

Title: Off-Station winter wheat variety evaluations in the Western Triangle Area.

Year: 2000

Location: Western Triangle Research Center, Conrad, MT.

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An off-station winter wheat variety trial was grown at the Knees east of Brady, where sawfly pressure is high and consistent. The trial was no-till planted into chem-fallow.

Results: Fall stands were good, but winter snow cover was non-existent and growing season rainfall was only 58% of normal. In spite of these conditions, winter survival, yield and test weight were good.

High-ranking varieties for yield included Rocky, Judith, Big Sky and Neeley (Table 1). Yields of Big Sky and Tiber were not significantly different. Likewise, yields of Vanguard and Rampart were not significantly different. Vanguard and Rampart yielded about 8 bu/a less than Rocky.

The sawfly resistant line MTS-9882 yielded equal to Rocky, and maintained good test weight (Table 1). Another sawfly resistant line, MTS-9720, was slightly lower for yield and 2 lbs/bu lower in test weight.

Sawfly damage was severe for hollow-stemmed varieties, except Rocky suffered only moderate damage. The solid stemmed varieties Vanguard, Rampart, MTS-9882 and MTS-9720 had only slight sawfly damage.

Future Plans: Continue winter wheat variety tests at the Knees area in efforts to identify sawfly resistant varieties that are superior to Vanguard and Rampart.

Table 1 Dryland Winter Wheat variety trial grown near the Knees, 2000. Mont. Agr. Expt. Station, Western Triangle Ag. Res. Center, Conrad, MT.

Variety	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	Spring survival class 1/	% protein
PRONGHORN	59.5	62.7	35		14.4
ROCKY	58.3	63.7	31	2	14.7
MTS9882	58.0	61.8	31		13.5
JUDITH	56.4	60.7	35	3	14.2
NEELEY	55.1	61.9	31	3	14.3
HALT ***	54.6	62.0	27	2	14.5
PROMONTORY	52.8	63.4	34	2	14.3
QUANTUM 542	52.8	62.3	34	3	14.2
MTS 9720	51.9	60.0	32		14.2
TIBER	51.6	60.7	33	3	14.4
BIG SKY	51.5	61.1	35	4	14.9
VANGUARD **	50.1	62.1	31	1.5	15.5
BIGHORN	50.1	62.8	29	3	14.6
MT 9513	49.3	63.5	33		14.0
MORGAN	48.7	60.8	33	5	14.7
NUPLAINS *	48.4	63.4	29		14.8
MT 9426	47.8	61.8	29		14.6
ERHARDT	47.8	61.3	28	4	15.6
MCGUIRE	47.7	61.7	32	3	16.4
MTW 9441 *	45.6	59.8	30		14.5
NUWEST *	45.5	58.9	30	3	14.5
RAMPART **	44.9	62.2	32	1.5	15.8
NORSTAR	44.8	60.7	39	5	14.3
ELKHORN	43.9	61.7	34	4	15.8

Cooperator: Dan Picard.

Location: Thirty miles east of Brady, Chouteau County.

Fertilizer: 60# 11-51-0 with the seed, + 45# N urea.

Rainfall: April 1 to harvest = 3.75 inches.

Previous crop: No-till chem. fallow.

Date seeded: Sept. 15, 1999. Date harvested: July, 24, 2000.

Soil probe depth at seeding: 34 inches.

* = Hard white wheat.

** = Sawfly resistant variety.

*** = Russian wheat aphid resistant.

1/ = Spring survival class: 5=best; 1=very low; based on several location-years of observation.

Yield exp. mean: 50.71 Error degrees of freedom: 46

F test for var. = 3.24,--- C.V. 2 = 4.97,--- LSD (0.05) = 7.17

Table 2 Five-year summary on dryland Winter Wheat varieties grown near the Knees. 1993 - 1996 - 1997 - 1998 - 2000. Mont. Agr. Expt. Sta., Western Tri. Ag. Research Center, Conrad, MT.

Variety	5 - year comparable average			
	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
ROCKY	47.2	60.3	29	13.9
TIBER	43.2	59.6	29	14.0
QUANTUM 542	43.2	59.4	31	13.8
VANGUARD *	43.2	59.0	28	14.7
RAMPART *	41.2	59.1	29	14.7
NUWEST **	40.5	58.2	28	14.3
NEELEY	39.7	58.0	29	13.9
BIGHORN	38.6	59.6	25	14.1
JUDITH	38.6	57.8	31	14.4
MCGUIRE	36.8	58.9	28	15.5
PROMONTORY	36.6	60.1	29	13.5
ERHARDT	36.1	58.6	27	15.4
NORSTAR	35.2	58.8	34	14.3

Cooperator: Dan Picard.

Location: Thirty miles east of Brady. (Chouteau County)

* = Sawfly resistant varieties.

** = Hard white wheat, (MT 7811).