

PROJECT TITLE: Evaluation of preliminary hard white spring nursery cultivars for disease resistance.

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OBJECTIVES:

To evaluate experimental hard white spring wheat cultivars for yield, lodging, quality, and disease resistance in northwestern Montana.

RESULTS:

Cool temperatures extending from March through June resulted in slow emergence and seedling growth. Extensive vegetative growth (tillers) resulted from the extended spring-like climate. While dry throughout the growing season, plant stress not was noted as soil available moisture never reached wilting point. Yields easily exceeded those recorded the previous two years ranging from 109 to 146 bu/A with a 30 entry mean of 124 bu/A. Test weights were high, ranging from 60.7 (Klasic) to 64.3 (MTHW9904) lbs/bu. The included hard red check variety 'Hi-Line' performed at 116 bu/A and 62.9 lbs/bu. While not severe, some lodging susceptibility differences were detected. Protein percentage across the nursery averaged 12.9. Climatic conditions resulted in no measurable disease infections.

SUMMARY:

Yields excelled in the absence of disease and lodging pressure. All but one experimental line surpassed the long term hard white check 'Klasic' and 19 out-yielded the hard red check Hi-Line. ID377S is currently the only spring type hard white currently grown in Montana and topped this nursery at 146 bu/A. The agronomic performance of hard whites have identified this class as a production option in western Montana.

FUTURE PLANS:

Continued hard white spring wheat evaluations for the purpose of identifying varieties best suited for production in Montana.

Table 1. Agronomic data from the Preliminary Hard White Spring Wheat Nursery grown at the Northwestern Agricultural Research Center in Kalispell, MT.

Planted: April 7, 1999

Harvested: August 27, 1999

VARIETY	Yield Bu/A	Test Wt Lbs/Bu	Moist %	Hd date Julian	Height Inch	Lodge 0-9	Protein %
ID377S	146.23	63.23	14.67	172.33	39.00	.33	12.1
MTHW9914	140.90	61.40	12.70	173.00	36.20	1.00	12.3
MTHW9910	139.63	61.83	12.73	173.00	36.47	1.33	12.1
MTHW9908	137.83	62.27	12.40	173.00	37.00	1.00	12.7
MTHW9915	137.17	62.37	13.17	172.33	35.93	.67	12.5
MTHW9911	136.03	61.53	13.17	176.33	37.80	2.33	12.4
MTHW9912	135.83	61.90	12.17	172.33	35.93	1.00	12.0
MTHW9909	135.37	62.27	14.70	177.00	36.47	.67	12.1
ID533	132.03	63.23	15.97	174.33	37.93	.33	12.1
MTHW9603	129.33	61.23	12.57	172.67	37.93	.33	12.2
MTHW9913	127.67	62.17	12.53	172.33	36.20	.00	12.6
MTHW9420	126.73	61.90	11.93	171.67	37.00	.00	12.8
MTHW9907	123.63	62.13	12.50	172.00	36.47	1.00	12.8
MTHW9706	122.97	61.50	13.43	171.67	38.33	.00	13.4
MTHW9901	121.53	63.83	13.60	174.67	41.57	.33	13.2
MTHW9715	121.00	63.83	12.73	171.33	40.07	1.00	13.4
MTHW9902	120.43	62.73	14.40	176.67	43.03	2.00	12.8
MTHW9906	118.53	63.67	12.40	171.67	36.60	.33	13.1
MTHW9905	118.40	62.70	11.63	171.33	38.60	.67	12.8
MTHW9804	116.83	63.40	11.97	170.33	35.67	.67	13.2
MTHW9716	116.83	62.27	12.40	169.67	37.13	.00	13.3
HI-LINE	116.20	62.93	11.97	171.67	36.20	.00	13.3
MTHW9705	115.97	61.67	13.03	172.00	35.67	.00	12.8
MTHW9903	114.50	62.60	12.37	174.00	38.20	1.00	12.8
MTHW9904	114.37	64.30	13.37	173.00	40.43	.00	13.8
MTHW9701	114.30	61.57	12.07	172.33	34.40	.00	12.4
MTHW9709	113.17	60.90	11.60	170.67	37.67	1.33	12.7
ARGENT	112.17	63.40	12.80	174.00	41.20	1.00	14.7
KLASIC	110.33	60.73	11.03	168.33	25.60	1.00	13.0
MTHW9710	108.97	61.60	11.67	169.33	35.03	.33	14.4
Mean	124.16	62.37	12.79	172.50	37.19	0.66	12.9
C.V.	5.66	0.78	5.43	0.45	2.12	81.1	
LSD (.05)	11.49	0.80	1.13	1.28	1.29	0.87	