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Research Category: VDHR-SWW

Duration of Award: 1 Year

Project Title: Bioinformatics Support for Genomic Selection in the Southeastern Soft Wheat Region.

PROJECT 3 ABSTRACT

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The USWBSI priorities impacted by this research include 1) increased acreage planted to varieties with improved FHB resistance and low DON, 2) increased efficiency of Coordinated Project breeding programs to develop FHB resistant varieties, and 3) develop new breeding technologies to further enhance short term and long term improvement of FHB resistance.

Our experience with the multi-state genomic selection approach in applied cultivar development has identified the critical need for a single individual to coordinate the work. This includes overseeing movement of DNA through the pipeline, phenotypic data curation, working with multiple Project Leaders in different states to develop training populations, running the prediction models and providing those predictions to the breeders in a timely fashion.

We envision Jeanette Lyerly working closely with the Eastern Genotyping Laboratory to coordinate and support implementation of Genomic Selection for scab resistance in breeding programs in VA, NC, GA, LA and AR. She will explore the use of different training sets and environments to optimize the Genomic Selection models for the various breeding programs and work closely with collaborators to deliver predictions.