

**Table 6. Winifred Off-Station Durum Multi-Year Yield Summary of Selected Varieties, 1998-1999. Central Agricultural Research Center. Moccasin, MT.**

Selected Varieties	1998	1999	Avg.
		bu/a	
Lloyd	39	39	38.8
Monroe	39	40	39.1
Laker	42	32	37.1
Medora	36	34	35.2
Ben	41	33	36.5
Renville	37	35	35.7
Ward	32	29	30.8
Kyle	39	33	35.8
Vic	41	36	38.6
Plenty	36	31	33.7
Munich	41	35	38.1
Crosby	33	28	30.2
Sceptre	39	33	36.1
McNeal <sup>1/</sup>	47	44	45.8
<b>Nursery Mean</b>	<b>38.7</b>	<b>34.3</b>	

<sup>1/</sup> McNeal is used as a hard red spring wheat check.

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

Year: 1999

Location: Western Triangle Research Center, Conrad, MT.

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

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 and Choteau trials were no-till planted on chem-fallow. The Knees location also included durum.

Results: Data for the four off-station locations are presented in Tables 1-8, and include the 1999 data and five-year averages. Rainfall was about 83% of normal amount during the growing season, resulting in below normal test weight, but cool temperatures relieved some stress and allowed for reasonably good yields.

Many of the wheat and durum varieties were severely cut by sawfly at the Knees, including Rambo and Amidon. Exceptions were Conan and Scholar with medium stem cutting; Fortuna, Lew and Ernest with slight cutting; and Lloyd, Laker, Medora and Utopia durums with slight cutting. The durums had no stem solidness, and escaped sawfly damage for unknown reasons.

Ernest and Scholar had similar average yield and agronomics at most locations, except Ernest had better sawfly resistance. Scholar was superior to Amidon for yield, agronomics and sawfly resistance at all locations (Scholar has medium sawfly resistance).

McNeal ranked high for yield and protein at all locations.

Among the durums, Utopia, Mountrail and Maier were among the top performers. Maier had a nice height for dryland conditions, being slightly shorter than Sceptre.

Future Plans: Variety trials will be repeated in year 2000 at these same locations.

Table 1. **Dryland Spring Wheat** variety trial grown near  
Cut Bank, 1999. Mont. Agr. Expt. Sta., Western  
Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
PARSHALL		46.9	58.9	34	16.8
MCNEAL		46.2	58.0	30	17.2
WESTBRED EXPRESS		45.8	57.4	26	15.4
REEDER		45.6	59.0	32	17.3
FERGUS		45.0	57.8	26	16.8
WESTBRED 926		44.4	55.9	30	16.1
WESTBRED 936		44.4	57.8	25	16.7
MTHW9701		44.2	56.2	29	16.3
HI-LINE		44.2	57.9	27	15.7
ERNEST	*	43.5	59.5	31	17.9
SCHOLAR	*	43.4	55.7	31	17.1
PNR 2375		43.3	57.8	31	15.4
NEWANA		42.4	56.0	26	15.7
GRANDIN		41.8	56.8	30	17.0
CONAN	*	41.6	58.0	27	16.9
FORTUNA	*	40.8	59.3	32	16.6
LEW	*	39.0	56.7	32	15.9
MTHW9420		38.9	56.5	26	15.8
AMIDON	*	38.3	57.2	32	17.0
RAMBO	*	36.6	57.8	27	16.4

Cooperator: Kevin Bradley.

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

Fertilizer: 50 # N topdressed & 100# 11-52-0 with the seed.

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

Date seeded: April 8, 1999.

Date harvested: August 29, 1999.

Rainfall: 5.25 inches from April 1 to harvest.

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

Yield experimental mean: 42.80

Error degrees of freedom: 38

F test for var: 2.59

C.V. 2: 4.14

LSD (0.05): 5.07

Table 2. **Five-year summary** for dryland **Spring Wheat** varieties grown near **Cut Bank, MT.** 1995 - 1996 - 1997 - 1998 - 1999. 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	45.9	58.9	32	12.8
FERGUS	45.7	59.2	30	12.7
WESTBRED 936	44.7	58.9	28	11.8
PIONEER 2375	44.6	60.0	35	12.0
HI-LINE	44.5	59.7	30	12.1
WESTBRED EXPRESS	44.4	59.3	27	12.1
MTHW9420 (hard white)	43.8	58.1	30	11.8
GRANDIN	43.3	58.4	33	12.9
SCHOLAR *	42.6	59.1	37	13.2
NEWANA	42.6	58.2	30	11.9
WESTBRED 926	42.6	58.0	31	12.7
AMIDON *	42.4	58.9	38	12.3
FORTUNA *	42.1	60.7	37	12.0
LEW *	41.9	59.3	36	11.9
RAMBO *	41.8	59.0	29	12.0
ERNEST *	40.1	60.1	36	13.0

Cooperator: Kevin Bradley.

