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Project Title: Fusarium Head Blight Resistance for Montana Spring Wheat

PROJECT 1 ABSTRACT

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The goal of this project is to introduce genes for Fusarium head blight (FHB) resistance into the germplasm base for the Montana State University public spring wheat breeding program. Primary sources of resistant lines have been from the WheatCAP program and the Uniform Regional Nursery system. FHB-resistant lines that perform well in local nurseries have been used yearly in our crossing blocks. Initial selection in head rows is for agronomic characteristics of interest to Montana growers. Lines that advance to statewide nurseries are then entered into screening nurseries conducted in Idaho and Montana. This approach will remain a key activity. In addition, in cooperation with Jason Cook, we are using markers for the Sumai3 3B QTL to introduce *Fhb1* into several of our most advanced lines and varieties. Several lines are at the fourth backcross generation, and we will now select homozygous resistant types for further agronomic and FHB testing. A key addition to the present proposal is the addition of co-PI Dr. Frankie Crutcher to increase access to inoculated nursery sites to screen a large number of lines. Our objective is to develop FHB-resistant varieties for dryland and irrigated spring wheat production in Montana