

Hawke's Bay / Tairāwhiti Flood - Technical Support 2023

Phytophthora

Post-Flood Decision Making

ABOUT PHYTOPHTHORA

Phytophthora is a fungus-like organism that rests in the soil. When soil becomes saturated, spores germinate and swim through soil water to roots.

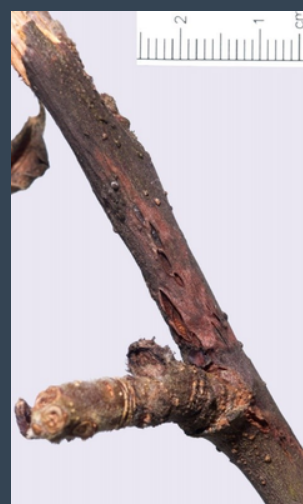
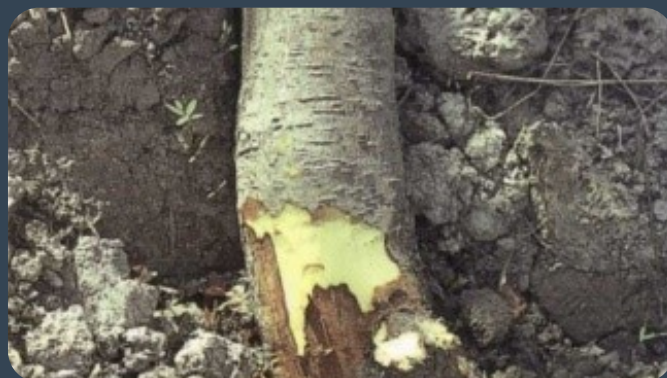
The spores infect roots killing cells, causing root rot. Less roots means less water and nutrients affecting growth, and causing poor growth or tree death. Infections can occur in trees of any age, but young trees are more likely to die.

Crown rot can also occur between the root/trunk junction and the graft union, at soil level. Infection lesions quickly grow and girdle the trunk. Once detected it is often too late to save the tree. Early detection can allow chemical treatment options.

