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Project Title: Uniform Fungicide and Biocontrol Agents Test for Control of Fusarium Head Blight and Deoxynivalenol.

PROJECT 1 ABSTRACT

(1 Page Limit)

Monitoring for scab incidence and pre-harvest deoxynivalenol (DON) levels was conducted in Michigan during 2000 - 2008. Overall, the severity of scab and DON levels have been low to severe, ranging from 0 to 75% and 0 to 40 ppm, respectively. FHB is sporadic in MI necessitating the advised use of fungicides and severe widespread epidemics in the US in 1993, 1996, and 1997, and recent localized epidemics, have necessitated finding fungicides that are effective against FHB. Scab development depends on host genetics, favorable environmental conditions from anthesis through kernel development, and the ability of the causal fungus to survive and spread (Sutton, 1982). Immediate options are needed to keep this disease from causing severe economic loss to farmers.

Fungicide evaluation work for FHB in Michigan from 2000 - 2006 were inconclusive for various reasons (Hart 2000, 2001, 2002, 2003, 2004) but more recently trials have shown that few fungicides are genuinely effective against FHB and hence DON reduction (Brown Rytlewski et al., 2007a-d, Kirk and Schafer, 2008). Some biofungicides have been tested in Michigan but not in inoculated trials and no efficacy data were reported. The requirement for efficacy reports for use of biofungicides is increasing in wheat producing areas. The proposed research will allow: testing of products (fungicides and biofungicides) that may be registered in the near future; provide supporting documentation for Section 18 registration (if necessary) or for the registration of new products; and provide an additional testing site for the uniform trials in Michigan. Test results will provide information to producers locally and nationwide on what products are providing the greatest disease control and improvement in yield and quality. The test results can supply necessary information for this purpose. Funds provided through the US wheat and barley scab initiative will be used to leverage additional monies from agrochemical companies to expand testing to fungicides beyond those in the uniform fungicide trials, and may allow the evaluation of several different application timings appropriate to different chemistries.