

University Of Nairobi Launches ASARECA Funded Project To Fight New Maize Disease In Eastern And Central Africa

The College of Agriculture and Veterinary Sciences (CAVS), has launched a two year Association for strengthening Agricultural Research in Eastern and Central Africa (ASARECA) funded project to fight Maize Lethal Necrosis (MLN) disease, a new threat to maize production in Eastern and Central Africa (ECA) region.

The event took place at Chak Guest House and Conference Centre had the attendance of Prof. Agnes W. Mwang'ombe, Principal, College of Agriculture and Veterinary Sciences (CAVS), Prof. John W. Kimenju, Dean Faculty of Agriculture, Dr. Gicheru, Centre Director Kenya Agriculture and Livestock Research Organization (KALRO), Prof. George Chemining'wa, Chairman, Department of Plant Science and Crop Protection, Dr. Douglas Miano, Principal Investigator of the project, representatives from CABI and Scientists working on the project from UoN and Kenya Agricultural and Livestock Research Organisation (KALRO).

Prof. Mwang'ombe urged the scientists to involve the County governments and Ministry of Agriculture to reach out to more administrative units, utilize the already existing infrastructure at International Maize and Wheat Improvement Center (CIMMYT), and collaborate with KALRO to find ways of fighting the disease and to efficiently and effectively deliver intended project results.

With support from Association for strengthening Agricultural Research in Eastern and Central Africa (ASARECA), scientist from seven countries; Burundi, Ethiopia, Kenya, Rwanda, South Sudan, Tanzania and Uganda, will work jointly to find means of managing the disease. The project brings together eleven institutions led by University of Nairobi and includes the National Agricultural Research Systems from the seven countries and International Wheat and Maize Research Centre (CIMMYT), CABI and East Africa Seed Company. The focus will be on breeding new maize varieties that are tolerant to the disease and will include further research on understanding the viruses causing the disease and coming up with best management options.

The disease, called *Koroito* by the Kalenjin, *Miguna miguna* in Siaya and *Muthelo wa mbemba* by the Kamba and Kirundi communities of Burundi was first reported in Kenya in 2011. It can cause high yield losses in maize ranging from 50 to 90% and can reach 100% where the disease pressure is high. All ECA countries are under MLN threat, with majority of hotspots being located in the humid and sub-humid regions. The disease is suspected to be mainly spread through seed and different insect vectors is caused by dual infection of maize plants by *Maize Chlorotic Mottle Virus* (MCMV) in combination with any of the cereal viruses in the family *Potyviridae* including *Sugarcane Mosaic Virus* (SCMV), *Maize Dwarf Mosaic Virus* (MDMV) or *Wheat Streak Mosaic Virus* (WSMV).

Though the disease has been reported in at least 6 countries in ECA region, the extent of spread is yet to be established. In Uganda, the disease has been reported mainly in East and Central regions occurring mainly in the second season crop. In 2012, 26,000 ha of maize were affected in Kenya, translating into an estimated loss of 1.4 million bags valued at US\$ 52 million. In Tanzania, 40% major maize growing regions were affected and were quarantined, while in Uganda, 8 districts have been severely affected. It has had negative impact on the maize seed sector given that most inbred lines used in hybrid combinations and commercial hybrids are highly susceptible though with some hybrids and inbred lines being tolerant. This has affected seed movement and crop loss with seed demand decreased in the MLN-affected regions in Kenya by approximately 30%.

Scientists will be involved in generating and scaling up of Technologies, Innovations and Management Practices (TIMPs) for MLN management (host resistance, suitable agronomic and cultural practices), strengthening capacity, conducting seed policy analysis and regulatory reviews, economic analysis to provide *ex ante* and base line information, improving knowledge sharing and communication networks, and application of information from MLN diagnostics and pathogen identification.

The team will also develop a critical mass of readily available decision support tools for over 200,000 key stakeholders including farmers, researchers, policy makers and the private sector. This will result in sustainable management of MLN in ECA region for increased productivity and competitiveness of the maize value chain, enhanced food security, improved livelihoods, and reduced poverty by minimizing or eliminating the risks and effects of MLN along the maize value chains. It will also contribute to a significant decrease in maize yield losses due to MLN of up to 70% resulting in increased food and nutrition security and household incomes for 200,000 households dependent on the maize crop in Burundi, Ethiopia, Kenya, Rwanda, South Sudan, Tanzania, and Uganda.

During the two year project period, the team will mainly be involved in screening various *germplasm* for resistance, investigating and up-scaling the technologies, innovations and management practices that could support in eliminating the disease, investigating the disease surveillance, building capacity through student training and communicating findings widely to various stakeholders using different channels.

While closing the Kenya inception meeting, Dr. Miano urged project implementers to adhere to the delivery of intended project results for the benefit of attaining and maintaining food security in the country.



Prof. Agnes Mwang'ombe, Principal (CAVS) officially launches the ASARECA MLN Project in Kenya



Group photo taken during the Association for strengthening Agricultural Research in Eastern and Central Africa (ASARECA) and Maize Lethal Necrosis (MLN) Project launch



Dr Douglas Miano, Project Principle Investigator, giving a presentation on projecting activities during the project launch



Dr Patrick Gicheru, Centre Director KALRO Kabete giving welcoming remarks during the project launch.



Prof. George Chemining'wa, Chairman Department of Plant Science and Crop Protection, chairing the meeting during the project launch

