

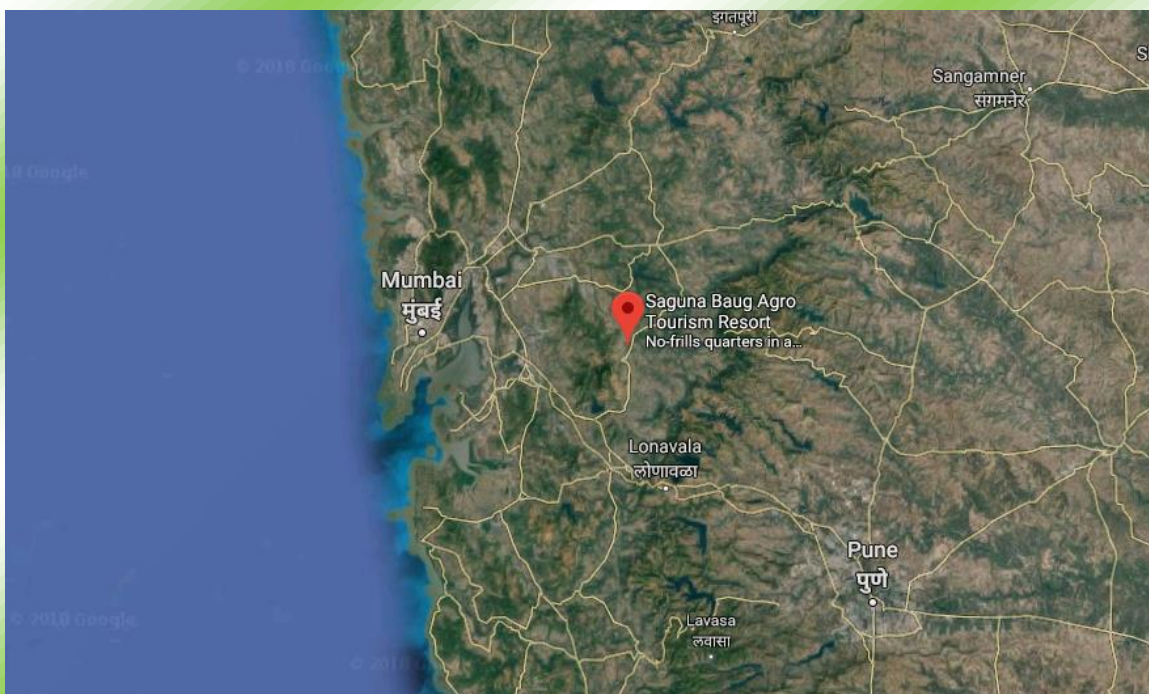
SUCCESS STORY

SAGUNA RICE TECHNIQUE – SRT



Saguna Rice Technique is a unique new method of cultivation of rice and related rotation crops without ploughing, puddling and transplanting (rice) on permanent raised beds. This is a zero till, Conservation Agriculture (CA) type of cultivation.

Origin



Chanrdashekhar H Bhadsavle is the person who is largely responsible for the success story of Saguna baug and development of SRT (Saguna Rice Technique).

SRT is a zero till, Conservation Agriculture (CA) type of cultivation method evolved at Saguna Baug, Neral, Dist. Raigad, Maharashtra.

WHAT IS SO SPECIAL ABOUT SRT?

Ample oxygen supply to root zone

Optimum moisture condition

Reduces treacherous labor by 50%

Reduction in cost of production by 40%

Prevent fertility loss during puddling

Stops emission of greenhouse gases

Not dependent on erratic behavior of rain

IMPORTANT PRINCIPLES

- SRT insists that all roots and small portion of stem should be left in the beds for slow rotting.
- Weeds are to be controlled with weedicides and manual labor. No ploughing, puddling and hoeing is to be done to control weeds.
- This system will get the crop ready for harvesting 8 to 10 days earlier. Take this into consideration while choosing a variety to avoid getting harvesting caught in receding rain.

