



# Adopt SRI, save resources

**S**RI practice which originated in Madagascar, is spreading far and wide as farmers are finding it beneficial. There are innovations being tried out in different soil conditions too. For example, farmers of Sindanur taluk in Karnataka with black cotton soils sow 5 kgs paddy mixed with 20 kgs of fine sand.

Improved yields in paddy are becoming possible because of the following principles - sowing paddy directly or dibbling 15 day old seedlings provides better tillering with Phyllochrons doubling every 6<sup>th</sup> or 7<sup>th</sup> day (depends on temperature during 13<sup>th</sup> to 80<sup>th</sup> day); by wider spacing between seedlings (30x30 cm), the plant receives enough sunlight resulting in better plant as well as root growth; by maintaining 60% moist condition through wetting and drying (avoiding cracks beyond 2 mm), the plant gets better conditions for growth.

According to my observations, with heavy water stagnation, soil fertility is lost by leaching, earthworm activity and benefits of organic manuring, hampered. Dense planting technique affects root growth seriously. Roots can't grow beyond 10 cm diameter and deeper because of excessive water logging. For instance, SRI system encourages root volume upto 4500 cubic centimeters for each paddy plant whereas conventional paddy cultivation confines it to only 512 cubic centimeters. Also, the plants don't get enough sunlight and air, thereby, prone to fungus growth and insect havoc. In SRI, even rat movement is discouraged due to lack of privacy created by wider spacing.

With regard to SRI paddy cultivation, I suggest the following steps.

Till the land when it is moist upto a depth of 8 to 10 cm and go in for 2<sup>nd</sup> ploughing. Incorporate manures to create fine tilth. Prepare raised bed paddy nurseries, around 8 beds - 5 m long and 1.2 m wide and 4 cm high. Mix a minimum of 20 kgs of totally processed compost per every square metre. Use 2 kgs good seeds (variety of farmer's choice). Soak the seeds in 8 litres of water dissolved with 2 kgs of cooking salt. This will help in separating immature paddy grains. Immediately, wash the paddy seeds with fresh water 2 or 3 times, soak them in water for 20 hours, and treat them with panchagavya or jeevamrutha. Tie up the seed in thick gunny cloth for incubation upto 30-36 hours only. See that the roots are not longer than 2 mm.

Draw 3 cm deep lines in the nursery beds at 5 cm spacing between lines. Sow the sprouted paddy seeds at the rate of 50 grams per square metre, totally, 250 grams per nursery bed. Bury the seeds with soil. Cover the beds with hay or some branches with leaves to protect from harsh weather. Water the nursery, mildly, twice a day. In 15 days from sowing, the seedlings will be ready for transplanting. Meanwhile, mark squares of 30\*30 cms with the

help of a wheeled marker, available from various sources. Avoid pulling the seedlings from the nursery to avoid trauma to the seedlings. Push a thick metal sheet of 4 to 6 mm thick, 40 cm long and 35 cm wide at a depth of 8 cm in the seed bed, so as to collect paddy seedlings and associated soil with roots remaining undisturbed. The sheets are broken into six blocks, individual seedlings are transplanted, carefully, at the markings, walking backward. Provide mild irrigation, the same day or next day. Farmer can provide light irrigation every 5<sup>th</sup> or 6<sup>th</sup> day according to weather and the soil, for next 25 days. By this time weeds grow vigorously, owing to favourable conditions. After 3<sup>rd</sup> or 4<sup>th</sup> day of irrigation, weeder can be used based on weather and soil condition. The weeds are dugout and incorporated into the paddy field. Any weeder which disturbs the soil is suitable and plenty of oxygen gets to the roots. Every weeding operation can increase paddy yield by 1 quintal per acre. In case of traditional system, with water stagnation, roots get degenerated, plant growth hindered and lodging and yield losses occur. I have shared my learnings, almost a decade back, in the year 2001 in local kannada newspaper "Prajavani". It is high time that the administration, agriculture scientists, NGOs and farmers, adopt resource conserving SRI principles in not only paddy but also in other crops too. Expenditure on inputs can be saved while yields are enhanced. I am sure, by encouraging SRI, interstate disputes over scarce water resources, can be minimized.

My humble appeal to all paddy cultivators of Karnataka, Tamil Nadu and Andhra Pradesh is, to practice SRI, live amicably as the children of our mother earth. Importantly, instead of growing paddy, 2 or 3 times in an year, it is better that we include minor millets cultivation in our crop basket, not only to save water but also to improve soil productivity.

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