

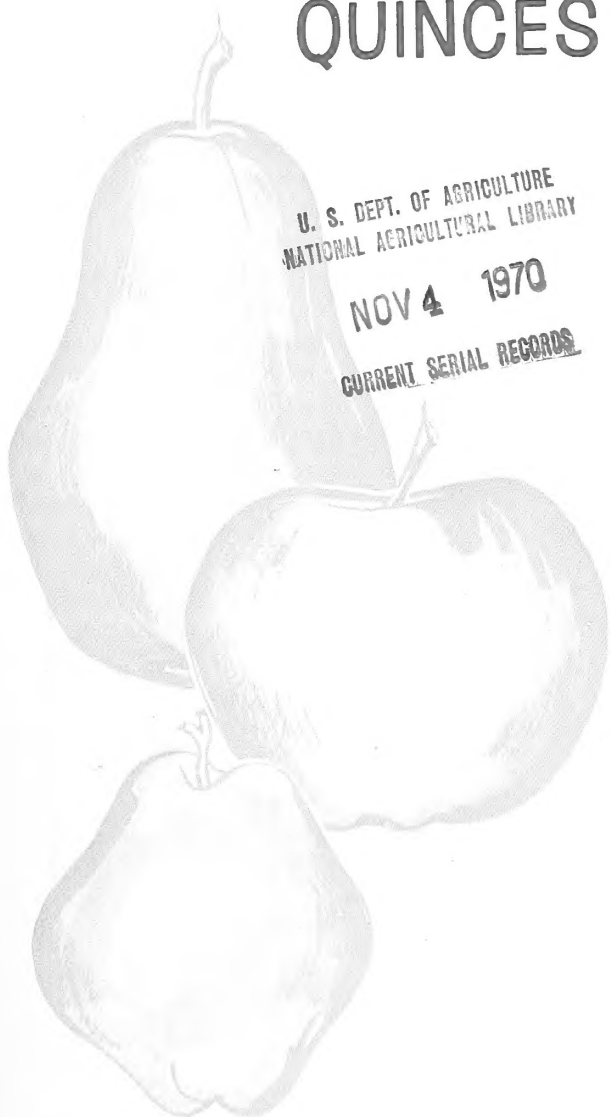
Historic, archived document

Do not assume content reflects current scientific knowledge, policies, or practices.



Ag 84L
cop. 2

Blight of PEARS, APPLES, and QUINCES



U. S. DEPT. OF AGRICULTURE
NATIONAL AGRICULTURAL LIBRARY

NOV 4 1970

CURRENT SERIAL RECORDS

Leaflet No. 187
U. S. DEPARTMENT OF AGRICULTURE



Blight of PEARS, APPLES, and QUINCES

Blight, sometimes called fire blight or pear blight, is a common and destructive bacterial disease of pears and quinces. Blight attacks apples, too, and sometimes damages ornamental plantings of hawthorn, spirea, pyracantha, flowering almond, and mountain ash.

Blight attacks (1) blossoms and young fruits, causing them to blacken and die; (2) tender tips of twigs and water sprouts, often killing back the twigs for a foot or more and causing leaves to turn black; (3) spurs, large branches, trunk, collar (base of the tree), and roots. In a single season, blight can severely damage—or kill—the tree it attacks.

Blight usually appears first when fruit trees are in blossom and stays active until rapid spring growth stops (about a month after blooming). Don't prune or fertilize your fruit trees too heavily during this time. These practices may stimulate the trees to put out succulent growth, which is extremely susceptible to blight.

Blight of pears

Blight is so destructive to Bartlett, Clapp Favorite, Bosc, Flemish Beauty, and other high-quality pears, that these varieties can be commercially grown in only a few favored localities. In fact, most of our marketed pears are grown in three States—California, Oregon, and Washington.

Blight of apples

Blight sometimes damages blossom clusters and young shoots of such susceptible apple varieties

as Jonathan, Yellow Transparent, Wealthy, and Transcendent Crab. Although blight is especially destructive in some seasons, it seldom is serious enough to prevent commercial apple production.

Blight of quinces

Quince trees are as susceptible to blight as the most susceptible pear varieties. Although quinces are not commercially important in this country, small quantities of them are grown for processing into jams and jellies.

HOW BLIGHT SPREADS

Bacteria that cause blight in the spring usually overwinter in cankers in the bark of large branches, trunks, or roots of trees attacked the previous year. Occasionally they overwinter in twigs or small branches.

Pollinating insects, especially honey bees, play a major role in spreading fire blight bacteria during the early growing season. From blight cankers, the bacteria are carried to open blossoms, and from blossoms to other trees. Other insects that come in contact with the bacteria also help spread the disease. Insects, and probably rain, to some extent, carry bacteria from blossoms to twigs and water sprouts.

