Exotic Pest Alert: Banana freckle

October 2013, Primefact 1251, 1st edition
Plant Biosecurity Orange

Banana freckle (Phyllosticta cavendishii) is an exotic plant pest on Cavendish bananas

This disease is a serious threat to Australia’s banana industry

Please report suspect symptoms promptly to the Exotic Plant Pest Hotline 1800 084 881

Banana freckle

Banana freckle causes spotting on banana leaves and fruit. Spotting may extend to the flower bracts, leaf midrib and bunch stalks under conditions which favour infection.

In Australia banana freckle is an established plant pest on Lady Finger bananas but not on Cavendish bananas. Please report suspect symptoms on Cavendish bananas.

Description

Fungal infection and disease symptoms can occur on both young and old leaves. Two types of leaf spot symptoms have been described.

One type of leaf spot consists of very small (less than 1 mm) dark brown to black spots mainly on the upper surface of the leaf giving the leaf a sooty appearance (Figure 1). Spores develop from these spots and protrude slightly making the surface of the leaf feel rough.

Spots can cluster in streaks that may run diagonally or horizontally across the leaf. In other cases these streaks run along the leaf veins from the midrib to the edge of the leaf. Yellowing of the leaf occurs where spotting is severe (Figure 2).

The second type of spotting is characterised by larger (up to 4 mm in diameter) individual dark brown to black spots. These spots may have grey centres and can aggregate to form large blackened areas or streaks with yellowish green haloes.)
The spots give the leaves a rough feel. Severely affected leaves turn yellow, wither and die prematurely. When the leaf collapses as a result of infection, it provides an abundant source of inoculum for the pathogen to spread to lower leaves and the developing fruit.

Fruit is susceptible to infection from the time of bunch emergence until maturity. On very young fruit, individual spots first appear as small red brown flecks surrounded by a halo of dark green water-soaked tissue.

Secondary infections increase disease severity as fruit matures (Figure 3).

**Hosts**
The principal hosts of banana freckle are Musa species, including a range of edible banana and plantain cultivars.

**Spread**
Short distance spread of banana freckle occurs as fungal spores are dispersed from infected banana plants and debris by rain splash and wind-blown rain. Moisture is essential for spore dispersal.

Long distance spread occurs through the movement of infected fruit and infected leaves.

**Distribution**
Banana freckle has been recorded in 27 countries across South-east Asia, Oceania and India.

The fungus *Phyllosticta maculata* which infects Lady Finger and Bluggoe bananas occurs in Australia.

The fungus *Phyllosticta cavendishii* which infects Cavendish bananas is not established in Australia. The Northern Territory is currently responding to an outbreak of banana freckle in Cavendish bananas.

**Actions to minimise risks**
Put in place biosecurity best practice actions to prevent entry, establishment and spread of pests and diseases:

- practice “Come clean, Go clean”
- ensure all staff and visitors are instructed in and adhere to your business management hygiene requirements
- source propagation material of a known high health status from reputable suppliers
- monitor your banana plants and fruit regularly
- keep records
- isolate banana plants or areas where suspect symptoms are observed

**Reporting**
If you suspect banana freckle on Cavendish bananas:

Call the Exotic Plant Pest Hotline on 1800 084 881

Take photos not samples to minimise the risk of spreading this disease

Email clear photos with a brief explanation and contact details to biosecurity@dpi.nsw.gov.au

An **exotic plant pest** is a disease causing organism or an invertebrate not present in Australia and which threatens agricultural production, forestry or native and amenity plants.

**Resources**

**Acknowledgments**
Figure 1 courtesy of Lois Ulyatt, Northern Territory Department of Primary Industry and Fisheries

Figures 2 and 3 courtesy of Jose Liberato, Northern Territory Department of Primary Industry and Fisheries

© State of New South Wales through the Department of Trade and Investment, Regional Infrastructure and Services 2013. You may copy, distribute and otherwise freely deal with this publication for any purpose, provided that you attribute the NSW Department of Primary Industries as the owner.

Disclaimer: The information contained in this publication is based on knowledge and understanding at the time of writing (November 2013). However, because of advances in knowledge, users are reminded of the need to ensure that information upon which they rely is up to date and to check currency of the information with the appropriate officer of the Department of Primary Industries or the user’s independent adviser.

Published by the NSW Department of Primary Industries.
PUB13/102