

Who can be your buyers?

- Farmers opting for mechanical transplanting.
- Service providers providing service of machine but not growing their own nursery.



A business opportunity for women farmers



Raising mat nursery can be a very good business opportunity for women farmers and unemployed youths as well. They can work in groups to raise the community nursery which can then be sold to other farmers/service providers.

The Cereal Systems Initiative for South Asia (CSISA) is a regional initiative to sustainably increase the productivity of cereal-based cropping systems, thus improving food security and farmers' livelihoods in Bangladesh, India and Nepal. CSISA works with public and private partners to support the widespread adoption of resource-conserving and climate-resilient farming technologies and practices. The initiative is led by the International Maize and Wheat Improvement Center (CIMMYT), implemented jointly with the International Food Policy Research Institute (IFPRI) and the International Rice Research Institute (IRRI), and is funded by USAID and the Bill & Melinda Gates Foundation.

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Cereal Systems Initiative for South Asia

BILL & MELINDA
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Grow Mat Nursery... Convert Farming Into Business

In Odisha, mechanical transplanting has attracted the attention of farmers and more and more farmers are shifting from manual to mechanical transplanting. Mat nursery is the most important component for mechanical transplanting. Many farmers and service providers have taken it as a business and are earning additional income by selling mat nursery. This brochure highlights costs, opportunities and key points to remember for the preparation of mat nursery.



What is mat type nursery?

In mat type nursery, rice seedlings are raised on a thin layer of soil (in wet nursery) and farm yard manure (FYM) or compost mixture (in dry nursery) placed on a perforated polythene sheet. The polythene sheet prevents the seedling roots from penetrating the underlying soil and helps in creating a dense mat. This type of nursery is a pre requisite for machine transplanting. The mat can be cut into cakes of desired shapes and sizes to fit into the trays of the transplanter. Seedlings are ready for planting within 14-18 days after seeding (DAS).

Key points to remember

- Start preparation of mat nursery 15-20 days prior to transplanting.
- To raise seedling for one acre, 15-18 kg HYV seed is required.
Dimension of bed : 1.5 m x 20 m
Dimension of mat : 1.2 m x 20 m
Channel surrounding bed : 50 cm wide x 15 cm deep
- Treat the seeds with Bavistin or Vitavax at 2g/kg to control fungal diseases. It can be done by soaking the seeds in water treated with fungicides for 10-12 hours, further incubating for 12-14 hours in a gunny bag kept under shade and then drying in shade for 1-2 hours.
- Use the pre-germinated seeds at right stage (when sprouting starts).



- Apply 100g of DAP for 1 acre of bed after one week of sowing.
- Irrigate the beds by sprinkling water using a watering can for the initial 3-4 days until the seedlings emerge and then irrigate beds by flooding channels between the beds. Stop watering the nursery and drain excess water 12 hours before transplanting.
- Nursery will be ready for transplanting when seedlings are 18-20 cm tall.

Cost incurred in preparing one bed of wet mat nursery

Items	Cost (₹)
Cost of labor (levelling, bed preparation, seeding)	200-300
Cost of plastic sheet	160-170
Cost of HYV seeds@15-18 kg per bed (₹40/kg)	600-720
Irrigation	50-60
Miscellaneous (seed treatment, fertilizer, straw etc)	30-40
Total	815-1020

No. of cakes produced per bed

For VST transplanter*

1 Cake = 60 cm (length) x 22 cm (width) = 1320 cm²

No. of cakes produced/bed = 240000/1320 = 182 cakes

For Kubota transplanter*:

1 Cake = 60 cm (length) x 28 cm (width) = 1680 cm²

No. of cakes produced/bed = 240000/1680 = 143 cakes

Minimum selling price of 1 bed = ₹1300 - ₹1400

Seedlings from one bed can be used to transplant one acre of land.

*Does not imply endorsement of company



Profit per bed = Selling price - cost incurred

=(1300 to 1400) - (815 to 1020) = ₹ 485 to ₹ 570

Cost incurred in preparing one bed of dry mat nursery

Items	Cost (₹)
Cost of labor (levelling, bed preparation, sieving, seeding)	250-350
Cost of plastic sheet	160-170
Cost of HYV seeds@15-18 kg per bed (₹40/kg)	600-720
Irrigation	50-60
Miscellaneous (seed treatment, fertilizer, straw etc)	50-60
Total	885-1090

No. of cakes produced per bed & selling price is same as given in wet mat nursery preparation



Profit per bed = Selling price - cost incurred

=(1300 to 1400) - (885 to 1090) = ₹ 415 to ₹ 500