

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

Year: 1996

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. Data for the three locations are presented in Tables 1 to 6, and include the 1996 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: The season started with good soil moisture but rainfall was below average for the season. The Choteau location was able to produce good yields, which was attributed to deep soil moisture and timeliness of rainfall. Yields at Oilmont were limited by moisture depletion early in the season. Cut Bank yields were limited by insufficient nitrogen levels, as indicated by the low proteins.

Sawfly wasps were active at Choteau, but for the second year in a row, did not cause heavy stem-cutting that normally occurs at this site. Parasitism of the sawfly larvae was evident in straw samples. Therefore, yields of susceptible varieties were as good or better than those of resistant varieties. Sawfly damage was not encountered at Oilmont and Cut Bank.

Future Plans: Variety trials will be repeated in 1997 at these same locations, including the sawfly-resistance trials at Dutton. The soil nitrogen problem at Cut Bank will be corrected.

Table 1

Dryland Spring Wheat variety trial grown near
Choteau, 1996. 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)	41.9	54.3	25	12.2
FORTUNA	*	41.5	59.4	35	14.6
HI-LINE		41.3	58.1	25	14.2
MTHW9503		41.1	57.6	25	14.0
NEWANA		41.1	47.3	27	12.6
GRANDIN		39.8	57.0	29	14.3
WESTBRED 936		39.6	57.0	25	14.8
RAMBO	*	39.3	52.6	24	13.2
STOA		38.2	56.3	31	14.8
WESTBRED 926		38.1	56.9	26	14.7
GLENMAN	*	38.1	54.1	28	13.3
MT 9410		37.8	58.6	32	13.7
PIONEER 2375		37.8	59.0	29	13.9
LEN		37.5	55.0	27	14.1
MCNEAL		36.9	55.2	27	13.7
ERNEST	*	36.2	59.4	31	14.7
MT 9565		36.0	59.3	31	14.3
TRENTON		35.8	57.4	34	14.7
MTHW9420		35.0	55.4	25	13.8
MT 9433		34.9	52.3	32	14.6
MT 9311		34.3	53.6	30	13.5
LEW	*	33.9	54.5	34	14.0
FERGUS	*	33.5	56.2	25	14.5
WESTBRED EXPRESS		33.0	57.0	25	13.4
AMIDON	*	29.4	54.3	32	13.6

Cooperator: Roy Inbody.

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

Fertilizer: 100 # 11-52-0 with the seed, + 60 #N actual 34-0-0.

Previous crop: Fallow.

Date seeded: April 29, 1996. Date harvested: August 19, 1996.

Rainfall: From seeding to harvest was 2.9 inches.

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

Yield experimental mean: 37.27

Error degrees of freedom: 48.00

F test for var: 2.27, C.V. 2: 5.56, LSD (0.05): 5.89

Table 2 Five-year summary for Dryland Spring Wheat varieties grown near Choteau, MT. 1992 - 1993 - 1994 - 1995 - 1996. Montana 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
GLENMAN	*	49.5	56.7	31	14.3
NEWANA		47.0	55.0	29	14.4
HI-LINE		46.6	59.0	28	15.1
MCNEAL		46.6	56.3	31	15.1
RAMBO	*	45.8	57.0	29	14.2
LEW	*	44.3	58.8	35	15.1
FORTUNA	*	43.9	59.5	35	15.5
GRANDIN		41.8	58.0	31	15.8
WESTBRED 926		41.4	57.2	28	15.2
AMIDON	*	41.4	57.0	35	15.2
ERNEST	*	40.7	60.3	35	16.1
LEN		39.0	56.7	30	15.5
STOA		38.7	57.1	34	15.7

Cooperator: Roy Inbody in 1994 - 1995 - 1996, and Rick Corey in 1992 - 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, 1996. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
WESTBRED EXPRESS		26.2	47.7	23	16.9
HI-LINE		22.4	44.3	26	19.0
MCNEAL		22.1	43.3	30	18.5
GLENMAN	*	21.9	43.0	29	16.4
MT 9565		21.1	46.0	32	18.2
MT 9410		20.9	48.0	30	18.5
RAMBO	*	20.8	47.6	28	18.0
PIONEER 2375		20.6	46.1	29	17.6
WESTBRED 936		20.5	45.3	25	19.0
WESTBRED 926		20.5	47.3	25	19.4
MTHW9503		20.3	45.9	28	17.8
FORTUNA	*	20.3	49.9	35	17.2
VANNA	(s. white	20.1	42.1	26	16.8
MTHW9420		20.1	44.9	26	NA
ERNEST	*	19.8	47.1	35	18.4
LEW	*	19.4	47.3	32	18.7
FERGUS		19.2	46.1	24	18.9
NEWANA		18.7	43.7	24	17.7
GRANDIN		18.1	43.8	31	17.7
MT 9433		17.3	46.8	32	18.9
AMIDON	*	17.1	48.3	38	17.7
LEN		17.1	45.2	31	17.9
STOA		16.7	43.3	34	19.4
MT 9311		16.6	45.9	29	17.4
TRENTON		14.4	46.6	36	18.0

Cooperator: Terry Alme.

