

Fire blight, a bacterial disease caused by *Erwinia amylovora*, is a threat to the apple and pear industry in Nova Scotia. The disease overwinters in tree cankers, emerges as bacterial ooze in spring, and is spread by pollinating insects, rain and wind. Bacterial infection of trees in bloom depends on warm temperatures and dewy or rain conditions. Open wounds in wet conditions are always susceptible to infection.

Climate change will increase spring temperatures, precipitation, humidity and wind speeds, creating more favourable conditions for fire blight proliferation. Earlier and warmer spring will make fire blight management timing more challenging and the use of support tools and an integrated approach can help with effective control.

Key adaptation strategies

Management

By growth stage:

- Establishment
 - » Ensure that deer fencing is installed as soon as possible to protect young trees from feeding wounds.
 - » Support newly planted trees as early as possible after planting to prevent wind injuries.
- Dormancy
 - » Scout and remove cankers during dormant pruning.
- Green tip
 - » Apply copper to cover the bark and reduce the population of bacteria on plant surfaces.
 - » A fixed copper product such as Copper Spray Fungicide (50% copper oxychloride) is recommended because it is resistant to being washed off bark surfaces by rain.
 - » Do not apply later than ¼-inch green for fresh market varieties, after which phytotoxicity becomes a risk. Processing varieties where russet is tolerable can be treated later as well as non-bearing trees.
- Pink
 - » Scout and remove cankers or entire trees with bacterial ooze.
 - » Prune only during dry and sunny days (preferably with two days for wounds to heal) and do not work in trees when they are wet from dew.
 - » Pinch flowers to remove the risk of blossom infection on non-bearing trees. Pinching is time-consuming and must be done in dry conditions.



Canker and Fire Blight Ooze: Cankers are sunken and dark purple with a cracked or peeling margin. Remove trees with cankers to prevent the spread of bacterial ooze.

- Bloom
 - » Use PomeBlight during bloom for key management timing to prevent blossom infection.
 - » Apply registered antibiotics prior to blossom blight infection periods.
 - » Application timing is critical, providing protection at up to 24 hours prior to infection.
 - » Apply streptomycin after a trauma event (hail and damaging winds) as early as possible and up to 24 hours post-infection.



Blossom blight: Monitor for infection events during bloom to prevent infections that can rapidly spread within and between trees.

TREE FRUIT Fire Blight

- Petal fall
 - » Apply prohexadione calcium (Kudos) to suppress shoot blight progression. Apply early (2.5 to 7.5 cm of new shoot growth).
 - » Use low rates of prohexadione calcium on young apple trees to avoid delaying growth too much.
- Summer Season
 - » Be vigilant if the blossom blight risk persists during protracted bloom. Do not underestimate the risk of infection on late flowers.
 - » Monitor blossom blight risk on newly planted trees and interplants with delayed bloom.
 - » Scout for blossom blight infections and shoot blight strikes. Where infections are found, concentrate scouting efforts more frequently in that area until infections are no longer found.
 - » Remove rootstock suckers by pulling and breaking off the root to avoid shoot blight infections that can lead to rootstock blight.
 - » Control potato leafhopper insects that can transmit fire blight. Their presence in young plantings and nurseries is concerning, especially in areas of active fire blight infections.



Rootstock sucker: Rootstock suckers are an entry point for fire blight bacteria that can move directly to the root system.

Pruning for infection management

- Prune only in dry weather.
- Prune two to four feet below active infections to remove the leading edge of the bacteria. The younger the tree, the deeper the cut. Being aggressive at the first sign of symptoms will help prevent the re-occurrence of symptoms and the need for continuous cutting back.
- Leave prunings in orchard laneways to let dry thoroughly for several weeks. If cutting a whole tree consider letting it dry while attached to the trellis. Don't make piles that will prevent the wood from drying.
- Prioritize the youngest trees first because infections can move rapidly in young wood.
- Trees younger than eight years are high risk of rootstock blight. Working quickly to remove infections is essential.
- In severe cases (5+ strikes per tree) on mature trees, leave blight until dormant season and don't summer prune.
- Consider entire tree removal if blight is concentrated to a few trees in a block/region.
- To save time, it is unnecessary to sterilize the tools as long as all of your cuts are in fire blight areas and during dry weather. Where there is a tradeoff because of limited labour, it is best to work quickly rather than to sanitize tools.



Deer feeding: Protect trees from deer feeding that can move bacteria between trees through saliva and wounds.

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[Maryblyt™ Manual](#)



[Fire Blight Management in Nova Scotia](#)



[Integrated Management of Fire Blight on Apple and Pear in Canada](#)