


Stone Fruit IPM for Beginners

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Chapter 10

Cherry leaf spot

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Cherry leaf spot

Blumeriella jaapii

Hosts

Tart cherry, sweet cherry

Time of concern

Late bloom through post-harvest

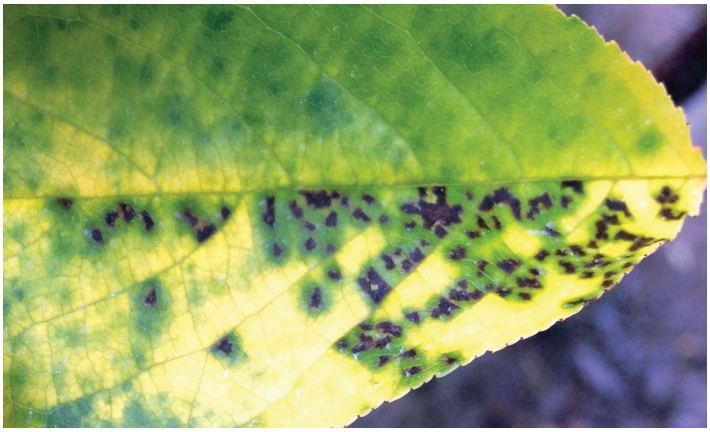
Damage, symptoms, disease cycle

Circular purple lesions that produce white spore masses indicate leaves are infected with leaf spot. Infected leaves turn yellow and drop prematurely. Significant infections early in the season can cause premature defoliation of entire trees resulting in yield reduction, a greater susceptibility to winter injury, tree health decline and premature tree death.

Cherry leaf spot is a fungal disease that infects leaves primarily on tart cherries and to a lesser extent on sweet cherries. The fungus overwinters on dropped leaves that were infected in the previous season. In the spring, the fungus forms fruiting bodies (apothecia) on infected leaves from the previous season that reside on the orchard floor. Ascospores, the life stage that infects leaf tissue, are released from asci on the apothecia during rainy periods. Ascospores that land on susceptible leaves germinate and infect through breathing pores or stomates on the leaves. Circular purple lesions appear where successful infection occurs and white masses of spores called conidia grow on the undersides of lesions. Rain and heavy dew spread the conidia to adjacent leaves and initiate secondary infections. This cycle continues through post-harvest until all leaves have fallen for the season.

IPM steps for beginners

Preventing the onset of infection and disease progress throughout the season is key for managing cherry leaf spot. Once infection occurs, it can be very difficult to stop its spread as most fungicides will not eradicate the fungus.



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Purple lesions and chlorosis caused by infection of the cherry leaf fungus on the top of a tart cherry leaf (above) and bottom (below).

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- Delay the onset of infection through an effective management program in the current season to reduce inoculum load for next year's season.
- Prune to increase airflow in the canopy, which can improve fungicide coverage on foliage as well as reduce relative humidity in the canopy and drying time of leaves to minimize infection severity.
- Begin management programs when the first true leaves are expanded, which indicates that stomates are present, open and susceptible to infection. Leaf susceptibility often coincides with late bloom timing.
- Refer to MSU's current Fruit Management Guide for suggested fungicide options relative to growth stage; read and make applications in accordance with fungicide labels.

► Fungicides containing the active ingredient chlorothalonil are typically used early in the season. Using chlorothalonil products is not permitted after shuck split and before harvest.

Ready for more precision

Leaf spot infections are directly dependent on temperature and the duration of wet weather events (Figure of Eisensmith and Jones 1981 table). Therefore, monitoring weather and understanding when conditions are favorable for infection to occur is critical for effective management. The key to managing leaf spot is to prevent or delay the onset of infection for as long as possible. Currently available fungicides do not provide adequate leaf spot control after leaves are infected. These materials are protectant fungicides, meaning sprays should be applied prior to predicted periods of wet or humid weather that could trigger infections to prevent the onset of infection.

A cherry leaf spot disease model on Enviro- weather incorporates data on the disease's development in relation to past and current weather conditions to determine whether a particular location has experienced a possible infection period. Using real time data, the model assesses the severity of infection periods. This model helps growers assess the effectiveness of their management programs and decide when to apply or reapply a fungicide.

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