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Project Title: Pyramiding and Validating Multiple FHB Resistance QTLs in Different Winter Wheat Backgrounds.

PROJECT 1 ABSTRACT

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The economic impact of FHB on wheat production is well known. The development of cultivars with improved resistance is viewed as one of the most important approaches to reduce the impact of this pathogen. The goal of the project is to develop double haploid lines with different combinations of resistance QTLs; these lines can constitute good parental material for breeding programs as well as genetic materials to study the genetics of FHB resistance. For this purpose we are developing ~80 double-cross families derived from resistant lines, Ernie, Freedom, Lyman, Overland and NE06546 in addition to existing elite lines with FHB1 such as Wesley-FHB1 and AL-107-6106. Progeny from selected families will be used to develop double haploid populations, that will be characterized for FHB resistance and will be genotyped using available SNP genotyping services.

The project will provide resistant parental material that can be used in different breeding efforts around the region. It will also provide important information regarding interaction between different FHB resistance QTLs.