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FY04 ARS Agreement #: 59-0790-4-093

Research Area: EDM

Duration of Award: 1 Year

Project Title: Airborne spores of *Gibberella zeae*: Deposition Over Kilometer Distances.

PROJECT 2 ABSTRACT

(1 Page Limit)

The multi-year goal of this project is to determine where inoculum for Fusarium head blight (FHB) comes from and how far it travels. Current knowledge of the source, release, dispersion, survival, and deposition of spores of *G. zeae* is extremely limited. The extent to which airborne spores of *G. zeae* contribute to local and regional epidemics of Fusarium head blight (FHB) has yet to be determined. Functional inoculum for FHB may be limited to sources within or adjacent to local fields. Alternatively, viable windborne spores may be transported across broad geographic regions. The range and magnitude of aerial dispersal have important implications for the spread of new variants of the scab pathogen and for efficient deployment of scab control practices. We will analyze the temporal and spatial patterns of spore deposition in varied landscape environments within an area of approximately one square kilometer. Specifically we will determine if viable spore deposition during any collection period occurs randomly and at similar magnitude in wheat fields and other landscape environments, as would be expected if well-mixed, atmospheric populations of spores comprised the predominant inoculum.