Maize lethal necrosis disease

Recognize the problem
Maize lethal necrosis disease is caused by maize chlorotic mottle virus and sugarcane mosaic virus attacking the plant at the same time.
The disease has a serious effect and causes much damage if the maize becomes infected early in the growing season and availability of water is low and high temperatures occur.
The leaves go yellow then die from the margins and the plant dies prematurely. The husk covering the cob dries up while the rest of the plant remains green. If diseased plants form cobs, only a few grains develop (sometimes none), which are discolored and mouldy and are not good to eat or feed to livestock.

Background
This is a new disease, first seen in Kenya in September 2011. By September 2012 the disease affected 77,000 hectares of maize fields in Bomet, Kericho, Embu, Meru, Kiambu, Nyeri, Nyamira, Homa Bay, West Pokot, Kisii and Teso counties. The disease is moved by several insects such as maize thrips and leafhoppers. Seeds may be infected and the disease remains in crop leftover. All available maize varieties are attacked by the disease. Plants that begin healthy and have good nutrition are better able to resist disease attack. Breeding for resistant varieties, identification of alternative hosts and interaction with other pathogen studies are being carried out for long term management of the disease.

Management
• The Government has banned the movement of green maize from infected regions to reduce spread of the disease.
• In regions with the disease farmers should consider practicing strict crop rotation with non-cereal crops and diversification on crop varieties planted on the farm to minimize disease build-up.
• Use certified seeds and plant early with manure and fertilizers.
• Look for plants with typical symptoms and remove quickly to limit disease spread.
• Control maize thrips and leaf hoppers by spraying insecticides which are absorbed into the plant like Confidor SL (active ingredient imidacloprid), two weeks after germination, at rate of 6-10 ml/20 litre knapsack.
• Currently there are no maize varieties resistant to lethal necrosis disease.

When using a pesticide, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, and pre-harvest interval.

Scientific name(s) > Maize chlorotic mottle virus and sugarcane mosaic virus

The recommendations in this factsheet are relevant to: Kenya