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

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

Table 3.

**Dryland Spring Wheat** variety trial grown near Oilmont, 1999. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
FORTUNA	*	28.3	52.0	29	15.0
CONAN	*	27.8	52.4	27	16.1
REEDER		27.4	52.5	28	16.8
AMIDON	*	26.0	51.6	29	15.7
MCNEAL		25.5	46.7	26	16.8
WESTBRED 926		24.9	51.6	26	17.6
SCHOLAR	*	24.9	49.0	28	16.8
PNR 2375		24.9	51.3	28	15.5
MTHW9420		24.4	47.9	27	16.8
PARSHALL		24.2	49.8	31	16.8
NEWANA		24.1	52.3	26	16.6
FERGUS		24.0	53.4	25	16.8
LEW	*	23.9	49.0	29	16.5
RAMBO	*	23.5	52.1	25	16.3
ERNEST	*	23.5	55.0	26	17.0
HI-LINE		23.2	48.4	25	17.1
GRANDIN		23.0	53.6	27	16.8
MTHW9701		22.9	48.7	26	16.6
WESTBRED 936		22.5	53.3	25	16.7
WESTBRED EXPRESS		22.5	54.3	24	15.5

Cooperator: Terry Alme.

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

Fertilizer: Topdress 45# N-UREA, and 100# 11-52-0 with seed.

Previous crop: Fallow.

Date seeded: April 7, 1999.

Date harvested: August 10, 1999.

Rainfall: From May 17 to harvest was 4.27 inches.

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

Yield experimental mean: 24.57

Error degrees of freedom: 38

F test for var: 2.80

C.V. 2: 4.12

LSD (0.05): 2.90

Table 4. **Five-year summary** for dryland **Spring Wheat** varieties grown near **Oilmont, MT.** 1995 - 1996 - 1997 - 1998 - 1999. 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	38.5	53.0	30	15.2
HI-LINE	36.6	53.7	28	15.3
WESTBRED 936	36.4	54.7	26	15.5
WESTBRED EXPRESS	35.8	55.4	25	14.4
PIONEER 2375	35.1	55.7	30	14.3
WESTBRED 926	34.7	54.7	28	15.8
NEWANA	34.6	54.5	28	14.3
GRANDIN	34.6	55.3	31	15.2
FORTUNA *	34.4	56.6	35	14.0
SCHOLAR *	34.2	55.8	31	15.1
RAMBO *	34.0	55.7	28	14.8
LEW *	33.7	55.0	34	14.9
FERGUS	33.4	55.2	27	15.3
AMIDON *	32.9	55.6	35	14.6
ERNEST *	32.8	56.6	32	15.5

Cooperator: Terry Alme.

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

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

Table 5. **Dryland Spring Wheat** variety trial grown near Choteau, 1999. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
NEWANA		66.1	59.4	26	14.5
RAMBO	*	65.8	57.7	27	14.2
MCNEAL		63.8	59.0	28	15.8
SCHOLAR	*	62.4	58.0	34	14.3
ERNEST	*	61.0	57.2	33	14.7
LEW	*	59.7	59.1	34	13.5
FORTUNA	*	57.2	59.0	34	14.9
REEDER		56.8	57.0	34	15.4
FERGUS		56.6	58.2	28	15.2
MTHW9420		55.8	57.4	28	14.0
WESTBRED 936		53.7	57.9	28	15.8
CONAN	*	53.6	57.7	29	15.4
GRANDIN		52.0	56.7	32	16.0
MTHW9701		51.9	56.7	26	14.5
PNR 2375		49.5	59.4	33	14.7
HI-LINE		48.5	57.0	26	15.1
AMIDON	*	48.4	55.1	32	14.6
PARSHALL		47.9	56.7	36	14.4
WESTBRED 926		47.6	57.2	28	16.1
WESTBRED EXPRESS		32.7	55.9	26	15.7

Cooperator: Roy Inbody.

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

Fertilizer: 100 # 11-52-0 with the seed, + 45 #N actual urea.

Previous crop: No-till chemical fallow.

