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**Project ID: FY16-IM-001**

**ARS Agreement #: 59-0206-4-036**

**Research Category: MGMT**

**Duration of Award: 1 Year**

**Project Title: Integrated Management of FHB and DON in SRWW in Delaware.**

### **PROJECT 1 ABSTRACT**

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The **overall project goal** is to improve the management of FHB and DON in Soft Red winter wheat grown under Delaware and Eastern Shore Maryland by identifying best and most economical management practices. Research indicates that the application of a recommended triazole based fungicide at Feekes Growth Stage (FGS) 10.5.1 in combination with a moderately resistant variety significantly reduces FHB and DON compared to untreated, susceptible controls. Recent research indicates that an additional application of tebuconazole several days after the initial FGS 10.5.1 application may further reduce DON. The effectiveness and economic feasibility of this practice in wheat production systems are not well defined. In addition, management recommendations for FHB and DON typically call for low rate applications. The efficacy and economics of fungicide rates, particularly as it relates to applications after FGS 10.5.1 are not well defined.

The specific **project objectives** are as follows:

- 1) Compare a two-pass fungicide program (FGS10.5.1 + 4d post) to the standard, single pass program applied at FGS 10.5.1
- 2) Compare the effectiveness of the aforementioned fungicide programs for FHB and DON suppression in moderately resistant and moderately susceptible soft red winter wheat varieties grown in Delaware and Maryland
- 3) Include the Delaware project site as part of the Coordinated Management Program to assess the stability of results across different environments and wheat classes.
- 4) Assess efficacy and economics of fungicide rate by timing for management of FHB and DON

The **expected outcomes** from this project are to:

- 1) Develop more robust and effective FHB and DON management strategies for Delaware and Maryland
- 2) Increase clientele knowledge and implementation of best management practices for FHB and DON management in Delaware and Maryland
- 3) Improve grower profitability by providing estimates of the economic viability of management practices

The project goal will be achieved by conducting field experiments at the Carvel Research and Education Center in Georgetown, Delaware in 2016 and 2017. Data will be presented at regional and local conferences and meetings. Results will be shared for use in a larger multi-state coordinated FHB integrated management study. Information generated from this research will determine if current best management practices can be enhanced and grower profits improved through FHB and DON management.