0203-AN-064 Breeding Fusarium Head Blight Resistant Wheat.

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PROJECT ABSTRACT
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Wheat varieties with greater resistance to *Fusarium* head blight (FHB) would make a substantial contribution to reducing the losses from this devastating disease. The specific objectives and long-term goals of this research are the same because of the long period of time required for these activities. These objectives are:

1) Screen new putative FHB resistance sources and develop improved spring wheat germplasm containing enhanced levels of FHB resistance.

2) Develop *Fusarium* head blight resistant wheat varieties adapted for commercial production in Minnesota and the surrounding region.

Putatively resistant germplasm will be screened under greenhouse and/or field conditions, depending on seed amount and when seed is received. Promising germplasm will be crossed and backcrossed with 'Norm', a variety susceptible to FHB, but well adapted to the Upper Midwest.

Crosses will be made between and among FHB resistance sources and regionally adapted germplasm. Field and greenhouse screening of materials will be used to characterize levels of FHB resistance. Approximately 1,000 lines that are candidates for entry into preliminary yield trials will be tested once for FHB resistance under greenhouse conditions. Approximately 400 lines in preliminary yield trials will be evaluated in inoculated, misted field nurseries, nurseries at Crookston and St. Paul. Approximately 150 lines in advanced yield trials will be evaluated in greenhouse tests and in replicated field tests in inoculated, misted nurseries at Crookston and St. Paul.