

**PI:** Paul Schwarz

**PI's E-mail:** paul.schwarz@ndsu.edu

**Project ID:** FY20-SC-018

**ARS Agreement #:** 59-0206-8-201

**Research Category:** FST-S

**Duration of Award:** 1 Year

**Project Title:** Evaluation of Barley and Malt for Deoxynivalenol

### PROJECT 1 ABSTRACT

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Fusarium Head Blight is the largest challenge to barley producers in North America. Mycotoxins produced by *Fusarium* represent a significant health risk to humans and livestock. The toxin, deoxynivalenol (DON) can carry over from barley to malt, to the final beer, and thus is also of major concern to the malting and brewing industries. Researchers working on the development of FHB resistant barley, and other control strategies, require that large numbers of samples be tested for DON. The overall goal of this project is to provide accurate and timely deoxynivalenol (DON) testing services to researchers working on various aspects of Fusarium Head Blight (FHB) in barley and malt. This will involve annual testing of approximately 13,000 research samples in fiscal years 2020-21, and 2021-22. The majority of samples are from breeding and pathology projects, with lesser amounts from agronomic, grain quality, management, and food safety studies. In total twelve, researchers in five states are served by this project. Testing begins immediately after each year's harvest and continues until all analyses are complete. The laboratory uses a combination of GC-ECD, GC-MS and LC TOF-MS. The procedures for the testing of barley and malt are established and it is expected that these analyses will be performed in an expedient manner. Internal and external check samples are used to assure accuracy. Funding supports staff and materials to accomplish approximately 500 samples per week. This project is of direct benefits to producers and end-users of barley, as it supports several areas of research that are being conducted to help enhance food safety and supply by reducing the impact of FHB.