



Extension FactSheet

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Northern Corn Leaf Blight

Patrick E. Lipps and Dennis Mills
The Ohio State University

Northern corn leaf blight (NCLB), caused by the fungus *Exserohilum turcicum* previously called *Helmithosporium turcicum*, can cause yield losses in humid areas where corn is grown. In Ohio, NCLB can occur throughout the state but usually does not appear in fields before silking. This disease rarely causes significant yield losses during dry weather, but during wet weather it may result in losses of over 30% if established on the upper leaves of the plant by the silking stage of development. If leaf damage is only moderate or is delayed until 6 weeks after silking, yield losses are minimal. Northern corn leaf blight also predisposes corn to stalk rot by increasing stress on the plants.

Symptoms

The telltale sign of northern corn leaf blight is the one-to-six inch long cigar-shaped gray-green to tan-colored lesions on the lower leaves. As the disease develops, the lesions spread to all leafy structures, including the husks. The lesions may become so numerous that the leaves are eventually destroyed causing major reductions in yield due to lack of carbohydrates available to fill the grain. The leaves then become grayish-green and brittle, resembling leaves killed by frost. Yield losses can reach as high as 30-50% if the disease establishes itself before tasseling.

Disease Cycle

The fungus causing NCLB overwinters as mycelia and conidia on corn residues left on the soil surface. The conidia are transformed into thick-walled resting spores called chlamydospores. During warm, moist weather in early summer, new conidia are produced on the old corn residue, and the conidia are carried by the wind or rain

to lower leaves of young corn plants. Infection by germinating conidia occurs when free water is present on the leaf surface for 6-18 hours and the temperature is between 66 and 80°F (18-27°C). Lesions develop within 7-12 days. Secondary spread within fields occurs by conidia produced on the leaf tissues.

Several physiological races of the NCLB fungus are known to occur in the United States. In Ohio, several races have been found.

Management

Planting resistant hybrids is the most effective method for control of NCLB. Two types of resistant hybrids are available to growers to control northern corn leaf blight: partial resistant hybrids, which protect against all four of the known races of the fungus and race-specific resistant hybrids, which protect against a specific race. Partial re-



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sistant hybrids are the most common, but hybrids with both types of resistance are available. Resistant hybrids should be planted in all commercial dent corn production fields.

A one- to two-year rotation away from corn and destruction of old corn residues by tillage may be helpful in controlling the disease if susceptible hybrids must be grown.

Fungicide sprays are recommended only for fresh market sweet corn and hybrid seed production fields. The spray schedule should start when the first lesions appear on the leaf below the ear. Several fungicides are available for use on corn for NCLB control. Read labels for rates and follow application directions which vary with each fungicide product.

This publication contains pesticide recommendations that are subject to change at any time. These recommendations are provided only as a guide. It is always the pesticide applicator's responsibility, by law, to read and follow all current label directions for the specific pesticide being used. Due to constantly changing labels and product registration, some of the recommendations given in this writing may no longer be legal by the time you read them. If any information in these recommendations disagrees with the label, the recommendation must be disregarded. No endorsement is intended for products mentioned, nor is criticism meant for products not mentioned. The authors, Ohio State University Extension, and the Ohio Agricultural Research and Development Center assume no liability resulting from the use of these recommendations.

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Keith L. Smith, Associate Vice President for Ag. Adm. and Director, OSU Extension

TDD No. 800-589-8292 (Ohio only) or 614-292-1868

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