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**Project ID: 0405-DE-058**

**FY03 ARS Agreement #: 59-0790-1-068**

**Research Area: EDM**

**Duration of Award: 1 Year**

**Project Title: Deployment of Prediction Models for Fusarium Head Blight.**

**PROJECT 1 ABSTRACT**

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This grant submission proposes to initiate a Fusarium head blight forecasting system in the 23 states most heavily impacted by the disease during the last decade. The rationale for providing a forecast now is to support the decision-making process regarding if and when to apply a fungicide. Thus, individual decision makers and advisers will have the scientifically based information needed to regain control over production costs and product quality. Meanwhile, the area covered by the proposed system is the largest ever attempted by operators of a disease forecaster.

The history of this forecasting system shows an orderly progression through iterative model development, now in its second generation; expansion from diverse state and local area information providers to a regional system; and, new thrusts in research projects that likely will contribute to future model enhancements. The step proposed here not only would provide virtually all clientele impacted by scab with access to a local forecast, but also lays the foundation for future improvements. We will pursue alternative funding models with concerned clientele after the system is launched.

The forecasting system consists of disease prediction models with improved accuracy over the first generation of models (80% and 83% accuracy); a data stream from the Automated Surface Observation System, which is interpolated hourly by the Rapid Update Cycle model to a 20 km resolution throughout the entire region; and finally, a web interface that has been through one year of use and debugging. We are confident that these components will mesh well and provide a reliable information stream in 2004 and beyond.