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Project Title: Economic Impact of USWBSI's Impact on Reducing FHB.

PROJECT 1 ABSTRACT

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Deoxynivalenol (DON) is a mycotoxin associated with FHB. Grain products and feed grain contaminated with DON (commonly known as vomitoxin) is subject to FDA advisory limits and is refused by many end-users. This has led to steep price discounts, as well as higher risks for producers and grain merchandisers. Varietal research has led to development of hard red spring wheat varieties that are resistant to moderately resistant to FHB. Also, studies indicate combinations of genetic resistance, fungicides and some management practices (combine settings, tillage practices, etc.) can be used to decreases losses due to FHB. These approaches were developed beginning in 1997, with the introduction of the USWBSI. However, the detailed economic impacts of the initiative (combined genetic resistance, fungicide uses and some management practices) are yet to be estimated.

The objectives of for this research are:

1) Estimate the economic value of crop losses suffered by wheat and barley producers without (1993 to 1996) and with (1997 to 2013) fungicide uses and some management practices;
2) Estimate the economic value of crop losses suffered by U.S. wheat producers without (1993 to 1996) and with (1997 to 2013) moderate FHB resistant wheat varieties developed by universities funded by the initiative. This would include impacts of fungicide use and management practices from objective one. Economic value of crop loss from both time period will be used to estimate the benefits of the USWBSI;
3) End-use values of reduced scab will be derived. A focused survey of millers and maltsters will be conducted to elicit benefits of the initiative for end-users;
4) Estimate the secondary economic impacts of losses attributable to FHB with and without the initiative. The value of the USWBSI goes beyond production to other sectors in the economy (agribusiness industry, input supplies, trade, etc.). This will enable policy makers, industry representatives, and those in academia to evaluate the comprehensive economic value of the USWBSI for HRS only;
5) Use a modified internal rate of return (MIRR) approach to assess the return to investment on funding spent by the USWBSI.

Principal investigators for the project are agricultural economists with expertise in grain quality and impact analysis, secondary economic impact analysis, commodity market analysis, food safety issues and scab management practices.