

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

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OBJECTIVES:
To evaluate the performance of spring barley 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: Yields were above average, ranging from 74 to 59 bu/a. H3860224 was the high yielder, followed by Baronesse. Test weights averaged 51.5 lbs/bu, while proteins averaged 10%. Data are presented in Tables 1 & 2.

Highwood: Soil conditions were very wet at seeding, with much of the seed left on the surface. Yields were above average, ranging from 73 to to 50 bu/a. Baronesse was the high yielder. Test weights averaged 52.6 lbs/bu, while proteins averaged 10.9%. Data are presented in Tables 3 & 4.

SUMMARY:
Varieties with high yield averages over 9 years at Denton are Steptoe, and Gallatin. Baronesse has also done well over the 5 years that it has been in the trial. Varieties with long term high yield averages at Highwood are Baronesse, Steptoe, and Chinook.

FUTURE PLANS:
Spring barley variety evaluations are to be continued at Denton and Highwood.

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 Table 1 1995 Denton Off-Station Spring Barley Trial
 Exp. 3671 Central Agricultural Research Center, Moccasin, MT.

ID#	Variety	Grain Yield	Test Wt.	Plant Ht.	Protein Content
		bu/a	lbs/bu	"	%
H3860224	H3860224	73.9	52.7	28	10.2
NS 78054	Baronesse	73.1	51.6	28	9.8
MT890008	MT890008	72.2	50.1	30	9.5
ND 9866	Stark	70.8	53.5	33	10.0
SK 76333	Harrington	70.3	50.7	31	10.2
PI537967	Colter	70.1	48.0	26	8.8
21140523	Chinook	69.8	52.1	32	10.0
CI 15856	Lewis	69.0	52.8	34	10.1
PI491534	Gallatin	67.8	53.0	32	9.9
H1851195	H1851195	67.7	51.8	32	10.1
PI483237	Bowman	67.3	52.4	25	10.7
PI537438	Targhee	66.6	51.3	31	9.9
CI 15514	Hector	66.2	51.7	33	10.4
MT886610	MT886610	65.8	51.8	30	10.1
CI 9558	Pirolina	64.8	52.8	33	10.1
MT890070	MT890070	64.5	52.3	29	10.1
CI 15229	Stephoe	62.7	46.2	26	9.8
MT889106	MT889106	59.2	52.4	27	10.9
EXPERIMENTAL MEANS		67.87	51.53		10.04
F TEST FOR VAR. df=34		2.15	33.63		8.62
C.V. 1: (S/MEAN)*100		6.53	1.06		2.59
LSD (0.05)		7.35	.91		.43

Planted: 5-18-1995
 Previous Crop: Buckwheat.
 Harvested: 8-30-1995
 Fertilizer: 60 units N preplant, 50# 18-46-0 w/seed.
 Growing Season Precipitation (April-July): 13.39 inches.
 Producer: Richard Barber, Denton.

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

Variety	1987	1988	1989	1990	1991	1992	1993	1994	1995	Ave.	Hector Same Yrs
	bu/a										
HECTOR	40	35	68	38	68	45	90	41	66	54	--
PIROLINE	47	34	73	43	63	37	99	41	65	56	54
HARRINGTON	56	28	53	37	59	37	102	33	70	53	54
LEWIS	66	24	59	46	68	33	101	41	69	56	54
BOWMAN	53	26	56	42	51*	37	99	42	67	53	54
STEPTOE	62	29	74	44	67	40	108	37	63	58	54
GALLATIN	67	35	59	42	65	39	100	40	68	57	54
CHINOOK		32	61	41	72	30	106	37	70	56	56
STARK				49	70	36	105	41	71	62	58
BARONESSE					71	37	121	38	73	68	62
COLTER							103	34	70	69	66
MT890008							115	33	72	73	66
MT889106								44	59	51	53
Mean	57.3	31.1	62.0	40.8	65.2	36.8	103.9	38.0	67.9		

*Bowman suffered unidentified insect damage in 1991. Stark also showed some damage in one rep.

@Planted recrop on field pea ground. All other years on fallow. Variety trials were located on Richard Barber farm.

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 Table 3 1995 Highwood Recrop Spring Barley Trial
 Exp. 3672 Central Agricultural Research Center, Moccasin, MT.

ID#	Variety	Grain Yield	Test Wt.	Plant Ht.	Protein Content
		bu/a	lbs/bu	"	%
NS 78054	Baronesse	73.1	52.4	25	11.1
H3860224	H3860224	70.5	53.7	27	11.3
MT890008	MT890008	69.7	52.1	29	10.4
MT889106	MT889106	67.2	52.5	29	11.3
MT886610	MT886610	67.2	54.2	30	10.8
21140523	Chinook	67.0	53.7	25	11.1
H1851195	H1851195	66.7	52.8	27	11.1
MT890070	MT890070	66.2	53.2	25	10.5
SK 76333	Harrington	64.4	52.5	25	11.0
PI537967	Colter	63.7	48.1	25	9.3
PI537438	Targhee	59.8	52.9	26	10.9
PI483237	Bowman	59.5	53.0	25	11.3
CI 15229	Steptoe	57.9	47.5	20	10.3
CI 9558	Pirolina	57.0	54.6	27	11.6
CI 15514	Hector	56.5	53.4	29	11.3
PI491534	Gallatin	52.3	53.0	28	10.4
ND 9866	Stark	51.2	53.5	25	10.9
CI 15856	Lewis	50.4	53.8	26	11.3
EXPERIMENTAL MEANS		62.23	52.60		10.91
TOTAL OBSERVATIONS		54.00	54.00		36.00
NO. OF REPLICATIONS		3.00	3.00		2.00
ERROR DEGREES OF FREEDOM		34.00	34.00		17.00
F TEST FOR REPS.		7.79	3.67		8.41
F TEST FOR VAR.		2.84	41.27		15.27
C.V. 1: (S/MEAN)*100		11.40	.95		1.79
C.V. 2: (S OF MEAN/MEAN)*10		6.58	.55		1.27
LSD (0.05)		11.77	.83		.41

Planted: 5-3-1995 no-till.

Previous Crop: Spring wheat. A high degree of volunteer spring wheat was present.

Harvested: 8-30-1995.

Fertilizer: 60 units N preplant, 50# 18-46-0 with seed

Growing Season Precipitation (April-July): 12.32 inches.

Producer: Ron Long, Shonkin.

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

Variety	1990	1991	1992	1993	1994	1995	Ave.	Hector Same yrs
	-----bu/a-----							
HECTOR	65	42	21	69	65	56	46	--
PIROLINE	64	39	22	68	70	57	53	46
HARRINGTON	68	36	21	68	54	64	52	46
LEWIS	55	43	19	73	61	50	50	46
BOWMAN	57	41	20	75	59	59	52	46
STEPTOE	43	52	26	76	70	58	54	46
GALLATIN	62	39	28	66	63	52	52	46
CHINOOK	58	38	20	74	66	67	54	46
STARK	55	38	19	71	62	51	49	46
BARONESSE		41	24	75	72	73	57	51
COLTER				69	65	64	66	63
MT890008				75	57	70	67	63
MT889106					65	67	66	60
Mean	58.8	39.9	22.5	71.2	63.0	62.2		

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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