

Title: Off-station spring wheat variety evaluations in the Western Triangle Area.

Year: 1997

Location: Western Triangle Research Center, Conrad, MT.

Personnel: Gregory D. Kushnak and Ron Thaut, Research Center, Conrad; and Dr. Luther Talbert, MSU Dept Plant, Soil & Environ Sci.

Off-station spring wheat variety trials were grown in Teton County near Choteau, Toole County near Oilmont, and Glacier County near Cut Bank. These three locations represent diverse environments with Choteau having deep soil and typically favorable moisture, Oilmont having less than favorable moisture, and Cut Bank with short growing season. Data for the three locations are presented in Tables 1 to 6, and include the 1997 data and five-year averages.

In addition, sawfly-resistance-evaluation spring wheat trials were grown at Dutton, and are reported elsewhere by Luther Talbert.

Results: Good soil moisture and timely rainfall during the first half of the growing season promoted good crop growth and yields. However, moisture was depleted soon enough before ripening to cause low test weights at all three locations.

Sawfly wasps were active at Choteau, but no stem cutting was observed. This was likely due to parasitism of the sawfly larvae. McNeal, Westbred 936, and Hiline performed consistently well across all three locations.

Future Plans: Variety trials will be repeated in 1998 at these same locations.

Table 1 Dryland Spring Wheat variety trial grown near Choteau, 1997. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
VANNA (s. white)	67.7	58.6	33	11.0
MCNEAL	66.0	59.7	35	13.5
WESTBRED 936	65.9	59.1	31	13.9
FERGUS	65.4	60.2	34	13.4
WESTBRED 926	65.0	60.1	32	14.1
MTHW9420	64.5	59.9	32	12.4
NEWANA	64.1	57.3	31	12.7
HI-LINE	63.5	60.6	32	13.3
WESTBRED EXPRESS	63.3	59.2	30	12.7
MTHW9520	62.0	57.7	32	12.8
MT 9508	61.9	61.6	33	13.7
MT 9433	61.4	60.9	40	13.9
PIONEER 2375	61.4	62.3	36	13.2
GLENMAN *	61.3	58.8	34	12.7
GRANDIN	60.7	59.8	36	14.5
FORTUNA *	59.1	61.9	41	14.1
LEN	58.8	60.0	37	14.1
ERNEST *	57.3	62.1	39	14.4
RAMBO *	56.7	57.0	31	13.4
STOA	56.1	59.8	39	14.4
AMIDON *	53.6	59.9	41	13.8
TRENTON	51.5	60.6	42	14.7
LEW *	44.5	61.2	40	13.8

Cooperator: Roy Inbody.

Location: Twelve miles northeast of Choteau. (Teton County)

Fertilizer: 100 # 11-52-0 with the seed, + 60 #N actual liquid.

Previous crop: Fallow.

Date seeded: May 8, 1997.

Date harvested: August 26, 1997.

Rainfall: From seeding to harvest was 6+ inches.

* = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.) (Also, most experimental lines are resistant).

Yield experimental mean: 60.50

Error degrees of freedom: 44.00

F test for var: 4.25

C.V. 2: 4.32

LSD (0.05): 7.45

Table 2 Five-year summary for Dryland Spring Wheat varieties grown near Choteau, MT. 1993 - 1994 - 1995 - 1996 - 1997. Mont. Agr. Expt. Station, Western Triangle Ag. Research Center, Conrad, MT.

5 - year comparable average					

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein

GLENMAN	*	56.6	57.0	32.2	13.5
NEWANA		56.5	55.0	30.4	13.6
MCNEAL		55.8	57.1	32.2	14.4
HI-LINE		55.2	59.5	29.6	14.4
WESTBRED 936		54.0	58.1	28.4	14.9
RAMBO	*	52.9	57.1	29.6	13.7
FORTUNA	*	51.0	60.0	37.6	15.0
WESTBRED 926		50.6	57.9	29.4	15.0
GRANDIN		50.5	58.6	33.4	15.1
WESTBRED EXPRESS		48.8	58.5	27.2	13.9
LEW	*	48.7	59.2	37.2	14.6
ERNEST	*	48.6	60.7	36.3	15.4
LEN		48.0	57.8	32.2	14.8
AMIDON	*	47.9	57.7	36.6	14.5
STOA		47.1	58.1	35.8	15.0
TRENTON		46.4	59.6	38.9	15.4

Cooperator: Roy Inbody in 1994 - 1995 - 1996 - 1997, and Rick
Corey in 1993. Location:
Northeast of Choteau, MT. (Teton County) * = Sawfly
resistant varieties. (Amidon and Rambo have partial
resistance.)

Table 3

Dryland Spring Wheat variety trial grown near Oilmont, 1997. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
MT 9508		37.2	58.1	31	14.0
WESTBRED 936		36.2	54.2	28	15.0
MT 9433		36.1	58.5	35	13.9
MCNEAL		35.5	54.2	30	14.1
MTHW9420		35.5	52.6	30	14.3
WESTBRED 926		34.9	53.0	30	15.7
PIIONEER 2375		34.9	55.8	34	13.5
WESTBRED EXPRESS		34.8	53.1	28	14.6
HI-LINE		34.6	54.0	28	14.1
GLENMAN	*	34.3	54.6	29	12.8
GRANDIN		33.9	53.8	33	14.2
AMIDON	*	33.9	56.2	37	14.2
FERGUS		33.6	53.3	29	15.8
NEWANA		33.2	53.8	28	14.2
FORTUNA	*	33.0	57.2	37	13.8
VANNA (s. white)		32.3	48.2	30	12.7
TRENTON		31.5	54.3	37	14.2
LEW	*	31.1	55.2	36	14.5
STOA		30.6	53.9	33	15.2
LEN		30.0	51.4	30	14.8
MTHW9520		29.8	52.8	31	15.4
RAMBO	*	28.4	53.4	29	15.5
ERNEST	*	28.2	54.5	34	15.9

Cooperator: Terry Alme.

