

# EXOTIC AND ENDEMIC BANANA BIOSECURITY PESTS OF CONCERN



## BLACK SIGATOKA

Not known to occur in Australia

### Symptoms

Small reddish brown flecks at the underside of the third or fourth leaves at the early stage ♦ Flecks grow to form narrow streaks with grey or light brown centres or black margins parallel to the leaf vein ♦ Streaks grow into dark brown lesions with water-soaked borders surrounded by a thin yellow halo ♦ Centres of lesions become depressed and turn grey ♦ Many spots close together will cause large dead areas and collapse of the leaf ♦ Under heavy infection no streaks are formed but large areas of the leaf turn black and die.

### Spread

Black Sigatoka is spread by movement of infected plant material (mainly leaves) and by spores produced in the dead grey areas on the upper leaf surface. These spores can be spread by wind and rain.

### Impact

Early death of leaves reduce yield and the green life of fruit, causing premature ripening of the fruit.



## BANANA FRECKLE

Present: not widely distributed and under official control



### Symptoms

Sandpapery feeling spots, mainly on leaves and fruit ♦ Very small to large spots (1-4mm) and dark brown to black in colour ♦ Spots running together to form streaks ♦ Yellowing of the leaf, which can wither and die.

### Spread

This fungus (*Phyllosticta cavendishii*) spreads over short distances through water droplets carried in the wind; also by movement of infected plant material.

### Impact

Reduces the productivity of banana plants. Affected bananas are safe to eat, but blemishes on the skin reduce their visual appeal and saleability. Currently present and under control in Northern Territory.

## MOKO

Not known to occur in Australia

### Symptoms

Rapid yellowing, wilting and collapse of leaves ♦ Wilting of small suckers ♦ Premature fruit ripening and splitting ♦ Premature ripening fingers in an otherwise green bunch ♦ Fruit pulp turns yellow to brown-grey and results in firm rot of the fruit pulp ♦ Blackening and shriveling of flower buds ♦ Vascular tissue of the stalk shows brown discoloration of the pseudostem.

### Spread

The Moko bacterium can be spread in infected plant material, fruit, soil, water, insects and pollinators. The pathogen can survive in the soil for more than a year.

### Impact

Once Moko enters a banana plantation control becomes very difficult, requiring labour intensive and expensive management in the form of strict sanitary and biosecurity measures on the farm. Affected fruit becomes unmarketable.



## PANAMA DISEASE TROPICAL RACE 4 (TR4)

Present : Under official control



### Symptoms

Yellowing leaf margins, older leaves show yellowing at the edges ♦ Complete leaf yellowing, as the disease progresses, entire leaves may turn yellow and the margins can turn brown ♦ Skirt of dead leaves - older leaves die and collapse, forming a skirt around the base of the plant ♦ Spiky appearance, younger leaves remain green and upright, giving the plant a spiky look ♦ Stem splitting, occasionally, the pseudostem may split at the base.

### Spread

Panama disease lives in the soil. It is commonly spread by soil and water movement as well as the movement of contaminated equipment (boots, tyres, knives etc.) and infected plant material.

### Impact

Affected plants rarely produce marketable fruit. Once established, the fungus persists in the soil for decades and is not eradicable, making the production of cavendish varieties economically unviable. TR4 is currently present and under control in Far North QLD and endemic in the Northern Territory.

## BBTV - BANANA BUNCHY TOP VIRUS

Present: Under official control

### Symptoms

New leaves become shorter, narrower and stand more upright, giving a 'bunched' appearance at the top of the plant ♦ Yellowing leaf margins ♦ Dark dot-dash lines through the leaf, that hook into the mid rib and dark green lines running up the midrib ♦ Infected plants rarely produce fruit, but if they do, they are likely to be small and deformed.

### Spread

BBTV is spread by the banana aphid (*Pentalonia nigronervosa*) or by movement of infected planting material.

### Impact

Plants become so choked that they stop producing fruit. If fruit is produced, it will be small, deformed and unmarketable. BBTV is currently present and under control in South-East Queensland and Northern New South Wales.



For further advice please contact Australian Banana Growers at  
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