

## Food for thought

blog by Francis Dodds

### SRI – the answer to sustainable agriculture?

What techniques can we use to achieve ‘climate-smart agriculture’? In my last blog I looked at ‘push-pull’ technology. Another technique attracting increasing attention is the System of Crop Intensification (SCI). This is based on the System of Rice Intensification (SRI) which has been shown to increase crop yields by up to 50% or more and is now being applied to other major crops such as wheat. The importance of SRI in promoting more sustainable agriculture was recently recognised by the award of the international Olam Prize for Innovation in Food Security, given during the third Global Science Conference on Climate Smart Agriculture earlier this year (<http://www.news.cornell.edu/stories/2015/03/system-rice-intensification-earns-food-security-prize>).

So what is SRI? It had an unlikely origin in the work of a Jesuit priest, Father Henri De Laulanié, working in Madagascar in the 1980s. By working with local farmers, he came up with a series of practical steps to improve rice yields. Some of these steps seemed counter intuitive, such as achieving much higher crop yields by significantly reducing planting density and water use. Scientists now realise SRI works because it encourages stronger root systems and canopy development whilst protecting soil health. This reflects our rapidly expanding understanding of soils and their complex interactions with plants.

From its humble origins in Madagascar, SRI has spread to around 60 countries, from irrigated to rain-fed rice systems, and from rice to other crops such as wheat, millet, sugarcane, legumes and vegetables. SRI contributes to climate smart agriculture by reducing inputs such as seed, fertiliser and water, producing plants which are more resistant to biotic and abiotic stresses, conserving soil health and biodiversity as well as reducing emissions ([http://www.business-standard.com/article/news-ians/nepal-farmers-countering-climate-challenges-115100300291\\_1.html](http://www.business-standard.com/article/news-ians/nepal-farmers-countering-climate-challenges-115100300291_1.html)). Burleigh Dodds has commissioned a review of the key research on SRI by its leading exponent, Professor Norman Uphoff of Cornell University, which will be published in 2016.

Francis Dodds is Editorial Director of Burleigh Dodds Science Publishing (BDS). BDS is a new independent publisher helping researchers in agricultural science address how to feed a growing population.

#### Experience



#### Engagement



#### Innovation



### References and further reading

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Uphoff N. (2016), 'Developments in the System of Rice Intensification (SRI)', in T. Sasaki (ed.), *Achieving sustainable cultivation of rice: Volume 2 Cultivation, pest and disease management*, Burleigh Dodds Science Publishing, UK (forthcoming).

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