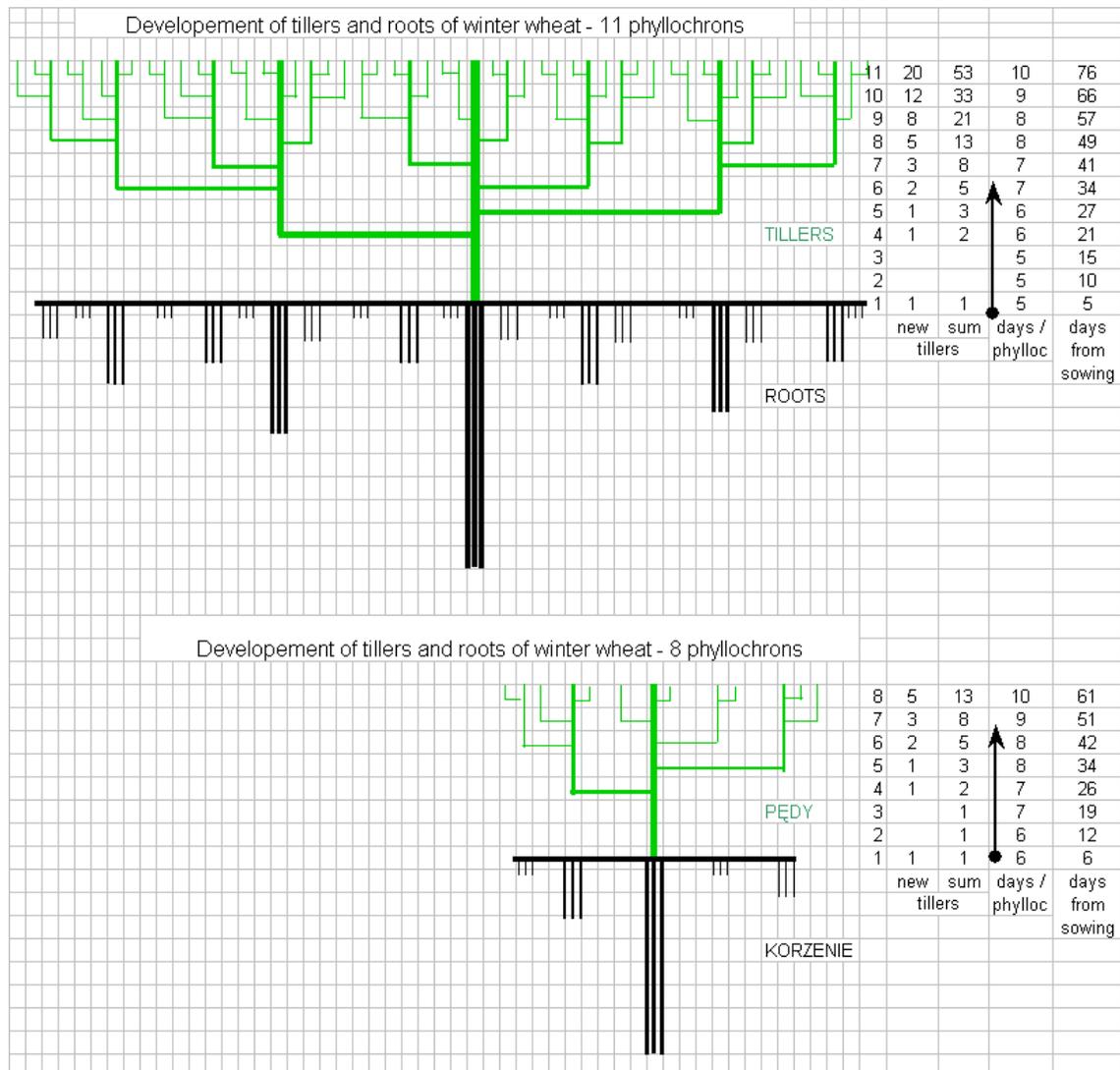


To: Norman Uphoff  
 From: Tadeusz Niesiobędzki  
 13.04.05.

Dear Norman,

Many thanks for very interesting information from Rajendra Uprety in Nepal. The attached report contains information needed to better understand the SRI phenomenon. Especially the data on the dependence of fertile tillers on the total tillers in each plant are important. How many tillers become fertile depends from the ‘comfort’ of the plant and each tiller. Especially important are: water availability, light intensity, temperature, nutrients, health status at the moment of emergence of the last leaf, when the plant decides the degree of reduction in kernel numbers per spikelet. At least that is the situation with winter wheat.



The ‘comfort’ of an individual tiller depends from the amount of light intercepted and the number of adventitious roots. The roots of the main shoot start to grow with the shoot. As far as I know, tillers start to develop three adventitious roots after the second leaf is emerges.

Above you will find a tillering scheme that I modified a little to show also the growth of roots. It represents the tillering of two plants, at 11 and at 8 phyllochrons. We can see that the roots after 11 phyllochrons are much greater and extend deeper. We can also find many young tillers without any roots. Those will probably die, as they are uncompetitive to others. This is in good agreement with practice, where usually only half of tillers become fertile.

It is obvious, that each tiller possesses the potential to become fertile. Whether or not it produces the head depends upon the 'comfort' status during heading and flowering. Usually, you can get more fertile tillers per plant by spreading the shoots apart, to allow them to have more intense light interception, which means bigger production of photosynthates.

During my life career I've been a sailor, student, turkey grower, businessman and farmer, and all these activities have demanded some English from me. But Word software is still the best aid to correct my language skills.

Best regards  
Tadeusz