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FY06 ARS Agreement #: NA

Research Area: VDUN

Duration of Award: 1 Year

Project Title: Coordination of a Uniform Regional Scab Nursery for Spring Wheat Parents.

PROJECT 1 ABSTRACT

(1 Page Limit)

Extensive efforts have been directed at identifying wheat germplasm with resistance to scab that can be used as parents for the development of new commercially acceptable cultivars with enhanced scab resistance. One major challenge that exists in identifying such germplasm is that both environmental conditions and genotype x environment interactions confound scab resistance ratings. The existence of these interactions places a premium on multi-site evaluations as a means of obtaining more accurate information on the relative scab resistance of germplasm being evaluated. For over a decade, a Uniform Regional Nursery to screen spring wheat parents for scab resistance has sought to address this issue by evaluating scab resistance in advanced spring wheat germplasm at several locations throughout the midwestern United States and Southern Canada. The overall project goal of this project will be to coordinate a multisite evaluation of wheat germplasm for the spring wheat region in 2007. Project objectives of the coordinator of this nursery are 1) oversee the logistics of organizing the nursery, in the early spring; 2) obtain, collate and analyze data associated with scab resistance that is gathered at each nursery location; and 3) produce an annual nursery report that is freely distributed to participants and other interested parties. As this nursery program has run for a decade, plans to accomplish this goal are nested within the project objectives themselves to accomplish the goals. By providing scientists an opportunity to evaluate the nursery entries at their own locations and to compare these results to those obtained at other locations, this nursery has proven to be valuable for identifying new scab resistant germplasm and its subsequent exchange among participants for use in breeding programs. Thus the nursery is an important source of information to help guide cooperative research efforts aimed at developing scab-resistant wheat varieties. This is directly relevant to RA VDUN research priority "multi-location validation of FHB resistance through participation in the appropriate uniform FHB screening nurseries". This proposal seeks funding for support of the coordination of this important nursery for FY 2007.