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FY09 ARS Agreement #: 59-0790-7-078

Research Category: FSTU

Duration of Award: 1 Year

Project Title: Diagnostic Testing Services for Deoxynivalenol in the Eastern United States.

PROJECT 1 ABSTRACT

(1 Page Limit)

Concerns about the mycotoxin deoxynivalenol (DON) continue to mount, and there is a growing need to develop and expand diagnostic laboratories for mycotoxins throughout the U.S. In FY08, the USWBSI provided limited funds for the Schmale Laboratory to conduct DON testing services for nearly 6,000 wheat and barley samples from USWBSI investigators in the eastern United States. These investigators have responded to the increased support from the Initiative, with a continued demand for timely and accurate DON testing services in FY09 and FY10. In this two-year USWBSI project, we propose to further expand the mycotoxin testing capacity of the USWBSI and provide diagnostic testing services for approximately 15,000 wheat and barley samples associated with USWBSI-supported research projects in the eastern U.S. Letters from four USWBSI investigators in four states are included with this pre-proposal. The ultimate goal of our research is to reduce DON contamination in wheat and barley. The specific objectives of the proposed research are to (1) provide analytical services necessary to develop new cultivars of wheat and barley with reduced potential for DON contamination and to (2) facilitate DON testing that will improve chemical and cultural practices necessary to reduce DON contamination in wheat and barley. Schmale oversees two hard-funded technicians that manage a GC/MS and LC/MS, two pieces of expensive analytical equipment (valued at over \$420K) purchased through other funding programs and initiatives. Schmale visited Yanhong Dong's diagnostic lab in August, 2008, and continues to be committed to the long-term management of a successful and productive mycotoxin testing lab for the USWBSI. The proposed work directly addresses the FY09 FSTU priority to 'provide analytical support for DON/trichothecene quantification for the Initiative's stakeholders'. Schmale will meet with stakeholders in VA to discuss new diagnostic technologies for DON and related management strategies for FHB, an effort aligned with the FY10 FSTU priority to 'provide requisite information on DON/trichothecene safety issues to producers, millers, researchers, risk assessors, and regulators'. Results from this project will help leverage future research support from agencies such as NSF and NIFA. New analytical technologies for detecting and quantifying mycotoxins in food and feed will be developed and implemented; FY10 priorities for funding programs in these agencies.