

## Project Abstract

<b>Project Title:</b>	<b>Integrated Management of Fusarium Head Blight in Wheat in Pennsylvania</b>	
<b>Principal Investigator:</b>	<b>Paul Esker</b>	<b>The Pennsylvania State University</b>
<b>Co-Investigator:</b>	<b>Alyssa Collins</b>	<b>The Pennsylvania State University</b>

Since 2019, Pennsylvania winter wheat production increased to 235-270,000 acres. With average yield around 70 bushels per acre and higher commodity prices, the crop value has increased to \$75 million in 2020. Additionally, the USDA-estimated economic value does not consider straw value, which can generate further revenue for wheat producers in Pennsylvania. Results from the past several years indicated that well-timed fungicides for Fusarium head blight (FHB) control, in combination with proper variety selection, improved disease control and reduced DON.

As part of the MGMT CP, our new project aims to increase knowledge of not only FHB control, but also explore control of this disease as part of the late season disease complex that affects Pennsylvania wheat production. We will conduct multilocation Integrated Management (IM) and the Uniform Fungicide Trial (UFT) trials following the standard protocol. Including Prosaro Pro® and Sphaerex® will help quantify fungicide efficacy and improve late season recommendations. Our data will also contribute to national efforts on both best management practices and disease forecasting.

Trials will be conducted at the Russell E. Larson Agricultural Research Center at Rock Springs and the Southeast Agricultural Research & Extension Center at Landisville, PA, respectfully. A split plot experimental design will be used for the IM trial, while a randomized completed block design will be used for the UFT. Plot size for both trials will be 7 rows by 18 feet, with a harvested length of 14 feet. For IM trials, the whole plot will be winter wheat variety (susceptible, moderately susceptible, and moderately resistant), and the subplot will be foliar fungicide treatment. For the UFT, a susceptible winter wheat variety will be used. In both cases, we will follow the coordinated project protocol, with some modifications for equipment. Plots will be established and maintained following local recommendations. FHB incidence and severity will be rated on 100 spikes per plot at the soft dough growth stage (Feekes 11.2) as per current protocols. The presence and flag leaf severity of foliar diseases will be estimated. Two subsamples of grain from each plot will be collected, with one used to determine the percentage of *Fusarium* damaged kernels and the other that will be submitted for DON analysis at one of the USWBSI-fungicide laboratories. Results will be disseminated through field days, grower meetings, workshops, newsletters, fact sheets and will be integrated in new editions of the PSU Agronomy Guide.