Bacterial Blight of Grapevine
Xylophilus ampelinus

Host: Grapevine (*Vitis vinifera*).

Disease common name: Bacterial blight or bacterial necrosis.

Pathogen: *Xylophilus ampelinus*; syn.: *Xanthomonas ampelina*.

Disease Cycle

Inoculum: Inoculum comes from infected plants, including transplants, and contaminated grafting material and equipment.

Transmission: Bacteria, exuded from infected plants, are splashed to new infection sites by rain and overhead irrigation. Contaminated equipment, grafting material, and movement of infected plants are major modes of transmission. The pathogen also has been spread by soil.

Infection: The bacterium enters plant tissues through stomata and wounds, especially in wet, windy weather. It then invades the xylem vessels in late winter and spreads transvascularly into healthy branches and spurs. It later invades healthy branches, spurs, and new growth. The disease is associated with warm and moist conditions.

Symptoms and signs: Symptoms include blighted shoots, absence of bud break, stunted shoots, and cankers on stems and branches (Figs. 1 and 2). Hyperplasia of the cambial tissues may cause spurs to appear slightly swollen, and leaves may show sectional and marginal necrosis (Fig. 3). Symptoms vary considerably depending upon the cultivar and environmental conditions. Dead canes are common as the disease progresses (Fig. 4).

Survival: The bacterium survives in wood, and thus may be transmitted from nursery to nursery in infected cuttings. The life cycle of *Xylophilus ampelinus* is not completely known.

Disease Management

Bacterial blight is managed by preventing its spread to unaffected grape-growing regions and in newly established vineyards. All planting and grafting material should be obtained from disease-free areas, and nursery stock should be inspected and handled using proper sanitation procedures prior to its use. In Australia, all introduced grapevine propagation material is treated with hot water and grown under regulated conditions to avoid possible introduction of the disease.

References

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Bradbury, J. F. 1991. *Xylophilus ampelinus*. IMI Descriptions of Pathogenic Fungi and Bacteria No.1050. CAB International, Wallingford, U.K.

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Pearson, R. C., and Goheen, A. C., eds. 1988. Compendium of Grape Diseases. American Phytopathological Society, St. Paul, MN.

Figure 1. Branch with canker/necrosis. (Courtesy N. Schaad)

Figure 2. Branch with cankers and discolored stem tissue. (Courtesy N. Schaad)

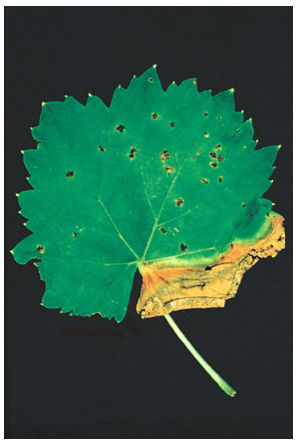

Figure 3. Leaf with necrotic leaf spots and marginal necrosis. (Courtesy APS)

Figure 4. Dead canes in vineyard with severe disease. (Courtesy C. Manceau/N. Schaad)