

Maize lethal necrosis disease (MLND)

The Ministry for Primary Industries (MPI) is responsible for setting the import conditions that must be met when importing seeds and live plant material into New Zealand. The import conditions are put in place to prevent new pests and diseases that may threaten New Zealand's environment, economy, or human health from entering New Zealand.

MPI have become aware that the plant disease Maize lethal necrosis disease is increasing in distribution and is causing severe yield losses in susceptible varieties/cultivars of *Zea mays*. Based on this information, MPI have changed the import conditions for *Zea mays* seeds.

The measures came into effect on 1st December 2014, so all members of the public and commercial importers must make sure that the seeds that they are importing meet the new import conditions.

A full list of the affected species and a summary of the new import conditions are included below.

What is Maize lethal necrosis disease?

Maize lethal necrotic disease was first identified in the USA in 1976 and referred to as corn lethal necrosis disease (CLND). In USA (Kansas) MLND was reported to have caused crop losses in the range of 50 to 90% in the field. During the recent outbreak in Kenya the infections rates and yield losses were also high in some cases as high as 100%. An interaction between two viruses infecting the plant at the same time is necessary for the development of this disease. One of them is *Maize chlorotic mottle virus* – MCMV (*Machlomovirus: Tombusviridae*) and the other one is a member of the genus *Potyvirus*, family *Potyviridae*, *Sugarcane mosaic virus*- SCMV or *Maize dwarf mosaic virus* - MDMV or *Wheat streak mosaic virus* - WSMV. The main natural host is *Zea mays* L. Almost all the temperate climate inbred lines and hybrids have been found to be highly susceptible to this disease. For the virus *Maize chlorotic mottle virus* early symptoms can be difficult to distinguish from nutritional deficiencies or corn genotype-environment interactions. The worldwide distribution of MLND is spreading with seed transmission of SCMV and MCMV on imported seed for sowing being one of the more likely entry pathways. MLND only infects plants, so is not a concern for animal or human health.

What are the changes to the import requirements?

Seed for sowing

The import health standard (IHS) 155.02.05: Importation of Seed for Sowing [PDF] was urgently amended, with full implementation of the measures on Monday 1st December 2014.

The changes apply to seeds of

- *Zea mays var indentata*
- *Z. mays var saccharata*
- *Z. mays var everta*

An updated schedule for 'Zea' was added to the import health standard (IHS) 155.02.05: Importation of Seed for Sowing.

The following measures for the mitigation of entry of MLND are required for imported *Zea* seeds:

- The regulated seed transmitted pest *Sugarcane mosaic virus* (SCMV) was added to the schedule, and specific measures were applied. A phytosanitary certificate with the additional declaration for “*Pest free area*” or testing of the seeds for SCMV are the two options provided by MPI, with the sample size specified (2000 seeds).
- The option of “*Pest free place of production*” for the regulated pest *Maize chlorotic mottle virus* (MCMV) was removed. A phytosanitary certificate with the additional declaration for “*Pest free area*” or testing of the seeds for MCMV are the two options provided by MPI, with the sample size specified (3000 seeds).

Any consignment that arrives in New Zealand, with certification issued on or after 1st December 2014, without the required additional declarations on the phytosanitary certificate for SCMV or any of the other regulated pests will be held, and a sample collected and tested as required by the IHS at the MPI Plant Health & Environment Laboratory.

More information

MPI's Plant Imports team: plantimports@mpi.govt.nz