2014 Winter Wheat Variety Trial Nurseries: Eastern Wyoming Dryland

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Variety performance evaluations conducted by the Wyoming Agricultural Experiment Station (WAES) are a continuous and ongoing program. WAES evaluates many varieties/lines of winter wheat each year in cooperation with the Crop Research Foundation of Wyoming, University of Nebraska–Lincoln, Colorado State University, Montana State University, and private seed companies.

Objectives

Our objective is to test new and existing winter wheat varieties to help growers select ones adapted to the area.

Materials and Methods

The experiments were located in Crook, Laramie, and Platte counties in eastern Wyoming. The experimental design consisted of six replications in a randomized complete block. Measurements taken included: heading date, plant height, grain yield, test weight, protein content, and moisture. Fertilizer was applied to three reps at 86 pounds nitrogen, 20 lbs phosphorus, and 40 lbs sulfur per acre. The other three remained unfertilized. Twenty-seven winter wheat varieties were seeded September 17, 20, and 28, 2013, in plots 5 by 25 feet using a hoe drill with a row spacing of 14 inches. The seeding depth was 1.5 inches, and the seeding rate was 50 lb/ac. Herbicides were applied by the cooperators. Plots were harvested July 24 and 25, and August 13, 2014, using an ALMACO plot combine.

Results and Discussion

Only fertilized vs. unfertilized yield results are presented in Table 1. The highest yielding entries were: Platte County, SY Wolf hard red winter wheat, 76 bushels/ac; Laramie County, MTS 1024, a solid stem hard red winter wheat, 75 bu/ac; and Crook County, MTS 1024 and MT 1078, both at 90 bu/ac. With the addition of fertilizer, overall protein content was increased by 2–3.6%, and bushel weight was reduced by 3.5 lbs/bu in Platte County (data not shown). Complete results for these trials and many others are available on the web at: www.uwyo.edu/plantsciences/uwplant/trials.html

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Table 1. Eastern Wyoming, dryland winter wheat variety test – 2014.

Entry	Platte County		Laramie County		Crook County	
	Fertilized Grain Yield (bu/acre)	Unfertilized Grain Yield (bu/acre)	Fertilized Grain Yield (bu/acre)	Unfertilized Grain Yield (bu/acre)	Fertilized Grain Yield (bu/acre)	Unfertilized Grain Yield (bu/acre)
SY Wolf	**76**	50	69	54	86	75
CO09W040-F1 (W)	74	61	69	48	67	62
Hatcher	74	58	59	**62**	77	69
CO09W009 (W)	74	51	64	44	81	75
Robidoux	73	56	74	50	74	63
CO011D446	72	47	66	57	78	67
MT 1138	71	57	73	50	86	69
Antero (W)	71	54	64	54	85	74
Byrd	71	56	65	54	76	71
NE10589	70	55	72	51	78	63
Brawl CI Plus	70	52	67	54	61	55
Cowboy	69	64	67	50	83	68
CO011D174	68	61	64	48	77	69
MT 1078	68	58	72	52	**90**	72
MT 1113	68	58	65	49	80	72
Settler CL	68	43	54	41	77	64
MTS 1024 (SS)	67	53	**75**	49	**90**	77
Denali	66	53	60	50	83	66
CO011D346	65	**65**	64	47	83	**78**
Panhandle (NE05548)	61	44	53	43	68	63
Judee (SS)	60	46	57	42	75	64
Warhorse (SS)	60	42	53	42	72	66
Goodstreak	59	45	51	43	65	60
Snowmass (W)	56	47	58	36	78	64
Bearpaw (SS)	55	38	49	46	72	63
Buckskin	51	43	53	37	66	60
Centurk 78	--	--	--	--	60	58
Average	67	52	63	48	77	67
LSD 0.05%	7	13	12	11	9	9

(W) hard white winter wheat; (SS) solid stem for sawfly resistance; (LSD) least significant difference