

RC Maniphou-7 (RCM-9), a gamma irradiated mutant of Punshi, is a high yielding variety released in 2000 for Manipur. It has tolerance to blast. It yield ranges from 5 to 7 t/ha. It is also known by different local synonyms like, *Punshi mutant*, *M-58*, *M-50*, *M-15*, *Charongphou* and *Niphuthokpi*. It is slightly short day and is suitable for main and late seasons. It matures in 135 to 145 days depending on sowing time. It has high tillering ability (15-20/hill) and long panicles with 300-450 spikelets, distinguishing from other cultivars by its well exerted profuse whitish panicles at flowering stage.

A. Seed rate and preparation

Use pure and well filled seeds, selected after proper winnowing. For wet fields, soak the seeds for 24 to 36 hours and incubate for 24 hrs. For wet nursery 65 kg, for dry broadcast 80-100 kg and for direct wet sowing 80-90 kg of seeds are required to cultivate one hectare. Seeds may be sown from June to August.

B. Planting method

Transplanted crop

Transplanting in puddle field is the best method of planting. Being longer duration and mild cold tolerant variety, late transplanting of old seedlings (55days) is also successful.

1. Nursery raising

a) Bed preparation: About 700 m² nursery area is required for one hectare crop area.

b) Nursery preparation: The nursery bed should be well puddle and leveled to avoid uneven water patches.

c) Manure and fertilizer application: Well decomposed FYM or compost @ 1 t/700 m² may be applied before final leveling of nursery beds. Apply 8 to 10 kg of N and 2 kg K₂O/700 m² as top dressing after draining out water when the seedlings are 4-5 cm tall (7-10 days of sowing) along with 2 kg of Carbofuran 3G, 2 g of Streptocycline and 20 g of Carbendazim.

d) Irrigation: Water level should be maintained at 2-3 cm in well-levelled nursery beds and drained out completely before sowing. After 2-3 days of sowing, raise the level

along with the growth of seedlings to just submerge soil surface and expose the green sprouts.

e) Uprooting: The seedlings may be uprooted and transplanted when 30 to 55 days old, depending upon the availability of water in main field. For shorter time in the main field, use of older seedlings at closer spacing is better. Uniformly grown seedlings from 60 kg seed (1200 to 1300 bundles of 40 cm diameter) are sufficient for transplanting 1 ha. To avoid transplanting shocks, transplant the seedlings immediately (within 2 days) after uprooting.

2. Land preparation

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

3. Transplanting

Row planting at 20 cm x 10 cm or 25 cm x 7 cm using beaded rope will save cost of weeding, intercultural operations and increase yield by maintaining a uniform plant population of 5-6 lakh/ha. In random planting maintain the spacing at 10-15 cm and reduce to 7-10 cm older seedlings (above 40 days).

Direct seeded crop

1. Dry seeding

Dry seeding of RC Maniphou 7 is suitable for elevated fields like foothills where water availability is uncertain. Seeds should be sown along with the pre-monsoon showers (May-June). Row sowing with row seeder or seed drill is better than broadcasting.

2. Wet seeding

Quicker and better results will be obtained with wet seeding of pre soaked seeds during June-July in fields which can be kept moist (wet) and excess water can be drained out.

Harrowing, thinning and gap filling

When the plants are 25-35 cm tall (35-40 days old) thinning of thicker spots and weeding are required followed by harrowing with spike toothed harrow. Plant to plant spacing should be maintained at 18 to 15 cm (3 to 4 inches) by transplanting at wider gaps. Use of chemical weedicides may be avoided.

C. Manuring

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

i) Basal application of fertilizer: Fertilizers @ 60-80 kg N, 40 kg P₂O₅ and 40 kg K₂O/ha should be applied with ½ dose of N, full P₂O₅ and 2/3rd of K₂O as basal at the time of final leveling. Use of SSP supplements Sulphur and Calcium nutrients to the plants.

ii) Top dressing: Apply 1/4th N and 1.3rd K₂O at 30-35 days after transplanting and complete removal of water. The remaining 1/4th should be applied at 45-50 days of transplanting.

D. Weeding

One or two weedings, one at 20-30 days after transplanting (50-60 days after sowing in case of direct seeded) and second at pre-booting stage (70-80 days after planting) should be done. More weedings will be required in direct seeded crops. Weed infestation can be reduced by continuous submergence of the soil surface to avoid exposure of weed seeds to the air.

E. Irrigation

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

F. Plant protection

To protect the crop from most of the common pests and diseases at different stages, the following prophylactic measures can be adopted.

1. Nursery stage: Adoption of the following measures at nursery stage will not only favour to raise healthy seedlings

but also protect the crop from major pests like gall midge and stem borers which may infest the transplanted crop.

i) Treat the seed with Mercurial fungicides like Cerasan, Hexasan, thiram or Carbendazim @ 2 g/kg of seed.

ii) Apply 2 kg Cabofuran (3G), 2 g Streptocycline and 20 g Carbendazim (50 WP) with 10 kg urea and 2 kg MOP/700 m² when seedlings are 10 days old after draining out and checking outflow of water.

2. Main crop: One or two prophylactic spray(s) on sunny days just after top dressing with Monocrotophos or Phosphamidon (40% EC) 300-400 ml, Carbendazim 300 g and 200 g Streptocycline diluted in 400-500 liters of water will protect the crop from most of the common pests and diseases. If rain occurs within 3 hrs 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. Toiv) maintained healthy crop, use of potassic fertilizers (MOP) is a must and imbalance application of other fertilizers (Urea/DAP) should be avoided. v)

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, draining out gives good result. Damages by grasshoppers at maturity stages can be minimized by pushing down the plants to bend down the panicles using bamboo poles (*Pounamba*). Always keep the field clean and bunds free from weeds and stubbles. In case of any serious pest and disease incidence consult specialists/experts immediately.

G. Harvesting

The crop can be harvested when 70-80% of the panicles turn hard and golden yellow colour depending upon the weather conditions. Stacking of the harvested panicles for 5-7 days by turning the heaps of panicles can help in better threshing. In row plantings reapers can be used to reduce harvest cost and loss.

H. Threshing

Threshing of RC Maniphou-7 is easy. Manual threshing by the traditional methods can also be done besides using mechanical threshers.

I. Yield and grain quality

Under good management, this variety yields as high as 5.5 to 7.0 t/ha. The medium fine grains are heavy and have high milling recovery (75%) as well as volume expansion after cooking with the locally preferred taste of *Phourel*.

J. Own saved seed production

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

i) Rogue out all the off-types and weeds whenever 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.

ii) Use proper plant protection measures in this area.

iii) Use higher proportion of potassic fertilizers and lower N. Rogue out all the off-type panicles just before harvesting, and harvest and thresh 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 is used

- i) Urea 97-140 kg/ha
- ii) DAP 87 kg/ha
- iii) MOP 67 kg/ha

B. If SSP is used

- i) Urea 130-174 kg/ha
- ii) SSP 250 kg/ha
- iii) MOP 67 kg/ha

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PACKAGE OF PRACTICES FOR RICE VARIETY

RC MANIPHOU-7 (RCM-9)



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