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Project Title: Integrated Management of FHB and DON contamination in SRWW in Virginia.

PROJECT 1 ABSTRACT

(1 Page Limit)

Based on harvested acres, soft red winter wheat (SRWW) is the third most widespread crop in Virginia, with approximately 225,000 acres harvested in 2015. New varieties with moderate resistance to Fusarium head blight (FHB) and deoxynivalenol (DON) contamination have been and are currently being developed for the region, but DON contamination in the Virginia wheat crop continues to be a perennial problem for growers in the state. Judicious use of fungicides based on FHB risk models provides some control of FHB and DON, but integrated management approaches that incorporate variety selection, appropriate fungicide chemistries, and optimal timing of fungicide applications are needed to minimize the impacts of FHB and DON in a cost-effective manner. The overall goal of this project is to identify the most effective and economical approaches to FHB and DON management in SRWW. The specific objectives of this project correspond to those of the FHB Management Coordinated Project which are to 1) evaluate the integrated effects of fungicide and genetic resistance on FHB and DON and 2) generate data to conduct an economic analysis of the integrated effects of fungicide and resistance on FHB/DON. Proposed experiments will generate data on the effectiveness of one and two application fungicide programs and genetic resistance for FHB and DON management. Inoculated field experiments will be conducted in southeastern Virginia. FHB severity, DON contamination, and yield data collected and summarized will contribute to the development of best management practices for mitigation of FHB and DON contamination in Virginia. Grain elevators in the region have increased testing for DON which results in discounts being taken at the buying point. This is necessary to ensure food safety, but in years when wheat prices are low, this poses a significant economic burden on growers. Applied research evaluating the efficacy of integrated approaches to management of FHB and DON that can be disseminated to growers through extension and outreach is greatly needed to maintain food/feed safety and profitability of wheat production in Virginia and the surrounding region.