Wheat Walks; Wheat Disease Education and Research

South Dakota Wheat Commission
Reporting period: July 1, 2017 – September 30, 2018

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Report type: Final Report

Research Summary:

South Dakota wheat producers received education, information, and wheat disease identification along with management recommendations and assistance with on-farm research. There were 10 wheat disease related events held during the summer of 2018 where over 300 wheat producers attended. Wheat disease education was made available to producers through Wheat Walks, crops clinics, Draper Winter Wheat meeting, West River Field School, Central South Dakota Field School, SDSU IPM Field School, CPT variety trials, private pesticide applicator trainings, commercial pesticide applicator trainings, crops clinics, farm shows, iGrow articles, iGrow Radio spots, news releases, weekly news columns, and other educational handout materials.

On-farm research information was shared with interested wheat producers with the plan of setting up on-farm trials. Education was also provided to high school youth through educational displays and presentations at a Women in Science event in Sioux Falls.

Introduction:

Wheat is a major crop in SD. One of the important tools for maximizing wheat farm profitability is to manage input costs, which are constantly on the rise, and a farmer consistently needs to justify cost-benefit ratio while applying these inputs. Wheat diseases are a constantly changing issue that producers have to deal with, and many are not familiar with disease identification and management. Producers are also dealing with an overwhelming assortment of chemical products that they are being pressured to buy and need information on the most cost effective way to manage diseases, whether it be through chemical, cultural, or biological means. In

addition, producers are also being faced with the threat of pesticide resistance and the potential loss of efficacy from current protection products in managing pests.

The Wheat Walk Tours provided an opportunity for producers to receive information on identifying and managing various wheat diseases, weeds, and insects, best management fertility practices and other agronomic information. The Wheat Walks allowed producers to interact with Plant Pathology, Weeds, Entomology, Soil Fertility, and Agronomy Field Specialists and/or State Specialists, discuss their concerns and get their questions answered in person. Handout material was provided to attendees for further reference.

Extension staff assisted with general surveys of wheat diseases as requested.. Information is needed on the occurrence of various wheat diseases in South Dakota to help justify both research and educational efforts. Periodic visits to wheat fields will be made to document wheat diseases that are present in the field and collect samples for proper diagnosis through laboratory analysis.

Description of Accomplishments:

- *There were 10 wheat disease related events held during the summer of 2018. Over 300 wheat producers attended these wheat disease related events during the summer.*
- *Increase was observed in the number of wheat producers seeking disease identification and management options.*
- *The Draper Winter Wheat Meeting had over 90 producers attend that event alone!*
- *There was increased interest at farm shows about adding a rotation (small grains) into their farming practices.*
- *This year's partnership with SD Wheat Inc. for the wheat walks was very successful.*

Projections:

The Wheat Walks will continue to provide an excellent opportunity for producers to get up to date, research based information and interact directly with SDSU Extension Field and/or State Specialists.

We would like to establish a few demonstration type plots to be used in conjunction with the Wheat Walks and any other educational meeting that may be appropriate and applicable. We also would like to pursue working with wheat producers on doing some on-farm research. Both the demonstration type plots and the on-farm research goals are lofty and are very dependent on the weather and the year (wheat price, potential yield, input costs, etc).

Looking at best practices for winter wheat production when planted after soybeans will help increase the success of winter wheat production under those conditions and also expand winter wheat production to other areas of South Dakota. Improved production practices that lead to successful winter wheat production will allow producers to diversify their crop rotation which can lead to more resilience in South Dakota's cropping systems. Initial results will not be available till the late summer of 2020. It is likely that this study will need more than one year of

data to provide good information, however, preliminary data from year one will help determine if research should be continued and its direction.

Publications/Data:

Wheat Diseases Identification Pocket Guide. Publication # 03-2016-2013. **http://igrow.org/up/resources/03-2016-2013.pdf**

An Identification Guide to Major Wheat Insect & Mite Pests of South Dakota. Publication # 03-2011-2017. **http://igrow.org/up/resources/03-2011-2017.pdf**

Foliar Fungicides in Wheat in 2017 South Dakota Wheat Pest Management Guide. Publication # 03-3044-2017. **http://igrow.org/up/resources/03-3044-2017.pdf**

iGrow Article Topics focusing on wheat:
Is a Fungicide Needed at Herbicide Timing in Winter Wheat?
SDSU Extension Teams Up with SD Wheat Inc.
Tan Spot and Wheat Streak Mosaic Developing in Winter Wheat
White Heads in Wheat Appearing in Winter Wheat
Bacterial Leaf Streak Developing in Winter Wheat
Current Conditions Favor Disease Development in Spring Wheat
Leaf Rust, Powdery Mildew, and FHB Developing in Winter Wheat
Seed Treatment Safety: Tips for Safely Handling Treated Seed
Winter Wheat Decisions
Scout Wheat Fields for Success

Acknowledgements:
This research was supported by the South Dakota Wheat Commission, the South Dakota Board of Regents and the National Institute of Food and Agriculture through the South Dakota Agricultural Experiment Station at South Dakota State University. We wish to acknowledge the assistance of SD Wheat Inc. for their partnership.