

System of Rice Intensification (SRI)

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What is SRI?

- The System of Rice Intensification involves cultivating rice with as much organic manure as possible, starting with young seedlings planted singly at wider spacing in a square pattern; and with intermittent irrigation that keeps the soil moist but not inundated, and frequent inter cultivation with weeder that actively aerates the soil.
- SRI is not a standardised, fixed technological method. It is rather a set of ideas, a methodology for comprehensively managing and conserving resources by changing the way that land, seeds, water, nutrients, and human labour are used to increase productivity from a small but well-tended number of seeds.
- SRI is an amalgamation of multiple beneficial practices.

Do-s and Don't-s in SRI

- **Early Transplanting:** Transplant 8-12 day old seedlings, with only two small leaves, (More tillering potential and root growth potential)
- **Careful Transplanting:** Minimise trauma in transplanting. Remove plant from nursery with the seed, soil and roots carefully and place it in the field without plunging too deep into soil (More tillering potential)
- **Wide Spacing:** plant single seedlings, not in clumps, and in a square pattern 25cm x 25cm apart or wider. Do not plant in rows. (More root growth potential)
- **Weeding and Aeration:** use simple mechanical “rotating hoe” that churns up soil; 2 weddings required, (More root growth, due to reduced weed competition, and

aeration of soil, giving roots more Oxygen and Nitrogen due to increased microbial activity) Each additional wedding after two rounds results in increased productivity up to 2 t/ha / wedding.

- **Water Management:** regular water application to keep soil moist but not saturated, with intermittent dryings, alternating aerobic and anaerobic soil conditions (More root growth because it avoids root degeneration, enables better absorption of nutrients from the soil).
- **Compost / FYM applied** instead of or in addition to chemical fertilizer; 10 tons/ha (More plant growth because of better soil health and structure, and more balanced nutrient supply)

Benefits of SRI

- Higher yields – Both grain and straw
- Reduced duration (by 10 days)
- Lesser chemical inputs
- Less water requirement
- Less chaffy grain %
- Grain weight increased without change in grain size
- Higher head rice recovery
- Withstand cyclonic gales
- Cold tolerance
- Soil health improves through biological activity

Disadvantages SRI

- Higher labour costs in the initial years
- Difficulties in acquiring the necessary skills
- Not suitable when no irrigation source available

The Kadiramangalam System of Rice Intensification

- Developed and practiced in the village by Mr S. Gopal of the Cauvery Delta zone of Tamil Nadu State.
- This system has been developed using SRI ideas and practices, such that it is suited to local conditions in

the Cauvery Delta region.

- **Concern of farmers in SRI method of planting :**
Very young seedlings (when planted as in SRI) will be desiccated by the intense sun and continuous wind.
- **A potential solution to their problem :**
Transplanting very young seedlings in clumps of five for their first two weeks out of the nursery gives them some protection against sun and wind. Re-transplanting them singly after two weeks means that they are then stronger and able to grow vigorously with no mortality.
- **Drawback in the method :** Additional labour requirement for the second transplanting. However, farmers feel that the increased yield will cover the additional labor cost.
- **Outcome :** The yield obtained in this system was on an average 7.5 t/ha