

Managing fruit speckle

Recent studies have revealed more information about this potentially costly disease and how to manage it.

While fruit speckle is not a new disease, recent studies have provided more information on its causes. It has previously been known as 'swamp spot', 'salt and pepper spot' and 'Deightoniella spot'. The last name relates to the mistaken belief it was caused by the fungus *Deightoniella torulosa*. However, studies now show fruit speckle is actually caused by three different pathogens, *Colletotrichum musae*, *Fusarium oxysporum* and *Fusarium semitectum*. These pathogens are found on banana flowers, bracts and old leaves.



Photo courtesy of Lynton Vawdrey

Figure 1. Close-up of fruit speckle spots showing the water-soaked halo (arrowed)

All banana cultivars appear susceptible; however, anecdotal evidence suggests Lady Finger may be more susceptible than Cavendish. Losses can be substantial; growers have reported levels of more than 20 per cent. Fruit speckle is worse in subtropical production areas and during warm, humid months. Speckle spots are caused when fungal spores land on the fruit. Spots caused by *C. musae* are brown to black in colour, 0.5–1 mm in diameter, often with a water-soaked margin. Spots caused by the two *Fusarium* species are brown in colour and reach a maximum diameter of 0.5 mm. As fruit ripens, the spots caused by *C. musae* can enlarge to 3–4 mm in diameter and become dark, sunken and circular. Spots caused by *Fusarium* almost disappear as fruit ripens.

Sap coming into contact with fruit skin, along with flower thrip infestations, can increase the number of speckle spots on fruit, particularly those caused by *Fusarium*. Early removal of bracts and bagging bunches to prevent bird and bat damage can result in sap contacting fruit, increasing fruit speckle damage. There is no link between bunch cover type and the incidence of speckle. Chemicals used to control yellow Sigatoka leaf spot, when used in conjunction with oil, can be phytotoxic to young fruit. This damage can be confused with speckle.

How to manage speckle

As with many diseases in banana plantations, hygiene is the key to successful management. Growers should deleaf and desucker, particularly prior to the wet season, to help reduce the amount of fungal spores in a plantation. As fruit matures, it becomes less susceptible. Dust bunches with Mancozeb (Tatodust[®]) before bracts are fully open and again when bunch covering. Spray applications of Mancozeb to all leaves in the canopy, including suckers, to reduce the number of spores. Growers should ensure they have good control of bunch pests and minimise bunch damage, particularly when bagging fruit early.

Oil sprays used with some fungicides to control yellow Sigatoka leaf spot can damage fruit skin, particularly in hot dry conditions. This damage can be confused with speckle. The inclusion of oils is still recommended in spray programs as it is important in yellow Sigatoka management. Bagging bunches prior to spraying is the only way to stop this damage.

Quick Facts

1. Symptoms

- Reddish-brown to black spots 0.5–1 mm in diameter
- A water-soaked halo may surround the spots
- Spots more common on the neck and flower end of the fruit but can affect the whole fruit
- Speckle may be present on fruit at all bunch stages
- Circular or run-like disease patterns on the fruit indicate sap contacting the fruit, increasing infection

2. Source and spread

- The fungi *Colletotrichum musae*, *Fusarium oxysporum* and *Fusarium semitectum* cause banana fruit speckle
- These fungi are found on banana flowers, fruit bracts and dead leaves
- Fungal spores are discharged into the air and land on fruit causing the spots, which develop in a few days
- Fruit is less susceptible as it matures
- Thrips may increase the incidence of speckle caused by *Fusarium* spp.

3. Speckle management

- Deleafing and desuckering will reduce spores in the plantation
- Ensure full canopy coverage, including suckers, with fungicides
- Dust with Mancozeb at bunch emergence and bagging
- Reduce sap contact with young fruit.

For more information contact:

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Photo courtesy of Lynton Vawdrey

Figure 2. Severe fruit speckle symptoms on Cavendish



Photo courtesy of Lynton Vawdrey

Figure 3. Damage on banana fruit caused by spraying Tilt® + oil



Photo courtesy of Lynton Vawdrey

Figure 4. Damage on banana fruit caused by spraying Folicur® + oil

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