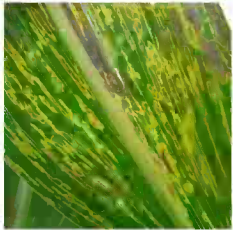


## Leaf diseases

### BACTERIAL LEAF STREAK



**Causal organism:**  
**Symptoms:**

**Bacteria:** *Xanthomonas campestris* pv. *zeae*

Lesions begin at edges or midrib of leaves; lesions enlarge becoming elongate, irregular spots or streaks which are brown surrounded by a yellow border; lesions run parallel to and are confined by the leaf veins.

**Favourable weather:**

Within fields, it is likely that *X. campestris* pv. *zeae* is most effectively disseminated by wind-driven rain or irrigation, but the pathogen may also be disseminated by aphids, wind and plant-to-plant contact.

### COMMON RUST



**Causal organism:**  
**Symptoms:**

**Fungus:** *Puccinia sorghi*

Pustules form on both upper and lower sides of leaf; brownish-red oblong pustules; rust band formed close to the base of leaf.

**Favourable weather:**

Moderate temperatures (16-25°C) and high relative humidity (>95%), associated with mist or dew for prolonged periods, favour rust development and spread.

### DIPLODIA LEAF STREAK



**Causal organism:**  
**Symptoms:**

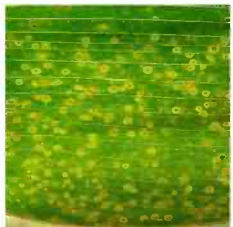
**Fungus:** *Stenocarpella macrospora* = *Diplodia macrospora*

Brown lesions with characteristic yellow halo; develop from an oval centre extending along the veins; black fruiting bodies develop within the centre of the lesion.

**Favourable weather:**

More prevalent in warm, humid regions. Unbalanced fertility, low K, poor drainage, mechanical and insect damage, cultivar and planting density all influence disease severity.

### EYESPOT



**Causal organism:**  
**Symptoms:**

**Fungus:** *Aureobasidium zeae* = *Kabatiella zeae*

Small, circular to oval lesions with tan-cream centres surrounded by a brown-purple margin and distinct yellow halo. Easily confused with physiological changes and genetic leaf spots.

**Favourable weather:**

Favoured by long periods of cool (10-12°C), moist weather during the growing season. Conidia are dispersed by wind or light rain to the leaves of nearby young maize plants.

### GREY LEAF SPOT (GLS)



**Causal organism:**  
**Symptoms:**

**Fungus:** *Cercospora zeina*

Lesions tan becoming grey as they mature; lesions typically rectangular, limited by and running parallel to the veins; starts on lower leaves progressing upwards.

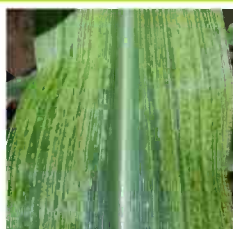
**Favourable weather:**

Moderate to high temperatures and high humidity (>95%) favour disease development. The increased adoption of reduced tillage has increased the frequency and severity of this disease.

# MAIZE DISEASES

## Leaf diseases

### MAIZE STREAK DISEASE (MSV)



**Causal organism:**  
**Symptoms:**

**Favourable weather:**

**Virus:** Maize streak virus

Long streaks parallel to the leaf veins developing to alternating dark and light green variegated stripes; stunting; infected plants yellow-green colour; deformed cobs.

MSV is only vector transmitted, primarily by *Cicadulina* spp. leafhoppers of which *C. mbila*, is the most prevalent. MSV is not transmitted mechanically, by pollen or via seed.

### NORTHERN CORN LEAF BLIGHT (NCLB)



**Causal organism:**  
**Symptoms:**

**Favourable weather:**

**Fungus:** *Exserohilum turcicum* (*Setosphaeria turcica*)

Lesions elongate becoming elliptical or cigar-shaped; grey-green becoming tan in colour with distinct dark zones of fungal sporulation; lesions often surrounded by pale green, water-soaked border.

NCLB is favoured by moderate temperatures between 18-27°C and prolonged periods of leaf wetness. Conidia are produced on old residue and are carried by the wind or rain to lower leaves of young maize plants.

### PHAEOSPHAERIA LEAF SPOT



**Causal organism:**  
**Symptoms:**

**Favourable weather:**

**Fungus:** *Phaeosphaeria maydis* and *Phoma sorghina*

Bleached, dried, circular to elongate spots with dark brown margins, similar to paraquat herbicide (trade name - Gramoxone) damage; pinpoint, black fruiting bodies develop within lesions.

Lesions are usually first visible on the edges of maize fields or on the top leaves of plants. Usually occurs towards the end of the season as winter approaches and cold conditions prevail.

### POLYSORA RUST



**Causal organism:**  
**Symptoms:**

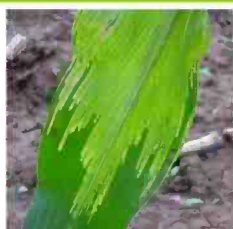
**Favourable weather:**

**Fungus:** *Puccinia polysora*

Light orange to cinnamon-red, circular to oval raised pustules which are densely scattered over the upper leaf surfaces.

Favoured by warm and humid (extended dew or high humidity) conditions, with an optimal temperature range between 24-28°C. In temperate regions, Polysora rust occurs towards the end of the season.

### SORGHUM DOWNY MILDEW



**Causal organism:**  
**Symptoms:**

**Favourable weather:**

**Fungus:** *Peronosclerospora sorghi*

Infected sometimes stunted; white-striped leaves; leaf chlorosis includes base leaf; transverse margin sharply defining diseased and healthy tissue ('half-leaf symptom'); leaves narrower and more erect.

Oospores survive in soil and attack susceptible seedlings through underground parts, resulting in systemic infected. Requires a saturated atmosphere or free water and moderate temperatures of 21-25°C.