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Leaf Blights of Corn

Purdue University Cooperative Extension Service
Leaf Blights of Corn

Three leaf blights attack corn in Indiana. How prevalent and how severe these blights become varies from area to area and year to year, depending on the weather. The earlier these diseases appear in the summer, the more the leaf area is destroyed and, consequently, the greater the loss in grain yields.

DESCRIPTION AND SYMPTOMS

Northern Corn Leaf Blight

Northern corn leaf blight is most common in the southern two-thirds of Indiana, although it may occur in localized northern areas. This disease is most destructive in wet seasons. If it is severe by mid-August, farmers can expect heavy reduction in yields. Severe cases of this and other leaf diseases also increase the plants' susceptibility to stalk rots.

The distinguishing symptom is elliptical spots or lesions scattered over the leaves. These spots are tan to gray-green and may show faint concentric rings of spore masses on their surface. Generally, the lower leaves show the disease first. Where conditions favor spread, all the leaves soon become nearly covered with lesions. Heavily infected fields look dry and fired as though injured by frost.

Northern corn leaf blight is caused by the fungus Helminthosporium turcicum.

Southern Corn Leaf Blight

This disease is confined largely to the southern one-third of Indiana. It has been found as far north as Lafayette, but only in minor amounts. Like northern corn leaf blight, it thrives under high moisture conditions.

The leaf lesions of southern blight are much smaller than those of northern corn leaf blight, and are parallel-sided, not elliptical. The spots are tan or grayish-brown. Like northern leaf blight, heavily infected fields look dry and fired.

Southern corn leaf blight is caused by the fungus Helminthosporium maydis.

Bacterial Wilt or Stewart's Disease

Bacterial wilt is mainly a disease of sweet corn, but occasionally it will attack dent corn. On dent corn, the so-called late infection stage can seriously damage leaves. Bacterial wilt is more common to southern Indiana.

The symptom of the late infection stage is long, irregular lesions along the veins of the leaves. These spots are first light green or yellowish. As they broaden, the central areas turn brown, dry up and shatter; the edges are usually yellowish. Spots may become so numerous that very little green leaf area remains. Under such
severe infection, yield is reduced, and the plant becomes susceptible to stalk rot.

Careful examination will reveal flea beetle feeding marks associated with every spot. These feeding marks are fine, irregular scratches or etchings that are particularly distinct when the leaf is held to the light.

Bacterial wilt is caused by Xanthomonas stewartii, which overwinters in hibernating flea beetles. In the spring and summer, the insects spread the disease with their contaminated mouthparts.

Low winter temperatures reduce the number of beetles that overwinter and, therefore, reduce the severity of the disease the following spring. If the sum of the average temperatures for December, January and February is 90 degrees or more, a large number of beetles survive; if this sum is only 70 degrees, few beetles survive.

### CONTROLLING CORN LEAF BLIGHTS

Resistant hybrids provide the only effective control for northern and southern corn leaf blights and bacterial wilt. Purdue University, in cooperation with the USDA, has developed six new blight resistant, double cross hybrids. These hybrids, now released for certification, are Ind. 851, Ind. 874, Ind. 828, Ind. 872, Ind. 814 and Ind. 837. The last two are also stalk rot-resistant.