

## **Anthracnose**

### **Cause**

Fungus *Collectotrichum gloesporides*

### **The Damage**

- Initially lesions appear on leaves and petioles.
- Affected leaves wilt, die and fall off the plant.
- Soft tissues become distorted, while older tissues crack.
- Spores are spread by wind and water.

## **Management**

### **Cultural**

- Use disease free sticks.
- Field sanitation is critical; burn the remains of a previous crop.
- *Collectotrichum gloesporides* infects many other crops. Pay attention to susceptibility of crops when rotating.

### **Chemical**

- Dip setts in a fungicide prior to planting.



Photo source - leafvillage

Anthracnose

### **SUMMARY**

**While cassava is not subject to the pest and disease pressure of other crops, it can still be attacked by some pests and diseases that can severely affect the yield. Most of these problems can be managed with a combination of cultural and chemical controls, once the issues are addressed in a timely manner.**

Front & Back Photo source - RSRamsingh MALF Rio Claro

### **References**

1. Alleyne, A. T. 2017. Cassava Superelongation Disease in the Caribbean (<https://www.intechopen.com/books/cassava/cassava-superelongation-disease-in-the-caribbean>)
2. <https://bugguide.net/node/view/732207/bgimage>
3. [https://plantvillage.psu.edu/topics/cassava-manioc/infos/diseases\\_and\\_pests\\_description\\_uses\\_propagation](https://plantvillage.psu.edu/topics/cassava-manioc/infos/diseases_and_pests_description_uses_propagation)
4. International Society for Plant Pathology (ISPP). 2021. Guide to identification and control of cassava diseases. Peter Scott, Ed. In: International Society for plant Pathology [online] (Accessed 29 March 2021). [https://www.isppweb.org/foodsecurity\\_casava\\_diseases.asp](https://www.isppweb.org/foodsecurity_casava_diseases.asp)
5. Jackson, G. 2013. Cassava bacterial blight. In: Pacific pests, pathogens and weeds – Mini fact sheet edition. [https://apps.lucidcentral.org/ppp\\_v9/text/web\\_mini/entities/cassava\\_bacterial\\_blight\\_173.htm](https://apps.lucidcentral.org/ppp_v9/text/web_mini/entities/cassava_bacterial_blight_173.htm)
6. Plant Village. 2021. Cassava bacterial blight. In: Plant Village [online] (Accessed 29 March 2021). <https://plantvillage.psu.edu/diseases/cassava-bacterial-blight>
7. Seesahai, A., Ramlal-Ousman, M. and Lalchan, M. 2008. A guide to growing cassava successfully. Root Crop Bulletin #1. Research Division, Ministry of Agriculture, Land and Marine Resources, Trinidad. 4 pgs.

This fact sheet was produced under the project "Cassava Industry Development – Market Assessment and Technology Validation and Dissemination". Funding was provided by the Caribbean Development Bank (CDB) and the Food and Agriculture Organization of the United Nations (FAO). The project was executed by the FAO in close collaboration with the Ministry of Agriculture, Land and Fisheries of the Government of the Republic of Trinidad and Tobago.

