



FACT SHEET

Panama Disease of Bananas

Why is it important to prevent Panama?

- The fungus invades the roots of the banana plant and causes a wilting which eventually kills the plant
- It is spread in infested soil and infected planting material
- Once it gets into the soil it can persist for more than 40 years.

What is it caused by?

- *Fusarium oxysporum* is a fungus which causes disease on a number of different crops such as banana, cotton, passionfruit and tomato
- The strains which affect banana are different strains to those which affect other crops. The strains which affect banana are called ***Fusarium oxysporum* special form *cubense***
- *Fusarium oxysporum* special form *cubense* has different strains, known as different **rac**es, which cause disease in different varieties of banana:
 - Race 1 – affects ‘Lady Finger’ and ‘Ducasse’ and has been found in many plantations in Eastern Australia
 - Race 2 – affects ‘Bluggoe’ and closely-related cooking bananas
 - Race 3 – affects *Heliconia*
 - Race 4 – is divided into 2 sub-races
 - Subtropical Race 4 – affects ‘Cavendish’, ‘Lady Finger’, ‘Ducasse’ and ‘Bluggoe’ and mainly attacks plants in sub-tropical locations and when the plants are stressed. It has been found in plantations in Southern Queensland and northern NSW
 - Tropical Race 4 – severely affects ‘Cavendish’, ‘Lady Finger’, ‘Ducasse’ and ‘Bluggoe’. Tropical Race 4 is the most serious strain and within Australia has only been detected in the Northern Territory where it has devastated plantations.

Control measures

- Prevention of the introduction of the fungus is the single best control measure. This means preventing movement of infected planting material and infested soil. Growers need to put in place good on-farm biosecurity
- Research programs are underway to find resistant varieties. There are some tolerant varieties available, however, these varieties are not completely resistant to Panama and will succumb over time. They also carry the disease without showing symptoms.
- Good crop rotation practices and management of soil health is important in the management of ‘Panama’ and has prolonged the life of some plantations with Race 1 and Subtropical Race 4.

Information prepared by ABGC Research & Development Manager Dr Jay Anderson