

Crazy Top of Corn in North Dakota

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ABSTRACT

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In August 1978, several plants in corn-breeding plots at North Dakota State University, Fargo, showed symptoms identical to those of crazy top of corn caused by *Sclerophthora macrospora*. The disease, not considered serious, was not detected in any commercial cornfield in the state.

Crazy top caused by *Sclerophthora macrospora* (Sacc.) Thirum., Shaw, and Naras. (= *Sclerospora macrospora* Sacc.) is a widespread, sporadically occurring corn disease of minor importance

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reported throughout much of the United States and to some extent in Mexico, Canada, Europe, Africa, and Asia (1,2). Besides corn, several species of Gramineae, including sorghum, wheat, oats, barley, crabgrass (*Digitaria sanguinalis*), barnyard grass (*Echinochloa crus-galli*), green foxtail (*Setaria viridis*), and witchgrass (*Panicum capillare*), are susceptible to *S. macrospora* (4,5).

In August 1978, several corn (*Zea mays*) plants in breeding plots at North Dakota State University, Fargo, showed symptoms identical to those described for crazy top of corn caused by *S. macrospora* (3,4,5,6). The diseased plants were stunted and profusely tillered, and some

leaves were thickened and tightly rolled. The tassels were replaced with proliferous masses of leafy structures. The weight of the larger diseased tassels was enough to bend the stalks, and the leafy mass tended to hang bell-like. Globose multinucleate oospores, 45–65 μm in diameter, and mycelium embedded in the foliate tassels agreed with previous descriptions of *S. macrospora* (5,6). Also, typical lemon-shaped sporangia attached to short, simple sporangiophores (4) were occasionally produced on detached corn leaves held in water for 1–24 hr at 18–20 C.

Infection by zoospores requires water-saturated soil sometime between planting and the three-to-four-leaf stage. Melting snow and spring rains in 1978 saturated the soil in low-lying areas of the corn-breeding plots at Fargo, providing the moisture needed for infection.

In the early 1960s, *S. macrospora* was reported on smooth brome (*Bromus inermis*) near Kenmare, ND, and on quackgrass (*Agropyron repens*) at Fargo

(4). To my knowledge, this is the first report of *S. macrospora* causing crazy top of corn in North Dakota. The disease is not considered serious and was not detected in any commercial cornfield in North Dakota during 1978. However, the widespread occurrence of crazy top in the NDSU corn-breeding plots indicates that the disease can occur in North Dakota when climatic conditions are favorable.

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