) and K₂O @ 2 kg (3.5 kg MOP) per 700 m² as top dressing along with 2 kg Carbofuran (3G), 2g Streptocycline and 20g of Carbendazim.

- Irrigation:** Maintain 2-3 cm of water level initially and drain out completely just before sowing. Increase water level to just submergence of soil surface and expose the green aerial sprouts.
- Uprooting:** Uproot seedlings at 25-35 days after sowing depending on availability of water. About 1200 to 1300 bundles of seedlings (40 cm diameter) are sufficient for trans- planting of one hectare area. To avoid transplanting shocks, transplant the seedlings immediately (not later than 2 days) after uprooting.

2. Land preparation of main field

In mono-cropping areas with dry soil, a cross ploughing in summer is desirable. Irrigate the field to 5-7 cm (2-3 inch) depth. Submergence of the soil for 15-20 days before planting is desirable to obtain a weed free plot.

3. Transplanting

Row planting of 2-3 seedlings per hill at 25 x 10 cm using beaded ropes will facilitate in intercultural operations and weeding. This will maintain a. plant population of 5-6 lakhs/ha. In random planting, maintain the spacing of 10-15 cm, but can be reduced 10 7-10cm in older seedlings (above 40 days).

4. Direct Seeded Crop

- Dry seeding:** Dry seeding is good for elevated fields with uncertain water availability. Seeds can be sown during May- June along with pre-monsoon showers. Sowing with row seeder or seed drill is better than broadcasting.
- Wet-seeding:** Faster and better results will be obtained with wet seeding of pre-soaked seeds during June-July in fields which can be kept moist (wet). The excess water should be drained out before seeding

Manuring

Before first ploughing apply 10-15 t of FYM/compost per ha.

- Basal application:** Fertilizers should be applied @ 60-80 kg N, 40 kg P₂O₅ and 40 kg K₂O/ha with half of N, full of P₂O₅ and two-third of K₂O as basal at the time of final levelling.
- Top dressing:** Apply one-fourth N and one-third K₂O at 30-35 days after transplanting (tillering stage) after complete removal of water. The remaining one-fourth N should be applied at 45 days of transplanting (panicle initiation stage). (See Table A & B).

Weeding

- One or two hand weeding, one at 20-30 days after transplanting (30-40 days after sowing in case of direct seeded) and second at pre-booting stage (60-70 days after planting) can be taken up depending on weed intensity.
- In case of row planting, Japanese weeder can be run in between rows.
- More weeding will be required in upland direct seeded crops. Weed infestation can be reduced by continuous submergence of the soil surface to avoid germination by checking exposure of weed seeds to the air.

Irrigation

After 3-4 days of transplanting (35-40 days of sowing), water level should be maintained at 3-4 inch (7-10 cm). However, overflow and leakage of water should be checked specially till 4-5 days after soil application of fertilizers and pesticides.

Plant Protection

To protect the crop from most of the common pests and disease at different stages, two or three prophylactic measures can be adopted. Adoption of plant protection measures at nursery raising (*C of Nursery Raising above*) will not only favour raising of healthy seedlings but also protect the crop from major pests like gall midge and stem borers and diseases like sheath blight.

- Treat the seed with Carbendazim @ 2g/kg of seed.
- After top dressing, one or two prophylactic spray(s) in sunny days with 300-400 ml Phosphamidon (40% EC) or Monocrotophos (36%EC), 300g Carbendazim and 20g Streptocyclie diluted in 400-500 liters of water will protect th'3 crop from most of the pests and diseases. If rain occurs within 3 hours of spraying, the same should be repeated.
- Application of 16-24 kg of Carbofuran (3G)/ha with first top dressing of fertilizers will save the crop from most of the insect pests and nematodes.
- To maintain healthy crop, use of potassic fertilizer (MOP) is a must and imbalance application of fertilizers (Urea/DAP) should be avoided.
- To check the infestation of stem borer and gall midge flooding of the field for about 7 days to 4-5 inch. (10-12 cm) is necessary, while for case worm complete draining out of water for 5/6 days gives good results.

Harvesting

The crop can be harvested when about 80% of the panicles turn hard and golden yellow in colour depending upon the weather conditions. Over maturity should be avoided to reduce shattering loss.

Threshing

Harvested panicles should be stacked in heaps for better grain filling and further drying. These heaps should be turned upside-down for 2/3 days to expose panicles at the bottom. Threshing is easy in *Lungnilaphou* and can be done manually by traditional methods. Grains should be properly winnowed and dried in sun for 5-7 days before bagging and storage.

Yield and grain quality

This variety has an average yield of 5 t/ha and under good management it yields as high as 6-7.5 t/ha. It has a high milling recovery (75%) and has sticky taste after cooking.

Own save seed production

To obtain pure and good quality seeds for own use, the following special cares should be taken in a separate area (1/20th total cropped area).

- Rogue out all the off-types and weeds as and when they are noticed without any delay right from the seedlings. Rogue may differ from main variety in any of the characters like plant height, leaf size, colour, stem/base colour, shape, growth habit, panicle size and shape, colour and/ or size.
- Use proper plant protection measures in this area.
- Use higher proportion of potassic fertilizers and lower of N.
- Rogue out all the off-type panicles just before harvesting, and harvest and thresh it separately. Leave about 1 m (3-4 ft) of crop all around the seed plot.
- Store the seeds separately in bags or bins after proper drying and check for every 2-3 months, more frequently during rainy days.

Recommended NPK in the form of common fertilizers					
A. If DAP fertilizer is used:					
	Fertilizers	Total quantity (Kg/ha)	Basal dose (Kg/ha)	Top dressing (Kg/ha)	
				30-35 *DAT	45*DAT
1	Urea	91-140	31-53	33-43	33-43
2	DAP	87	87	-	-
3	MOP	67	45	22	-
B. If SSP fertilizer is used:					
1	Urea	130-174	65-87	33-43	33-43
2	DAP	250	250	-	-
3	MOP	67	45	22	-

*DAT= Days after Transplanting



PACKAGE OF PRACTICES FOR CULTIVATION OF RICE VARIETY RC MANIPHOU -10 (RCM-10)



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