HOW IS IT DONE – METHOD OF SRT



Till the soil and make the raised beds only once. The same permanent beds will be used again and again to grow various rotation crops after rice in Kharif season.

Till the soil with rotavator or power tiller to make it workable.



Use tractor drawn 'Bed maker' or any other means to open furrows at marked lines and make raised beds.

Draw parallel lines with help of rope and lime or wood ash at 136 cm i.e 4.5 feet apart.



Make depressions / holes with SRT iron forma on the raised beds.

Sow / dibble 2 seeds of either Wal beans (Kokan Wal no. 2) or Gram (Vijay), or bush type Cowpea (Kokan Sadabahar) or Horse Gram (Dapoli no. 1) as per recommended variety and distances.

Apply fungicides and / or beneficial microorganisms to the seed as per the agriculture university guidelines.



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Irrigate plot with best possible available method. 3 to 4 hours later spray the plot with selective weedicide Goal (Oxyfluorfen 23.5% EC) @ 1 ml per litre of water.



When the crop is ready for harvest, cut the plants leaving roots and 2 to 3 inches stem on the beds.

It is very important to leave the roots of previous crop in to soil and spray the plot with Glyphoset (15 lit water + 100 ml Glyphoset + about 200 g of sea salt or 150 g of Urea) 2 to 3 days after harvesting.



Earthworms eat the decaying roots and plants and in turn they make holes which provide the required aeration in soil.



The new crop can then be planted again. Summer moong beans can be planted after the winter crop on the same bed.

IMPACTS



Impact on Farmer

- ✓ Farmers become more confident about their profession.
- ✓ Lost dignity toward farming is regained through various systematic procedures carried out in SRT.
- ✓ Farmers have gained independence from the problem of labor shortage.



Impact on Soil

- ✓ Fragrance of a soil improved in the process of keeping roots beneath the earth surface.
- ✓ Soil becomes more productive.
- ✓ Water holding capacity of soil has been drastically improved.



Impact on Nature

- ✓ Presence of earthworm in farms attracts some of the rare species of birds, so it improves the eco-system.
- ✓ Groundwater level increases.
- ✓ Reduction in Methane Gas generation.
- ✓ It reduces water, Fertilizers & other chemicals requirements.

Comparative analysis of SRT and Conventional Rice Method

Parameter	Conventional Practice	SRT Method
Fertilizers	Use of little or no organic manure or chemical fertilizers	Use of organic manure is ensured
Age of seedlings for ransplanting	20-25 days	Seed sowing is followed
No. of seedlings per hill	4-6	1-2
Weeding	little weeding	use of weedicides
Plant Height	84cm	90cm
No. of tillers per plant	12	17
Grain Production (Q/ha):	14.50	16.75
Hybrid rice yield (Q/ha):	15.00	17.50
Improved rice yield (Q/ha):	14.50	17.75
Local rice yield (Q/ha):	13.05	16.50

*Source: Success story under NFSM Programme on
Saguna Rice Technique – SRT, Year 2015-16*

CONCLUSION

- SRT is a Zero Tillage Conservation Agriculture
- Direct sowing of Paddy with the help of SRT Frame is practice in SRT
- In this it is required to let the crop residue decay in the field thus increasing Organic Carbon in the soil

- For not having to do puddling, transplanting and hand hoeing, save 30% to 40% cost of production & not requiring transplanting saves 50% treacherous labour.
- Loss of valuable silt (about 20%) during puddling can be prevented thus more fertile land can be handed over to next generation.
- Leaves of rice plants on SRT beds seem to be broader and head more upwards to sunlight than their counterparts in conventional method. They are likely to produce more biomass, means higher yield.
- The organic carbon content of soil improved, which resulted in fertility improvement and hence more yield year on year.
- The water holding capacity of soil improves and thus erosion reduces and hence fertile soil is saved.
- The overall environment is improved and the indicators of which like existence of a butterfly nest, arrival of some new bird species, occurrence of earthworms in field for natural tilling etc.



A detailed documentary on Saguna Rice Technique is available on:

<https://www.youtube.com/watch?v=EBKrQV6aPi4>