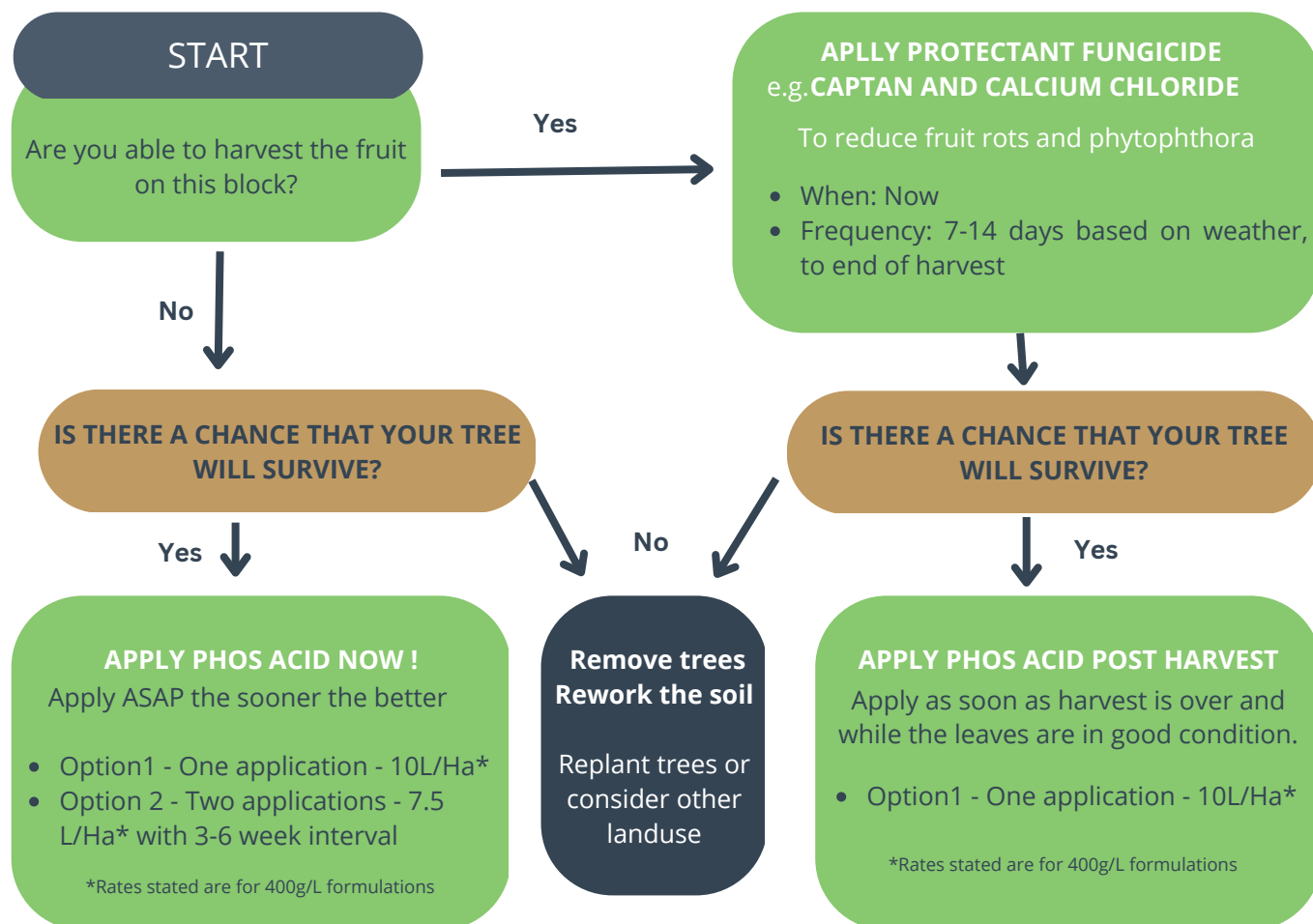
More common in young trees, which often die within 2-3 months of first noticing symptoms.

Collar rot can also occur above the graft union in the lower trunk or branches, from rain splash of spores. Collar rot can be effectively treated if lesions are detected early. If left unmanaged, lesions will grow to girdle and kill the tree.

The disease can also spread to aerial parts of the tree by flooding or rain splash of soil spores, causing fruit rots. Phytophthora fruit rot can continue to express post-harvest.



Phytophthora Management Decision Tree



PHOS ACID NOTES

Phos acid will help protect trees against phytophthora and other root rots, but expectations need to be realistic and is not a magic cure for trees that are severely affected and beyond saving. Phos acid may be less effective on trees that are on water logged soils (see soils assessment protocol), and will not be effective for trees that are dying. A decision should be made on intervention alongside a consultant/spray rep to consider economic viability.

Product examples

- Foschek® (400g/L AI)
- Phosgard™ (400g/L AI)
- Agri-fos® 600 (600g/L AI)

Application Considerations

- Phos acid is most effective on leaves that are in good condition. Their ability to uptake closer to leaf-fall will be compromised, which is why an application ASAP is important.
- An airblast sprayer is ideal. When using concentrate rates adjust mix so that the correct rate is being applied per hectare, and for tree size.
- If you can't get onto your block with tractor and sprayer - Phos acid can be applied safely by helicopter or at water rates of 250+ L/Ha
- Motorized knapsack application is an option when no other options are possible.

Compatibility Considerations

- Can be mixed with most commonly used fungicides and insecticides. Consult your Spray Advisor
- Can be mixed with other post-harvest nutrient products like Boron, Zinc, Magnesium and Urea
- Cannot be mixed with copper or calcium nitrate.

Market Considerations

- Phos acid application is likely to cause a residue in fruit for next season. However, tree health should be prioritised.
 - The MRL for Taiwan and Hong Kong is nil detectable
 - For EU customers it may add to your residue count
 - For the remaining markets, any detectable residue is likely to be below the respective MRLs