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

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

Previous crop: Fallow.

Date seeded: May 22, 1996. Date harvested: August 12, 1996.

Rainfall: From seeding to harvest was 3.75 inches.

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

Yield experimental mean: 19.69

Error degrees of freedom: 48.00

F test for var: 2.31, C.V. 2: 8.00, LSD (0.05): 4.48

Table 4 Five-year summary for dryland Spring Wheat varieties grown near Oilmont, MT. 1992 - 1993 - 1994 - 1995 - 1996. Montana 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	43.8	57.1	30	15.5
GLENMAN *	41.4	56.8	29	13.6
ERNEST *	39.6	61.0	34	14.9
HI-LINE	38.9	57.6	28	15.5
GRANDIN	37.9	57.7	30	15.5
LEW *	37.5	59.0	33	14.9
NEWANA	36.4	57.1	27	13.5
AMIDON *	36.1	58.6	33	14.5
RAMBO *	36.0	59.4	28	14.2
LEN	35.9	57.8	30	15.1
WESTBRED 926	35.3	56.9	26	14.8
STOA	34.4	57.5	33	15.1
FORTUNA *	34.2	59.0	34	14.2

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, 1996. Mont. Agr. Expt. Sta., Western
Triangle Ag. Research Center, Conrad, MT.

Variety	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
MT 9565	34.7	61.3	34	8.9
VANNA (s. white)	31.5	57.4	29	6.6
LEN	29.6	59.8	29	10.2
MT 9311	29.1	59.4	33	9.8
WESTBRED EXPRESS	28.9	60.0	24	9.3
WESTBRED 936	28.7	59.1	25	9.0
RAMBO *	28.6	58.1	26	9.5
MT 9410	28.1	60.1	34	9.4
PIONEER 2375	28.0	60.7	33	9.3
MTHW9420	27.6	59.5	29	8.5
FERGUS	27.6	59.5	26	10.1
TRENTON	27.4	59.8	32	9.5
AMIDON *	27.3	58.8	35	9.4
STOA	27.1	58.8	32	9.1
GRANDIN	26.8	59.8	30	10.1
WESTBRED 926	26.5	59.2	27	9.4
HI-LINE	26.3	61.0	28	8.8
FORTUNA *	25.7	59.1	34	9.0
MTHW9503	25.1	57.2	27	9.9
MT 9433	25.1	58.9	35	10.0
LEW *	25.1	55.5	34	9.3
ERNEST *	25.0	60.0	35	10.4
NEWANA	24.9	57.2	28	8.9
GLENMAN *	24.7	57.9	31	8.6
MCNEAL	24.7	58.2	31	9.4

Cooperator: Don Bradley.

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

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

Previous crop: Fallow.

Date seeded: May 15, 1996.

Date harvested: August 27, 1996.

Rainfall: Data not available.

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

Yield experimental mean: 27.36

Error degrees of freedom: 48.00

F test for var: 1.05, C.V. 2: 8.33, LSD (0.05): 6.48

Table 6 Five-year summary for Dryland Spring Wheat varieties grown near Cut Bank, MT. 1992 - 1993 - 1994 - 1995-1996. Montana 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

AMIDON	*	43.4	57.6	37	10.3
GLENMAN	*	42.2	57.9	32	9.4
FORTUNA	*	40.8	59.7	36	10.4
LEW	*	40.8	58.3	37	10.0
MCNEAL		40.6	58.6	32	10.6
GRANDIN		40.5	59.4	33	11.1
RAMBO	*	40.5	58.2	29	10.0
LEN		39.6	58.4	31	11.2
WESTBRED 926		39.6	58.3	30	10.1
HI-LINE		39.2	60.3	29	10.4
STOA		39.2	59.7	35	10.1
NEWANA		38.3	58.2	30	9.6
ERNEST	*	37.6	58.9	37	10.7

Cooperator: Don Bradley.

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

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