




Maize streak virus in maize

Maize streak virus (MSV), syn. cereal African streak virus, maize mottle virus; Insect vector: *Cicadulina* spp.

	Prevention	Monitoring	Direct Control	Direct Control	Restrictions
 <p>Longish thin spots and lines due to maize streak virus (Photo by Thomson J.A)</p>  <p>Light longish spots and lines due to streak virus (Photo by S. Toepfer)</p>  <p>1 cm planthopper transmitting the virus from plant to plant (Photo by: A.A. Seif, icipe)</p>	<ul style="list-style-type: none"> Plant early before 15th December. This is to avoid the main period of leaf / plant hoppers carrying the virus. Use maize resistant to MSV such as PHB19G30, DKC9087. Remove grassy weeds in the neighbouring fields to avoid the leafhoppers / plant hoppers having alternative host plants. Apply fertilizer on time, basal dressing at planting and top dressing on knee high maize. Maize will grow fast. Mix-crop maize with non-grassy/ non-cereal crops like cowpea and pumpkin to reduce leaf / plant hoppers. Leave barriers of bare ground or edges of non-grass vegetation between early planted and late planted maize to prevent leafhoppers crossing from late planted to the early planted maize. Rotate maize with legumes such as soyabeans and beans. 	<ul style="list-style-type: none"> The virus is prevalent in high rainfall areas and found from seedling to vegetative stage Regularly visit the farm to check presence/absence of leaf hoppers / plant hoppers as they carry the MSV. Look for hoppers under leaves in the morning once per week from crop emergence onwards. Threshold of 3 to 10 leaf hoppers on 100 plants is an indicator that the disease is likely to spread if existing in the area. If MSV is not in the area, no action is needed against hoppers. Virus symptoms appear 2 weeks after infection Look for white streaks that start as small longish spots parallel along veins of leaves. Look for slightly stunted plants when severely infected, with whitish streaks covering leaves, and small size cobs. When you find first MSV symptoms in your or neighbouring fields, then action is considered Note the difference to maize lethal necrosis disease (MLND) which has thicker yellow stripes along leaves than MSV and can cause necrosis. MSV usually does not lead to necrotic dead leaves. If yellow-grey angular spots or necrotic grey windows appear on leaves, then this is angular leaf spot disease, not a virus. 	<ul style="list-style-type: none"> Remove infected plants at early stage 	<ul style="list-style-type: none"> No chemicals exist against plant viruses. It is not economic and not very effective to spray insecticides for the control of the virus-carrying hoppers, because they are mobile and can immigrate from other areas/ fields In high value baby or sweet corn, chemical intervention against hoppers in isolated fields may make sense When using a pesticide or botanical, always wear protective clothing and follow the instructions on the product label, such as dosage, timing of application, pre-harvest interval, max number of sprays, restricted re-entry interval. Do not empty into drains and water sources. WHO toxicity class II pesticides might not be allowed in local IPM schemes. Use alpha-cypermethrin – based products. Pyrethroid group of pesticide. 	<ul style="list-style-type: none"> WHO class II (moderately acute hazardous); r.e.i. 1 to 3 d, max 2 sprays per season. Do not spray near water sources. Risk to bees, toxic to aquatic organisms. Pyrethroids do not work well above 25 C.

Zambia

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