

# Maize-virus survey of Maize lethal necrosis disease

**Background:** Maize lethal necrosis disease is a viral disease of maize that causes extensive damage and yield loss and was recently been reported in various East African countries and poses a risk to South African maize production. The disease is caused by the co-infection of maize with two viruses: Maize chlorotic mottle virus (which does not occur in SA) and viruses from the genus potyvirus (a number of which do occur in SA). Identifying all the species of potyviruses on South African maize will allow us to begin assessing the risk of this serious and devastating disease becoming an epidemic on maize in SA if maize chlorotic mottle virus enters SA.

## Steps to follow to assist with the survey:

Look for plants with any abnormal, disease-like symptoms e.g. streaks on leaves, yellowing of the veins, stunted plant, mottling/flecking on leaves (see pictures to the right)

Collect 3-5 leaves from each plant with disease symptoms (including at least one young leaf)

If it is possible to get the samples to us within 1 week store the leaf material in plastic ziploc bags and store in the refrigerator (do not freeze)

If it will take longer than 1 week before the sample reaches us, store the plant material in a paper envelope to allow it to dry out

Label all plastic bags or envelopes:

1. Date of collection
2. Location where they were collected (GPS lat./long. co-ordinate if possible)
3. Maize cultivar if known
4. Your name and contact details



Stunted growth with streaked or mottled leaves



Variations of streaks and vein yellowing



Variations of finer streaks and mottling

Contact: Dept. Of Microbiology and Plant Pathology, University of Pretoria, Prof Gerhard Pietersen: [gerhard.pietersen@up.ac.za](mailto:gerhard.pietersen@up.ac.za) or MSc student, Azille Schulze: [azille012@gmail.com](mailto:azille012@gmail.com)