



# DISEASES



Prepared for SASRI's Biosecurity Teams

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# BEST TIME FOR DISEASES

DISEASE	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC
SMUT												
MOSAIC												
RUST - BROWN												
RUST - TAWNY												
RUST - ORANGE												
POKKAH BOENG												
YELLOW LEAF												
SOUR ROT												
RED ROT												
MSV												
GUMMING												
LEAF SCALD												
EYE SPOT												
PINEAPPLE SETT ROT												

Note: Diseases can be seen throughout the year so always be alert and report what you see!



# SUGARCANE SMUT



## **Incipient whip**

Elongated stalk,  
no whip visible



## **Infected stool**

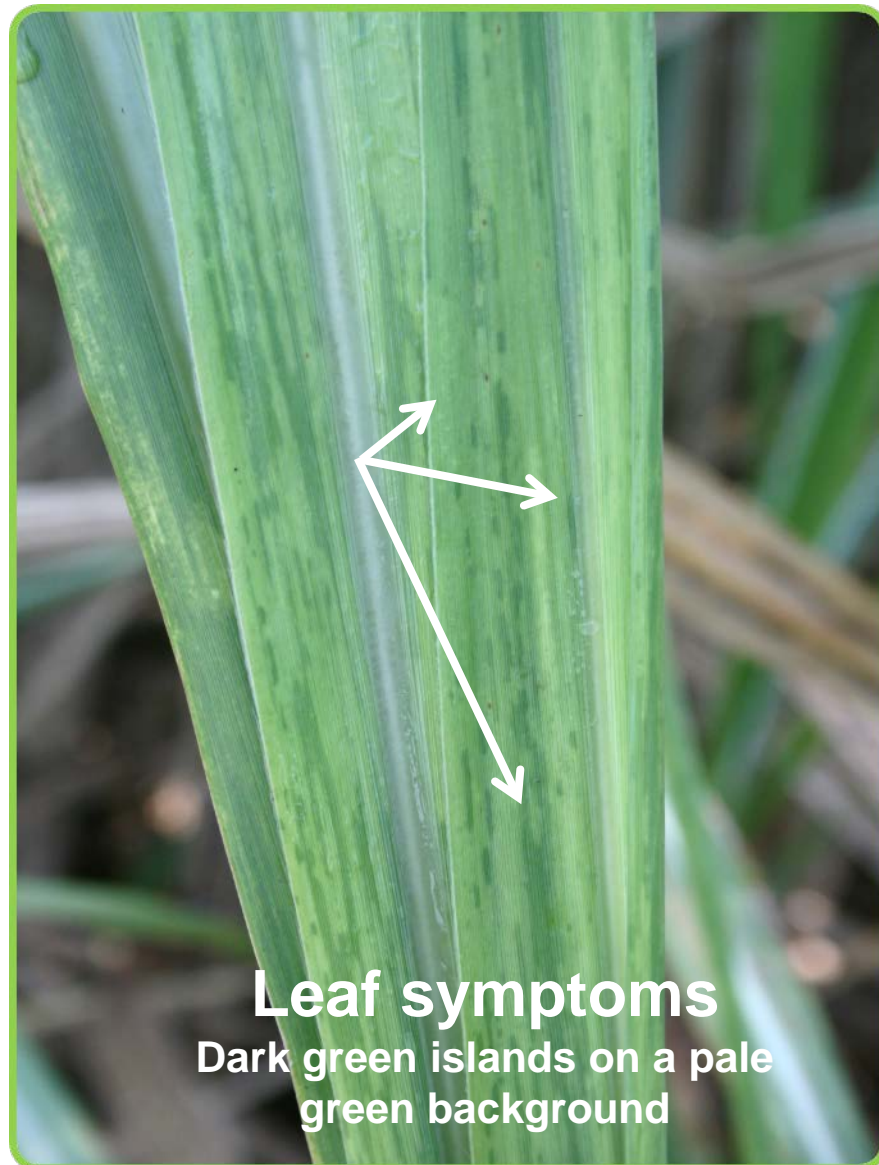


## **Emerging whip**



## **Mature whip**

# MOSAIC





# COMMON LEAF SYMPTOMS



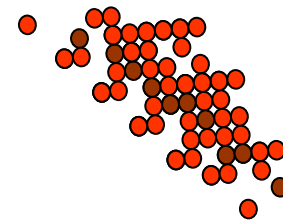
**Rust**



**Brown  
spot**



**Ring  
spot**



**Mites /  
Aphids**



# SUGARCANE RUST



**Brown rust**



**Tawny rust**



**Orange rust**



# Brown rust

## Lesions (marks) on leaf:

- dark brown to reddish-brown
- up to 20 mm long
- more severe towards leaf tip

## Spores:

- cinnamon to brown when fresh
- usually only on the lower leaf surface

Favoured by cool, moist weather

Common in autumn and spring

Tends to occur on young crops  
(< 6 months)

# Tawny rust

## Lesions (marks) on leaf:

- brown to reddish-brown
- similar in size to brown rust
- more severe towards leaf tip
- may be some purpling around lesions

