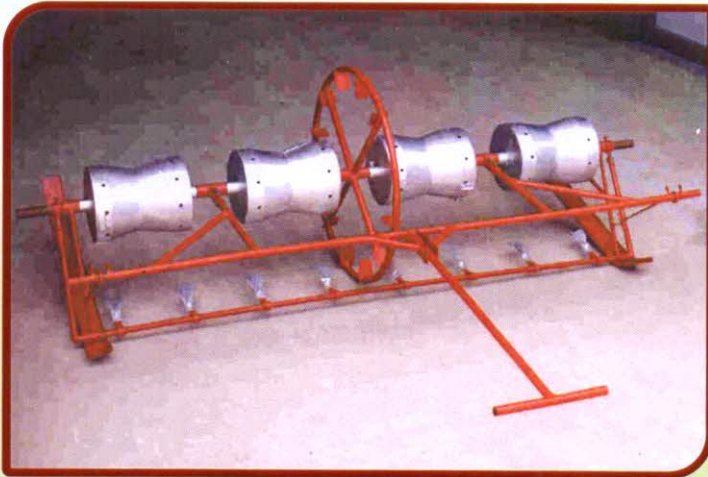




Tamil Nadu Agricultural University

TNAU PADDY DRUM SEEDER

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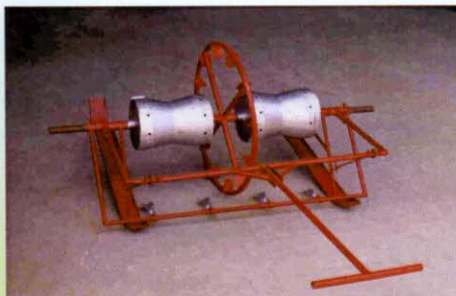
TNAU PADDY DRUM SEEDER

Rice (*Oryza sativa* L.) is the staple food for most of the world's population. Transplanting is the traditional system in rice production which is one of the most time consuming and laborious.

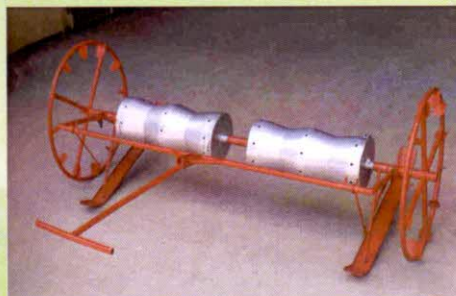
Direct seeding is an age-old practice, which is a labour saving and is being adopted by farmers of South East Asia. Drum seeder is a popular machine for wet seeding because of its low initial investment, ease of operation, less repair and maintenance cost. In all the available models, the dry/wet seeds are drilled continuously at a higher seed rate than the recommended rate without desired seed to seed spacing.

In TNAU Paddy Drum Seeder, the pre germinated seeds are sown with uniform plant to plant spacing and seed distribution which leads to required plant population per unit area throughout the field.

TNAU Paddy Drum Seeder is used for sowing pre germinated paddy seeds directly in wetlands. It is a manually pulled implement with 4, 6 and 8 rows of 20 cm row-to-row spacing.



Four row drum seeder



Six row drum seeder

MAJOR COMPONENTS OF THE DRUM SEEDER

- Hyperboloid shaped seed drum with 200 mm diameter, 9 numbers of seed metering holes of 9 mm diameter. Baffles are provided inside the seed drum between seed holes resulting in uniformity of seed drop throughout the operation. These baffles also ensure hill dropping of seeds. Each seed drum has two rows of planting. Four such drums can be assembled to form 8 rows of seed drum as shown in the picture.
- Wheels are provided at the centre or at both the ends. Floats are provided (if necessary) to provide floating characteristics and for easy pulling.
- Seed drums can be assembled in the main shaft and frame in such a way to sow 4, 6 or 8 rows of pregerminated paddy seeds.



Crop stand after 7 days in improved TNAU drum seeder



Crop stand after 7 days in conventional drum seeder

SPECIFICATIONS

Power Source	: Manually operated
Row to row spacing	: 200 mm
Shape of the seed drum	: Hyperboloid
Number of rows	: 4, 6 and 8 rows
Diameter of the drum	: 200 mm (made out of GI sheet 1.5 mm thickness)
Diameter of the seed metering hole	: 9 mm
Number of seed metering hole	: 9 Nos.
Type of ground wheel	: Lugged wheel
Type of furrow opener	: Wing type
Diameter of the ground wheel	: 600 mm
Operating speed	: 1 Kmph / Walking speed
Level of filling the seed drum	: Two-third of Volume
Seed requirements	: 10 kg per acre (25 kg per hectare)

FIELD PREPARATION

- Puddling should be properly done and leveled.
- Water should be drained out at least 24 hrs. before sowing so as to form hard slurry pan of the puddled soil.
- At the time of sowing, maintain only a paper thin of water in the puddled field.
- Only just sprouted (pregerminated) seeds should be used.
- Water should be flooded to the field once in three days after sowing and drain out immediately. This practice should be continued for 12 days. Based on the height of the seedlings, the field must be irrigated.

OPERATING PROCEDURE

- Assemble the paddy seeder and tighten all the bolts and nuts.
- Fill the drums with pre-germinated seeds. Remember only two-third of the drums are to be filled at a time.
- Close the doors of the drums and lock.
- Pull the seeder manually at a normal walking speed (1 Km/h) in the backward position.
- The wheel impression in the first pass will serve as a marker.
- In the second pass the wheel should pass on the same wheel impression of the previous pass (two wheeled seeder) to maintain the row-to-row spacing of 20 cm.
- Continue the seeding operation.
- Occasionally watch the dropping of the seeds through the holes of the seeder.
- Refill the drums when it reaches one fourth capacity then continue the seeding operation.

IMPORTANT: WEEDING MUST BE DONE ATLEAST 3 TIMES

SALIENT FEATURES

- Uniformity in seed sowing and plant population.
- Reduction in seed rate and thinning cost.
- Crop matures 7-10 days earlier than the transplanted paddy.
- Light in weight and easy to handle.
- An area of 1 hectare can be sown per day (8 hours).

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