

# Cephalosporium Stripe of Winter Wheat in Wyoming

J. A. FERNANDEZ, Assistant Professor, and M. S. McSHANE, Graduate Research Assistant, Plant Pathology Section, Division of Plant Science, University of Wyoming, Laramie, WY 82071

## ABSTRACT

FERNANDEZ, J. A., and M. S. McSHANE. 1980. Cephalosporium stripe of winter wheat in Wyoming. *Plant Disease* 64:1117.

Cephalosporium stripe was observed on winter wheat in Laramie and Platte counties, Wyoming, in 1980. Most plants had typical symptoms, although some leaves also showed mild mosaiclike flecking. This is the first report of Cephalosporium stripe in Wyoming.

Cephalosporium stripe of wheat (*Triticum aestivum* L.), incited by *Cephalosporium gramineum* Nis. & Ika. (= *Hymenula cerealis* Ell. & Ev.), is common in Kansas and in the Northwest and Great Lakes regions of the United States (3). It was first reported in the United States by Bruehl (1). Herein we report for the first time the occurrence of Cephalosporium stripe in Wyoming.

In May 1980, Cephalosporium stripe symptoms were observed on winter wheat in commercial fields and experimental plots in Laramie and Platte counties, Wyoming. Symptoms included typical longitudinal, chlorotic striping; some leaves had a mild mosaiclike flecking. Local growers attributed these symptoms to wheat streak mosaic, which is endemic; however, isolations from leaves, culms, and roots of diseased plants consistently produced cultures of *C. gramineum*, confirming field diagnoses of Cephalosporium stripe.

Growers in this area generally employ a

winter wheat-fallow-winter wheat rotation in alternating strips about 30–50 m wide. Fallow strips are usually left undisturbed during winter, and residues of the previous crop are plowed the following spring. Since *C. gramineum* survives on host debris on or near the soil surface (3), this management regime would favor development of Cephalosporium stripe. Thus, Cephalosporium stripe has probably occurred previously in southeastern Wyoming, but at low levels, and has not been noticed.

The disease outbreak probably occurred in 1980 because of the unusual environmental conditions, optimum for Cephalosporium stripe development, which prevailed during the winter wheat crop season. In this regard, Bruehl (2) observed that Cephalosporium stripe is common in areas of Washington State where soil moisture accumulations are relatively high during fall and winter months due to poor soil drainage or high precipitation. High soil moisture is thought to predispose soils to heaving in early spring, thus damaging the roots of wheat plants and allowing entry of *C. gramineum*. Although soils of the

southeast wheat-growing regions of Wyoming are generally coarse loamy and fine loamy mollisols and entisols with good percolation properties, precipitation during the fall and winter of 1979–1980 was abnormally high. Precipitation ranged from 6.3 to nearly 12.7 cm above normal in the affected areas between August 1979 and February 1980. In the early spring of 1980 soil, especially in lower portions of fields, was generally saturated with water and predisposed to heaving. Thus, environmental conditions conducive to the development of Cephalosporium stripe apparently were the primary factor resulting in the unusual outbreak of this disease in southeastern Wyoming.

The inoculum levels of *C. gramineum* have probably increased dramatically in affected fields; therefore, the potential for serious outbreaks of Cephalosporium stripe now exists in these areas. If conducive environmental conditions again develop, recurrence of this disease should be expected.

## ACKNOWLEDGMENTS

We thank Jean Rehmeier and Nancy A. Cope for technical assistance.

## LITERATURE CITED

1. BRUEHL, G. W. 1956. Cephalosporium stripe disease of wheat in Washington. *Phytopathology* 46:178-180.
2. BRUEHL, G. W. 1968. Ecology of Cephalosporium stripe disease of winter wheat in Washington. *Plant Dis. Rep.* 52:590-594.
3. WIESE, M. V. 1977. *Compendium of Wheat Diseases*. American Phytopathological Society, St. Paul, MN. 106 pp.

Wyoming Agric. Exp. Sta. Journal Article 1098.

0191-2917/80/12111701/\$03.00/0

©1980 American Phytopathological Society