

July 16, 2003

Mr. Norman Uphoff,

Thank you very much for your letter dated May 12, 2003. It was a great help for me and other farmers in my area, who are adopting "SRI" system since October, 2001. I came to know about SRI from CIIFAD literature and collected information through email. I had seen the experiment undertaken at TS Srinivasan Centre for Rural Development Training in Bethalapally, Hosur, Tamil Nadu. I studied the literature very carefully several times and concluded that it was too difficult to raise, pluck and transplant 10-12-day-old seedlings. We thought of dibbling 36-hour-soaked paddy seeds instead of making a nursery and transplanting. The method I followed with SRI on half an acre was:

1. We received 1 cm rain on 16th June 2002 so on 17th June, I ploughed my field two times to a depth of 5 cms as I have no faith in deep ploughing.
2. We applied about 5 tonnes of very good compost manure and incorporated it into the field with two more similar shallow ploughings. Since we had grown soyabeans before paddy cultivation, the soil was fertile and no other manuring was necessary.
3. Half an acre of land was divided into 6 units according to land gradation ranging from 5-9 cents each. If we were to irrigate these units as a single unit with the little water available from the tube well, it would have needed approximately 4 hours each (6x4 hours = 24 hours). Hence we divided each of these primary units into 5 narrow long secondary units of 2.5 m so that faster watering was possible, i.e. we could irrigate the whole half acre area in about 8 hours instead of 24 hours.
4. Then we marked each unit at 30x30 cms spacing for dibbling the paddy with the help of 6 strings tied on straight bamboo sticks (3 cm thick and 3 m long) by marking the strings with different colours at 30 cm apart. Placing the strings tightly and properly, the bamboo sticks were pegged to the ends, which saved two persons holding them until these markings were made. For marking, we used about 250 kgs of neem cake powder, which was much darker than the soil.
5. 36-hours-soaked paddy seeds (24 hours in water, 12 hours in gunny bag without water) were held in small bowls in the left hand, and 2 seeds were dibbled with the help of the thumb and the index finger of the right hand to a depth of 2 cms exactly at markings located at 30x30 cms. Nine persons were able to finish dibbling half an acre in 6 hours. This soil was dry and in fine tilth. Since the seeds were soaked, care had to be taken to provide irrigation as early as possible within 10 hours of dibbling, failing which there is every possibility of seed mortality. If any farmer is not sure of providing water after sowing it is better for him not to soak the paddy but better to sow just dry seeds, in which case he can delay watering for 3-4 days after sowing.

In the beginning after sowing paddy, there was nothing to do except irrigate every 5 days. We watched too many weeds also growing with the paddy seedlings. On the 28th day of sowing, weeding was done manually with care to protect the tiny paddy seedlings. Again we irrigated on the 30th day since the pushing of the weeder (hoe) is in one direction. It disturbed crust formation and cracking up of the soil, which would damage the root growth and create serious problems in future irrigations, apart from removing weeds also. At this, it was a strange experience for people who were used to transplanting 7-8 seeds @ 55-60 hills per square meter as SRI seedlings were very few in the beginning 40 days. Then it was a pleasant scene to watch each hill doubling every week. We had 94 tillers in most of the hills and had 65 effective panicles and 260 grains in most panicles.

28-day-old plants
PHOTO 1

45-day-old plants
PHOTO 2

At the 82d day we noticed 20% panicle initiation from each hill, and by 100 days, it was 65% panicles, very long and strong. Thereafter, we increased irrigation from 5 days to 2 days. Since the moisture was about 90% in the soil, cracking was not a problem, and since the whole area was shaded even the weed problem was not there. Pushing the weeder among the crop was stopped.

80-day-old plants with 94 tillers from one hill
PHOTO 3

Left: PHOTO 4 Mr. L. Narayanareddy, farmer
Middle: Dr. Dwarakinath, former VC, UAS
Right: Dr. Krishna Gowda, Professor, UAS

6. The crop was harvested on 13th Dec 2002. To our surprise we harvested 10 quintals of paddy against the usual 5 quintals from the same half acre, which had been almost the same for the last 7 years by using conventional methods. These consisted of raising seedlings in the nursery and transplanting 5-week-old transplants and providing 4-5 cms of water constantly for about 120 days after transplanting.

In my opinion the main reasons for the increase (double) in yield was due to:

1. More biological activity
2. Availability of oxygen for the roots all the time.
3. Utilization of all the 13 phyllochrons for tillering
4. Plenty of light and air availability which avoided occurrence of pest damage
5. Volume of root growth.

The only problem we faced with 5-day irrigations was the menace of root grubs which ate away at the paddy roots. At about 50 days after sowing, we dug out 642 white grubs, by which time each of them would have destroyed 15-20 hills of paddy plants. We struggled to fill up the gaps with few tillers dug out from the neighbouring hills. Without this grub damage, we should have had at least another 4 quintals more paddy. Now we know that we can control the grubs by applying 2 kg of *Beauvaria brahamanica* per half an acre of paddy field or by submerging the paddy field with 5 cm of deep water for about 36 hours, during the 24th day after sowing to eradicate them.



