

2010 SPRING WHEAT VARIETY PERFORMANCE EVALUATION

Michael Killen and Randy Violet, Powell Research and Extension Center

The variety performance evaluations conducted by the Wyoming Agricultural Experiment Station are a continuous and ongoing program. In cooperation with the Uniform Hard Red Spring Wheat Nursery and private seed companies, a wide range of germplasm is evaluated each year.

MATERIALS AND METHODS

The experimental design of all trials was 3 replications of a randomized complete block. Measurements included heading date, plant height, lodging, grain yield, and test weight. Data were analyzed using SAS procedures for analysis of variance.

UW-REC (POWELL): The experiment was located at the University of Wyoming Research and Extension Center in Powell, Wyoming during 2010. The soil was a Garland clay loam (fine, mixed, mesic; Typic Haplargid) and had a cropping history of: 2009, dry beans; 2008, small grains; and 2007, dry beans. The soil was fertilized for a yield goal of 100 bushels of grain per acre. Fertilizer was applied on 18 March, at the rate of 180 pounds N and 75 pounds P₂O₅ in the form of urea (46-0-0) and diammonium phosphate (11-52-0). The soil in the study area was prepared for planting by fall plowing, roller harrowing, and leveling. On 14 April, 48 wheat varieties were established in plots 7.3 by 20 feet using double disk openers set at a row spacing of 7 inches. The seeding depth was 1.5 inches, and the seeding rate was 100 pounds of seed per acre for all entries except durum types were seeded at a rate of 150 pounds of seed per acre. Weeds were controlled by a post application of a tank mixture of bromoxynil and MCPA (Bronate Advanced 1 pt) broadcast at 0.50, 0.50 pounds active ingredient per acre on 4 June. Furrow irrigations were 22 April, 10 June, 23 June, 8 July, 16 July, and 28 July. Subplots, 5.3 by 8 feet, were harvested on 19 August, using a Wintersteiger plot combine.

ACKNOWLEDGMENTS

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Table 1. Agronomic performance of spring wheat genotypes grown at University of Wyoming, Powell Research and Extension Center, Powell, WY during 2010.

| Variety | Plant height | Heading Date | Lodging | Grain yield | Test weight |
|---------------------------|--------------|------------------|-------------|--------------|-------------|
| Hard Red unless indicated | inches | Days from Jan. 1 | 1-9 | bu/acre | lb/bu |
| Volt | 31.4 | 180 | 1.0 | 133.4 | 63.0 |
| 09FSP3 | 35.0 | 181 | 1 | 127.2 | 62.8 |
| Hank | 30.6 | 179 | 1.0 | 126.6 | 58.0 |
| SD4112 | 35.7 | 177 | 1.3 | 124.1 | 61.3 |
| 09FSP 18 | 34.4 | 179 | 1.3 | 124.0 | 62.1 |
| Kuntz | 31.7 | 181 | 1.0 | 121.7 | 61.7 |
| BW 928 CWRS | 34.9 | 177 | 1 | 121.4 | 63.0 |
| MT 0832 | 35.2 | 179 | 2 | 120.0 | 60.5 |
| Fuzion (BZ901-717) | 33.2 | 177 | 1.0 | 118.6 | 62.1 |
| 2375a | 35.2 | 181 | 1 | 118.5 | 60.5 |
| Alzada durum | 28.2 | 177 | 2.3 | 117.8 | 61.5 |
| 03S0352-22 | 33.5 | 177 | 1 | 117.4 | 62.0 |
| SD4011 | 34.4 | 177 | 1 | 117.2 | 62.1 |
| MO3/3-23 | 36.3 | 180 | 2.3 | 116.5 | 60.2 |
| MN07098-6 | 35.7 | 177 | 1 | 116.4 | 62.4 |
| Brennan | 30.4 | 177 | 1.7 | 114.7 | 62.7 |
| 03S0253-7 | 31.2 | 177 | 1 | 114.6 | 63.1 |
| BW431 CWRS | 39.5 | 177 | 1.7 | 114.6 | 61.8 |
| NDSW0703 WSW | 34.5 | 181 | 1 | 114.2 | 59.4 |
| McNeal | 35.3 | 181 | 1.0 | 114.2 | 60.1 |
| Jedd CL | 29.9 | 177 | 1.3 | 114.1 | 60.9 |
| MT 0827 | 35.0 | 177 | 1.7 | 113.7 | 61.1 |
| SD4076 | 34.0 | 177 | 1 | 113.4 | 63.6 |
| NDSW0701 WSW | 33.6 | 179 | 1 | 113.2 | 60.8 |
| 03S0119-12 | 32.6 | 177 | 1.3 | 112.9 | 63.7 |
| NDSW0702 WSW | 34.9 | 181 | 1.3 | 112.9 | 59.7 |
| Verde | 37.8 | 181 | 1.3 | 112.7 | 60.7 |
| MT 0852 | 35.9 | 180 | 1.3 | 112.1 | 61.2 |
| Choteau | 35.0 | 181 | 1.0 | 111.2 | 61.5 |
| WB 936 | 30.3 | 177 | 1.0 | 110.8 | 59.2 |
| MN05214-3 | 29.6 | 177 | 1 | 110.6 | 63.2 |
| MN06075-4 | 33.9 | 179 | 1 | 110.5 | 61.9 |
| Vida | 34.1 | 181 | 1.7 | 110.0 | 59.9 |
| BW427 CWRS | 37.5 | 177 | 1.7 | 109.9 | 60.8 |
| MN06018 | 32.8 | 179 | 1 | 109.5 | 61.7 |
| NDSW0612 WSW | 35.2 | 185 | 1.3 | 109.4 | 61.4 |
| SD4023 | 34.0 | 180 | 1.3 | 109.2 | 62.1 |
| 02S0091-9 | 29.9 | 177 | 1 | 106.9 | 61.0 |
| MO5/1-2 | 39.6 | 177 | 2 | 106.3 | 61.0 |
| MO6/1-24 | 35.7 | 177 | 1.7 | 105.9 | 62.4 |
| 02S0170-3 | 30.2 | 177 | 1.3 | 105.3 | 62.0 |
| MO5/1-3 | 37.8 | 180 | 1 | 104.5 | 57.8 |
| Keene | 41.7 | 177 | 1 | 102.0 | 61.6 |
| MO6/1-23 | 37.7 | 177 | 2 | 101.4 | 62.4 |
| MN06028 | 28.6 | 179 | 1 | 101.2 | 62.8 |
| SD3997 | 40.7 | 177 | 1 | 83.7 | 61.8 |
| Chris | 45.7 | 185 | 4.7 | 75.4 | 60.9 |
| Marquis | 46.3 | 185 | 4.3 | 71.3 | 59.1 |
| Mean | 34.7 | 178.9 | 1.4 | 111.5 | 61.4 |
| LSD_{0.05} | 2.7 | | 0.9 | 15.3 | 1.5 |
| CV% | 4.8 | | 40.6 | 8.4 | 1.5 |

*Durum seeded at 150 lbs/a unless indicated Contacts: Mike Killen, 307-754-2223.