

Title: Off-station spring wheat variety investigations.

Year: 1994

Location: Western Triangle Research Center, Conrad, MT.

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Dryland off-station spring wheat variety trials were grown near Cut Bank (Glacier County), Oilmont (Toole County), and Choteau (Teton County). Data for the three locations are presented in Tables 1-6, and include 1994 data and five-year averages. (Emphasis should be placed more on the five-year averages when predicting which varieties are best suited for a given area. The 1994 tables reflect performance under the conditions of only one year, and therefore should not be relied on too heavily).

Growing season rainfall was approximately 60 to 70 percent of normal, but abundant stored soil moisture at planting time maintained plant growth long enough to produce fairly good yields. Test weights were low at Oilmont and Choteau, as soil moisture was eventually depleted. Disease was not detected at any of the sites.

Severe infestation of sawfly occurred at Choteau, but lodging had not progressed appreciably by the time the plot was harvested. Sawfly infestation also occurred at Conrad, but parasitism resulted in nearly 100 percent sawfly larval mortality. Although many of the varieties tested are classified as being sawfly resistant (indicated by an * in the data tables), the level of resistance has not been fully determined on some of the newer varieties. Resistance levels may range from 50 to 90 percent.

Table 1. Dryland Spring Wheat variety trial grown near Cut Bank, 1994. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% Protein
PENAWAWA	(s. white)	48.2	61.7	26	8.7
OWENS	(s. white)	42.2	61.3	29	8.7
FORTUNA	*	41.7	61.5	33	10.3
STOA		40.6	67.7	33	10.3
AMIDON	*	40.5	59.9	36	10.6
GRANDIN		40.1	61.5	32	10.7
MCNEAL		40.1	61.5	28	10.2
LEN		39.4	61.4	31	11.3
N90-700	*	39.0	62.5	28	10.4
ND 677	*	38.4	62.2	34	10.8
WESTBRED 926		38.1	61.1	28	10.3
GLENMAN	*	37.5	61.0	30	9.7
NEWANA		37.4	61.2	27	10.0
HI-LINE		37.1	61.8	26	10.3
AC EATONIA	*	37.0	59.9	34	10.7
RAMBO	*	36.9	60.5	27	10.7
PONDERA		36.8	62.0	29	11.2
CUTLESS	*	36.1	61.7	32	11.1
KLASIC	(h. white)	36.1	62.2	21	8.8
LEW	*	35.7	61.7	35	10.1
BW 688	*	35.4	60.3	31	10.3
SHOOFLY	*	34.8	61.3	27	8.1
BORDER	*	34.4	62.8	28	10.1
LANCER	*	28.5	61.9	34	10.6

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 4, 1994. Date harvested: Aug. 23, 1994.

Rainfall: From seeding to harvest was 3.75 inches.

Soil probe depth at seeding: 36 + inches.

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

Yield experimental mean = 38.01, Error degrees of freedom = 46
F test for var = 3.72, C.V. 2 = 4.91, LSD (0.05) = 5.31

Table 2.. Five-year summary for dryland Spring Wheat varieties grown near Cut Bank, MT. 1990 - 1991 - 1992 - 1993 - 1994. 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
PENAWAWA	(s. white)	47.7	59.0	28.8	9.8
OWENS	(s. white)	45.0	57.5	31.0	10.0
AMIDON	*	41.8	58.1	37.0	11.7
HI-LINE		40.1	60.0	28.8	11.5
GLENMAN	*	39.9	58.1	30.4	10.9
PONDERA		39.3	60.2	30.2	12.1
LEN		39.2	58.4	30.0	12.0
STOA		39.0	60.1	34.4	11.2
RAMBO	*	39.0	58.4	29.4	11.0
WESTBRED	926	38.9	58.3	29.6	11.5
GRANDIN		38.5	59.9	32.6	12.2
FORTUNA	*	37.4	60.0	35.4	11.8
LEW	*	36.7	58.9	35.6	11.4
NEWANA		36.7	58.3	28.8	11.3
CUTLESS	*	36.0	59.6	33.8	12.0
KLASIC	(h. white)	35.2	60.2	22.9	11.2
LANCER	*	33.8	59.9	37.2	11.6

Cooperator: Don Bradley.

Location: Fifteen miles north of Cut Bank, MT. (Glacier Co.)

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

Table 3. Dryland Spring Wheat variety trial grown near Oilmont, 1994. Mont. Agr. Expt. Sta., Western Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
BW 688	*	17.6	54.2	24	17.7
KLASIC	(h.white)	16.4	56.8	17	18.9
AMIDON	*	16.1	57.1	25	17.4
N90-700	*	15.9	56.9	20	18.9
AC EATONIA	*	15.9	54.9	20	19.4
FORTUNA	*	15.8	58.4	25	17.3
LEW	*	15.5	55.9	25	19.2
MCNEAL		15.4	54.0	21	19.1
ND 677	*	14.6	58.6	24	18.3
NEWANA		14.5	54.5	22	16.6
GLENMAN	*	14.4	54.1	23	17.7
WESTBRED 926		14.4	55.3	20	19.3
GRANDIN		14.2	53.6	24	18.3
PENAWAWA	(s. white)	13.7	55.5	19	18.3
LEN		13.5	56.9	23	18.6
BORDER	*	13.2	50.2	21	20.2
LANCER	*	13.2	56.2	23	17.7
HI-LINE		12.9	54.8	20	19.4
STOA		12.7	56.1	25	18.4
OWENS	(s. white)	12.6	52.8	20	18.4
PONDERA		12.6	56.7	23	18.3
CUTLESS	*	10.6	56.4	21	18.8
RAMBO	*	9.1	58.6	20	18.4

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 11, 1994.

