

PI: J. Paul Murphy

Co-PI: Gina Brown-Guedira

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

PI's E-mail: Paul_Murphy@ncsu.edu

Co-PI's Email: gina_brown-guedira@ncsu.edu

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PROJECT 3 ABSTRACT

(1 Page Limit)

The Eastern Regional Small Grain Genotyping interacts with breeders in the soft winter wheat growing region interested in using molecular markers to develop wheat cultivars with improved resistance to FHB. We are proposing to continue to participate in coordinated regional effort to develop improved methods for genotyping and deploying genomic selection in the breeding programs. The specific objective of this proposal is to coordinate the use for the NUWWSN and PNUWWSN for use as training populations for GS models for participating eastern breeding programs. A post-doctoral scientist assigned to the project will collate genotypic and phenotypic information from the NUWWSN and PNUWWSN and other training populations and panels of eastern wheat into a common database (T3). We will then work with eastern breeding program on development of appropriate GS models for traits of interest. This project will provide breeders with genomic estimated breeding values for selecting lines for advancement and identification of FHB resistant parents for crossing. This project utilizes the capacity of the genotyping lab to work cooperatively with breeding programs to develop, optimize and update GS models.