

Tar Spot of Maple: *Rhytisma* spp.

Introduction

Several different fungi in the genus *Rhytisma* infect the leaves of maples and cause raised, black spots to form on upper leaf surfaces. The diseases are called "tar spots" because their appearance so closely resembles droplets of tar on leaf surfaces. Tar spot alone is rarely serious enough to threaten the health of trees, but sometimes there can be so many spots that the tree becomes unsightly. Heavy infections can also cause early leaf drop - a circumstance that causes the greatest consternation to homeowners because lawns are littered and must be raked before autumn officially arrives. In several upstate New York communities tar spot on Norway maple is particularly troublesome because of early leaf drop.

Symptoms and Signs

The first symptoms of infection by a tar spot fungus usually show up in mid-June as small (less than 1/8-inch diameter), pale yellow spots. The spots enlarge and their yellow color intensifies as the season progresses. On red maple and silver maple, a black spot usually develops in each yellow spot by mid-July to early August. The black spot grows in diameter and thickness until, by late summer, it truly does look like a spot of tar. The surface of the spot may have a pattern of wavy indentations or ripples.

Another form of tar spot affects striped and Norway maples. On these trees 20 to 50 small spots, each no larger than a pinhead, appear in late July or early August. On striped maple, the spots do not enlarge much after they first appear. On Norway maple, however, the spots

grow and eventually coalesce to yield a larger black mass up to 1 & 1/2 inches in diameter (Fig. 1). The surface may be slightly roughened to smooth but will not be rippled. The fungus may allow attacking the seeds of maple (Fig. 2).



Figure 1: Typical appearance of tar spot on Norway maple leaves in late summer in New York State.



Figure 2: Tar spot on maple samaras.

Disease Cycle

The fungi that cause tar spots to overwinter on infected leaves that fall to the ground. The following spring, just as new leaves are unfolding, the fungal tissue in the leaves on the ground ripens. The surfaces of the spots split and minute, needlelike spores escape. The spores are carried about by wind and if they land on new leaves of a susceptible host they may germinate, penetrate the leaf tissue, and start a new disease cycle.

Management Strategies

Current research has shown that the tar spot fungus does not cause long-term damage to the host. The most effective management practice in a home lawn situation is to rake and destroy leaves in the fall. This will reduce the number of overwintering "spots" (containing the fungal reproductive structures) which can produce spores the following spring. However, where other infected trees are growing nearby, those leaves should also be raked and destroyed. Mulching leaves will suffice to destroy many of

the spots before they mature, but the mulch pile should be covered or turned before new leaves begin to emerge in the spring.

Application of fungicides is possible when high levels of infection become unacceptable, but control of the disease is difficult. Complete coverage of leaf tissue is needed for success, and this can be difficult on mature maples. Also, the appearance of the disease has become widespread across much of New York State, and if others in a neighborhood setting are not managing the disease on their trees with fungicides or proper sanitation, the act of spraying may be a waste of time and money. We cannot recommend that homeowners attempt to treat large trees. If pesticide application is desirable, consult a licensed tree care professional. If fungicides are used, applications may be needed most years.

Note: If maple leaves crinkle and turn brown in June or July, another common disease of maple may be present. Refer to our fact sheet on Anthracnose of Trees and Shrubs for more information on that disease.

References

Sinclair, Wayne A. and Howard H. Lyon. 2005. Diseases of Trees and Shrubs, 2nd ed. 660 pages Comstock Pub. Associates.

Hudler, George & Banik, Mark. (1987). Unusual Epidemic of Tar Spot on Norway Maple in Upstate New York. Plant Disease - PLANT DIS. 71. 10.1094/PD-71-0065.

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READ THE LABEL BEFORE APPLYING ANY PESTICIDE! Changes in pesticide regulations occur constantly. All pesticides distributed, sold, and/or applied in New York State must be registered with the New York State Department of Environmental Conservation (DEC). Questions concerning the legality and/or registration status for pesticide use in New York State should be directed to the appropriate Cornell Cooperative Extension Specialist or your regional DEC office.

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