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Project ID: 0405-GA-132

ARS Agreement #: NA

Research Area: VDUN

Duration of Project: 1 Year

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

PROJECT 1 ABSTRACT
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Funding for this project was not requested from the USWBSI for FY04. However, the coordination of the URSN is occurring in 2004, as a cooperative effort with the USWBSI.

Over the past several years, extensive efforts have been directed at identifying wheat germplasm with resistance to the fungal disease 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 several years, 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. Each year, the coordinator has several responsibilities, including 1) overseeing the logistics of organizing the nursery, in the early spring; 2) obtaining collating and subsequently analyzing the data associated with scab resistance that is gathered at each nursery location, at the end of the season; and 3) producing an annual nursery report that is freely distributed to participants and other interested parties. 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.

Funding for costs associated with the coordination of this important nursery for FY 2005 is expected to be sought from the USWBSI.