

- * Use simple mechanical rotary weeder/conoweeder to churn the soil for weed control.
- * Do the first weeding at 12-15 days after transplanting.
- * Subsequent weeding may be required at intervals of 10-12 days till 40 days after transplanting.
- * Working with rotary weeder/ cono-weeder helps in greater aeration, which results in more root growth, reduced weed competition, more oxygen and nitrogen to roots.

Pest and disease management:

- * Wider spacing and use of organic manures results in healthy growth of the plants and incidence of the pest and diseases is naturally low.
- * Adopt preventive and/or need based plant protection measures as and when required by using some organics.

Advantages of SRI method:

- * Higher grain and straw yield.
- * Reduction in the total duration by 7-10 days.
- * Savings in inputs viz., seeds, chemicals. Labour etc.
- * Less water requirement-save water by about 50%.
- * Better grain filling and less chaffy grain.
- * Higher grain weight without change in grain size.
- * Higher head rice recovery.
- * Improvement in soil health through biological activities.

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SYSTEM OF RICE INTENSIFICATION (SRI) FOR RESOURCE CONSERVATION AND HIGHER PRODUCTIVITY



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Introduction : System of Rice Intensification (SRI) is a low-cost, low input form of agriculture, which originated in Madagascar during 1980. It is a “set of principles” rather than a fixed technology or a package of practices. SRI requires less water as normally applied in irrigated rice production and uses compost instead of chemical fertilizers, so it is far more affordable for poor farmers. It is environmentally friendly method of agriculture can be used in Meghalaya for higher productivity of sali and boro rice.

SRI practices : There are 6 important management practices and effective implementation of these practices lead to good harvest of rice.

1. Plant very young seedlings (8-12 days). 2. Plant single seedlings per hill carefully and gently 3. Maintain wide spacing (25 x25 cm) in a square pattern 4. Use mechanical weeding (rotary hoe or cono-weeder) 5. Keep the soil at saturation during vegetative growth phase and shallow water (2-3 cm) at flowering and grain filling stage. 6. Apply organic manure or other organic amendments to improve soil quality.

Selection of suitable land :

- * Land selected for SRI cultivation should be well leveled
- * Fertile soil with high soil organic carbon is most suitable
- * Soil which are affected by salinity/ alkalinity are not suitable for SRI cultivation

Land preparation :

- * Prepare the land carefully by proper ploughing, puddling, leveling and raking as in conventional method.
- * Keep 25-30 cm wide channels at every three (3) meter intervals across the field.
- * Make small plots for easy and efficient water management.

Seed rate : 5-6 kg of pre-soaked sprouted seeds would be needed for transplanting one hectare (7.5 bigha) of land.

Nursery management :

- # Keep the seedbed as close as possible to the main field.
- # Prepare nursery beds of one (1) metre width of convenient length.
- # Place wooden planks or bamboo slits all around the bed for support.
- # Use healthy seeds soak in water for 24 hours and leave it to germination for 24 hours.

- # Level the seedbed and spread a thin layer of well decomposed FYM on the bed.
- # Broadcast the sprouted seeds sparsely and evenly.
- # Apply another layer of FYM to cover the seeds.
- # Mulch with paddy straw to prevent the seeds from exposing to sun, rain, birds etc.

Transplanting :

- * Use young seedlings of 8-12 days old or 2-3 leaves stage.
- * Remove the seedling from the nursery along with seed sac, soil and root intact.
- * Transplant seedling carefully without plunging too deep into the soil.
- * Transplant seedling immediately after gently removing seedlings from the nursery bed.
- * Seedlings should be placed on the ground at the appropriate point on the planting grid made by SRI row marker or rope.
- * Plant the seedling widely with row to row distance and plant to plant distance should be 25 cm x 25 cm. (16 plants/m²).

Nutrient management :

- * Apply N, P₂O₅, K₂O@40:30:20 kg/ha
- * For better soil health apply nitrogen in the form of well decomposed organic manure (FYM, Vermicompost etc) or green manure (Azolla) and inorganic sources in 50: 50 proportions.
- * In highly fertile soils, instead of chemical fertilizers, application of FYM or Compost @10 t/ha is quite sufficient as source of nutrients.

Water management :

- * Donot allows water stagnation under SRI method.
- * Adopt alternate wetting and drying system of water management to keep the soil moist and create aerobic/anaerobic soil conditions for better nutrient mobilization by soil biota.
- * Irrigate the field on the previous evening before the periodic weeding and drain out water in the morning to facilitate rotary weeder or cono-weeder operation.

Weeding and intercultural operation :

- * Herbicides are usually not recommended under SRI method.