

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

Year: 2001

Location: Western Triangle Research Center, Conrad, MT.

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Off-station spring wheat variety trials were grown in Teton County near Choteau, Toole County near Oilmont, Glacier County near Cut Bank, and Chouteau County in the Knees Area. These four locations represent diverse environments with Choteau having deep soil and typically favorable moisture; the Knees with deep soil, intermediate moisture and warmer temperatures; Oilmont having less than favorable moisture; and Cut Bank with short growing season. The Cut Bank, Choteau and Knees trials were no-till planted on chem-fallow.

Results: Data for three of the off-station locations are presented in Tables 1-6, and include the 2001 data and five-year averages. The Oilmont trial was not harvested due to poor stand and drought damage. Rainfall was about 60% of normal during the growing season, resulting in drought stress at all sites. Test weights were low at each location. Yields averaged 24 bu/a for Cut Bank, 21bu/a for Choteau, and 18 bu/a at the Knees.

Yield differences between McNeal and Reeder were not significant at each of the locations. Likewise, Conan and Scholar were not significantly different. Scholar and Conan were superior to Amidon for yield, agronomics and sawfly resistance at all locations (Scholar and Conan have medium sawfly resistance).

Yield of the hard white variety Explorer was not significantly different than McNeal or Reeder except at Cut Bank. The sawfly-resistant variety Ernest yielded higher than or equal to Fortuna at the various locations.

Future Plans: Variety trials will be repeated in year 2002 at these same locations.

Table 1

Dryland Spring Wheat variety trial grown near
Cut Bank, 2001. Mont. Agr. Expt. Sta., Western
 Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
MCNEAL		28.9	57.1	27	18.4
HI-LINE		27.2	56.7	24	17.1
Reeder		27.0	59.5	23	17.1
MT 9874		27.0	57.2	24	16.5
WESTBRED 926		26.0	56.2	24	17.7
NEWANA		25.7	58.4	23	16.1
MTHW 9904	**	25.7	60.5	26	16.8
AMIDON	*	25.6	58.3	27	16.6
SCHOLAR	*	24.8	59.8	25	18.2
ERNEST	*	24.7	60.2	26	17.4
RAMBO	*	24.7	61.2	22	15.6
WESTBRED 936		24.5	56.0	22	17.8
CONAN	*	23.6	60.5	22	16.7
WESTBRED EXPRESS		23.1	58.6	21	16.2
Explorer (9719)	**	22.7	57.2	23	17.4
GRANDIN		22.3	57.4	23	18.0
LEW	*	22.1	58.7	27	17.3
MTHW9420	**	22.1	56.3	22	17.0
MT 9929		21.0	58.3	22	17.6
FORTUNA	*	17.4	59.2	27	17.8

Cooperator: Kevin Bradley.

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

Fertilizer: 100-31-0 (N-P-K).

Previous crop: No-till chemical fallow.

Date seeded: April 30, 2001.

Date harvested: August 20, 2001.

Rainfall from planting to harvest: 3.8 inches.

Moist soil depth at planting: 23"

Some varieties showed a moderate amount of sawfly damage.

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

** = Hard white wheat.
Yield experimental mean: 24.30
Error degrees of freedom: 38.00
F test for var: 1.65
C.V. 2: 8.42
LSD (0.05): 5.86

Table 2 **Five-year summary** for dryland **Spring Wheat** varieties grown near **Cut Bank, MT.** 1997 - 1998 - 1999 - 2000 - 2001. 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

MCNEAL		42.9	57.4	31	15.6
REEDER		42.5	59.5	32	15.3
HI-LINE		41.2	57.5	29	14.9
WESTBRED 936		40.1	57.3	27	14.8
WESTBRED 926		40.0	56.3	30	15.5
WESTBRED EXPRESS		39.7	57.9	26	14.4
NEWANA		39.5	57.6	28	14.1
CONAN	*	39.2	59.4	29	15.0
SCHOLAR	*	39.2	58.7	34	15.8
GRANDIN		38.9	56.9	32	15.7
MT HW9420	**	38.5	56.3	28	14.6
RAMBO	*	37.3	58.6	28	14.4
AMIDON	*	36.9	58.1	36	14.9
ERNEST	*	36.7	59.4	33	15.8
FORTUNA	*	36.5	59.8	35	14.6
LEW	*	35.3	58.8	34	14.8

Cooperator: Kevin Bradley.

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

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

** = Hard white wheat.

Table 3

Dryland Spring Wheat variety trial grown near
Choteau, 2001. Mont. Agr. Expt. Sta., Western
 Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
MTHW 9904	**	27.5	59.7	22	16.1
Reeder		25.2	59.5	20	18.0
Explorer (9710)	**	24.8	57.8	21	16.6
HI-LINE		24.2	59.5	17	17.2
MCNEAL		23.9	57.9	17	17.3
MT 9929		23.7	57.6	20	16.9
MTHW 9420	**	23.2	58.4	19	17.5
WESTBRED EXPRESS		23.2	57.0	18	17.1
MT 9874		23.0	57.4	20	17.1
WESTBRED 926		22.5	58.6	18	17.7
CONAN	*	22.3	59.1	19	17.7
SCHOLAR	*	22.2	59.1	22	17.7
GRANDIN		22.1	59.3	18	18.0
WESTBRED 936		20.0	56.9	18	19.1
FORTUNA	*	19.6	59.4	19	18.3
RAMBO	*	19.5	59.5	18	17.6
NEWANA		19.1	59.1	16	16.6
ERNEST	*	19.0	60.0	17	18.5
LEW	*	16.6	56.8	19	16.6
AMIDON	*	15.4	56.3	21	16.0

Cooperator: Roy Inbody.