Location: Eight miles east of Oilmont. (Toole County)

Fertilizer: 100# 11-52-0 with the seed.

Previous crop: Fallow.

Date seeded: April 28, 1997.

Date harvested: August 18, 1997.

Rainfall: From May 21 to harvest was 2.7 inches.

* = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.) (Also, most experimental lines are resistant).

Yield experimental mean: 33.19

Error degrees of freedom: 44.00

F test for var: 4.54

C.V. 2: 3.59

LSD (0.05): 3.40

Table 4 Five-year summary for dryland Spring Wheat varieties grown near Oilmont, MT. 1993 - 1994 - 1995 - 1996 - 1997. Mont. Agr. Expt. Station, Western Triangle Ag. Research Center, Conrad, MT.

Variety	5 - year comparable average			
	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
WESTBRED 936	41.9	55.8	25.9	14.9
MCNEAL	41.8	55.0	30.8	14.7
WESTBRED EXPRESS	40.6	56.6	25.3	13.9
GLENMAN *	40.1	55.2	30.4	13.1
HI-LINE	39.5	55.8	28.8	14.8
WESTBRED 926	39.0	55.9	29.0	14.7
GRANDIN	37.8	55.5	32.4	15.1
NEWANA	37.3	55.5	28.6	13.0
AMIDON *	36.9	57.3	35.8	14.2
ERNEST *	36.5	57.9	34.8	14.7
LEW *	36.4	57.3	35.0	14.6
LEN	35.4	55.5	31.4	14.7
FORTUNA *	35.2	58.5	36.0	13.7
RAMBO *	34.4	57.2	29.2	14.2
STOA	34.4	55.7	34.6	14.7
TRENTON	32.7	56.8	37.5	14.1

Cooperator: Terry Alme.

Location: Eight miles east of Oilmont, MT. (Toole County)

* = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.)

Table 5

Dryland Spring Wheat variety trial grown near
Cut Bank, 1997. Mont. Agr. Expt. Sta., Western
Triangle Ag. Research Center, Conrad, MT.

Variety	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
MCNEAL	48.0	55.0	34	15.9
GLENMAN *	47.1	57.0	33	13.2
PIONEER 2375	43.9	56.6	35	15.0
MT 9508	43.6	57.4	33	14.5
NEWANA	41.7	55.5	30	14.9
FORTUNA *	41.6	59.5	40	14.3
WESTBRED EXPRESS	41.4	54.9	27	15.6
HI-LINE	41.3	54.8	32	15.8
WESTBRED 936	40.4	54.9	31	14.0
FERGUS	39.8	53.0	32	16.7
VANNA (s. white)	39.6	49.8	32	15.7
MT 9433	39.4	56.7	37	17.7
WESTBRED 926	39.2	52.1	31	17.8
LEW *	38.8	57.7	36	15.0
GRANDIN	38.3	51.4	35	16.7
MTHW9420	38.2	51.9	30	16.1
STOA	38.1	53.0	39	17.1
TRENTON	37.6	54.2	43	15.5
LEN	36.9	52.8	31	15.8
ERNEST *	35.7	56.4	36	16.5
AMIDON *	35.5	55.2	40	15.6
RAMBO *	35.0	55.0	31	14.8
MTHW9520	34.9	53.3	33	17.6

Cooperator: Don Bradley.

Location: Fifteen miles north of Cut Bank. (Glacier County)

Fertilizer: 100# 11-52-0 with seed, and 60# N-urea topdressed.

Previous crop: Fallow.

Date seeded: April 28, 1997.

Date harvested: Sept 2, 1997.

Rainfall: 6+ inches from seeding to harvest.

* = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.) (Also, most experimental lines are resistant).

Yield experimental mean: 39.82

Error degrees of freedom: 44.00

F test for var: 2.91

C.V. 2: 5.14

LSD (0.05): 5.84

Table 6 Five-year summary for Dryland Spring Wheat varieties grown near Cut Bank, MT. 1993 - 1994 - 1995 - 1996 - 1997. Mont. Agr. Expt. Station, Western Triangle Ag. Research Center, Conrad, MT.

Variety	5 - year comparable average			
	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
MCNEAL	43.2	58.0	32.5	11.5
GLENMAN *	43.0	58.2	32.4	10.1
AMIDON *	42.8	57.5	38.2	11.4
WESTBRED 936	42.2	58.0	29.1	10.4
FORTUNA *	41.5	59.7	37.0	10.9
GRANDIN	41.0	57.9	33.8	12.4
LEW *	40.9	58.5	37.0	11.0
STOA	40.7	58.7	36.2	11.3
WESTBRED EXPRESS	40.7	58.6	26.4	11.5
LEN	40.3	57.5	31.8	12.1
TRENTON	40.2	58.3	38.7	11.3
HI-LINE	40.1	59.0	29.8	11.3
NEWANA	39.8	57.8	31.6	10.6
RAMBO *	39.4	57.6	30.0	11.0
WESTBRED 926	39.3	57.2	30.2	11.4
ERNEST *	37.7	58.7	36.7	11.8

Cooperator: Don Bradley.

Location: Fifteen miles north of Cut Bank. (Glacier County)

* = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.)