Marssonina Leaf Spot on Quaking Aspen

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Quaking aspens, *Populus tremuloides*, are a widely used tree by many homeowners and professional landscapers. Aspens are fast growing and their ornamental beauty is sought after because of their white bark and leaves that shimmer and flutter in the slightest breeze. Unfortunately, aspens are prone to disease problems and as landscape maintenance professionals, it is important to recognize and be able to diagnose common problems associated with aspens. This report will address a problem commonly referred to as “black leaf spot” on quaking aspens.

Symptoms

The leaves of the aspen will have brownish/black spots on them. They will first appear in the spring as small brown spots or flecks approximately 1 to 5 mm in size and may coalesce to form larger necrotic areas as the growing season progresses (1). The tree from which I removed the leaf samples had a tattered appearance on the foliage and the leaves were starting to yellow. Obviously, since it is fall and the leaves are starting to senesce, the yellow color could be a symptom of the disease or simply physiological as the tree begins its dormancy. Figure 1 shows what the leaves would look like

Figure 1 Diseased aspen foliage.

during the summer when homeowners and landscapers realize that “something is wrong” with the tree. As Figure 2 shows, the leaves are tattered with yellowing on the edges, and black spots are visible. The overall structure of the tree is not damaged, and to an untrained eye most people would not realize that any thing is wrong. Severe outbreaks can cause foliar browning in midsummer and nearly complete defoliation by early August. Regrowth can occur but will possibly die back because it is not cold hardy. Also, defoliated trees will produce less wood for one or more years after an outbreak (3). It is unknown to me if the tree underwent this type of defoliation.

Figure 2. Diseased leaves.

Causal Agent

The pathogen for this disease in a fungus, *Marssonina brunnea,* that overwinters in fallen leaves or shoot lesions on the tree. *M. Brunnea* will infect a tree after leaves emerge in spring when water disperses the conidia. Wind and rain can disperse a secondary spread of conidia during the growing season (1, 3).

Another fungus, *Venturia macularis*, exhibits some of the same symptoms as *M. brunnea*. To properly diagnose the causal agent, the fungal spores and fruiting bodies should be viewed under a microscope.

Control

To alleviate overwintering of the fungal spores, it is important to completely dispose of all leaves. They should not be composted, nor used in any

manner in the landscape. At budbreak, a fungicide such as Daconil can be applied. Repeated applications may be necessary (2).

References

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3. Sinclair, W.A., Lyon, H.H., Johnson, W.T. 1987. Diseases of Trees and Shrubs. Ithaca, NY: Cornell University Press.