



Extension FactSheet

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Lepto Leaf Spot of Alfalfa

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Lepto leaf spot is a common and frequently serious foliar disease of alfalfa throughout the midwestern and eastern U. S. It is caused by *Leptosphaerulina briosiana*, a fungus that rapidly spreads within a field by means of its airborne spores. Lepto leaf spot reduces both yield and quality of harvested forage when infection is severe; however, the disease is not lethal, and its effects rarely persist into the next cutting.

Symptoms

Lepto leaf spot affects leaves, petioles, and stems, although stem infection is usually very light. Small dark specks known as “pepper spots” are the first symptoms on leaves (Figure 1). These lesions enlarge to oval or elliptical “eyespots” with tan centers and dark brown borders (Figure 2). Such lesions are usually surrounded by a yellow “halo.” An additional distinguishing feature of Lepto leaf spot is that the longitudinal axis of the lesion is usually oriented parallel to the veins that extend from the midrib of the leaf to the leaf margin. The chlorotic halo coupled with the shape and orientation of the lesion are usually sufficient to distinguish Lepto leaf spot from other foliar diseases

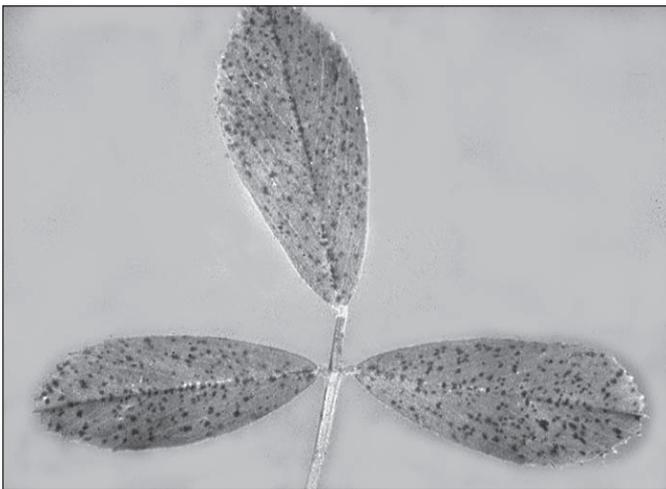


Figure 1. “Pepper spots” are the earliest symptoms of Lepto leaf spot.



Figure 2. Older lesions are sometimes called “eyespot” and are usually surrounded by a chlorotic (yellow) halo.

such as common leaf spot, spring black stem, or rust. When conditions are optimum for growth of the pathogen, lesions may merge to blight entire leaflets (Figure 3). Heavily infected leaflets eventually drop to the ground.

Infection within a field is relatively uniform, with virtually all plants showing some level of infection. Fields with heavy infection often have a yellow cast (Figure 4) which can be mistaken for infestation by the potato leafhopper.

Disease Development and Spread

L. briosiana overwinters in dead leaves and stubble. Spores (ascospores) are discharged from fruiting bodies in dead leaves



Figure 3. Severe infection results in death of leaflets which then drop to the ground.



Figure 4. Yellowing of an entire field caused by Lepto leaf spot.

on the ground, and carried by air currents to susceptible foliage. Because *L. briosiana* can grow and reproduce over a relatively wide temperature range, disease outbreaks can occur in Ohio from April through October. Leaf infection is most common during periods when leaves remain wet for extended periods. Fruiting bodies rarely develop in leaves that are still attached to the plant. After leaves drop to the ground the fungus rapidly colonizes the senescent leaf tissue, produces its fruiting bodies, and discharges its spores. The degree of infection in a field is largely dependent on how rapidly this cycle is completed prior to each cutting.

Control

Alfalfa varieties differ in their degree of resistance to Lepto leaf spot. Although a standardized list of resistant varieties is not yet available, individual marketers frequently have information about Lepto leaf spot resistance of their varieties.

Because the pathogen takes time to build up on each cutting, alfalfa managed on a four-cut system is less likely to be severely affected by Lepto leaf spot than alfalfa managed on a three-cut system.

Cupric hydroxide, sold in different formulations and under various commercial names, is labeled for control of Lepto leaf spot in alfalfa, although beneficial effects from the use of this chemical have not been widely reported.

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