Recommended cultural practices

Ecology
Coastal saline soils of Goa state (*Khazan* land)

Seed rate and seed treatment
50 kg seeds/ha for transplanting. 60 kg seeds/ha is recommended for broadcasting the germinated seeds directly in the main field.

Treat the seeds using Agroson GN or Bavistin @ 2g/kg seed. In the wet seed bed condition, this can be done at the time of seed soaking.

Sowing and transplanting

Sowing
Third / fourth week of June

Transplanting
When the seedlings are 28-30 days old, transplant during the second fortnight of July with 20 cm x 15 cm spacing in *Kharif* with 2-3 seedlings per/hill. The older seedlings are preferred for initial establishment in the stress-prone fields. If required take up gap-filling after seven to ten days of transplanting.

In the case of direct broadcasting, pre-germinated seeds are to be used for broadcasting during the last week of June till first week of July. Thinning and gap-filling must be carried out after one month of broadcasting.

Nutrient management
Blanket applications of 100:50:50 kg N, P_2O_5, and K_2O/ha are recommended and once in three years soil testing is advisable. The split application of nitrogen is essential to improve nitrogen use efficiency.

Apply half of the total N, the entire amount of P, and three-fourths of K as basal dose after draining out the standing water but before final puddling. Top dress the remaining N in two equal splits each at tillering (3 weeks after transplanting) and at the panicle initiation stage. Also, apply the remaining one-fourth of K at panicle initiation.

Insect and disease control
Leaf folder, Stem borers, and Gundhy bug are the important insect pests in the coastal region. Bacterial leaf blight, Blast, and Sheath blight are important diseases.

Insect Management
- Stem borer: Cartap Hydrocloride 4G @ 4.5kg/acre
- Leaf Folder: Monocrotophos 36 EC @ 400ml/acre
- Gundhi bug: Malathion @ 2ml/litre.

Disease Management
- Bacterial Leaf Blight: Seed treatment with streptocyclin @ 0.5 g/litre.
- Blast: Tricyclazole @ 300-400 g/ha or Isoprothiolane @1 ml/litre.
- Sheath Blight: Hexaconazole 5 EC @ 300 ml/acre or propiconazole 25 EC @ 200 ml/acre.

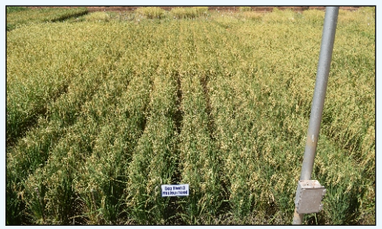
Harvesting, drying, and milling
- Harvesting to be done 130-135 days after sowing (at physiological maturity).
- Thresh immediately after harvesting and dry gradually under shade up to 12% moisture content for seed purposes and 14% for milling.

Wet Nursery bed

Seedlings treatment with fungicide for controlling fungal disease

Wet Nursery seedlings

Planting



Nucleus seed production

Matured rice crop

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A GLIMPSE OF SALINE-TOLERANT RICE VARIETIES DEVELOPED FOR COASTAL SALINE SOILS

ICAR – Central Coastal Agricultural Research Institute
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Old Goa, North Goa - 403402, Goa
(An ISO 9001:2015 Certified Institute)

Goa Dhan 1 (KS 12 / IET 25055 / IC 629221)

Developers : Manohara K. K. and N. P. Singh

Goa Dhan 1, a high-yielding saline-tolerant rice variety developed through pure line selection from the local salinity-tolerant landrace Korgut. It is a semi-tall (123 cm) white kernelled selection having short-bold grains maturing in 130-135 days. The variety is suitable both for raw rice as well as for parboiled rice.

