



CR Dhan 312



TechNRRRI -186

Production Technology for Rice Variety CR DHAN 312

MK Kar, LK Bose, JN Reddy, SK Pradhan, SK Dash, M Chakraborti, S Sarkar, TP Md. Azharudheen, J Meher, A K Mukherjee, P C Rath, S Lenka, S D Mohapatra, M Jena, G Guru-Pirasanna-Pandi, Sanjoy Saha and N. N. Jambhulkar

Rice variety CR Dhan 312 (IET25997), developed at ICAR-National Rice Research Institute (NRRRI), Cuttack from Male Sterility Facilitated Recurrent Selection Population (MSFRSP) was released and notified by Central Sub-Committee on 'Crop Standards, Notification and Release of Varieties for Agricultural crops' (CSC on CSN&RV) in 2020 for irrigated areas of Maharashtra and Chhattisgarh under medium duration. It is suitable for cultivation in irrigated lands. It has semi-dwarf plant type and matures in 135-140 days. The variety possesses good hulling (%) and milling quality with white kernels, medium slender grains, no grain chalkiness and desirable alkali spreading value. It is moderately resistant to leaf blast, neck blast, rice tungro virus and highly responsive to fertilizer application. This variety gives average yield 6.4 tha^{-1} in irrigated ecology.

PACKAGE OF PRACTICES FOR HIGHER YIELD

SEED SELECTION

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

LAND SITUATION

- CR Dhan312 is suitable for irrigated lands. It can be grown in both *kharif* (wet) and *rabi* (dry) seasons.

SEED BED PREPARATION

- Select suitable land near water source in June for *kharif* and December for *rabi* crop.
- Plough the land 3-4 times and level properly. Apply well decomposed Farm Yard Manure (FYM)/ compost @ 1 tha^{-1} in nursery area.
- Make raised beds of one-meter width of any convenient length keeping a gap of 50 cm around the beds. About one tenth of area of main field is required as the seed bed.
- Sow the sprouted seeds on levelled and well drained wet nursery beds without any 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 Carbendazim @ 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 bed moist for 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 type of land is suitable for growing this variety.
- Prepare the land well using tractor drawn plough

- Apply 5t ha⁻¹ of FYM/compost during the time of first ploughing.
- Puddle the field twice and give a gap of at least 7-8 days between initial and final puddling for better weed management and nutrient availability
- Level the field with leveller to maintain uniform water level throughout the field.

TRANSPLANTING AND STAND ESTABLISHMENT

- Transplant with spacing of 20 cm × 15 cm by mid-July during *kharif* and 15 cm × 15 cm by mid-January during *rabi* season.
- 25-30 days old seedlings should be transplanted in puddled field with 2-3 seedlings/hill. Gap filling should be done within 10-12 days after transplanting (DAT).

FERTILIZER MANAGEMENT

- Apply NPK @ 80:40:40 kg ha⁻¹. Apply 50% of N, entire amount of P and K as basal and the remaining N in two equal splits at 3 weeks after transplanting and at panicle initiation stage.
- In sandy soils 2/3 of K may be applied as basal and rest 1/3 of K at the time of panicle initiation.

WEED MANAGEMENT

- Apply Bensulfuron + Pretilachlor @ 60+600 g/ha (GR Eaze strong @10kg/ha) at 3-7 DAT by mixing with 50 kg sand in saturated soil without standing water for broad spectrum weed control.
- If grasses and sedges are more at early stage of planting, spray Bispyribac sodium @ 30 g/ha (Nominee Gold @ 300ml/ ha) mixing with 300 lt of water /ha at 10-12 DAT.

DISEASE AND PEST MANAGEMENT

Diseases

- If bacterial blight appears, drain the field, apply an extra dose of K fertilizer @ 20 Kg ha⁻¹ and delay the top dressing of nitrogen fertilizer.
- In bacterial blight endemic areas soak the seeds with a solution of plantomycin 10gms or streptocyclin 1.5 gm and copper oxychloride 25gms in 10 liters of water.
- Apply Plantomycin (1g) + Copper Oxychloride (2.5g) per liter water for controlling bacterial blight.

Insect Pests

- Protect the crop from insect pests with regular monitoring of pest attacks and by following need based pesticide application.

- While spraying pesticides, 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 Chlorpyrifos solution @ 2 ml l⁻¹ of water overnight before transplanting.
- Give soil application of chlorantraniliprole granules @ 10 kg ha⁻¹ at 30 days after transplanting to reduce incidence of stem borer and other insect pests.
- Application of chlorantraniliprole (Ferterra 0.4% GR) @ 10 kg/ha at brood emergence is also very effective in controlling YSB.
- When insect crosses economic threshold level apply foliar spray of imidachloprid @ 0.5 ml L⁻¹ or triflymezopyrim @ 0.5 ml L⁻¹ or Chlorpyrifos @ 2ml L⁻¹ for brown plant hopper, WBPH and leaf hoppers management.

HARVESTING

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

Production Technology for Rice Variety CR DHAN 312



NRRI Technology Bulletin-186, April 2022
©All rights reserved, ICAR-NRRI

Editing: N. P. Mandal

