

Breeding and diagnosis tackle East African maize scourge

Kenyan ag mag features Foundation's battles with MLND

Maize Lethal Necrosis Disease (MLND) has been plaguing East African growers since 2011. Kenya's *The Sower* magazine recently featured our Foundation's contributions to tackling this scourge.

As *The Sower* reminds readers, in 2012 the disease destroyed 120'000 tonnes of maize in Kenya alone. Many smallholders lost almost their entire harvest. MLND has meanwhile hit crops from Ethiopia to Malawi.



MLND is caused by a combination of viruses. Such diseases are hard to combat, *The Sower* points out. Suitable crop protection products are not available. "Breeding for resistance can offer a solution", the magazine knows. This is, however, much easier said than done.

The Syngenta Foundation (SFSa) is engaged in two programs to tackle MLND. *The Sower* turned first to our partnership with CIMMYT* and the Bill & Melinda Gates Foundation. Together, we have established a screening facility. This tests existing commercial varieties and parent breeding lines for MLND resistance. National and international breeders team up at the center in Naivasha, Kenya.

Activities there are well underway, *The Sower* notes. The magazine adds: "Candidate commercial varieties and parent lines with acceptable tolerance levels have been identified". These are currently proceeding through fast-track registration. SFSa hopes that the first MLND-resistant maize from this program will soon be available to Kenyan smallholders.

MLN center staff recently showed stakeholders from several organizations the progress so far. The visitors saw in the field how different maize varieties, both new and already commercialized, cope with the disease. Several are very susceptible. They include *Duma*, the trial check. Of the numerous hybrids currently in trials, two local ones have so far proved resistant to MLND. Some CIMMYT lines also show good resistance. Our photos show strongly contrasting responses to the disease.



Helping farmers to react faster

Until more resistant varieties become fully available, destroying infected plants or seed remains the best way to at least slow the spread of MLND. The earlier the diagnosis, the better. However, accurate early identification has so far been very difficult. *The Sower* also featured our support of better diagnosis.

The small, innovative Swiss company Bioreba** has developed a new MLND diagnostic test. AgriStrip identifies the disease in plant material fast, precisely and at a lower cost than conventional methods. It can be used directly in the field without laboratory equipment. Regulators and testing organizations can use AgriStrip to replace expensive molecular methods. SFSa has supported the product's development and delivery.

"A key aspect is that AgriStrip helps smallholders", declares George Osure, our Regional Director for East Africa. "The test shows which plants are healthy. If farmers' fields are infected, it enables them to react faster and prevent the disease reaching new areas." *The Sower* quoted George as well as Eliane Schnell, one of our partners at Bioreba.