

## Water management

- Keep the field under saturated condition for a week after transplanting for establishment and growth of roots.
- Maintain a water level of 3-5 cm during the entire crop growth period after that, the field should be drained prior to top dressing and irrigate after 24-36 hours.
- Drain out water after 15 days from milk formation stage.

## Insect and disease control

- This variety is generally free from major pests and diseases. Soak the seedlings with 0.02% Chlorpyrifos overnight before transplanting.
- Use granular systemic insecticide (Carbofuran @ 30 kg/ha) for control if attacked by stem borer and leaf folder.
- If Sheath Blight appears avoid N application near panicle initiation stage spray Sheathmar 3 (Validamycin). Tilt or any other recommended fungicide @ 2.5 ml/ha at the appearance of disease symptoms or spray solution immediately after first top-dressing.
- Use 500 liter of water/ha for spraying pesticide and keep the field bund clean to minimize disease and pest attack.

## Harvesting, drying and milling

- Harvest the crop when 80% of the grains in panicles are ripened.
- Thresh immediately after harvesting and dry gradually under shade up to 12% moisture content for seed purpose and 14% for milling.

## Crop Rotation

- As this variety is harvested early in the wet season, crops such as rabi rice, maize, potato, vegetables and mustard can be grown after rice.
- It fits very well into the intensive three crop rotations like rice-rice-rice, rice-maize-cowpea, rice-potato-sesamum, rice-sunflower-green gram.

# Naveen

## A high-yielding rice variety for irrigated/boro lands Package of Practices

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Rice variety Naveen (CR 749-20-2, IET 14461) evolved at the Central Rice Research Institute, Indian Council of Agricultural Research, Cuttack, from Sattari/Jaya cross was released by the Orissa State Sub Committee on Crop Standards, Notifications and Release of variety in 2005 and notified in 2006. It is suitable for cultivation in favourable rainfed uplands and irrigated lands during kharif and irrigated land during boro/rabi season in Orissa. It has a semi-dwarf plant type (100-110 cm) and matures in 115 days in kharif under direct seeded condition, and in 118 days under transplanted conditions. During rabi, it matures in 120 days under transplanted conditions. It is resistant to blast and stem borer and tolerant to brown spot. The variety Naveen has medium bold grain with 66.5% Head Rice Recovery and Elongation Ratio of 1.76. It yields 4.50 - 5 t/ha during kharif and 5 to 6 t/ha during rabi.

## RECOMMENDED CULTURAL PRACTICES

### Land situation

**Wet/kharif Season:** Favourable rainfed upland, Medium lands and irrigated lands.

**Dry/rabi/ boro/dalua seasons:** Irrigated lands.

### Seedbed preparation

### Dry seed bed

- Select suitable land near water source in middle of June and December for kharif and rabi crops, respectively.

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Naveen: A high-yielding rice variety for irrigated/boro lands from the Central Rice Research Institute, India.



- Plough the soil 3-4 times or use rotavator after two ploughings for fine tillth and level properly. Apply fertilizer at the rate of 100 kg N, 20 kg P<sub>2</sub>O<sub>5</sub> and 20 kg K<sub>2</sub>O with sufficient FYM/compost for 1 ha nursery area.
- Make raised beds of 1 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.

#### Wet Seed bed

- Plough the land 4-5 times at 3-4 days interval for a fine puddle.
- Divide the plot in to sub-plots of 1 m x 10 m size by making drainage channels on all the four sides. Make well-leveled and bounded seed bed for better water retention.
- Apply 5 kg urea, 10 kg SSP with sufficient well-rotted FYM and 5 kg MOP before final levelling.

#### Selection of seed

- Prepare a salt solution of 1.06 specific gravity (60 g common salt in 1 liter water). Place the seed in container of the salt solution.
- Remove the floating seeds. Wash the selected seeds in fresh water. Dry under shade.

#### Seed Rate and treatment

- 30-35 kg seeds/ha for transplanting, and 60 to 75 kg/ha for direct seeding.
- Treat the seed using Agrosan GN or Bavistin @ 2g/kg seed. In the wet seed bed condition this can be done at the time seed soaking.

#### Sowing time

- Kharif/wet season: Direct seeding in uplands by the first fortnight of June.
- For transplanting: Sowing by the first week of June in nursery bed.

- Dry/boro/dalua seasons: End of November to mid-December.

#### Nursery management

- After 24 hours of seed soaking drain the water, and cover the seed in gunny bag for germination.
- Sow the sprouted seeds in the nursery bed and keep the beds moist for first few days.
- Maintain a shallow layer of water after the seedlings are about 1 inch high.
- Apply carbocufuran (Furadan 3G) at 15 days after seed germination.
- Top dress the nursery bed 7 days before uprooting.

#### Land preparation

- Prepare the land well by using tractor drawn plough in dry condition. It can be done during pre-monsoon rain or immediately after the harvest of the second crop. This will reduce pest and weed incidence
- Puddle the field twice give a gap of at least 7-8 days between initial and

final puddling for better weed control and nutrient availability. Level the land with leveler to maintain uniform water level throughout the plot.

#### Seedlings for transplanting

- Kharif/Wet season: 20-25 days old seedlings.
- Rabi/Dry season/boro/dalua: Maximum 30 days old seedlings.

#### Spacing and stand establishment

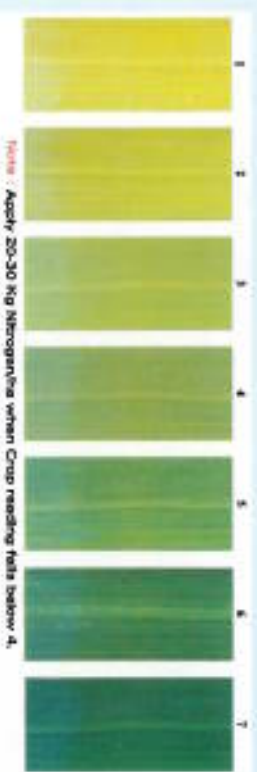
- Transplant by mid July with 15 cm x 15 cm spacing in Kharif and mid January with 15 cm row to row and 10 cm plant to plant distance in rabi.
- 20 to 25 days old seedlings should be transplanted in puddle field with 2-3 seedlings/hill. Gap fill once 7 days after planting

#### Fertilizer dose

- Wet season: 60 : 40 : 40 N, P<sub>2</sub>O<sub>5</sub> and K<sub>2</sub>O kg/ha + 5 t/ha FYM.
- Dry season: 120 : 60 : 60 NPK kg/ha + 5 t/ha FYM.
- Apply zinc sulphate @ 25 kg/ha in zinc deficient areas as basal application.
- Soil test based fertilizer application especially for P and its preferred over blanket dose.

#### Fertilizer application

- Apply half of total N, entire amount of P and three fourths of K as basal after draining out the standing water but before final puddling.
- Top dress the remaining N in two equal splits each at 3 weeks after transplanting and at panicle initiation. Also apply remaining one fourth of K at panicle initiation.
- Use Leaf Colour Chart (LCC) based N application for increased N use efficiency.



#### Weed management

- Spray Pretilachlor 1.6 t/ha or Anilophos (0.5 kg/ha) with 500 liters of water after 4-6 days after planting in a thin film of water for effective control of weeds.
- The product can also be mixed with 50 kg sand or 10 kg urea and broadcasted in the field uniformly. Do not drain out water for 48 hours for best effect.
- Alternatively, hand weed twice at 20 and 40 days after transplanting.