The Plant Doctor's LANDSCAPE TIPS

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HAWTHORN LEAF SPOT

INTRODUCTION:

Hawthorn (Crataegus sp) is a common landscape tree that is also found naturally in woodlots throughout the Midwest. Hawthorn contracts a number of problems that are common on other rosaceous plants; these include fireblight, cedar-hawthorn rust and various foliar diseases. One of the most common hawthorn foliar diseases is called Hawthorn Leaf Spot also called Entomosporium leaf spot. Hawthorn Leaf Spot is cause by the fungus Entomosporium mespili (=sexual state, Diplocarpon mespili). The fungus received its name, Entomosporium, from the observation that one of its spore types appears similar to a microscopic insect. Entomosporium leaf spot has been reported on a variety of other plant hosts: apple, crabapple, mountain ash, cotoneaster, firethorn, Indian hawthorn, Yedda hawthorn, loquat; photinia, flowering quinces, serviceberry, etc..

SYMPTOMS AND DISEASE CYCLE:

Under favorable conditions, Hawthorn leaf spot may cause susceptible hawthorn trees to be practically defoliated (Photo 1). Upon closer examination, Hawthorn Leaf Spot appears as scabby lesions on the leaves (Photo 2 and 3). The number of lesions that develop during a season depends on the environmental conditions. During dry years, the number of lesions may be low. During damp years or in landscapes that receive frequent, overhead irrigation, scab lesions may be quite plentiful. When lesions are very common, they may appear to coalesce and the entire leaf becomes rusty brown. Also, when lesions are abundant, there is a greater tendency for the leaves to be cast from the trees. Severe defoliation may leave some people to conclude that the trees are dead; as with Apple Scab, defoliated trees are still quite viable. Typically, trees may re-foliate the same season or the following spring. Many years of defoliation may weaken trees and make them more susceptible to winter injury and other factors.

The disease cycle for Hawthorn leaf spot is similar to Scab on Apple and Crabapple. The fungus overwinters on fallen leaves. During the spring, spores are ejected from overwintering sites and land on newly emerging leaves. If there is sufficient moisture on the leaves, the spores may germinate and infect the leaves. Cool, wet weather favors infection and disease development. During the formation of lesions, thousands of spores are produced within each lesion. These spores subsequently spread to new foliage and cause new lesions. As with scab on apple, there may be several spore production and infection cycles during a given season. With abundant lesions, the leaves usually become yellow and drop to the ground. The fungus survives overwinter in decomposing foliage.

HAWTHORN LEAF SPOT MANAGEMENT:

Leaf spot on Hawthorn is managed similarly to many other foliar diseases. To reduce the risk of infections, avoid frequent overhead irrigation that creates mist in the landscape. Mist causes leaf wetness, which favors infection of the foliage by the fungal spores. Raking and destroying the leaves in the fall may help reduce spore populations and subsequent infections during the following spring. Thorough composting is generally conducive to destroying the viability of spores. Some hawthorns, such as cockspur (C. crusgalli) and Washington (C. phaenopyrum), are reported to be resistant to leaf spot. If necessary, fungicides may be applied beginning at bud break, and repeating several times at 10-14 day intervals while cool wet weather persists during the spring and early summer.

For more information, please feel free to email me at robertsd@msu.edu or contact a professional plant health-care provider. The author, MSU or MGIA do not endorse any particular products. If using pesticides, be sure to read and follow label directions.

Photo 1. These hawthorns were severely defoliated by Hawthorn leaf spot. Frequent, overhead irrigation at this resort was conducive for disease development. Note that the lower portions of the trees were most affected- where irrigation induced the greatest infection.

Photo 2. Many branches on this hawthorn tree were more than 50% defoliated by the fungus Entomoporium mepili, the cause of Hawthorn Leaf Spot.

Photo 3. A close examination of the leaves reveals the scabby, rusty lesions typical of hawthorn leaf spot. With many infections, leaves eventually turn yellow and prematurely drop from trees.