

**0203-JI-041 Scab forecasting and environmental effects on inoculum in eastern South Dakota.**

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Research Area: EDM

PROJECT ABSTRACT

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The overall goals of the proposed research are 1) to better understand factors affecting Fusarium head blight (FHB) inoculum development and survival, specifically soil surface wetness and other environmental parameters; 2) to learn more about the biology and ecology of the pathogen and 3) to obtain information pertinent to the development of disease forecasting and management strategies. Information collected will be applied locally, in the form of disease advisories, and will also be contributed to collaborators for integration into a regional FHB forecasting project.

The project will consist of several components: 1) to understand temperature, relative humidity, canopy density and soil-surface moisture effects on perithecial development, 2) to assess the survival of ascospores deposited on plant tissues, 3) to monitor environmental conditions and disease development for contribution to local and regional FHB forecasting projects, and 4) to develop a local advisory system for eastern South Dakota. Objective 1 will be achieved by continued development and utilization of soil surface wetness sensors in conjunction with field, greenhouse and growth chamber experiments measuring perithecial development in response to applied conditions. Objective 2 will be achieved by assessing the viability and infectivity of ascospores washed from plant tissues. Objectives 3 and 4 will be achieved through the collection and analysis of environmental data pertinent to FHB inoculum and disease development.