

- Apply Streptocyclin (150 mg) + Copper Oxychloride (1gm) or foliar spray of Plantomycin 1 gm in one liter of water after noticing the disease.

Sheath rot

- Irregular brown to grey lesions appear on the leaf sheath near panicle. Sometimes lesions coalesce to prevent panicle emergence.
- For controlling sheath rot disease, treat with Bavistin 50 WP 2 gm/kg of seeds.
- After raising the crop, minimize the disease by foliar spray of Mancozeb 2.5 gm/ltr or Bavistin 2 gm/ltr or Benomyl 0.5 gm/ltr of water.

Insect management

Stem Borer

- The larvae bore into the leaf sheaths and enters the stem, mostly at the nodal region. Larval feeding causes death of central shoot.
- For controlling the insect attack, spray is not feasible due to deepwater situation. Use of bio-control method is preferable. Release of *Trichogramma japonica*, an egg parasitoid at the rate of 1, 00, 000 numbers/ha is recommended for control of the pest.
- If water level reduces apply granular insecticides Carbofuran 3G at the rate of 33 kg/ha or foliar spray of Carbosulfan at the rate of 2 ml/ltr if moth population is observed, on the basis of economic threshold level (One egg mass/ m² or 5% dead heart).
- Farmers are advised to use approx 500 ltr of spray solution/ha to control the pests and diseases.

Harvesting, drying and storage

Harvest the crop at 25-30 days after flowering. Thresh immediately after harvesting and dry gradually under shed up to 12% moisture content for seed purpose and up to 14% moisture for milling.

Cropping system

After harvest of deepwater rice, grow crops like mungbean, watermelon, sesame and cow pea with residual moisture or under availability of limited irrigations.

CR Dhan 500

CRRRI Technology Bulletin - 91

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CR Dhan 500

A high yielding rice variety for rainfed lowland and waterlogged areas of Odisha & Uttar Pradesh

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Deepwater rice varieties are grown in waterlogged condition where water remains standing with a depth of 75-100 cm for more than a month during growth period. In India, this ecology is around 5% of total rice area and mostly located in the eastern region of the country. The production and productivity from this crippled ecology is very low due to many abiotic and biotic stresses. No suitable variety is available possessing all the desirable traits of deepwater rice for high yield. Traits like tolerance to waterlogging, moderate elongation ability, kneeing ability, tolerance to yellow stem borer and bacterial leaf blight and high yield are the desirable features of a genotype in this handicapped ecology.

Variety CR Dhan 500 was developed from the segregating materials of cross Ravana/Mahsuri. The selection and evaluation work was carried out at the Central Rice Research Institute, Cuttack. It is released by Central Variety Release Committee for deepwater areas of Odisha and Uttar Pradesh. The average yield of the variety in Odisha under deepwater situation is 4.5 t/ha, while it produced 3.1 t/ha in Uttar Pradesh. Maturity duration of the variety is 160-165 days. It possesses tall plant type, moderate kneeing ability and elongation ability suitable for deepwater / rainfed lowland areas of region III of the country. It produces medium slender grains, 220-270 panicles per m², moderate tillering (6-8), more grains/panicle and compact panicle with test weight of 24 g. CR Dhan 500 is moderately resistant to leaf blast, neck blast, brown spot, gall midge biotype 1 & 5, stem borer and whorl maggot. It is resistant to rice thrips and leaf folder.

The variety shows high response to fertilizer application. The variety possesses good hulling and milling characteristics, medium slender grain with white kernel, no grain chalkiness and desirable alkali spreading value.

Features of CR Dhan 500

Features		Features	
Plant height	140-155 cm	Kernel length	5.64 mm
Plant type	Tall	Kernel breadth	2.14 mm
No. of tillers/plant	6-8	L/B ratio	2.63
No. of panicles/ m ²	222	Kernel appearance	White
Flowering duration	135-140 days	Grain type	Medium slender
Panicle type	Compact panicle	Milling recovery	71 %
Panicle exertion	Well exerted	Head - rice recovery	50 %
Awning	Awnless	Alkali value	5.0
Apiculus colour	Straw	Amylose content	25 %
1000 -grain weight	24 g	Aroma	Absent

Package of practices for high yield

Seed selection

- Select genetically pure seed of the variety having more than 80% germination.
- Select the seeds from a healthy crop with well filled grains free from insects and disease attack.

Land preparation

- Plough the land immediately after the harvest of wet season rice, preferably with a mould board plough.
- One or two summer ploughings after pre-monsoon rain during April-May and ploughing before sowing makes the soil to a fine tilth.
- Use rotavator to get a fine tilth for ensuring uniform germination.



- Properly level the land to get high germination, easy to control weeds and proper crop stand.

Sowing time and stand establishment

- The optimum time of sowing is from last week of May to first week of June.
- Sowing should be done after receiving pre-monsoon rain for proper plant stand establishment before accumulation of water in the deep water rice fields.
- Use 100 kg of seeds/ha for broadcasting and 80 kg/ha for line sowing behind plough with line spacing of 20 cm.

Seed treatment

- Treat the seeds with Agrosan GN or Ceresan (dry) or Bavistin at the rate of 2 gm/kg of seed before sowing.

Nutrient management

- Basal application of nitrogen and phosphorous is essential as it helps in quick growth of the plant that helps in elongation if flash flood or inundation occurs.
- Apply N: P: K at the rate of 40:20:20 kg/ha in case of poor soil fertility status (based on soil test results). Apply half N, full P and three fourths K as basal in the furrows in the line sown rice with farm yard manure at the rate of 5 t/ha.
- Apply 10 kg of N as top dressing at beushening in broadcast rice and after weeding on line sown rice and the rest N and K fertilizers at panicle initiation stage, if water recedes.

Inter culture and weeding

- Before accumulation of rain water, the beushening and weeding operations are to be completed which is around 45-60 days after seeding.
- Spray herbicide bispyribac sodium at the rate of 30 g a.i/ha in direct seeded rice for control of major grasses, sedges and broad leaf weeds. This is a post-emergence herbicide and it can be applied after 12 days of sowing.
- It is available in the market in brand names as Nominee Gold, Segard, Cropstar, Longstar, Longcan etc.
- If there will be early flash flood and accumulation of water in the field leading to mortality of plants, gap fill the field by aged seedlings or with clonal tillers removed from the surviving plants.

Disease management

Bacterial leaf blight

- Lesions usually start near the leaf tip or leaf margins or both and extend down the outer edges. Young lesions are pale green to grayish green, later turning yellow to grey with time. In severe cases, lesions may extend the entire leaf length into the leaf sheath. Kresek or seedling blight causes wilting and death of the plant. The disease is aggravated during PI stage under high dose of N fertilizer application.