



ATTENTION!

# MAIZE LETHAL NECROSIS DISEASE (MLND)

## INTRODUCTION

Maize Lethal Necrosis Disease (MLND) is a viral disease resulting from a co-infection of two viruses namely Maize Chlorotic Mottle Virus (MCMV) and Sugarcane Mosaic Virus (SCMV). It affects maize causing up to 100% yield loss.

### MLND symptoms

- **Leaves:** Fine chlorotic specks starting from the base of young leaves in the whorl; specks merge to produce chlorotic stripes leading to premature drying/ burnt appearance and entire leaf death.



- **Stem:** Short internodes, stunted growth, drying leaf sheaths.



- **Tassels:** Deformed male flowers and infertile tassels.



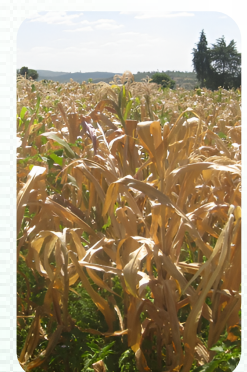
- **Ears:** Malformed ears, premature drying, partially filled cobs, moldy rotting ears.



- **Vectors:** Aphids and Thrips



- Early and late MLND symptoms



## Management

- **Seed:** Use certified seeds; avoid recycling of seed.
- **Varieties:** Use recommended MLND tolerant varieties, suitable for your area.
- **Farm hygiene:** Remove and destroy all volunteer maize, maize debris and alternative host plants, use clean farm tools and equipment.
- **Agronomic practices:** Avoid relay planting of maize, timely planting, rogue out diseased plants, crop rotation with non MLND host crops (sweet potato, Irish potato, sunflower, pyrethrum, etc), use manure and recommended fertilizers.
- **Pest Management:** Scout regularly for insect damage and diseased plants, use recommended pesticides to control insect vectors.
- **Postharvest management:** Timely harvest, sort, dry well and ensure proper storage.
- **Closed Season:** Observe a closed maize season of at least 3 months.

## Monitoring

### For effective management and timely control;

- Regularly scout maize fields checking for MLND infected plants and insect vectors starting two weeks after crop emergence, moving as shown in the pattern.

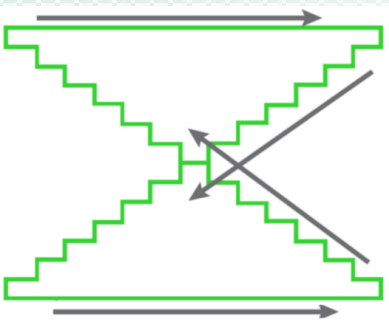


Illustration: Monitoring Pattern

## Currently Available MLND Tolerant Varieties

**AEZ 1 (900-1500 masl), AEZ 2(1200-1800 masl), AEZ 3 (1500-2000 masl)**

### Western Seed Company

1. AEZ-1-WH301, WH101(sweet and heavy grain weight)
2. AEZ-2- WH301, WH101
3. AEZ-3- WH101

### Agriseedco Seed Company

1. AEZ-1-SC439, SC441, SC447
2. AEZ-2- SC439, SC441, SC447

### Agriscope Africa Ltds

1. AEZ-1- MH501(Taji)
2. AEZ-2- MH501(Taji)

### Bayer EA Ltd

1. AEZ-1- DK777
2. AEZ-2-DK777



MLN Non-resistant maize variety



MLN resistant maize variety

## Chemical Control

- **Apply approved pesticides to control insect vectors:** THUNDER OD 145

## Suitable Crops or Rotating with Maize

- **Root crops:** Irish potato, sweet potato
- **Legumes:** Beans, chickpea, pigeon peas
- **Oil crops:** Canola, Sunflower
- **Vegetables:** Indigeneous Cabbage, Kales
- **Others:** Pyrethrum, Avacado



UNIVERSITY OF NAIROBI

For more information:

Plant Protection and Food Safety Directorate, KALRO Kabete, Waiyaki way, P.O Box 17433-00800, Westlands, Nairobi  
Email: plantprotection@kilimo.go.ke