Date seeded: April 12, 1999.

Date harvested: August 30, 1999.

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

Yield experimental mean: 54.55

Error degrees of freedom: 38

F test for var: 5.10

C.V. 2: 6.39

LSD (0.05): 9.98

Table 6. **Five-year summary** for dryland **Spring Wheat** varieties grown near **Choteau, MT.** 1995 - 1996 - 1997 - 1998 - 1999. 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	58.7	57.3	33	14.5
NEWANA	58.4	55.6	31	13.4
FERGUS	57.9	58.7	32	14.2
WESTBRED 936	56.7	57.9	29	14.8
FORTUNA *	56.3	60.5	39	14.3
RAMBO *	56.2	56.5	30	13.4
MTHW9420 (hard white)	55.9	57.7	31	13.5
ERNEST *	55.0	60.3	37	14.8
HI-LINE	54.9	58.8	31	14.1
SCHOLAR *	54.5	57.5	37	14.7
WESTBRED 926	54.0	57.9	31	14.8
GRANDIN	54.0	57.7	35	15.0
PIONEER 2375	53.9	60.1	35	14.0
LEW *	51.1	59.4	39	14.1
WESTBRED EXPRESS	49.5	58.2	28	13.9
AMIDON *	49.0	57.3	38	14.1

Cooperator: Roy Inbody.

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

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

Table 7. **Dryland Spring Wheat** variety trial grown near the **Knees**, 1999. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
CONAN	*	31.3	54.5	29	16.2
FORTUNA	*	31.1	52.5	32	15.6
HI-LINE		26.8	51.2	28	17.1
PARSHALL		26.4	51.5	35	16.5
REEDER		26.0	52.2	31	16.8
MCNEAL		25.5	49.4	28	17.1
WESTBRED 926		25.4	50.2	27	17.1
NEWANA		25.4	51.4	27	16.6
LEW	*	23.9	51.5	30	17.1
ERNEST	*	23.8	52.8	32	17.2
PNR 2375		20.9	49.8	31	15.9
RAMBO	*	20.3	50.7	26	16.7
GRANDIN		20.0	46.7	27	16.7
MTHW9701		19.8	48.3	28	16.6
WESTBRED 936		19.8	49.9	26	17.3
MTHW9420		19.3	47.2	28	16.4
FERGUS		17.3	50.0	27	16.7
SCHOLAR	*	15.4	48.3	32	17.1
WESTBRED EXPRESS		14.9	49.6	25	15.4
AMIDON	*	13.5	49.2	28	16.3

Cooperator: Dan Picard.

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

Fertilizer: 60# N topdressed & 60# 11-52-0 with the seed.

Previous crop: Fallow

Date seeded: April 7, 1999.

Date harvested: August 16, 1999.

Rainfall: 4.9 inches from May 6 to harvest.

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

Yield experimental mean: 22.34

Error degrees of freedom: 38

F test for var: 12.75

C.V. 2: 6.31

LSD (0.05): 4.04

Table 8. Dryland Durum variety trial grown near the Knees, 1999. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety	Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
UTOPIA	35.9	51.8	27	16.9
LAKER	31.1	53.6	26	16.5
PLENTY	29.6	53.8	33	17.8
Mountrail	29.3	50.8	29	18.3
Maier	29.0	52.2	32	18.9
Belzer	27.8	51.2	34	17.4
MEDORA	27.4	54.4	32	18.8
LLOYD	27.2	50.8	26	18.0
KYLE	26.0	53.7	35	18.1
CROSBY	24.2	51.6	31	18.0
MONROE	23.9	52.3	34	17.2
SCEPTRE	23.9	50.5	33	18.1
BEN	23.7	52.9	33	18.2
Munich	23.4	50.8	31	18.6
WARD	23.1	51.6	31	18.0
MCNEAL (wheat)	22.5	48.0	30	16.6
RENVILLE	22.5	51.6	32	18.5
VIC	20.0	53.2	32	17.6

Cooperator: Dan Picard.  
 Location: Thirty miles east of Brady. (Chouteau, County)  
 Fertilizer: 60 # N topdressed & 60# 11-52-0 with the seed.  
 Previous crop: Fallow  
 Date seeded: April 7, 1999.  
 Date harvested: August 16, 1999.  
 Rainfall: 4.9 inches from May 6 to harvest.  
 Yield experimental mean: 26.13  
 Error degrees of freedom: 34  
 F test for var: 6.09  
 C.V. 2: 6.01  
 LSD (0.05): 4.51