

P-02

The current status and implications of emerging soybean diseases in Africa
Harun Murithi, International Institute of Tropical Agriculture, University of Tanzania and Wageninhen, Dars es Salaam, Tanzania

Soybean production is increasing in Africa driven by the growing demands for human and livestock consumption. In 2014, more than 2 million tons of soybeans were produced in Africa representing about 68% increase since 2009. Production is threatened by the emergence of soybean rust (SBR) caused by *Phakopsora pachyrhizi*, soybean witches broom (SWB) caused by 16SrII *Candidatus phytoplasma* and *Phoma glycinicola* causing red leaf blotch (RLB). Since its first detection in Uganda in 1996, SBR has rapidly spread across 10 countries in Africa causing losses of between 10-90%. At least 14 different pathotypes of *Phakopsora pachyrhizi* have been identified and some of the *Rpp* genes (*Rpp1*, *Rpp4* and *Rpp5*) are no longer effective. Genetic diversity of isolates from east Africa using NGS is underway. RLB that causes up to 50% yield losses was initially restricted to southern and central Africa, however recent reports show that the disease is spreading to western Africa. Diagnosis of this disease is mainly visual as no molecular diagnostics are available. SWB was detected in Malawi and Mozambique in 2010 and later in Tanzania and Zambia in 2015 causing 100% loss in affected plants. The risk of further disease spread is high as it is vectored by insects. The emergence of these diseases underscores the need for intensified disease surveillance, better understanding of epidemiology and plant-host interactions, and deployment of multiple resistant genes to in order to protect the growing soybean sector in Africa.