Salient features

Variety Name: Goa Dhan 1
Year of release: 2017 (SVRC release)
Breeding method: Pure line selection
Parentage: Pure line selection from Korgut
Plant type: Semi tall
Plant height: 108-110 cm
Panicle length: 22-25 cm
1000 seed weight: 27.40 g
Kernel shape: Short bold
Duration in days: 130-135
Ecology: Coastal saline soils

Quality parameters

Grain type: Short bold
Head Rice Recovery: 60.1%
Amylose content: Intermediate (22.67%)
GC content: Optimum (22)

Grain yield potential

30-35 q/ha (under saline conditions)
45-50 q/ha (under normal condition)

Goa Dhan 2 (KS 17 / IET 25055 / IC 629221)

Developers : Manohara K. K. and N. P. Singh

Goa Dhan 2, a high-yielding saline-tolerant rice variety developed through pure line selection from the local salinity-tolerant landrace Korgut. It is a tall (147 cm) red kernelled selection having long-bold grains maturing in 130-135 days. The variety is suitable both for raw rice as well as for parboiled rice.

Salient features

Variety Name: Goa Dhan 2
Year of release: 2017 (SVRC release)
Breeding method: Pure line selection
Parentage: Pure line selection from Korgut
Plant type: Tall
Plant height: 140-150 cm
Panicle length: 30-32 cm
1000 seed weight: 34.3 g
Kernal shape: Long bold
Duration: 130-135 days
Ecology: Coastal saline soils

Quality parameters

Grain type: Long bold
Head Rice Recovery: 62.7%
Amylose content: Intermediate (24.12%)
GC content: Optimum (24)

Grain yield potential

28-30 q/ha (under saline conditions)
40-45 q/ha (under normal conditions)

Goa Dhan 3 (GRS 1 / IET 25051 / IC 629223)

Developers : Manohara K. K., R. K. Singh, N. P. Singh and E. B. Chakurkar

Goa Dhan 3, a high-yielding saline-tolerant rice variety developed through pedigree selection from the cross A 69-1/IR 55179-3B-11-3. The line was initially developed at the International Rice Research Institute (IRRI), Philippines. Later it was tested and shortlisted for release after realizing its high yield potential under coastal saline soils in Goa state. It is a white-kernelled semi-tall type variety with long-bold grains.

Salient features

Variety Name: Goa Dhan 3
Year of release: 2019 (SVRC release)
Breeding method: Pedigree selection
Parentage: A 69-1/IR 55179-3B-11-3
Plant type: Semi tall
Plant height: 125-130 cm
Panicle length: 23.14 cm
1000 seed weight: 35.4 g
Kernal shape: Long bold
Duration: 125-130 days
Suitable land type: Coastal saline soils and rainfed shallow lowland

Quality parameters

Grain type: Long bold
Head Rice Recovery: 64.1%
Amylose content: intermediate (23.43%)
GC content: optimum (22)

Grain yield potential

30-35 q/ha (under saline conditions)
55-60 q/ha (under normal conditions)

Goa Dhan 4 (JK 238 / IET 27840 / IC 629224)

Developers : Manohara K. K., N. P. Singh and E. B. Chakurkar

Goa Dhan 4 is a high-yielding saline-tolerant rice variety developed from the cross Jyothi × Korgut. It is a red kernelled long slender grain type variety released for cultivation in the coastal saline soils and rainfed shallow lowland ecology of Goa state. The average yield of the variety is 3.0 - 3.5 t/ha under stress and up to 5.5 t/ha under normal conditions.

Salient features

Variety Name: Goa Dhan 4
Year of release: 2019 (SVRC release)
Breeding method: Pedigree selection
Parentage: Jyothi/Korgut
Plant type: Semi tall
Plant height: 110-115 cm
Panicle length: 27.16 cm
1000 seed weight: 28.66 g
Kernal shape: Long slender
Kernal color: Red
Duration: 130-135 days
Ecology / Suitable land type: Coastal saline soils and rainfed shallow lowland

Quality parameters

Grain type: Long slender
Head Rice Recovery: 62.3%
Amylose content: Intermediate (23.67%)
GC content: Optimum (23)

Grain yield potential

30-35 q/ha (under saline conditions)
50-55 q/ha (under normal conditions)