

بِسْمِ اللَّهِ الرَّحْمَنِ الرَّحِيمِ

CULTURAL CHARACTERISTICS AND HOST SPECIFICITY OF
COLLETOTRICHUM GRAMINICOLA (CES.) WILS. AND
ANTHRACNOSE DEVELOPMENT IN SORGHUM

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To

The Controller of Examinations,
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In the memory of my
beloved father, the
late M. M. Zahir Uddin

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ABSTRACT

Shahnaz, Farhat Fatima. Ph.D., University of Agriculture, Faisalabad, Pakistan, 1979. Cultural Characteristics and Host Specificity of Colletotrichum graminicola (Ces.) Wils. and Anthracnose Development in Sorghum.

This research was conducted under the direction of Dr. Ralph L. Nicholson, Department of Botany and Plant Pathology, Purdue University, West Lafayette, In, U.S.A.

Three isolates of Colletotrichum graminicola (Ces.) Wils. obtained from anthracnose infected sorghum (Sorghum vulgare Pers.), shattercane (Sorghum bicolor L. Moench) and corn (Zea mays L.) were compared for cultural behavior of growth, sporulation and germination. Oat meal agar was found to be the best medium for growth and sporulation for each of the three isolates. The sporulation of each of the isolates was also favored by media containing sucrose as a carbon source. The isolates did not show significant differences in their cultural characteristics, though minor differences were observed even within the same isolate when grown under different nutritional conditions. Twenty-two different isolates of C. graminicola from different hosts (belonging to the family Gramineae) were studied for spore morphology. The isolates produced slightly larger spores on oat meal agar than on their respective host tissues. Differences in spore morphology were not evident.

The corn, sorghum and shattercane isolates of C. graminicola differed in their pathogenicity and were host specific on juvenile host tissue when inoculated on 2 week old plants of different varieties of