

TITLE: Spring Wheat

PROJECT: Small Grain Investigations MS 756

YEAR: 1978

PERSONNEL: Leader - Vern R. Stewart
Technician - Todd Keener
Cooperators - Montana Agricultural Experiment Station
Field Crops Branch ARS USDA
Montana Research and Marketing Committee

OBJECTIVES: 1. To determine the adaptability of new and introduced spring wheat varieties and selections.

2. To aid in the basic genetic research programs in spring wheat.

RESULTS AND DISCUSSIONS:

The mean this year for spring wheat yields was down slightly from last year. The mean this year was 75.55 bu/a. The range of yields was from 43.90 bu/a to the high yield of MP-122 which was 92.91 bu/a. The check, Newana, had a yield of 82.59 bu/a which was 15% less than last year. Test weights varied little from the mean which was 57.31 lbs/bu. Six varieties had significantly early heading dates as compared with the check and five others were significantly later in heading. Table 1. Stem lodging was severe in varieties MP-122, NHS 183-74, Fortuna, and Thatcher. Leaf rust was severe in Cebeco 1024 and Thatcher. Five additional varieties demonstrated moderate leaf rust susceptibility. Table 1.

Table 1. Agronomic data from the Private Variety Yield Nursery grown on the Northwestern Agricultural Research Center, Kalispell, MT in 1978. Field No. Y-2. Random block design, four replications.

Date seeded: May 5, 1978 Date harvested: September 23, 1978
 Plot size: 32 sq. ft.

C.I. or State No.	Variety	Yield Bu/A	Test Wt Lbs/Bu.	Heading Date	Plant Ht.In.	Lodging %	Leaf Rust %
WS 122	MP-122	92.91	59.00	196.75a	39.25a	61.33	.00
AG 1	Solar	92.83	58.80	194.25a	37.25a	33.33	.00
CI 13986	Era	90.19	58.60	194.00a	36.25	8.33	8.33
TR 3	Octo Bulk-Bush (Triticale)	88.50	49.40	188.00b	39.00a	.00	5.00
NK 55114	75S 5511-4	83.40	58.00	192.00	38.75a	.00	.00
CI 17430	Newana, MT 7156 ^{1/}	82.59	59.00	192.25	35.00	40.00	5.00
NK 55112	75S 5511-2	81.88	59.60	192.25	38.00a	30.00	20.00
NK 5509	75S 5509	81.36	57.90	190.00b	37.50a	1.67	.00
NK 55111	75S 5511-1	77.44	59.50	191.75	37.50a	8.33	15.00
TR 1	Navojoa (Triticale)	74.17	53.90	188.25b	35.75	.00	20.00
NA 18374	NHS 183-74	73.61	57.50	188.25b	34.50	78.33	20.00
CI 13596	Fortuna	71.55	57.60	191.25b	44.25a	60.00	6.67
MT 34	Prodax	64.36b	56.10	192.25	36.75a	.00	28.33a
NK 5508	75 S 5508	62.95b	57.40	194.25a	32.75b	30.00	21.67
CI 10003	Thatcher	47.20b	56.90	189.75b	48.50a	61.67	96.00a
CE 1024	Cebeco 1024	43.90b	57.70	196.50a	41.75a	43.33	80.00a
	\bar{x}_2	75.55	57.31	191.98	38.30	28.52	20.38
	F ^{2/}	6.91**	.00	73.13**	40.04**	1.86NS	19.78**
	S.E. \bar{x}	5.63	.00	.32	.61	19.72	6.32
	L.S.D. (.05)	16.03	.00	.91	1.74	56.16	17.99
	C.V. %	7.45	.00	.17	1.60	69.13	31.00

^{1/} Check variety

^{2/} Value for variety comparison

^{a/} Value significantly greater than the check at the .05 level

^{b/} Value significantly less than the check at the .05 level

* Indicates statistical significance at the .05 level

** Indicates statistical significance at the .01 level