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ARS Agreement #: 59-0206-4-036

Research Category: MGMT

Duration of Award: 1 Year

Project Title: Integrated Management of Delaware Wheat.

PROJECT 1 ABSTRACT

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PI will coordinate planting of experimental site at the Carvel Research and Education Center located at 16483 County Seat HWY at Georgetown, Delaware. Two varieties of soft red winter wheat adapted to DelMarVa and varying in resistance to FHB will be used in this study: Pioneer 25R40 (FHB-susceptible), and Pioneer 25R32 (FHB-moderately resistant). Wheat will be drilled into no-till corn stubble at 7.5 inch spacing to achieve a population of 1.6 million plants per acre. The design will be a split-plot design with variety as the main plot and fungicide timing as the subplot. The following fungicide timings will be tested: Feekes 10.5.1; 10.5.1+2 days; 10.5.1+4 days; 10.5.1+6 days. Untreated and FHB-inoculated plots will serve as controls. Main plots will be replicated four times and fungicide treatments randomized within each main plot. Experimental plots will be 5 ft. wide and 25 ft. long. A

A second experimental replication following the identical protocols laid out in the 2013/14 trial will be conducted. The size of the experiment may increase if a new resistant variety becomes available to the PI before planting (October 2014). The projected monthly timeline will follow that of the 2013/14 experiment. At the end of the 2014/15 study, data will be compiled and analyzed across years using a mixed models analysis. This data will be shared with growers, consultants, and industry as described for the 2013/14 trial. Data will be provided to Drs Paul and Madden (The Ohio State University) to be used in meta-analysis and used in research and extension publications and outreach. PI will attend the 2015 FHB conference.