

Northern Corn Leaf Blight

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Northern leaf blight (NLB) is a fungal disease found in humid climates wherever corn is grown. The disease thrives when relatively cool summer temperatures coincide with high humidity and available moisture. The number of NLB outbreaks has increased considerably over the past 5 years. Since this disease Corn silage yield and quality losses from this disease can be significant. Therefore it is important for us to gain a better understanding of the disease cycle, symptoms, and management practices that can be employed to reduce the impact of NLB on the corn crop.

Disease Cycle

Northern corn leaf blight is caused by the fungus *Exserohilum turcicu*. It overwinters as mycelia and conidia in diseased corn stalks (Figure 1). In the spring and early summer, spores are produced on this crop residue when environmental conditions are favorable. Primary infections occur when spores are spread by rain splash and air currents to the leaves of new crop plants. Infection will occur if free water is present on the leaf surface for 6 to 18 hours and temperatures are 65 to 80°F.

Secondary infections occur readily from plant to plant, and even from field to field. Infections generally begin on lower leaves first and then progress up the plant. Heavy dews, frequent light showers, high humidity, and moderate temperatures favor the spread of the disease.

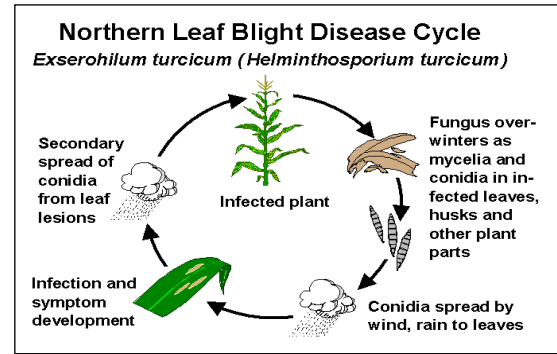


Figure 1. Lifecycle of NLB.

Disease Symptoms



Figure 2. Characteristic tan cigar shaped lesions of NLB (photo Univ. KY)

Within 2 weeks of infection grey elliptical lesions begin to develop on the leaves. Over time the cigar shaped lesions become tan as they enlarge (Figure 2). Under moist conditions, the lesions produce dark gray spores on the lower leaf surface. As many lesions enlarge and coalesce, entire leaves or leaf areas may be covered.

It is obvious that the more leaf area that becomes damaged from this disease the more yield and quality losses that maybe incurred. Generally, the damage on the plants is seen after silking, however, there have been earlier infections reported in the moist valley regions.

Disease Management

One of the most effective means of managing NLB is selecting resistant corn hybrids (Figure 3). Since we have not recognized this disease as a major threat focus on resistant hybrid selection has not been a priority. Hybrids with above average resistance to NLB should be planted. Work with your corn seed representative to select hybrids that meet these criteria.

Since corn residues harbor the disease, all fields that are grown for grain may be at the greatest risk for disease infection. In areas where NLB problems have occurred in recent years, reducing any previous corn residue is important to minimize disease inoculum and its effects. Corn residue can be reduced through several practices including crop rotation and moldboard plowing. Remember that this disease has been seen primarily in continuous corn silage fields in Vermont. Therefore any amount of residue will build increase the risk of this disease.

Although there are fungicides available to protect the corn from this disease they are generally not considered cost effective in corn silage systems.

If you suspect that your corn has Northern Corn Leaf Blight please report the incidence to UVM Extension Agronomists Heather Darby & Sid Bosworth. For more information please contact Heather Darby at (802) 524-6501 or heather.darby@uvm.edu.



Figure 3. NLB susceptible (left) and resistant (right) silage hybrid in Vermont.

