

System of Rice Intensification

Weed management



- Using rotary weeder / Cono weeder
- Moving the weeder with forward and backward motion to bury the weeds and as well to aerate the soil at 7-10 days interval from 10-15 days after planting on both directions of the rows and column.
- Manual weeding is also essential to remove the weeds closer to rice root zone.



Harvesting

The SRI crop matures 10-15 days earlier. As soon as the panicles mature, the crop should be harvested and dried in the field. When the straw and grain both will dry, it should be threshed using paddy thresher or through trampling by bullocks. The grains are winnowed and again sun dried before storing it in gunny bags.



Published By:

Dr. R. K. Avasthe, Joint Director, ICAR Research Complex for NEH Region, Sikkim Centre, Tadong, Gangtok

For Further Information Contact to :

Dr. S. V. Ngachan, Director
ICAR Research Complex for NEH Region,
Umiam - 793103, Meghalaya



Authors :

R. K. Avasthe, R. Singh, Subhash Babu, Ashok Kumar and H. Kalita



ICAR Research Complex for NEH Region
Sikkim Centre, Tadong, Gangtok-737102



Nursery Management

Preparation of nursery area: Prepare 100 m² nurseries to plant 1 ha. Select a leveled area near the water source. Spread a plastic sheet or used polythene gunny bags on the shallow raised bed to prevent roots growing deep into soil.



Preparation of soil mixture: Four (4) m³ of soil mix is needed for each 100 m² of nursery. Mix 70% soil + 20% well-decomposed bio-gas slurry / FYM and 10% neem cake

Pre-germinating the seeds 2 days before sowing: Soak the seeds for 24 h, drain and incubate the soaked seeds for 24 h, sow when the seeds sprout and radical (seed root) grows to 2-3 mm long.



Sowing: Sow the pre-germinated seeds weighing 90 -100 g per sq. m (100g dry seed may weigh 130g after sprouting) uniformly and cover them with dry soil to a thickness of 5 mm. Sprinkle water immediately using rose can to soak the bed.

Watering: Water the nursery with rose can as and when needed (twice or thrice a day) to keep the soil moist. Protect the nursery from heavy rains for the first 5 days after sowing. At 6 days, maintain thin film of water all around the

seedling mats. Drain the water 2 days before removing the seedling mats for transplanting.

Lifting seedling mats: Seedlings reach sufficient height for planting at 8-14 days. Lift the seedling mats and transport them to main field.



Land preparation

- Land preparation is not different from regular irrigated rice cultivation.
- The main field where rice is to be planted in SRI method should be prepared in the following manner:
- The field should be ploughed 2-3 times in standing water and weeds are incorporated inside the soil to decompose.
- This operation should be carried out during the nursery sowing.
- During puddling process farm yard manure @ 10 tonnes/ha is applied and mixed uniformly in the field with thorough mixing. This dose can be reduced when other sources of nutrition like vermicompost, biofertilizer, organic manure, neem cake etc. are applied.



- After 8-14 days of nursery sowing when the rice seedlings will be 8-14 days old, the excess water from the fields is drained out and transplanting is done.
- Perfect leveling is a pre-requisite for the water management.
- Leveling should be done carefully so that water can be applied very evenly.

Transplanting

- With the help of a marker draw lines both ways at 20x20 cm apart and transplant at the intersection.
- Single seedling of 8-14 days old is transplanted per hill.



- Square planting of 20 x 20 cm is recommended under Sikkim conditions.
- Fill up the gaps between 7th and 10th day after transplanting.
- Transplant within 30 minutes of pulling out of seedlings.
- There may be difficulty in crop establishment in areas with heavy downpour

Water management

No standing water is allowed and excess water is drained from the field before transplanting. Water is allowed subsequently to maintain saturated condition.



Nutrient management



- A typical application of 25 t/ha of FYM from housed organic cattle will contain 150 kg N, 35 kg P and 140 kg K.
- Application of well-decomposed FYM 15 tons/ha is quite beneficial for SRI cultivation.
- Vermicompost @ 2-4 t/ha can also be used in place of FYM or in combination with FYM

Irrigation

- Irrigation only to moist the soil in the early period of 10 days.
- Irrigation to a maximum depth of 2.5 cm after development of hairline cracks in the soil until panicle initiation.
- Increasing irrigation depth to 5.0 cm after PI one day after disappearance of ponded water.

