

Early maize planting to reduce maize streak

Recognize the problem

Maize streak virus (also called MSV) is a disease of maize. It also affects other cereals such as sorghum, sugarcane and some wild grasses. The virus causes thin yellow chlorosis streaks that follow the leaf veins with whitish-green long spots and streaks over entire leaves. Young plants are dwarfed. Plants will not die, but yield is low.

Note the difference to grey angular leaf spot disease, which in its early stage has yellow stripes that are thin, short, angular, and scattered over the leaf, whereas MSV has thin and long stripes covering entire leaves. Later angular leaf spot cause big grey patches.

Note the difference to maize lethal necrotic disease which has thick AND thin streaks often starting along one side of a leaf and only later covering entire leaves like MSV. Unlike MSV, lethal necrotic disease leads to necrotic dead leaves and plants.

Whitish chlorosis streaks by maize streak virus disease on maize leaf. (Photo by Manitoba University)



Background

Maize streak virus is severe in areas with alternating dry spells and wet seasons. It is most commonly observed in late planted maize and later in the cropping season. The virus is transmitted by insect vectors that are plant hoppers and leafhoppers. The virus and the vector stay on grasses during off-season. From there, the virus is obtained to infect maize. Early planting gives an advantage to maize. It allows the plants to grow before the population of leafhoppers increases. This makes early planting of maize ideal in controlling maize streak virus. Streak virus infection at late grow stages of maize is less of a problem than early infections.

1 cm planthopper transmitting the virus from plant to plant. (Photo by A.A. Seif, icipe)



Management

- Plant maize early in the season at the onset of the rain, usually early December in Zambia.
- Early maize hybrids help escape the drought, escape plant stress, and therefore make the plant less susceptible to plant hoppers. But such hybrids often do not yield well in many regions of Zambia.
- Plant maize in a grass-free fields. This removes a reservoir for the virus from which the planthoppers/leafhoppers can get the virus.
- Avoid planting maize after a period of drought, as this encourages the population build-up of the planthoppers/leafhoppers
- Do not plant late maize next to an already existing field of maize infected with maize streak virus.

Scientific name(s) > **Maize streak virus MSV, syn. cereal African streak virus, maize mottle virus**

The recommendations in this factsheet are relevant to: Zambia



Authors: Brian Chisunka
Seed Control and Certification Institute (SCCI)
tel: +260 975016988 email: chisunka2008@yahoo.com

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