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Research Area: GIE

Project Title: Molecular Analysis of Gene Novelty of the Newly Identified FHB Resistance Sources in the USDA Spring Wheat Germplasm.

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PROJECT 1 ABSTRACT

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Through the efforts of USWBSI, hundreds of cultivars, breeding lines, land-races and wild species have been systematically screened for new FHB resistant sources. Identifying the novelty of these newly selected FHB resistance sources is necessary to avoid unnecessary efforts of incorporating the duplicated resistance genes into varieties. Besides the FHB-resistance and other agronomic traits, molecular fingerprinting to each germplasm selection will add important information for the breeders if marker-assisted selection is part of their breeding practice. This proposed research is designed to do such molecular assay. The objective is to screen the Spring wheat germplasm selections with the available molecular markers to the currently used FHB resistant genes. Other land-mark SSR markers will also be screen to provide the breeders a molecular fingerprint for each selection. This proposed project will help the following USWBSI's goal set for the Germplasm Introduction and Enhancement: "Genetic analyses of newly identified and/or acquired sources of resistance".