Plant Pathology Circular No. 94
May 1970

Fla. Dept. of Agr. and Cons. Serv.
Division of Plant Industry

HELMINTHOSPORIUM LEAF BLIGHTS OF SWEET CORN

C. Wehlburg

The most important leaf diseases of sweet corn are the leaf blights caused by either Helminthosporium turcicum Pass. or by H. maydis Nisikado & Miyake.

Northern Leaf Blight is caused by Helminthosporium turcicum. The disease appears in late fall or early winter and from that time on may be present until the end of the crop season. Northern leaf blight is favored by relatively cool temperatures ranging from 65 to 80 F. The characteristic symptoms are large spindle-shaped, straw colored or tan spots on the leaf blade, up to 1/2 inch wide and sometimes more than 3 inches long (Fig. 1A). Several lesions may merge to produce large areas of dead tissue, especially toward the leaf tip. Generally the lower leaves show more and larger lesions; as the disease progresses, more spots also appear on the higher leaves, further reducing the area of green leaf tissue which increases the damage to the plant. Losses range from very light to as much as 80% of the yield, depending on the severity of the attack and the time when the disease appears.

Southern Leaf Blight caused by Helminthosporium maydis is favored by warm, humid weather and is generally found in early fall and again in late spring. During part of the growing season the symptoms of both helminthosporium diseases may be found on the same leaf.

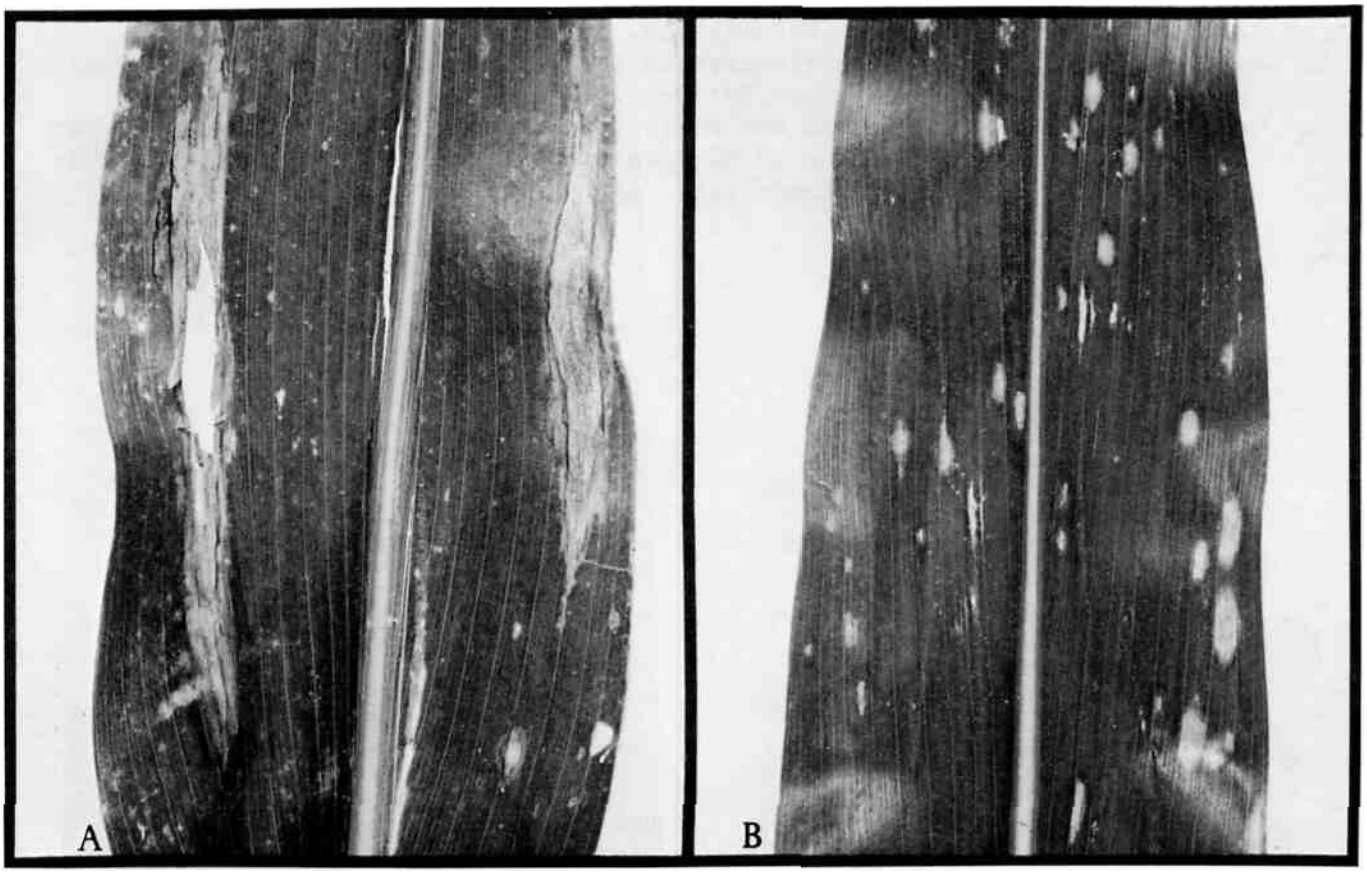

Fig. 1. A. Northern leaf blight. B. Southern leaf blight.

The lesions of this disease are easily distinguished from those produced by H. turcicum. They are much smaller, with more or less parallel sides and a lighter, almost creamy white color. The spots may be up to 1 inch long and 1/4 inch wide, but generally they are not much longer than their width (Fig. 1B).

As is the case with northern leaf blight, the lesions appear on the lower leaves first and if conditions of temperature and moisture are favorable for the development of the disease, even the highest leaves gradually become covered with spots.

Southern leaf blight is less common than northern leaf blight and losses from this disease usually are not severe unless the corn variety is very susceptible and weather conditions favor the disease.

CONTROL. There are a number of fungicides, among them maneb, Dithane M-45, and zineb, that give good control under conditions of low and moderate disease incidence. If temperature and rainfall are favorable to the development of the disease, it is almost impossible to keep the corn plants free of the disease. Frequency of fungicide application varies with weather conditions and may range from once every 10-14 days to twice weekly. The fungicide applications should continue until about 10 days before harvest. A minimum of 150 to 200 gallons of spray per acre is necessary to cover the leaves of full-grown corn; young plants need proportionally less spray.

References

1. Darby, *J.* F. 1953. Diseases and their control, p. 16-20. In Walter A. Hills et al. Sweet corn production on the sandy soils of the Florida lower east coast. Univ. of Florida. Gainesville. Agr. Exp. Sta. Bull. 520.
2. Ullstrup, A. *J.* 1961. Corn diseases in the United States and their control. U.S.D.A. Agriculture Handbook 199:15-17.
3. Wehlburg, C. 1967. Diseases and their control, p. 28-31. In V. L. Guzman et al. Sweet corn production on the organic and sandy soils of south Florida. Univ. of Florida. Gainesville. Agr. Exp. Sta. Bull. 714.