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ARS Agreement #: 59-0206-0-145

Research Category: VDHR-SWW

Duration of Award: 1 Year

Project Title: Double Haploids to Expedite Development of FHB Resistant Soft Winter Wheat Varieties
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PROJECT 2 ABSTRACT

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DH production in winter wheat reduces the time to cultivar release by approximately four years and enhances selection efficiency because the variance among DH lines is equivalent to twice the additive variance observed in the F₂ generation. The primary goal of this research will be the additional production of DH cultivars with moderate resistance to FHB over and above what we can conduct in-house. Funding from this grant will permit us to order 360 DH lines from Heartland Plant Innovation, Manhattan KS. Experience to date suggests that at least 200 DH lines per cross is optimum if one expects a reasonable probability of identifying superior lines in adapted x adapted crosses. The funding will permit us to obtain two populations of approximately 180 DH lines each.

This proposal addresses Research Priorities: 1) Increase and document acreage seeded to varieties with improved FHB resistance; 2) Increase efficiency of coordinated project breeding programs, and; 3) Implement new breeding technologies and germplasm.