



Tropentag, September 16-18, 2015, Berlin, Germany

“Management of land use systems for enhanced food security:
conflicts, controversies and resolutions”

New Approaches for Banana *Xanthomonas* Wilt (BXW) Disease Management in South Kivu, DR Congo

BOUDY VAN SCHAGEN¹, JAVIER EKBOIR², GUY BLOMME³, MARIAM BUMBA⁴, ALPHONSE BISUSA⁵

¹*Bioversity International, Burundi*

²*Institutional Learning and Change Initiative (ILAC),*

³*Bioversity International, Ethiopia*

⁴*Bioversity International, DR Congo*

⁵*Diobass, DR Congo*

Abstract

Banana *Xanthomonas* wilt (BXW) is a devastating bacterial disease causing large yield losses in Central and East Africa. The recommended control approach involves the uprooting of diseased ‘mats’, which is highly labour intensive. Disease avoidance is possible with an additional set of practices, including tool disinfection, early male bud removal, stopping all leaf cutting, and barring browsing animals. Single diseased stem removal (SDSR) has been proposed as a reduced labour alternative to complete mat uprooting, and was validated in agronomic trials in South Kivu in 2014. When complemented by the disease avoidance measures, SDSR has been shown to reduce BXW incidence to less than 2% within 3 months.

A transdisciplinary research project was established in South Kivu, DR Congo, in early 2014, with the objective of developing new recommendations for the application of SDSR that take into account the needs, constraints and possibilities of different types of farmers. On farm-research with self-help groups suggested that individual management was possible and collective control was not needed. This was tested and confirmed in the agronomic trial. Despite intensive training and weekly follow-up, it was observed that not all group members applied the disease avoidance steps correctly. There was also significant theft of leaves cut with potentially contaminated tools. Neither was found to have an adverse affect on members’ ability to drive down BXW incidence.

The findings allow the recommendation for controlling BXW in the project area to be greatly simplified: regularly cut down all diseased plants at ground level, and subsequently sterilize the cutting tool. Because individual control is possible, BXW does not need to be controlled by unwilling or absent neighbours. From a scaling perspective, success can be claimed when all farmers are aware of the simplified control package and are in a position to apply it. For each farmer, the importance of banana in their livelihood strategy will determine whether the ‘costs’ of control are justified.

Keywords: Banana disease control, BXW, single diseased stem removal