



WSU Spring Wheat Breeding and Genetics Program

Pullman, WA

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Summer Session



A view of test plots at Spillman Farm in Pullman, WA.



Common Lambsquarters, and extremely common weed in spring wheat operations. Photographed and removed from test plots in Othello, WA.

Introduction:

The Spring Wheat Breeding and Genetics Program at WSU under Dr. Mike Pumphrey focuses on long term development of varieties of resilient spring wheat to provide higher overall performance in the Pacific Northwest. Current goals of the program include fostering resistance to stripe rust and hessian fly, as well as, increasing yield, and selecting for desirable protein and gluten content. In addition to breeding superior quality spring wheat, the program also performs research on falling numbers and gathers data in order to aid in the development of tools and techniques that will aid grain growers both in Washington and across the nation.

Internship Details

During my internship I worked directly with both Dr. Pumphrey, his team of lab technicians, and a group of hired undergraduate workers. My daily responsibilities varied greatly, however, my work was primarily geared towards maintaining the integrity of test plots by weeding, moving and installing irrigation systems, and selecting and removing specimens that demonstrate undesirable characteristics. I was responsible for familiarizing myself with the various varieties of wheat and their physical characteristics in order to make better selection and contribute to the uniformity of the test plots. I was also responsible for preparing materials for harvest and assisting in the harvest itself.



5 separate varieties of wheat heads, Left to Right: Club, Awnless club, Common, Awnless common, and Durum.

In Addition to working with test plots in locations around Eastern Washington I was also responsible for planting, watering, fertilizing, staking, sampling, and harvesting spring wheat populations in a greenhouse environment.

Summary

During my internship with the WSU Spring Wheat Breeding and Genetics Program I realized that written and verbal communication were hugely important when working in a professional environment. I learned a great deal about how best to communicate with my supervisors and the undergraduate workers. I found that communicating clearly when relaying or giving directions were critical in order to work effectively as a team. I also learned that practicing active listening when receiving direction from supervisors was of particular importance, especially when working without direct supervision. From my experiences during the internship I learned how to effectively work in a professional setting which will be hugely beneficial to my professional life post-graduation. In addition this experience sparked my interest in small grain production. Before starting my internship I knew little about spring wheat and the inner working of a plant breeding program. From the experience I left with a wealth of knowledge concerning spring wheat and believe that I might peruse employment working with small grain following graduation.



Above left, the WSU Spring Wheat Team including myself remove rogue specimens from a test plot of F₂ hard red spring wheat, Kincaid farm Pullman, WA. Above left, and example of a uniform test plot with one outlying specimen. Spillman Farm, Pullman, WA.

