

PROJECT TITLE: Evaluation of spring wheat variety performance in off-station trials at Denton and Highwood.

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OBJECTIVES:

To evaluate the performance of spring wheat varieties in environments and cropping methods different from those at the Central Agricultural Research Center.

RESULTS:

The 1995 Denton trial was recropped on tilled buckwheat residue, while Highwood was recropped no-till following spring wheat.

Denton: Spring wheat yields were near the long term average, ranging from 46 to 31 bu/a. Vanna, a hard white variety of Western Plant Breeders, produced the highest yield. Test weights averaged 59.6 lbs/bu, while proteins averaged 12.8%. Data are presented in Tables 1 and 2.

Highwood: Soil conditions were very wet at seeding, with much of the seed left on the surface. Spring wheat yields were above the 6 yr ave, ranging from 47 to 32 bu/a. Glenman produced the highest yield. Test weights averaged 63.3 lbs/bu, while proteins averaged 12%. Sawfly damage was evident, with Stoa exhibiting a moderate amount of damage. Data are presented in Tables 3 and 4.

SUMMARY:

Varieties with high yield averages over 9 years at Denton are Amidon, Westbred 926, Grandin, Newana, and Hi-Line. Glenman has a 6 yr ave yield of 35 bu/a at Highwood, while many other varieties average 32 to 34 bu/a. McNeal has also done well in the 4 years that it has been in these trials.

FUTURE PLANS:

Spring wheat variety evaluations are to be continued at Denton and Highwood.

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 Table 1 1995 Denton Spring Wheat Variety Performance Trial  
 Exp. 9971 Central Agricultural Research Center, Moccasin, MT.

ID#	Variety	Plant Ht.	Grain Yield	Test Wt.	Protein Content
		"	bu/a	lbs/bu	%
BZ684-23	VANNA	33	46.2	58.9	10.3
PI549275	HI-LINE	29	45.1	59.4	12.9
CI 17430	NEWANA	32	44.5	59.8	12.5
PI574642	McNEAL	31	42.6	56.6	12.7
WB 926	WESTBRED 926	30	41.3	59.3	13.0
WBEXPRES	WESTBRED EXPRESS	27	41.2	59.3	12.3
ND 677	ND622*2/CUTLESS	38	40.6	61.4	13.0
ND 582	STOA	37	39.4	58.3	13.3
ND 606	AMIDON	38	39.1	59.4	12.7
WB 936	WESTBRED 936	26	38.7	59.6	13.1
CI 17790	LEN	32	37.5	60.0	13.2
C982-324	RAMBO	31	37.5	58.7	12.3
MTHW9406	MT8182/KLASIC	32	37.0	58.5	12.3
CI 17828	PONDERA	31	36.1	60.8	12.8
PNR 2375	PIONEER 2375	36	36.0	60.3	12.7
TR983239	FERGUS	31	35.9	60.5	13.0
ND 626	GRANDIN	33	35.8	60.2	12.9
CI 17429	LEW	40	35.7	60.0	13.0
PI483235	GLENMAN	31	35.0	58.6	12.3
MT 9360	LEW/PND	32	34.9	60.7	13.3
BZ984326	BORDER	30	34.4	60.8	13.4
CI 13596	FORTUNA	37	33.1	60.6	13.2
MT 9354	MT7810/(SU73/LEW)	36	31.1	59.4	13.3
EXPERIMENTAL MEANS			38.21	59.61	12.76
F TEST FOR VAR. df=44			2.72	3.31	14.10
C.V. 1: (S/MEAN)*100			10.77	1.71	2.34
LSD (0.05)			6.77	1.68	.49

Planted: 5-18-1995

Previous Crop: Buckwheat.

Harvested: 8-30-1995.

Fertilizer: 50# 18-46-0 w/seed, 60 units N as anhydrous applied preplant.

Growing Season Precipitation (April-July): 13.39 inches.

Producer: Richard Barber, Denton.

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Table 2 Denton Off-Station Spring Wheat Multi-Year Summary  
Central Agricultural Research Center, Moccasin, MT.