Usually hot, dry summer weather and the accompanying hardening of tree tissues prevent new blight infections, while helping old ones to die out. Sometimes, however, blight bacteria are so favorably situated in thick bark they do not dry out and are able to persist in holdover cankers.



BX-29478

This Bartlett pear tree was killed by a severe blight attack. The healthy trees in the background were not infected.

HOW TO CONTROL BLIGHT

To control blight, prune out cankers and other diseased parts, apply spray or dust, or do both. The method you choose will depend on your location, and on the extent of the blight infection.

Pruning

In late summer, inspect your trees and cut out all blighted twigs. Make cuts at least 8 to 12 inches below the diseased part of the twig. Cut out blighted tissue in the large limbs and trunk: extend the cuts well into healthy tissue.

Inspect your trees again in late fall or early winter, after the leaves are off and it is easier to spot cankers that you might have missed.

Do not prune blighted blossoms and twigs in the spring, except when only a few trees are lightly infected. Postpone pruning until late summer or early fall, when blight usually is no longer active and the risk of spreading the infection is not as great.

Sometimes blight affects fruit trees so severely you cannot cut away all blighted parts without killing the trees. In these cases, it is often effective to paint the cankered or diseased areas with a formulation of zinc sulfate. However, because this chemical can injure the healthy tissues next to treated areas, you should apply it carefully.

To prevent secondary infection by other organisms in tree parts that you have pruned, treat wounds and cuts larger than 1 inch in diameter with a tree-wound dressing.

After making each cut, dip the pruning tools in diluted household bleach (sodium hypochlorite). Mix 1 cup of 5.25-percent commercial bleach with 9 cups of water. Because this solution will corrode metals, wash tools in water each day at the end of pruning. Tools then should be dried and oiled to prevent them from rusting.

Spraying and dusting

You can supplement pruning and the application of zinc sulfate paints with a spray of weak bordeaux mixture. This is prepared by mixing 2 pounds of copper sulfate and 6 pounds of hydrated lime in 100 gallons of water, or two-thirds tablespoon of copper sulfate and 6 tablespoons of lime in 1 gallon of water.

A commercial copper spray mixture may also be used. Mix 2 pounds of 53-percent commercial formulation in 100 gallons of water, or 1 table spoon in 1 gallon of water. Also, a copper-lime dust mixture may be used; mix 20 parts finely ground copper sulfate with 80 parts hydrated lime.

Copper-base sprays or dusts applied to fruit trees during or after spring blossoming may cause the fruit to russet (develop rough, tough skin). To minimize this when sprays are used, apply sprays only when they will dry quickly.

The antibiotic, streptomycin, is one of the most effective materials known for control of fire blight. Begin antibiotic sprays as soon as color is detected in the flower buds and every 3 to 5 days until the petals fall. Continue applications at 7- to 14-day intervals following the bloom period. Stop spraying apples 50 days before harvest and pears 30 days before harvest. Early evening and nighttime applications of antibiotics provide better fire blight control than daytime applications.

Antibiotic sprays are partially absorbed by plant foliage which may cause some yellow-green mottling of the leaves (chlorosis). This mottling disappears only after you stop using the antibiotic.

PRECAUTIONS

Pesticides used improperly can be injurious to man, animals, and plants. Follow the directions and heed all precautions on the labels.

Store pesticides in original containers under lock and key—out of the reach of children and animals—and away from food and feed.

Apply pesticides so that they do not endanger humans, livestock, crops, beneficial insects, fish, and wildlife. Do not apply pesticides when there is danger of drift, when honey bees or other pollinating insects are visiting plants, or in ways that may contaminate water or leave illegal residues.

Avoid prolonged inhalation of pesticide sprays or dusts; wear protective clothing and equipment if specified on the container.

If your hands become contaminated with a pesticide, do not eat or drink until you have washed. In case a pesticide is swallowed or gets in the eyes, follow the first aid treatment given on the label, and get prompt medical attention. If a pesticide is spilled on your skin or clothing, remove clothing immediately and wash skin thoroughly.

Do not clean spray equipment or dump excess spray material near ponds, streams, or wells. Because it is difficult to remove all traces of herbicides from equipment, do not use the same equipment for insecticides or fungicides that you use for herbicides.

Dispose of empty pesticide containers promptly. Have them buried at a sanitary land-fill dump, or crush and bury them in a level, isolated place.

NOTE: Some States have restrictions on the use of certain pesticides. Check your State and local regulations. Also, because registrations of pesticides are under constant review by the U.S. Department of Agriculture, consult your county agricultural agent or State Extension specialist to be sure the intended use is still registered.



Use Pesticides Safely
FOLLOW THE LABEL
U.S. DEPARTMENT OF AGRICULTURE

**Prepared by
Crops Research Division
Agricultural Research Service**

Washington, D.C.

Revised October 1970

For sale by the Superintendent of Documents, U.S. Government
Printing Office, Washington, D.C. 20402 - Price 10 cents



