Introduction

The Agricultural Research Services (ARS) is an in-house scientific agency conducting research for the U.S Department of Agriculture. Its research is focused on solving agricultural issues in the field and postharvest. As part of its research and development, ARS contributes to economic opportunities to rural communities, access to nutrition, high-quality foods, a competitive agricultural economy, improvements to natural resources and the environment.

The USDA-ARS is housed in WSU’s Plant Growth Greenhouse facility, a state-of-the-art facility and the primary space for controlled-environment research in wheat and small grains. USDA-ARS WSU’s goal is to reduce threats to wheat production by developing better winter tolerance, grain yield, disease resistance, and crop quality. I worked under Research Geneticist, Kimberley Garland-Campbell, and supervised by Emily Klarquist in the Soft White and Club Wheat Breeding program. The program’s breeding research focused on abiotic and biotic stress responses, gene association with frost tolerance, resistance to stripe rust, pathogenic nematodes, soil-borne diseases, and quality improvement. Cultivars released by ARS include Cara, ARS-Chrystal, ARS-Selbu, ARS-Crescent soft white club wheats, ARS-Amber, soft white winter wheats.

Responsibilities

The main focus of my internship was to help with trials for stripe rust resistance and frost tolerance. There were several groups to a study and each replicated several times. The process included several steps to gather the final data. These two trails took most of my time, but I also helped with watering plant growth chambers, planting other program trials, transplanting, harvesting, and threshing wheat heads.

Summary

During the course of this internship, I was able to learn more about the process of conducting trials. Previous to this internship, I had work experience in the Spring Wheat and Winter Wheat programs processing trials postharvest. Together with the 400 level classes I had taken, I had a basic understanding of how trials are conducted and why, but the hands-on experience and repeating the trials several times during the semester gave me a better understanding of the process and appreciation for the research. A lot of work goes into each trial, requiring each step to be done with accuracy and diligence. A reason for taking this internship was to help me decide the direction to take for graduate school. I knew it would be in plant breeding and genetics, but I needed to experience the process and get a better understanding of protocols. Having a mentor who took the time to explain the process and targeted goals was important to my learning experience. My experience at USDA-ARS reinforced my chosen career path.