

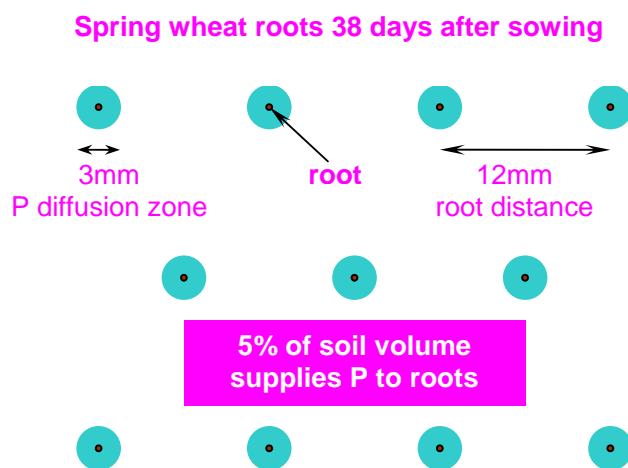
Dear Willem [Stoop],

Many thanks for your interesting mail of 15.12.2004. on a wheat version of SRI.

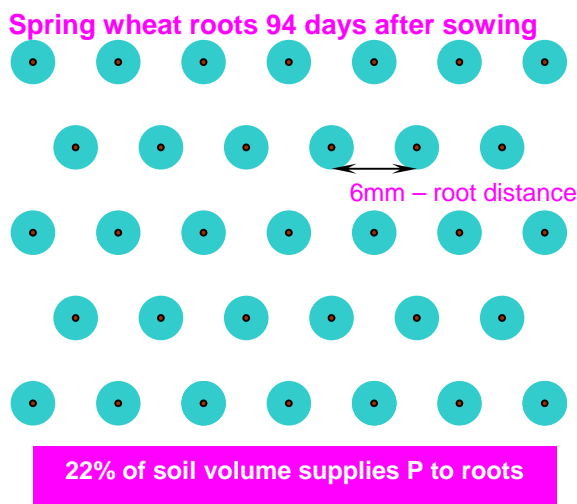
If you give comfort to the wheat plant, it will respond with profuse tillering, heavy shoots, and increased resistance to disease and lodging. Every variety can tiller heavily, but every variety has different comfort conditions.

One of the important comfort factors is phosphorus. As it is an immobile nutrient, the roots have to go to P, while the level of rooting and tillering depends from P availability, a circular relationship.

Below you will find a small scheme of P availability for young and adult wheat plants.



This may help a little to understand the success of SRI with extraordinary low levels of P in the soils as in Madagascar.



If the intensive root development and symbiotic environment of SRI roots makes all the soil's P available for rice plants, the level of P in the soil may be $\frac{1}{4}$ of the recommendations of nowadays 'traditionalists.'

I am growing mainly winter wheat, and in my opinion it possesses even greater potential for tillering than rice, as it is easy to seed it early enough to get 12 or 13 phyllochrons of tiller growth before winter. This year, the earliest winter wheat was sown on 27.08.04., and the best plants have about 50 tillers, indicating that they have completed at least 10 phyllochrons. Next year I will seed my first winter wheat on 15.08.05, and this should enable the plants to complete 12 or 13 phyllochrons of growth before winter.

As far as I know, to get high yields, farmers should maximize the number of grains in each shoot.



The picture above shows a spikelet of wheat. This year I have seen spikelets with twice as many grains per spike. In my opinion, this is the way to high yields.

I wonder how what spikelets look like with SRI rice. In your article written in Agricultural Systems 3 years ago, you suggested there is a positive correlation between shoot number/plant and grain number in average shoot. I wonder if you have some more information about the differences between the traditional and SRI shoots, spikelets, and grain numbers per shoot.

It is very interesting, that yields in SRI practice with NPK fertilization are lower than with relatively small amounts (2-5 T/ha) of compost. Maybe part of the explanation of this phenomenon is a high N from fertilizer mobility in the soil, especially if the soil is intensively irrigated (flooded). In effect, the nitrogen (and to a lower extent, potassium) is leached out of the soil.

In that respect, SRI method looks like a miracle, but is in good correlation with my own observations. It is really strange that SRI practices have met much lower interest among scientist than among simple and poor farmers. In Poland we have a proverb: Need is the mother of invention. SRI solves the problems of poor farmers, not problems of wealthy scientist and their institutions. This attitude is likely to continue until SRI becomes in some way a solution for scientists as well.

Looking forward to hear from you soon.

Best regards,

Tadeusz Niesiobedzki