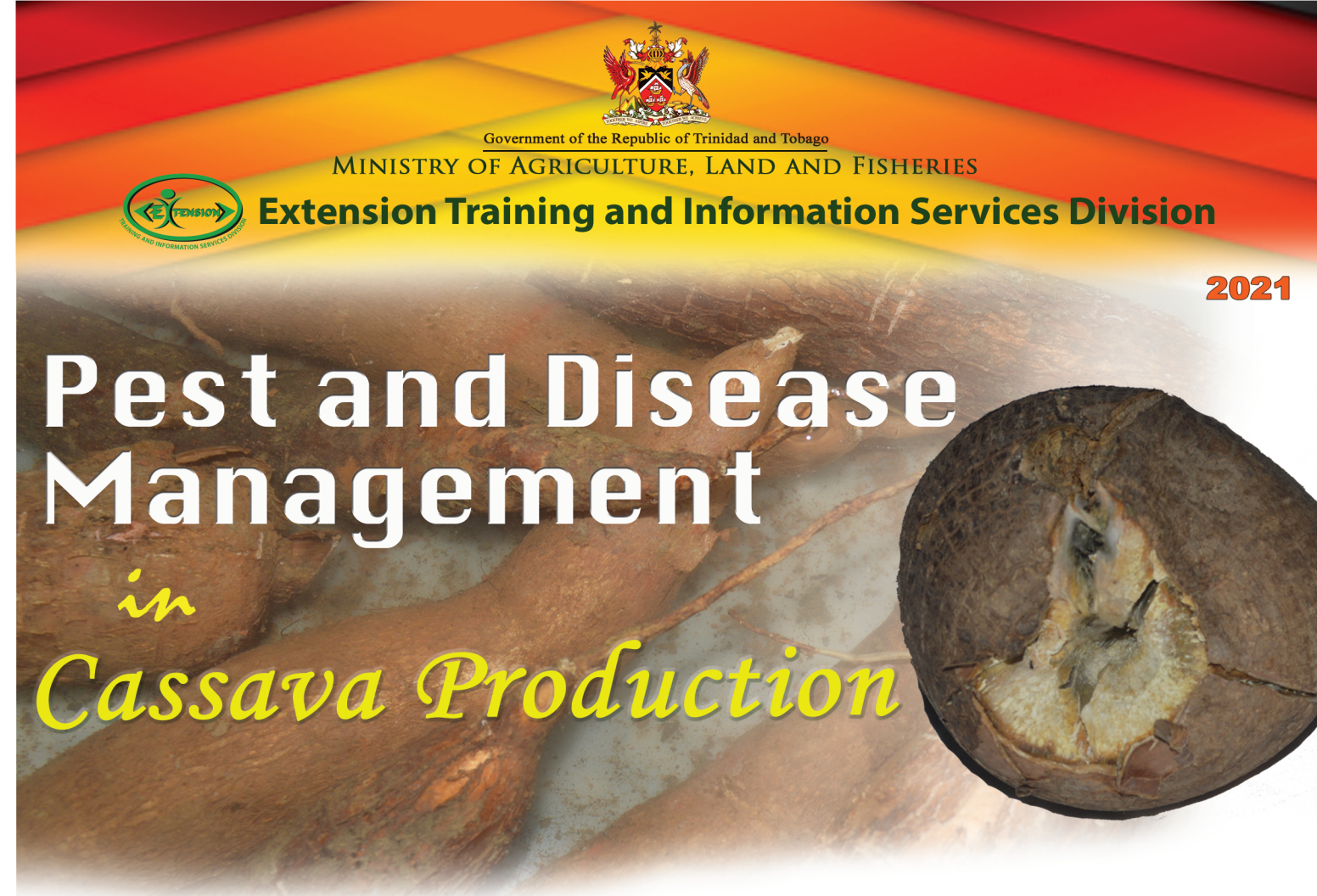
### **Extension Training and Information Services Division,**

Corner Mausica & Caroni North Bank Road, Centeno

Tel: 646-2737; 646-2738

Fax: 642-6747

Email: [FPETIS@gov.tt](mailto:FPETIS@gov.tt)



Government of the Republic of Trinidad and Tobago  
MINISTRY OF AGRICULTURE, LAND AND FISHERIES



**Extension Training and Information Services Division**

2021

# **Pest and Disease Management**

## *in Cassava Production*

Cassava is relatively free of pests and diseases. Few pests attack the crop and even fewer will actually affect the yield. However, there are some pests and diseases that can cause significant losses when present in large numbers.

## **KEY POINTS**

- The cassava crop has few pests and diseases.
- Pests and disease can be managed by cultural practices and chemical applications.
- Selection of healthy planting material and field sanitation are the keys to managing pest and disease.

### **Pests**

#### **Shoot fly**

##### **Cause**

*Neosilba pendula* & *Silba chalybea*

Two flies *Neosilba pendula* and *Silba chalybea* are pests of cassava. They deposit their eggs on the growing points between unexpanded leaves and after hatching, the young larvae tunnel into the stems.



Photo source - RSRamsingh MALF

Shoot Fly Damage

#### **The Damage**

- The newly hatched larvae tunnel into the stem killing the growing point resulting in a bushy, unwieldy plant.
- Yield is reduced.
- Branches and lateral shoots are thinner and curved.
- Curved stems cannot be used in a mechanical planter.
- Thin stems do not give as vigorous a plant as thicker stems.
- The problem is more prevalent in the dry season.



## Management

### Cultural

- The adult flies live on weeds so control weeds either chemically, physically or by mulching.

### Chemical

- Systemic insecticides control flies.

## Thrips

### Cause - Thysanoptera (Order)

Thrips are very tiny insects less than 2 mm in length. They possess a pair of fringed wings but are weak fliers, depending mainly on wind currents to move them.

Thrips have unique asymmetrical mouthparts and they pupate in the soil.

### The Damage

- Thrips damage mainly the young leaves.
- They slice open the top cells and suck out the contents causing the characteristic scarring.
- As the damaged leaves grow the scars become more obvious.
- Feeding causes distortion of the leaves.
- Severe infestations can cause leaf drop.



Photo source - RSRamsingh MALF

Thrips Damage

## Management

### Cultural

- Mulching the soil affects pupation.
- Limit the use of high-nitrogen fertilisers as thrips feed on soft, young growth.
- Yellow and blue sticky traps hung just above the canopy trap the thrips.

