Brooks Spot

Mycosphaerella pomi

I. Introduction: Brooks spot is a minor disease that occurs throughout the northeastern and mid-Atlantic apple growing regions of the U.S. and occasionally as far westward as Iowa. Some of the more susceptible common commercial cultivars include 'Jonathan', 'Golden Delicious', 'Stayman Winesap', 'Grimes Golden', and 'Rome Beauty'.

II. Symptoms: Brooks spot first appears as irregular, slightly sunken dark green lesions typically on the calyx end of immature apple fruit (photo 2-37). As the fruit matures, the lesion turns dark red or purple on red areas of the fruit and remains dark green on green or yellow areas (photo 2-38). The disease is sometimes confused with the physiological disorders Jonathan spot, cork spot, and bitter pit. However, Brooks spot usually appears earlier in the season and shows little browning of the flesh underneath the lesion. Jonathan spot lesions are usually more round and the lesion edge is more abruptly sunken, with a shallow browning of the flesh underneath.

III. Disease Cycle: Primary infection is initiated by ascospores which are discharged from overwintering leaves in late spring and early summer.

Ascospores germinate in six hours at 61 to 75 F (16 to 24 C). Leaf infection through stomata can occur after 96 hours of continuous wetting at 68 F (20 C), but infection may be enhanced by alternating wetting and drying conditions. Fruit lesions appear in July and August. Secondary infection is not known to occur. Leaf infections remain inactive until late summer when small purple lesions begin to appear. Following leaf fall, the fungus colonizes the leaf extensively.

IV. Monitoring: Ascospores are discharged from overwintering leaves in late spring and early summer. Wetting periods of six hours or more at 61 to 75 F (16-24 C) can be recorded as infection periods. Fruit lesions may begin to appear in early July. Monitoring of fruit symptom development (photo 2-37) is useful to improve recognition of this minor disease and its control in subsequent years; however, by the time symptoms are recognized it is usually too late to control in the year of infection and there is no secondary infection.

V. Management: Most of the fungicides used in the early cover sprays for summer diseases are effective against the Brooks spot fungus. The sterol demethylation inhibitor (DMI) fungicides used for early season scab, mildew, and rust control are ineffective.

TEXT PREPARED BY K. S. YODER

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