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Project ID: FY14-SP-007

ARS Agreement #: 59-0200-3-005

Research Category: VDHR-SPR

Duration of Award: 1 Year

Project Title: Validating Multiple FHB Resistance QTLs in Different Spring Wheat Backgrounds.

PROJECT 2 ABSTRACT

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The goal of this project is to deliver germplasm combining multiple resistance genes with multiple elite germplasm to the spring wheat breeders in this region. The rationale is the need to introgress additional FHB resistance QTLs, as well as to study their effect on diverse genetic backgrounds.

The objective of this project is to characterize a set of double haploid (DH) HRSW lines derived from a series of 4 ways crosses that combined multiple resistant line, each with potentially different resistance genes, into the same genetic background. In previous studies a putative suppressor of resistance locus has been described on chromosome 2B; we will study if this locus is present in our DH lines. The phenotypic characterization will be done in collaboration with the regional breeding programs, and the best lines will be incorporated into breeding crossing blocks as appropriate. To understand how these combinations of QTLs may interact with fungicides to provide an even better protection we plan to conduct field trials.