### Chemical

- Chemical control of thrips is not recommended.

## Chinch Bugs

### Cause - Blissus leucopterus

This pest is a Hemipteran (true bug), with sucking mouthparts. It is 5 mm long, brown to dark red in colour with white wings and red legs. It lives in the soil but the eggs are laid on the leaves and stems of the cassava.

### The Damage

- The adults and nymphs feed on cassava tubers rendering them unmarketable.
- The feeding damage allows the entry of opportunistic pathogens that further degrade the tubers.
- The cassava plant will exhibit symptoms of nutrient deficiency: stunting, yellowing and discoloration.



Photo source - RMohansingh

Chinch bug damage

## Management

### Cultural

- *Crotalaria sp.* is a trap crop for chinch bugs. It can be planted on the perimeter of cassava fields and routinely destroyed to eliminate the chinch bugs.
- Removal of debris from a previous crop reduces sources of infestation.

### Chemical

- Soil insecticides can also be used.



Photo source - RSRamsingh MALF

Crotalaria sp.

## Diseases

### Super Elongation Disease

#### Cause

Fungus *Sphaceloma manihoticola*, synonym *Elsinoë brasiliensis*

**NB: This is a very serious disease in cassava.**

#### The Damage

- Starts with small spots on leaves, stems and petioles.
- Spots are light coloured with a dark border and a yellow halo.
- Spots coalesce eventually killing leaves leading to severe defoliation.
- In actively growing plants there is an exaggerated internode causing weak stems that die back.
- Yield is severely affected.



Photo source - Intechopen

Symptoms of cassava super elongation disease

## Management

### Cultural

- Use disease-free planting material.
- Remove and burn debris from the previous crop.

### Chemical

- Planting material should be treated with a broad spectrum fungicide.

## Brown Leaf Spot (BLS)

### Cause

Fungus *Mycosphaerella henningsii*

### The Damage

- The disease appears as small brown spots with dark borders on the upper leaf surface.
- The brown spots form between leaf veins, so their size and shape are limited by the veins.
- The centre of the brown spots may fall out leaving a hole in the leaf.
- This disease can greatly reduce yields.
- The fungus lives in diseased cassava leaves on the plant or those that have fallen on the ground. It spreads to new leaves and plants by wind or rain splash.

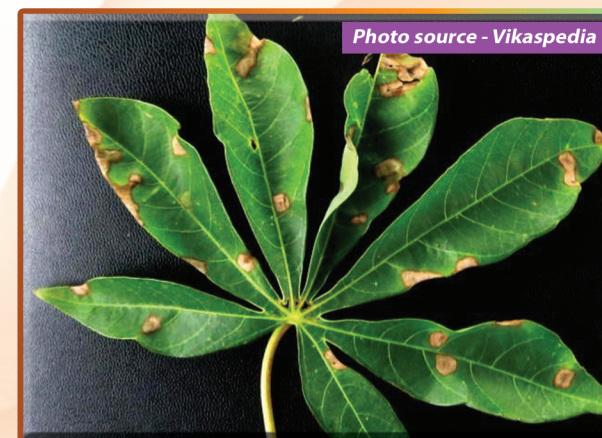


Photo source - Vikaspedia

BLS damage seen on cassava leaf

## Management

### Cultural

- Use planting material that is free of BLS.
- Field sanitation is very important; all infected plants and plant parts must be removed from the field and burnt.

### Chemical

- Soak the planting material in a fungicide solution before planting.



Photo source - RSRamsingh MALF

Brown leaf spot in field

## Cassava Bacterial Blight (CBB)

### Cause

Bacteria *Xanthomonas axonopodis pv manihotis*

### The Damage

- The infection starts off with angular dark spots on leaves, restricted by the leaf veins accompanied by a creamy exudate from the petioles and young stems.
- The spots expand, merge and form large rots causing leaves to wilt and drop off.
- The apical meristem also blackens and dies leading to the development of a short, bushy plant with the dead, blackened stems thrusting up; this gives the plant a candlestick appearance very characteristic of this disease.



Photo source - RSRamsingh MALF

Candle stick appearance of cassava bacterial blight

## Management

### Cultural

- The bacteria is spread by cuttings, so the first and most important practice is to take cuttings from healthy plantations.
- Do not plant new fields next to old, diseased fields since the bacteria can be spread by wind and water.
- If a field comes down with CBB, it should be rotated out of cassava for 1-2 years since the bacteria can remain on the surface of weeds and in insect faeces.
- The bacteria remains on tools so clean with bleach after each use.
- Practise field sanitation: plant debris should be burnt.
- Use tolerant varieties.

### Chemical

- There are no chemicals recommended for the control of cassava bacterial blight.