

Project Title: Spring wheat allele effect study - 2018

Objective: To evaluate several durum wheat alleles from spring wheat genetic backgrounds at the Kalispell research center

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Summary:

The nursery was planted under rainfed conditions on silt loam soil with subsurface recharge. Weeds were controlled via herbicide. The goal of this study was to gather data to examine durum wheat’s allele effect in the spring wheat’s genetic background. The alleles that were examined affect tiller number, seed number, seed size, and yield. Management practices are summarized in Table 1. Tabular agronomic performance data will not be available for this nursery.

Yield was significant with a range from 82.5 to 129 bu/A, and a mean of 106.8 bu/A. Protein was also significant and ranged from 15.8% to 11.0%, with a mean of 13.1%. Test weight was significant and ranged from 55.1 to 63.2 lb/bu with a mean of 61.2 lb/bu. Thousand seed weight was significant, and ranged from 52.6 to 30.3 grams. Heading date averaged 181 Julian days. It was significant as was maturity days, which ranged from 218 to 235 Julian days. Rust rating varied from 93.3% to 0.3%. Potential tiller count was significant, with a mean of 53 tillers/ft. Seeds per head was not significant and the average was 40 seeds/head. Spikelet per head was significant with an average of 12. Lastly, lodging was significant with the highest at 80% and lowest at 0%, and a mean of 6.4%.

Table 1. Management information

Seeding date:	5/2/2018	Harvest date:	8/31 & 9/3/2018
Julian date:	122	Julian date:	243,246
Seeding rate:	25 plants/ft ²	Soil type:	Creston silt loam
Previous crop:	pea	Soil nutrient residual (lb/A):	123-6-82 (Fall, 2017)
Tillage:	conventional	Nutrient fertilizer applied (lb/A):	40-40-100
Insecticide:	Warrior 2	Fungicide:	Headline