

Principles of System of Rice Intensification





Facilitate prolonged and profuse tillering of rice plant



⊗ Transplant seedlings older than 3-leaf stage on more than 14 days old

System of Rice Intensification (SRI)



Best Practice



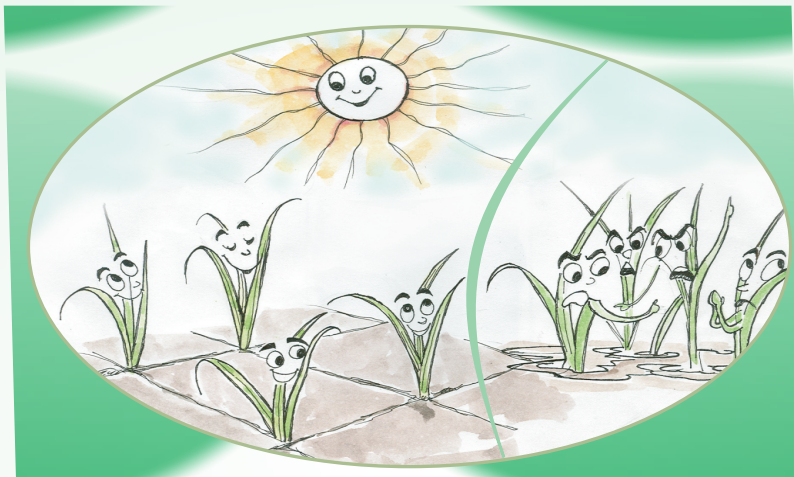
☺ Quick and careful transplanting of young seedlings

Utilize early vigour of young seedlings



☺ Transplant seedlings up to 3-leaf stage and less than 14 days old

System of Rice Intensification (SRI)



Best Practice



- ☺ Wider and regular spacing
- ☺ Single seedling per hill
- ☺ 25 x 25 cm square planting AS STARTING DISTANCE

Increase in plant's efficiency in using sunlight and nutrients



- ☹ Random and close spacing
- ☹ Bunch planting
- ☹ Adopting row spacing only

Reduce competition for light and nutrients

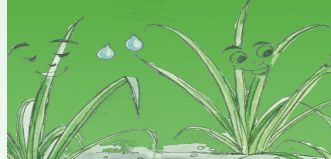
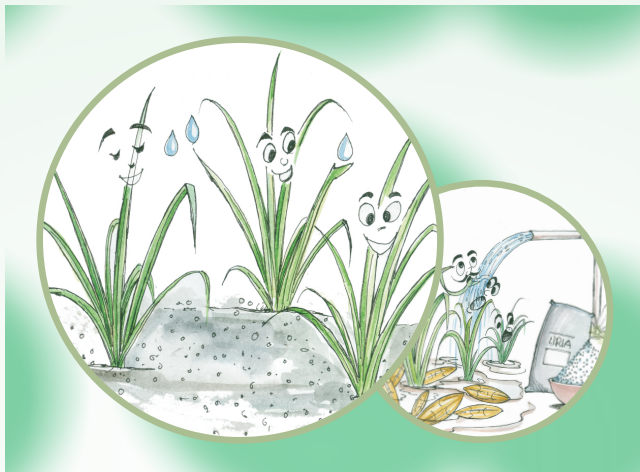


- ☺ Plant at 25 cm x 25 cm spacing or wider if soil is fertile
- ☺ Minimum number of seedlings per hill at wider spacing



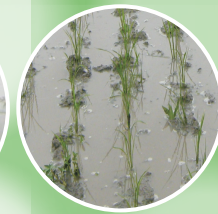
Reduce external inputs (seeds, water, fertilizers, pesticides) with **better and different management**

System of Rice Intensification (SRI)



Realize more fully the biological potential of rice plants by the optimal use of inputs in a sustained way, e.g., avoid suffocation of the roots

Best Practice



- ☺ Single seedling per hill (Low seed rate i.e. 5-7.6 kg/ha and upto 2.5 cm)
- ☺ Unflooded irrigation
- ☺ Less chemical inputs

- ☺ Single seedling per hill (Seed rate 5-7.5 Kg/ha)
- ☺ Alternate wetting and drying with shallow (2.5 cm) irrigation
- ☺ Integrated Nutrient Management
- ☺ No synthetic pesticides

- ☹ More than 2 seedlings per hill (Seed rate higher than 7.5 Kg/ha)
- ☹ Continuous flooding of soil
- ☹ Extensive use of chemical inputs



Keep soil from becoming anoxic (without oxygen)

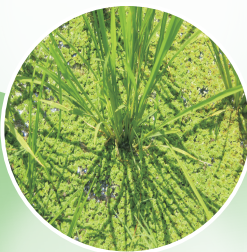
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Prevent negative effects of submergence: facilitate exit of poisonous gases, and promote abundance, diversity and activity of life in the soil



- ☺ Inter-cultivation which aerates soil by use of weeder
- ☺ Incorporate weeds into soil



- ☺ Use weeder at 10-day intervals (2 or 3 times)
- ☺ First weeder use 10-12 days after transplanting



- ☹ Not using weeder that aerates soil
- ☹ Using chemical weedicides

Promote healthy root growth

System of Rice Intensification (SRI)



Avoid inhibition and degradation of root systems as occurs with current rice cultivation

Best Practices



☺ Quick and careful transplanting of young seedlings



☺ Wider spacing & square planting



☺ Single seedling per hill
☺ Alternate wetting & drying
☺ Less chemical inputs



☺ Inter-cultivation with weeder which aerates soil and also has pruning effect



☺ Enhance soil organic matter which feeds soil organisms



- ☺ Realize the biological potential of soil systems
- ☺ Feed the soils - and the soil system will feed the plants



- ☹ Increase soil microbial activity
- ☹ Enhance soil organic matter

Best Practice



- ☹ Usage of only chemical fertilizers



- ☺ Addition of in-situ/ ex-situ organic matter - as much as possible



- ☺ Green manure crops/ green leaves / Azolla / crop residues/ compost / FYM / Bio-fertilisers

SRI is a continuing farmer led innovation. Farmers' own best judgment and experiential learning are the key to SRI practice and promotion. This illustrated booklet on SRI Principles tries to remove the confusion on 'what is SRI' for administrative purposes and clearly identifies the non-desirable practices. While detailing the basic principles, the booklet does away with prescriptive norms; so much essential considering the significance of 'flexibility' in evolving SRI approaches. This re-articulation of the principles of SRI has evolved during the Working Group meeting on SRI organized by WWF-ICRISAT on 2nd February, 2009. Several working group members have contributed to this process. Dr. T.M. Thiagarajan and Dr. Norman Uphoff have provided intensive inputs into refining the principles.



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