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

Fertilizer: 100-51-0 (N-P-K).

Previous crop: No-till chemical fallow. (wheat stubble)

Date planted: April 30, 2001.

Date harvested: August 7, 2001.

Rainfall from planting to harvest: 3.10 inches

Moist soil depth at planting: 28"

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

** = Hard white wheat.

Yield experimental mean: 21.85
Error degrees of freedom: 38.00
F test for var: 1.99
C.V. 2: 9.71
LSD (0.05): 6.07

Table 4 **Five-year summary** for dryland **Spring Wheat** varieties grown near **Choteau, MT.** 1997 - 1998 - 1999 - 2000 - 2001. 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

MCNEAL		47.8	56.9	30	16.1
REEDER		46.6	58.0	33	16.2
WESTBRED 936		45.3	56.3	27	16.8
FORTUNA	*	45.2	59.4	34	15.9
MT HW9420	**	44.6	56.4	28	15.4
HI-LINE		44.4	56.8	28	15.9
NEWANA		44.2	56.9	27	15.0
ERNEST	*	44.1	58.9	31	16.4
SCHOLAR	*	44.0	57.8	34	16.3
RAMBO	*	43.6	57.0	27	15.4
WESTBRED 926		43.6	56.6	28	16.5
GRANDIN		43.4	56.4	31	16.6
CONAN	*	42.8	57.7	30	16.0
WESTBRED EXPRESS		41.7	56.6	26	15.4
LEW	*	38.8	58.1	34	15.6
AMIDON	*	38.6	56.0	33	15.4

Cooperator: Roy Inbody.

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

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

** = Hard white wheat.

Table 5

Dryland Spring Wheat variety trial grown near the **Knees**, 2001. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
MT 9929		23.0	56.2	21	16.5
MTHW 9904	**	22.9	57.9	25	15.7
RAMBO	*	22.7	56.4	22	15.7
ERNEST	*	22.3	56.4	25	16.8
MT 9874		21.7	55.6	24	15.5
SCHOLAR	*	21.3	55.0	26	16.2
LEW	*	21.3	56.9	24	17.0
CONAN	*	19.5	57.2	22	16.1
Reeder		19.3	57.2	23	15.7
FORTUNA	*	18.9	56.9	24	17.5
NEWANA		18.8	56.0	21	15.3
AMIDON	*	18.2	56.6	25	15.9
Explorer (9710)	**	17.4	56.6	23	15.8
MCNEAL		17.3	55.6	22	16.2
WESTBRED 926		15.8	56.0	22	16.5
HI-LINE		14.7	55.9	21	16.6
MTHW 9420	**	13.2	56.7	22	15.1
WESTBRED 936		13.0	56.4	21	16.3
GRANDIN		12.5	55.9	23	16.0
WESTBRED EXPRESS		9.1	55.5	20	15.7

Cooperator: Dan Picard.

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

Fertilizer: 80-50-0 (N-P-K).

Previous crop: No-till chem fallow. (wheat stubble)

Date seeded: April 24, 2001.

Date harvested: August 7, 2001.

Rainfall: From planting to harvest was 2.20 inches.

Moist soil depth at planting: 39"

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

** = Hard white wheat.

Yield experimental mean: 18.15
Error degrees of freedom: 38.00
F test for var: 12.90
C.V. 2: 6.14
LSD (0.05): 3.19

Table 6 **Three-year summary** on dryland **Spring Wheat** varieties grown near the **Knees**. 1999 - 2000 - 2001 Mont. Agr. Expt. Sta., Western Tri. Ag. Research Center, Conrad, Montana.

		3 - year comparable average			
Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
FORTUNA	*	25.1	54.8	29	16.1
CONAN	*	24.0	53.1	26	15.0
WESTBRED 926		21.8	52.5	25	16.9
MCNEAL		21.8	50.9	26	16.5
LEW	*	21.7	53.2	28	16.8
HI-LINE		21.7	53.1	25	16.9
RAMBO	*	20.9	51.9	25	16.1
REEDER		20.8	53.2	27	16.4
ERNEST	*	20.8	53.1	29	17.3
NEWANA		19.5	51.5	25	15.9
WESTBRED 936		18.2	53.3	24	17.1
MT HW9420	**	18.1	51.5	25	16.0
SCHOLAR	*	17.8	49.4	29	16.7
GRANDIN		16.0	51.2	26	16.5
AMIDON	*	14.9	50.8	28	16.5
WESTBRED EXPRESS		14.4	51.6	23	15.6

Cooperator: Dan Picard.

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

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

** = Hard white wheat.