

Rust resistant varieties of soyabean bred by Seed Co in Zimbabwe

During a visit to the Rattray Arnold Research Station of Seed Co Ltd, Harare we saw the most recent released and pre-release varieties of soyabean. The breeders, Jacob Tichagwa and Hapson Mushoriwa have achieved a degree of rust resistance/tolerance that results in *no yield loss!!*

We understand the key to the success has been to switch from an early approach of breeding for lack of visual symptoms of lesions on the leaves, to selecting through the use of paired plots with or without fungicide. The selection criterion is to look for the least difference in yield between fungicide-treated and untreated plots – i.e. the least yield loss due to rust.

As rust causes damage through inhibiting pod fill and seed formation, at SeedCo they select for rust resistance on the basis of 100 seed weight rather than on yield. This is because 100 seed weight can be measured much more accurately than yield due to inevitable variability in plant growth in field plots. This is an elegant way of speeding up the selection process.

Dr Tichagwa has been collaborating with breeders in Brazil to assist them with selection of rust resistant varieties, and received an award in February 2007 from the Research Council of Zimbabwe for his contribution to agriculture in Zimbabwe.

Ken Giller & Ken Dashiell, N2Africa April 2010



SC Santa – susceptible variety shows large differences in defoliation and yield between unsprayed and sprayed plots



SC Saga – resistant/tolerant variety shows little difference in defoliation between unsprayed and sprayed plots (from left to right: Hapson Mushoriwa, Ken Dashiell and Jacob Tichagwa)



SC Squire – resistant/tolerant variety shows little difference in defoliation between unsprayed and sprayed plots