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Full Length Research Paper

Field evaluation of foliar anthracnose disease response for sorghum germplasm from the Matabeleland North Province of Zimbabwe

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Abstract

Anthracnose occurs in most sorghum producing regions worldwide and the pathogen is highly variable; thus, additional sources of resistance are needed for sorghum improvement. To identify resistant sources, 41 sorghum accessions from the Matabeleland North Province of Zimbabwe were evaluated for foliar anthracnose disease response in Isabela, Puerto Rico during the 2006 and 2007 growing seasons. Eleven accessions showed a resistant response characterized by reddening of inoculated leaves and no acervuli development. Fourteen of the 30 accessions rated as susceptible showed a susceptible response within and between growing seasons. Four accessions rated as susceptible showed variation in disease response between growing seasons. In 2006, more accessions showed a susceptible response across replications, and infection of the flag leaf was more frequent; however, infection severity was greater for the susceptible accessions observed in 2007. Overall, in 2006 and 2007, infection severity was low and the majority of the accessions showed less than 10% infected leaf area. In addition to the accessions showing resistance, the accessions with low infection severity may benefit sorghum improvement programs.

Key words: Colletotrichum sublineolum, genetic resources, Sorghum bicolor.

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