## Spores:

- orange when fresh
- abundant
- also on upper leaf surface

Favoured by cool, moist weather

Common in autumn and spring

Has been observed on cane of  
all ages

# Orange rust

## Lesions (marks) on leaf:

- orange to orange-brown to reddish-brown
- up to 4 mm long
- more severe in middle of leaf, extending towards leaf tip

## Spores:

- orange to cinnamon-brown
- mainly on the lower leaf surface

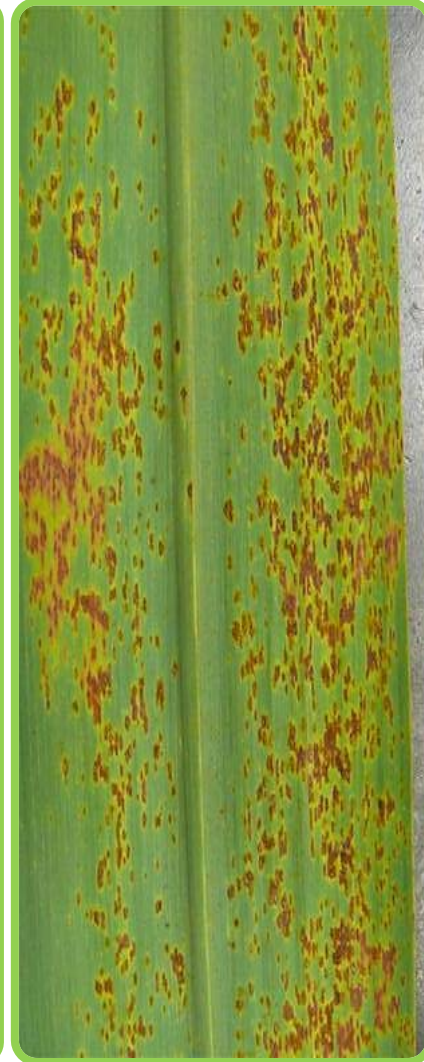
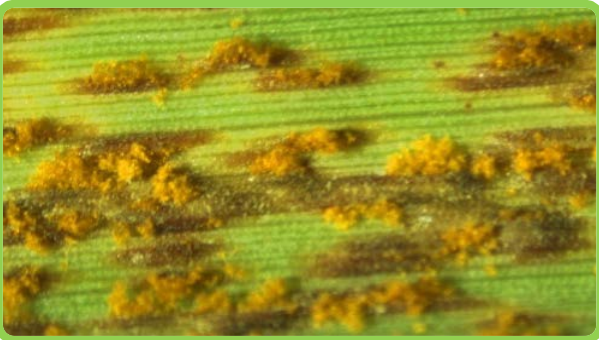
Favoured by humid, warm, wet conditions

Common in early summer, early autumn

Has been observed on cane of  
all ages



# ORANGE RUST





# RUST SEVERITY CHART



**Mild**



**Moderate**



**Severe**



# POKKAH BOENG



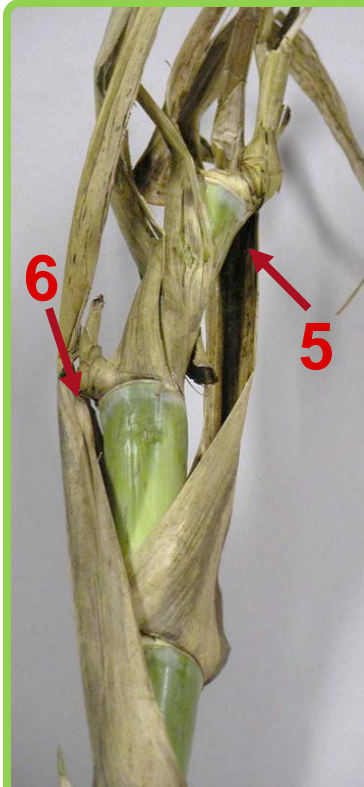
## Mild / Cosmetic

- Leaf bleaching (1)
- Leaf wrinkling (2)



## Moderate

- Bent / deformed stalks (3)
- Spindle die-back (top rot) (4)
- Growing point not affected



## Severe

- Growing point killed (5)
- Side shooting (6)
- 'Knife cuts' across stalk (7)
- Stalk death



# STALK AND SETT ROTS



**Pineapple  
sett rot**

Infects setts at planting



**Sour rot**

Usually has a strong sour smell



***Fusarium***

Commonly associated with borer damage



**Red rot**



# MAIZE STREAK VIRUS





# YELLOW LEAF SYNDROME





# GUMMING



## **White leaves**

**One to all leaves can be affected  
The whole leaf can turn white  
Symptoms can be seen on cane of any age**



## **Red flecks**

**Develop within the white area of the leaf**



# LEAF SCALD



## White striping on leaves

Stripes develop from edge of leaf to midrib

White, thin, sharp edges early on (1)

Become wider over time, margins wavy (2)



Inward curling,  
drying leaves,  
side-shooting



Dead stools



# EYE SPOT



Reddish-brown lesions (1) with yellow margins (2); Yellow runners extend upwards from lesions (3); Reddish-brown spots may develop in older runners (4)



Severe eye spot symptoms



# RSD



**Select stalks from the short, sick / weak looking stools for RSD samples**





## **SOUTH AFRICAN SUGARCANE RESEARCH INSTITUTE**

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