Caribbean Agricultural Research and Development Institute

PROTECT YOUR FINANCIAL FUTURE

DOH STICK... ACT QUICK

Black Sigatoka Disease (BSD) is a leaf borne disease caused by the fungus ***Mycosphaerella fijiensis***. More rapid and aggressive than Yellow Sigatoka Disease, left untreated BSD reduces bunch weight, induces premature ripening of fruits, and can decrease overall yield by **50%**

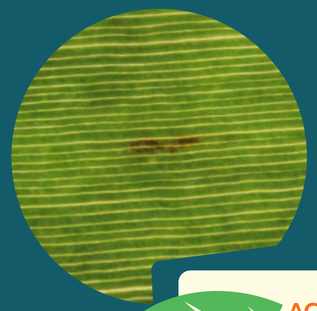
This Poster is an output of the project Development of an Integrated Disease Management Progammme for Black Sigatoka Disease in Dominica, Guyana, St Lucia and St Vincent and the Grenadines, funded by the CDB and implemented by CARDI

KNOW 6 THE STAGES

OF BSD DEVELOPMENT & THE ACTIONS **TO DEFEAT IT!**

1

Faint reddish brown specks less than 1 mm, visible only on the underside of the leaf.



2

Specks elongate into reddish brown streaks parallel to leaf veins, becoming visible to the naked eye on the upper surface of the leaf.

ACTIONS

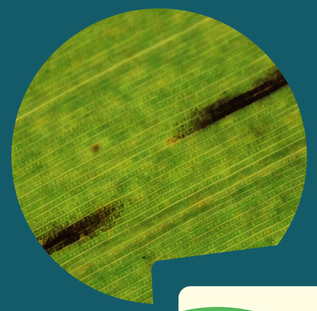
Reduce Field Humidity – Remove weeds, suckers and old leaves; Clear drains so no stagnant water accumulates after rains.

Encourage new leaf production - Continue fertilisation and irrigation schedule. Aim for 9 to 12 functional leaves from flowering to harvest for good bunches.

Inspect suckers and older leaves for advance signs of disease.

Inform your extension officer so fields can be sprayed with fungicide within 5 days of disease identification. Sooner during wet season.

Continue usual **Crop Management Practices**



3

Streaks merge. Now darker, longer and larger. Conidia and ascospores are produced. Infection now spreads to nearby leaves and suckers by dew, rain and wind.

ACTIONS

Perform Cost-effective Field Sanitation Practices

1. **Partial or Full Deleafing**

- Partial Deleafing if less than 50% of leaf infected- remove infected part only.
- Full Deleafing if more than 50% leaf infected- remove entire leaf.
- Pile leaf parts or whole leaves topside down on soil and chop to reduce spore production and release.
- After full deleafing, apply fertilizer to support new leaf emergence during vegetative growth.

2. **Reduce field humidity** as described in Stage 2

Inspect suckers and leaves for signs of infection.

Inform your extension officer.

Only schedule fungicide sprays AFTER Partial or Full Deleafing.

4

Streaks now black elliptical or circular spots on the upper side. Higher production of ascospores. Infection spreads cross field and over long distances by wind.

Only 3wks from leaf infection to Stage 4 disease spread under wet humid conditions!!

ACTIONS

Perform Cost-Effective Field Sanitation Practices

- Partial Deleafing as described in Stage 3.
- Full Deleafing as described in Stage 3 or when bunch has 1 month remaining to harvest.
- Pile leaves, topside down and chop.
- After full deleafing, apply fertilizer to support new leaf emergence during vegetative growth.
- Reduce field humidity as described in Stage 2.

Continue usual **Crop Management Practices.**

Stop wasting money! Fungicide sprays **not effective** on leaves with Stage 4, 5 and 6 disease. Spores already released.

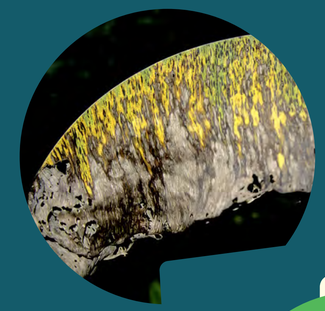
Only schedule sprays AFTER full or partial deleafing.

5

The first of two necrotic stages. Spots are black surrounded by yellow halo. Centre of spot dries out and is grey.

Rapid disease spread by wind especially after 48 hrs of leaf wetness.

ACTIONS Same for Stage 4



6

Second necrotic stage. Grey areas combine, entire sections of leaves become dry and dead. Ascospore production peaks.

Left on plant leaves will produce and release spores for up to 5 months!

ACTIONS

- **Do Not Abandon Your Field.**
- Perform Field Sanitation Practices as Described in Stage 4.
- Inform Your Extension Officer.
- Continue Usual Crop Management Practices.

These Actions Decrease Inoculum Load, Minimize Spread of Disease, Reduce Development of Resistant *Mycosphaerella fijiensis* and Preserves Yield.