

# Impact factsheet

# Diagnosics and management of MAIZE LETHAL NECROSIS

Since the Maize Lethal Necrosis (MLN) disease appeared in eastern Africa in 2011, the International Maize and Wheat Improvement Center (CIMMYT) has been leading international multipronged collaborative efforts to control the spread of this devastating plant disease. Initiated in 2015 with support from the United States Agency for International Development (USAID), the MLN Diagnostics and Prevention of Seed Transmission project aimed to prevent

the spread of MLN-causing Maize Chlorotic Mottle Virus (MCMV) from spreading to the MLN-endemic to non-endemic areas in SSA, support the commercial seed sector and phytosanitary systems in the endemic countries, especially in eastern Africa to produce MCMV-free commercial seed, and promote the use of clean hybrid seed by farmers in the region.



NPPOs MLN surveillance training. MLN symptom identification and sampling.



Malawi MLN surveillance team doing on farm immunostrip testing during MLN survey

## To achieve this



Effective MLN surveillance and monitoring systems were established in SSA.



Researchers, seed companies and national plant protection organizations share MLN data/knowledge through the MLN Community of Practice and the MLN information web portal [mln.cimmyt.org](http://mln.cimmyt.org).



Standard operational procedures (SOPs) for MCMV-free seed production were developed and deployed amongst seed companies, contracted out-growers and seed certification agencies in the MLN endemic countries.



IEC materials on MLN farm and seed fields management, MLN free seed production and an MLN Management Handbook were designed, produced and distributed to all stakeholders.



Strengthening regional Phytosanitary systems by implementing harmonized protocols for detecting MLN-causing viruses, especially MCMV, in commercial seed lots and adoption of rapid on-farm MCMV diagnostics using MCMV immuno-strips mainly in seed production fields.

## Outputs



7,500 surveillance points in 8 target countries over four years.



CAPACITY BUILDING

650 officers from NPPOs, NARS etc. in SSA have been trained on MLN surveillance protocols and rapid on-farm MCMV testing.

850 out-growers and seed production quality assurance officers have been trained on MLN disease-free seed production SOPs.



36 seed companies have adopted and effectively used the MLN free seed production protocols.



A community of practice comprising 52 members is in place with 32 active members.

An MLN Web portal in place with all important MLN related information.

## Outcomes



Reduced MLN incidences in Eastern Africa from 45% to 12% in 4 years.

Reduced MCMV positive test results in commercial seed lots over last 4 years.

Southern African countries bordering Eastern Africa still MLN free



CAPACITY BUILDING

Increased capacity in MLN viruses' surveillance and diagnostics



Strengthened phytosanitary systems in the region on regulating movement of seed and grain