

Apricot

Bacterial Canker

Pathogen: *Pseudomonas syringae*

(Reviewed 11/07, updated 2/09)

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SYMPTOMS

Symptoms are most obvious in spring, and include limb dieback with rough cankers and amber colored gum. There may also be leaf spot and [blast](#) of young flowers and shoots. The sour sap phase of bacterial canker may not show gum and cankers, but the inner bark is brown, fermented, and sour smelling. Orange or red [flecks](#) and pockets of bacterial invasion under the bark occur outside canker margins. Frequently, [trees sucker](#) from near ground level; cankers do not extend below ground.

COMMENTS ON THE DISEASE

Pseudomonas syringae survives on plant surfaces, is spread by splashing rain, and is favored by high moisture and low temperatures in spring. The bacterium is commonly found on healthy as well as diseased plants and becomes pathogenic only on susceptible or predisposed trees.

The disease is found almost exclusively in replanted orchards where ring nematodes flourish or in locations where spring frost is a problem. The disease is worse in low, gravelly, or sandy spots in the orchard. Vigorous trees are less susceptible to bacterial canker, while young trees, 2 to 8 years old, are most affected. The disease rarely occurs in the first year of planting unless the ground is not fumigated before planting and is uncommon in nurseries.

MANAGEMENT

The key to bacterial canker management is control of ring nematodes and maintaining healthy, vigorous trees. Any management practice that improves tree vigor (e.g., lighter, more frequent irrigation with drip or microsprinklers, improved tree nutrition [especially nitrogen], etc.) will help reduce the incidence of this disease.

It is very important to fumigate sandy soils when apricot trees are to be planted following an old apricot, peach, almond, or other *Prunus* spp. orchard. Rootstocks of plum parentage (e.g. Myrobalan, Marianna 2624) are highly susceptible to bacterial canker. Lovell peach and Viking rootstocks are more tolerant than Nemaguard or apricot rootstocks. In soils with high levels of ring nematodes, annual fall treatments with a nematicide are beneficial. There is evidence that pruning during the dormant period may make trees more susceptible than pruning after trees become active in spring or pruning in summer. Copper sprays applied at the beginning and end of leaf fall have been tried with highly variable results.

Management Decisions

In light, sandy soils and in some heavy soils, control has been achieved with preplant fumigation for ring nematodes. Nematodes stress trees, which predisposes them to bacterial canker. The benefits of preplant soil fumigation for control of bacterial canker usually last only a few years.

Common name (trade name)	Amount/Acre	R.E.I.+ (hours)	P.H.I.+ (days)
<i>When choosing a pesticide, consider the general properties of the fungicide as well as information relating to environmental impact.</i>			

PREPLANT

A. 1,3-DICHLOROPROPENE*/CHLOROPICRIN*

(Telone C35) see comments 5 days 0

COMMENTS: Chloropicrin tends to invigorate young trees, which can be advantageous in replant situations and where one *Prunus* orchard replaces a previous one. This restricted use product is applied only by professional fumigation companies. It is effective at 33.7 gal/acre rate if applied to dried sandy soils or sandy loam soils with no more than 12% soil moisture content anywhere in the surface 5 feet of soil profile. In California the applications must be applied to soils having a moist surface; this task is difficult to achieve without use of sprinklers unless there is a fortunate rainfall. Do not flood irrigate prepared lands to achieve this surface moisture requirement. Broadcast apply where nematode resistance is unavailable for prevailing nematodes. Strip applications are permitted at higher treatment rates and effective where resistant rootstocks are available, the clay loam soil profile contains no more than 19% soil moisture, the field has been pre-ripped to 4- or 5-foot depth, and the delivery shank is winged to limit off-gassing. Fumigants such as 1,3-dichloropropene are a source of volatile organic compounds (VOCs), but minimally reactive with other air contaminants that form ozone. Fumigate only as a last resort when other management strategies have not been successful or are not available.

B. 1,3-DICHLOROPROPENE*

(Telone II) 33.7 gal/broadcast acre 5 days 0

COMMENTS: This restricted use product is applied only by professional fumigation companies. It is effective at 33.7 gal/acre rate if applied to dried sandy soils or sandy loam soils with no more than 12% soil moisture content anywhere in the surface 5 feet of soil profile. In California the applications must be applied to soils having a moist surface; this task is difficult to achieve without use of sprinklers unless there is a fortunate rainfall. Do not flood irrigate prepared lands to achieve this surface moisture requirement. Broadcast apply where nematode resistance is unavailable for prevailing nematodes. Strip applications are permitted at higher treatment rates and effective where resistant rootstocks are available, the clay loam soil profile contains no more than 19% soil moisture, the field has been pre-ripped to 4- or 5-foot depth, and the delivery shank is winged to limit off-gassing. Fumigants such as 1,3-dichloropropene are a source of volatile organic compounds (VOCs), but minimally reactive with other air contaminants that form ozone. Fumigate only as a last resort when other management strategies have not been successful or are not available.

+ Restricted entry interval (R.E.I.) is the number of hours (unless otherwise noted) from treatment until the treated area can be safely entered without protective clothing. Preharvest interval (P.H.I.) is the number of days from treatment to harvest. In some cases the REI exceeds the PHI. The longer of two intervals is the minimum time that must elapse before harvest.

* Permit required from county agricultural commissioner for purchase or use.

PUBLICATION



UC IPM Pest Management Guidelines: Apricot

UC ANR Publication 3433

Diseases

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<http://www.ipm.ucdavis.edu/PMG/r5101011.html>