**0203-SH-033 Forecasting Fusarium Head Blight Based on weather and Pathogen Monitoring.**
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PROJECT ABSTRACT
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*Fusarium* head blight is a devastating disease of wheat and barley in North America. No one approach to management is likely to be effective. Successful management of this disease will require several approaches: crop rotation, host resistance, and chemical or biological control. A thorough understanding of the epidemiology of head blight is essential for successful management. Understanding the quantitative relation between weather, inoculum production and dispersal, infection, and disease development will provide basic information required for effective implementation of the various control measures. It will allow growers to make objective decisions about crop rotation, tillage, cultivar selection, and fungicide use and allow breeders to select for resistance in the most effective way. To acquire epidemiological data, we will monitor daily inoculum levels during the period wheat is vulnerable to infection by direct sampling of the air spora and by recovering spores from wheat heads in the field. An automated weather station will provide data on air temperature, relative humidity, precipitation, wind speed and direction, solar radiation, and duration of wetness on foliage and the soil surface. These data, collected for head blight outbreaks over a wide range of intensities, will enable us to develop a weather-based predictive model that can be used by growers, grain buyers, and grain end users.