Variety	1987	1988	1989	1990	1991	1992	1993	1994	1995	Ave.	Newana Same Yrs
	-----bu/a-----										
AMIDON			48	26	60	23	83	23	39	43	43
LEN	37	25	40	26	52	21	72	20	37	37	41
STOA	39	23	40	25	57	25	80	22	39	39	41
GLENMAN		24	38	24	51	27	74	22	35	37	41
WESTBRED 926R				24	61	19	78	25	41	41	43
GRANDIN				23	60	25	81	24	36	41	43
FORTUNA	37	17	38	23	62	17	66	20	33	35	41
RAMBO	44	24	42	22	49	25	74	20	37	37	41
LEW	34	22	40	22	50	27	65	20	36	35	41
NEWANA	45	26	43	21	65	25	81	20	44	41	---
HU-LINE			41	17	59	26	76	23	45	41	43
MCNEAL						27	92	22	43	46	42
BORDER								20	34	27	32
Mean	39.1	23.5	41.1	23.6	56.6	23.8	77.2	21.8	38.2		

\*Planted recrop on field pea ground. All other years on fallow.  
Variety trials were located on Richard Barber farm.  
The 1988 trial suffered some sawfly damage.

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 Table 3 1995 Highwood Spring Wheat Variety Performance Trial  
 Exp. 9972 Central Agricultural Research Center, Moccasin, MT.

ID#	Variety	Plant Ht.	Grain Yield	Test Wt.	Protein Content	Sawfly Damage
		"	bu/a	lbs/bu	%	%
PI483235	GLENMAN	30	47.1	62.7	11.1	-
BZ684-23	VANNA	33	46.8	62.1	8.7	-
C982-324	RAMBO	26	46.1	63.9	11.4	-
ND 606	AMIDON	37	45.6	63.2	12.2	3
ND 677	ND622*2/CUTLESS	33	45.4	64.2	12.2	-
PI574642	McNEAL	32	44.8	62.9	12.7	-
PI549275	HI-LINE	29	43.9	63.7	12.5	-
MT 9354	MT7810/(SU73/LEW)	33	43.3	63.2	12.2	-
CI 17429	LEW	37	43.2	64.4	11.3	-
CI 13596	FORTUNA	36	41.8	63.8	11.7	-
CI 17790	LEN	31	41.7	63.4	13.0	5
WBEXPRES	WESTBRED EXPRESS	25	40.7	62.8	12.3	10
CI 17828	PONDERA	29	39.9	63.8	12.4	-
BZ984326	BORDER	32	39.9	63.8	12.1	-
PNR 2375	PIIONEER 2375	31	39.0	62.9	12.1	13
CI 17430	NEWANA	28	38.9	63.8	12.3	-
MT 9360	LEW/PND	32	38.1	63.3	12.7	-
WB 926	WESTBRED 926	25	37.4	62.7	12.0	-
MTHW9406	MT8182/KLASIC	32	37.2	62.5	11.1	2
ND 582	STOA	37	36.7	62.7	12.6	25
TR983239	FERGUS	31	34.4	63.2	12.7	2
WB 936	WESTBRED 936	29	34.1	63.1	12.1	5
ND 626	GRANDIN	30	31.6	63.2	12.8	6
EXPERIMENTAL MEANS			40.77	63.26	12.01	
F TEST FOR VAR. df=44			3.60	9.73	4.16	
C.V. 1: (S/MEAN)*100			9.73	.50	6.32	
LSD (0.05)			6.53	.52	1.25	

Planted: 5-3-1995 no-till.  
 Previous Crop: Spring wheat.  
 Harvested: 8-30-1995  
 Fertilizer: 50# 18-46-0 w/seed, 60 units N broadcast.  
 Growing Season Precipitation (April-July): 12.32 inches.  
 Producer: Ron Long, Shonkin.

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Table 4 Highwood Off-Station Spring Wheat Multi-Year Summary  
Central Agricultural Research Center, Moccasin, MT.

Variety	1990	1991	1992	1993	1994	1995	AVG.	NEWANA SAME YRS.
	-----bu/a-----							
AMIDON	45	25	15	40	36	46	34	32
LEN	37	25	12	40	34	42	32	32
STOA	38	34	12	41	37	37	33	32
GLENMAN	39	30	19	38	35	47	35	32
WESTBRED 926R	44	31	11	41	34	37	33	32
GRANDIN	41	29	10	43	35	32	32	32
FORTUNA	36	33	12	36	35	42	32	32
RAMBO	35	27	15	43	36	46	34	32
LEW	40	24	23	41	31	43	34	32
NEWANA	35*	29	14	42	32	39	32	--
HI-LINE	40	22	12	44	32	44	32	32
MCNEAL			18	47	37	45	37	32
BORDER					33	40	36	35
Mean	38.9	28.2	14.2	40.8	34.3	40.8		

\*Probable mixup of seed sources, interpret Newana rank with caution.  
Variety trials were located at Ron Long farm .  
The 1989 trial experienced severe hail damage.  
All trials were planted on recrop ground.

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