monocrotophos (1.5 litre/ha) or imidachloprid (500 ml/ha). Spraying should be done at basal portion of the plant for effective control.

Harvesting and storage

- Do roughing at 95-100 days after transplanting, specially in seed production fields to avoid seed mixtures
- Drain out the water from the field 15 days before harvesting to avoid lodging
- Harvest the crop at physiological maturing stage i.e., when 80% of the grains in panicles got matured to avoid shattering loss
- After threshing and proper cleaning, dry the grains under sun until 14% moisture content and pack it properly before storing

Cropping system

- After harvesting of paddy, sowing of Sesbania (Dhaincha) seeds during last week of May with 20-25 kg seeds/ha and incorporation of 40-45 days old crop during puddling helps to improve soil fertility.

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LUNA SANKHI (CR Dhan 405)

A high yielding rice variety for coastal saline areas of Odisha for dry season: Package of Practices

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CR Dhan 405 (Luna Sankhi) (IET 21237) was a breeding line of IR72046-B-R-3-3-3-1, cross between IR31142-14-1-1-3-2 / IR71350 from International Rice Research Institute and found promising through All India coordinated rice improvement programme, Participatory Varietal Selection (PVS) and on-farm trials with 3.6-4.9 t/ha paddy yield. CR Dhan 405 has been released by the Odisha State Seed Sub-Committee on crop standards (State Varietal Release Committee) after four years (2008-2011) of testing in the target environment. The average yield over the last four year was recorded 4585 kg/ha in three district of Odisha, viz. Jagatsinghpur, Kendrapara and Puri in dry season. It has shown average 17% yield superiority over the popular check variety, Khandagiri and can be grown under coastal area with medium salinity stress (6-8dSm^{-1}) in the place of Khandagiri. Medium slender grain type, high head rice recovery and good cooking qualities make this variety highly acceptable by the growers and consumers.

Salient features

Duration (seed to seed)	:	110-115 days
Plant height	:	100-105cm
Grain type	:	Medium slender
Grain and cooking quality	:	High head rice recovery (67.9%), Good cooking quality with intermediate alkali spreading value (5), intermediate amylose content (23.8%) and medium gel consistency (36mm).

- Insect-pest and diseases reaction : Tolerant to leaf blast and medium tolerant to heath blight
- Salinity stress : Medium Salinity Tolerant (6-8dSm^{-1}) .

Recommended cultural practices

Land preparation

- An initial ploughing after the harvest of wet season rice should be followed by puddling twice using non-saline water.
- In areas having salinity problem at the beginning, ponding of water before transplanting helps in leaching of soluble salts, but this practice is feasible only when adequate fresh water is available

Seed selection and treatment

- Seed should be properly cleaned, dried and stored in air tight containers
- Before seeding, Seeds should be dipped in 2% salt solution to remove floating materials and partially filled grains and weed seeds
- Selected seed is then washed in fresh water, dried and treated with Bavistin at 2.0 g/ kilogram of seed
- 35-40 kg seeds are required to transplant one hectare of land

Nursery management

- Wet seed bed should be raised in less saline fields as far as possible. An area of 400 square meter is required for transplanting one hectare of land.
- Field should be ploughed twice followed by puddling in the first fortnight of December. Seed bed of about 1.0 meter width with convenient length are then prepared with channel in between two seed beds. Pre-germinated seeds (sprouted) are sown at 30-40 gram/square meters.
- Incorporation of well decomposed farm yard manure (FYM) or *Azollla* compost at 50 quintals/hectare during initial land preparation and application of 100 kg each of nitrogen (N), phosphorus (P_2O_5) and potash (K_2O)/hectare before sowing are recommended for robust and healthy seedlings under stress situation.

Crop establishment

- Early transplanting by the first fortnight of January using 25-30 days old seedlings at 15 cm x 15 cm is recommended. Delayed transplanting significantly reduces crop yield due to increasing salinity and atmospheric temperature during the reproductive stage.
- In general 2-3 seedlings /hill are planted. Gap filling, if required should be done within 7-10 days after transplanting

Nutrient management

- Application of urea at 80 kilogram of nitrogen/hectare in three splits at 40+20+20 kg as basal, active tillering and panicle initiation stage, respectively, is recommended.
- Azolla dual cropping along with application of urea at 30 kilograms of nitrogen/hectare as basal and 20 kilogram of nitrogen at tillering is also as effective as the recommended dose of 80 kg nitrogen as chemical fertilizer. About 10-15 kg phosphorus through single super phosphate should be applied in three equal splits at weekly intervals starting from the day of inoculation.
- Phosphorus and potassium at 40 kg/hectare are recommended. In case of Azolla dual cropping, the phosphorus fertilizer used for Azolla is a part of that recommended. The left over phosphorus along with 2/3rd of potassium should be applied at final puddling. The rest 1/3rd potassium should be given along with nitrogen during final top dressing.

Weed management

- Manual weeding twice at 20-25 and 40-45 days after transplanting controls weed effectively but it needs huge investment in labour cost.
- Spraying of early post-emergent herbicide, pyrazosulfuron ethyl at 200 g /ha during 3-5 days after transplanting controls the weed effectively. The post-emergent herbicide, almix is found effective at 20 g/ha applied 18 -20 days after transplanting when infestation of sedges and broadleaf weeds are quite high as happened during dry season. Spraying should be done in thin film of water after draining out of excess water from crop field. The recommended dose of herbicide should be mixed in 500 litre of water for one hectare of land.

Insect-pests and disease control

- Stem borer is the most important insect-pest. Generally two broods are coming during January-February and March-April. Application of Furadan at 33kg/ha or Cartap at 25 kg/ha twice during 20 and 50 days after transplanting protects the crop. Spraying of monocrotophos (1.5 litre/ha) or imidachloprid (500 ml/ha) after mixing in 500 litre of water is found effective when sprayed after appearance of 1-2 yellow stem borer moths/one eggmass are found in 1.0 square metre area.
- Another important insect during dry season is brown plant hopper generally appears during the month of February-March. It can be controlled by spraying