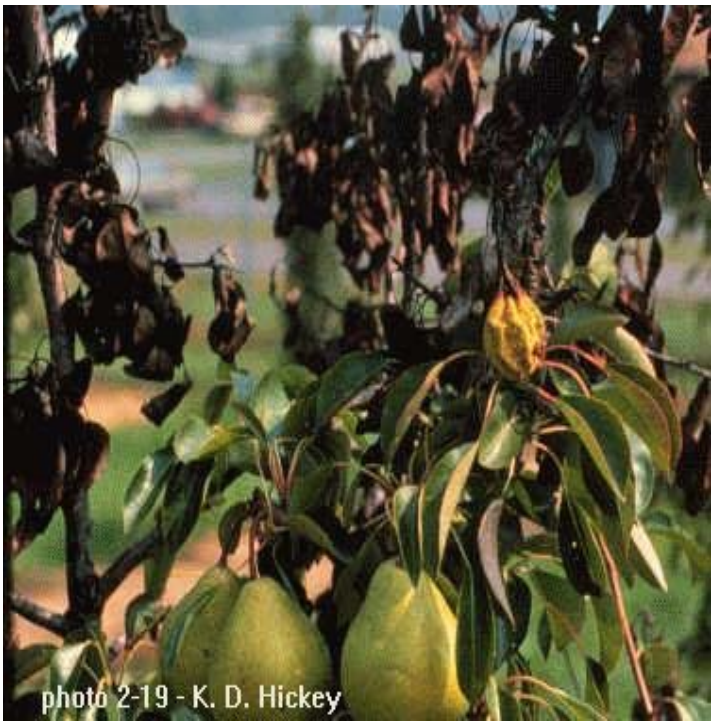
West Virginia University
Davis College of Agriculture, Forestry, and Consumer Sciences

Extension Service
West Virginia University

Fire Blight of Pear

Fabraea maculata

I. Introduction: The development of fire blight on pears is nearly the same as that described earlier on apples, although pears appear to be more susceptible. This is because pears tend to have more flowers per spur than apples, and these flowers tend to remain open and susceptible for a longer period than those on apple. For example, individual apple flowers stay open for about 80 degree days (DD) above 40 F (44 DD above 4 C), while pear flowers stay open for an average of 120 DD above 40 F (67 DD above 4 C). Because of this longer flower life, nearly 90 percent of the total flower buds are open at full bloom on pears compared with only 65 to 70 percent of those on apples.



Of the pear varieties most commonly grown in the mid-Atlantic region, 'Bartlett', 'Bosc', 'D'A,njou' and 'Clapp's Favorite' are most susceptible, while 'Magness', 'Moonglow', 'Maxine' and 'Seckel' are highly resistant. All varieties of Asian pears, except 'Seuri', 'Shinko' and 'Singo', are moderately to highly susceptible to fire blight. Refer to the apple section for more discussion of this disease.

II. Monitoring: Concentrate monitoring in orchard blocks where the disease occurred the previous season. Observe blighted limbs and shoots for removal during the normal pruning operation. There may be a need to remove whole trees on some occasions.

A very important aspect of fire blight management involves monitoring the weather for the specific conditions that govern the build-up of inoculum in the orchard, the blossom infection process and the appearance of symptoms. A weather station (discussed in chapter 10) that records the daily minimum and maximum temperatures and rainfall amounts is needed. When 50 percent of the buds show green tissue, begin keeping a daily record of the cumulative degree days (DD) greater than 55'F (12.7 C; see Appendix B and F). This information can be used to signal when symptoms are likely to appear in the orchard for blossom blight [103 DD greater than 55 F (57 DD greater than 12.7 C) after infection] (photos 2-18, 2-20), canker blight [about 300 DD greater than 55 F (167 DD greater than 12.70C) after green tip] (photo 2-22), and early shoot blight [about 103 DD greater than 55 F (57 DD greater than 12.7 C) after blossom blight or canker blight symptoms appear] (photo 2-21).

At the full white bud stage (i.e., first flower open in the orchard), a record should also be kept of the cumulative degree hours (DH) greater than 65 F (18.3'C; see Appendix B and G). Once a total of 200 or more DH greater than 65 F (111 DH greater than 18.3 C) has accumulated after the start of bloom, any wetting event caused by rain or heavy dew that wets the foliage is likely to trigger a blossom infection event if the average daily temperature is 60 F (15.6 C) or more. This information can be used to schedule streptomycin sprays, which are most effective if applied on the day before or the day of an infection event. Continue to monitor for strikes and remove all blighted limbs.

Continue to remove blighted tissues during midseason. Do not use antibiotics at this time.

V. Management: See the Management section for Fire Blight of Apple.

TEXT PREPARED BY P.W. STEINER AND T. VAN DER ZWET