

Production Technology for Rice Variety

CR Dhan 303

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Rice variety CR Dhan 303, evolved at ICAR-National Rice Research Institute (NRRI), Cuttack from the cross between Udaya and IET 16611, was released and notified by Central sub-committee on 'Crop standards, Notification and Release of varieties for Agricultural Crops' in 2014 for irrigated areas of Madhya Pradesh, Uttar Pradesh and Odisha under mid-early duration.

It is suitable for cultivation in irrigated medium lands. It has a semi-dwarf plant type and matures in 125-130 days. Quality wise it has short bold grains with 62.2% head rice recovery (HRR), intermediate alkali spreading value (4.0) and amylose content (24.5%). It has high response to fertilizer application. It yields around 6.0 t/ha and is moderately resistant to leaf blast, neck blast, sheath rot and rice tungro disease.

Package of Practices for high yield

Seed Selection

- Ensure genetic purity with more than 80% germination by obtaining seeds from a reliable source.
- Select well-filled seeds from a healthy crop, free from insect and disease attack.

Land Situation

- CR Dhan 303 is suitable for irrigated medium land situation. It can be grown in both Kharif and Rabi season.

Seed bed Preparation

- Select suitable land near water source in June for kharif and December for rabi crop.
- Plough the soil 3-4 times and level properly. Apply sufficient Farm Yard Manure (FYM) / compost in nursery area.
- Make raised beds of one meter width of any convenient length keeping a gap of 30 cm around the beds. About one tenth of area of the main field is required as the seed bed.
- Sow the sprouted seeds on levelled and drained wet nursery beds with no standing water.

Seed Rate and Seed Treatment

- 30-40 kg seeds per hectare is required for transplanting.
- Treat the seed with Agrosan GN or Ceresan or Bavistin @ 2g/kg seed before sowing.
- In wet seed bed condition, this can be done at the time of seed soaking for sprouting.

Sowing Time

- Kharif/ Wet season:** Sowing by the first week of June in nursery bed.
- Rabi / Dry season:** End of November to mid-December in nursery bed.

Nursery Management

- After 24 hours of seed soaking, drain the water and keep the seeds in gunny bag for germination. Sow the sprouted seeds in nursery bed and keep the beds moist for the first few days.
- Maintain a shallow layer of water after the seedlings are about one inch height. Top dress the nursery bed with required amount of fertilizers 7 days before uprooting.

Main field Preparation

- Irrigated medium land is suitable for growing this variety.
- Prepare the land well using tractor drawn plough in dry condition.
- Apply and incorporate 5t/ha of FYM / compost during the dry ploughing. Puddle the field twice and give a gap of at least 7-8 days between initial and final puddling for better weed control and nutrient availability. Level the field with leveller to maintain uniform water level throughout the plot.

Transplanting and stand establishment

- Transplant with a spacing of 20cm × 15cm by mid-July in Kharif and mid-January in Rabi season.
- 25-30 days old seedlings should be transplanted in puddled field with 2-3 seedlings / hill.
- Gap-filling should be done 7 days after transplanting.

Fertilizer dose with time of application

- Apply NPK @ 80:40:40 kg/ha. Apply one-third of the N, entire amount of P and two-third of K as basal and the remaining N in two equal splits at 3 weeks after transplanting and at panicle initiation stage. Also apply the remaining one-third of K at panicle initiation.

Weed Management

- Spray herbicides Bispyribac sodium @ 320ml/ ha or Azimsulfuron @ 70g/ ha mixing with 500 liters of water 10 days after planting in a thin film of water for effective control of grassy weeds and sedges.

Water Management

- Keep the field under saturated condition for a week after transplanting for crop establishment and growth of roots.
- Maintain a water level of 3-5 cm during the entire crop growth period.
- The field should be drained prior to top dressing of fertilizers and irrigate after 24 hours of application.
- Drain out water 15 days after milk formation stage.

Disease and Pest Management

- Protect the crop from insect pests and diseases with regular monitoring of pest attacks and by following need based pesticide application.
- While spraying pesticide, use 500 liters of water/ ha. Keep the field and field bund clean to minimize disease and pest attack.
- During Rabi season, yellow stem borer is a major pest at initial stage of plant growth. Dip the roots of the seedling in Chloropyriphos solution @ 2 ml/l of water overnight before transplanting. Give soil application of Carbofuran granules @ 30 kg/ha at 30 days after transplanting to reduce incidence of stem borer and other insect pests. Application of Chlorantraniliprole (Ferterra 0.4% GR) @ 10kg/ha at brood emergence is also very effective in controlling YSB.
- Foliar spray of Imidachlopid @ 1 ml/l or Chloropyriphos @ 2 ml/l can be applied for brown plant hopper, WBPH, leaf folder etc.
- If bacterial blight appears, drain the field, apply an extra dose of K fertilizer @ 20 kg/ha and delay top dressing of nitrogen fertilizer. Apply Plantomycin (1g) + Copper Oxychloride (3g) per litre of water for controlling bacterial blight.

Harvesting

- Harvest the crop at 25-30 days after flowering when 80% of the grains in panicles are ripened. Threshing, winnowing and proper drying should be done before storage. Thresh immediately after harvesting and dry up to 12% grain moisture level for storage.



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