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Research Area: **VDUN** **Duration of Award: 1 Year**

Project Title: Development of Scab Resistant Six-rowed Barley Varieties for North Dakota.

PROJECT 3 ABSTRACT

(1 Page Limit)

The goal of our project is to develop six-rowed malting barley cultivars resistant to Fusarium head blight (FHB) that are acceptable to producers in North Dakota and adjacent states, and acceptable to those who use and process barley. Our approach for development of FHB resistant cultivars includes use of a modified pedigree breeding methodology, an off-season FHB screening nursery in China, and off-season nurseries for seed increase in New Zealand and Arizona. Sources of FHB resistance used in this project come from two sources; unadapted FHB-resistant accessions incorporated into Midwest malting barley germplasm using pre-breeding activities by our project and adapted germplasm from Midwest barley improvement programs. During the past three years, partially resistant six-rowed barley lines with acceptable maturity and plant height have been developed, with a number of these lines being entered in the 2004 and 2005 North American Barley Scab Evaluation Nursery (NABSEN). This project specifically addresses the research priorities of the Variety Development and Uniform Nurseries research program of i) breeding and releasing FHB-resistant barley varieties and germplasm adapted to FHB-threatened states and ii) participation in the uniform FHB screening nursery for barley (i.e., NABSEN).