

Paddy crop establishment



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Introduction:

Sowing quality seed into a well prepared seedbed will help to produce a fast growing, uniform crop that will have higher yields and will be better able to compete with weeds and pests. While rice can be transplanted or direct seeded the yield potential is the same.

Seeding rates and plant populations:

- One kg of seed is equivalent to 25000-45000 seeds
- Desired number of seedlings that are established range from 25-35/m²
- Seeding rates vary between 40-45 kg/ha.
- For *Sali*(wet) season crops, 200-250 panicles/m² are desired
- For *Boro* and *Ahu* (dry) season, 300-350 panicles/m² are desired

Planting Techniques:

Direct Seeding



Dry broadcasting



Wet broadcasting



Seeding with drill



Drum seeding

Dry broadcast seeding

In many rainfed and deep water ecosystems, dry seed is still manually broadcasted onto the soil surface and then incorporated by ploughing or harrowing while the soil is still dry. Seeding rates are normally very high, 50-60 kg /ha, and yields are generally quite low at 1-2.5 t/ha.

Wet broadcast seeding

In many irrigated and more favorable rainfed areas, pre-germinated seed are broadcasted into 2-5 cm of standing water. Seeding rates vary from 50-75 kg/ha and 1 person can cover 1 ha/day.

Drum seeding

Manually operated drum seeders are used for direct seeding in rows. Dry or pre-germinated seed is planted at 50-75 kg/ha, in 20-25 cm rows.

Machine seeding

In many parts of the world rice is now planted using a seed-drill, especially in rice areas where labor scarcity is emerging as a major constraint. Seeding rate of 40-45 kg /ha is sufficient to give the desired plant stand. Most seed drills can plant at desired row spacing ranging from 20-30 cm. A good plant stand has minimum 35-40 plants established per meter of drill row. Seed drill available can sow the crop with low seed rates.

Transplanting

Manual transplanting

Depending on soil type and climatic conditions, 30 man-days are required to transplant one hectare of rice. Seedlings are manually transplanted 20-25 cm apart, using 2-3 seedlings per hill.

Mechanical transplanting

Machines range in size from a two-row, walk-behind models to six/eight row, ride-on models. Most of mechanical transplanters available in the market are able to place seedlings in rows either 23 cm or 30 cm apart with 14/17/19/21/23 cm plant to plant distance, which can be adjusted as per requirement.



Mechanical transplanting