Date harvested: Aug. 2, 1994.

Rainfall: From May 3 to harvest was 2.8 inches.

Soil probe depth at seeding: 36 + inches.

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

Yield experimental mean: 14.12

Error degrees of freedom: 44.00

F test for var. = 4.85, C.V. 2 = 6.25, LSD (0.05) = 2.51

Table 4. Five-year summary for dryland Spring Wheat varieties grown near Oilmont, MT. 1990 - 1991 - 1992 - 1993 - 1994. 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
PENAWAWA (s. white)	40.7	56.0	26.6	13.9
GLENMAN *	40.4	57.0	29.4	14.6
AMIDON *	37.2	58.2	33.4	15.9
WESTBRED 926	36.9	57.1	27.0	16.6
OWENS (s. white)	36.7	55.3	27.8	14.7
GRANDIN	36.3	56.2	30.2	17.2
LEW *	35.8	58.5	34.0	16.1
NEWANA	35.6	56.3	27.6	15.0
LEN	35.4	56.6	30.0	16.2
FORTUNA *	34.8	58.7	33.2	15.6
HI-LINE	34.8	55.2	27.4	16.9
KLASIC (h. white)	34.6	57.9	21.6	16.8
PONDERA	34.5	58.3	28.6	16.2
STOA	33.3	56.7	33.8	16.5
RAMBO *	33.0	58.8	26.8	15.9
LANCER *	33.0	58.0	33.8	16.5
CUTLESS *	29.9	57.8	28.8	16.6

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
Choteau, 1994. Mont. Agr. Expt. Sta., Western
Triangle Ag. Research Center, Conrad, MT.

Variety		Yield bu/ac	Test wt. lbs/bu.	Plant hgt. inches	% protein
HI-LINE		34.4	58.1	23	16.0
MCNEAL		34.2	56.1	25	15.5
AC EATONIA	*	33.9	57.9	29	16.5
GLENMAN	*	33.3	55.1	26	15.0
NEWANA		32.9	54.4	23	15.2
OWENS	(s. white)	32.9	56.7	23	15.7
PENAWAWA	(s. white)	32.0	56.7	23	15.2
RAMBO	*	31.9	58.6	22	15.4
BW 688	*	31.7	56.6	27	16.1
BORDER	*	31.6	56.6	25	15.9
AMIDON	*	30.3	56.5	26	15.3
PONDERA		30.0	58.1	25	16.7
N90-700	*	29.4	57.4	24	15.6
STOA		29.3	56.7	26	16.3
LEW	*	29.0	57.4	28	15.7
GRANDIN		28.5	56.9	24	16.2
WESTBRED 926		28.0	55.6	23	16.4
LANCER	*	27.7	57.1	29	16.3
ND 677	*	27.6	58.3	26	16.5
FORTUNA	*	27.5	57.7	28	16.9
CUTLESS	*	27.4	58.3	23	16.3
LEN		26.6	57.0	25	15.7
KLASIC	(h. white)	26.3	58.3	17	15.6

Cooperator: Roy Inbody.

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

Fertilizer: 100# 11-52-0 with the seed, + 70# AA-N.

Previous crop: Fallow.

Date seeded: April 12, 1994.

Date harvested: Aug. 2, 1994.

Rainfall: From May 3 to harvest was 2.4 inches.

Soil probe depth at seeding: 36 + inches.

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

Yield experimental mean: 30.28

Error degrees of freedom: 44.00

F test for var. = 1.98, C.V. 2 = 6.10, LSD (0.05) = 5.27

Table 6. Five-year summary for Dryland Spring Wheat varieties grown near Choteau, MT. 1990 - 1991 - 1992 - 1993 - 1994. 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	*	39.8	56.7	30.8	14.7
HI-LINE		36.0	59.0	28.2	15.2
FORTUNA	*	35.3	58.8	34.6	15.7
PENAWAWA	(s. white)	34.7	58.3	28.8	13.2
RAMBO	*	34.7	56.8	28.4	14.6
PONDERA		34.2	59.1	29.4	15.4
LEW	*	34.1	57.5	34.2	15.4
AMIDON	*	32.8	56.4	34.4	15.6
NEWANA		32.4	57.0	28.2	14.6
LANCER	*	32.0	58.7	35.8	16.3
WESTBRED	926	32.0	57.4	28.0	15.1
OWENS	(s. white)	31.8	57.0	29.4	13.6
LEN		31.4	57.3	28.8	15.1
CUTLESS	*	31.3	58.9	30.6	16.1
GRANDIN		31.0	57.9	30.4	15.9
STOA		30.6	56.7	33.2	15.4
KLASIC	(h. white)	26.3	57.6	19.6	15.4

Cooperator: Roy Inbody in 1994 and Rick Corey in 1990 - 1993.
 Location: Northeast of Choteau, MT. (Teton County)
 * = Sawfly resistant varieties. (Amidon and Rambo have partial resistance.)