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**Project ID:  FY10-HW-004**  **FY09 ARS Agreement #: 59-0206-9-060**

**Research Category**: **HWW-CP**  **Duration of Award:  1 Year**

**Project Title:  Using Association Mapping to Identify and Validate New FHB Resistance QTL and Integrate the QTL into  HWW.**

## PROJECT 2 ABSTRACT
(1 Page Limit)

**Synopsis addressing relevant research objectives:  Problem Addressed and Rationale:**  Since 2005, regular scab epidemics have occurred in the hard winter wheat crop of the central and northern Great Plains. Genetically improved seed coupled with appropriate management practices (cultural practices and fungicide uses) are the quickest and most cost effective ways to reduce DON in the grain supply.

There are multiple sources of moderate resistance already present in hard winter wheat germplasm adapted to the region. To best use this germplasm in varietal improvement efforts; the quantitative trait loci (QTL) associated with this resistant should be mapped so that breeders can employ marker-assisted selection to accelerate efforts to develop FHB-resistant lines. This project is part of a larger effort to use association mapping to identify these QTL. My specific responsibility of this effort will be to conduct high accuracy greenhouse evaluation of selection germplasm for both Type I (infection) and II (spread) FHB resistance. This data will then be shared for use in QTL identification.