Project Title: Evaluation of regional spring wheat, winter wheat, and durum nurseries.

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Objective : To evaluate new and introduced lines and cultivars of spring wheat, winter wheat, and durum and determine adaptability of those lines and cultivars to conditions in eastern Montana.

Results:

Uniform Regional Hard Red Spring Wheat Nursery

The Uniform Regional Hard Red Spring Wheat Nursery was grown under dryland conditions. The site had been fallow in 1989. Plots were planted on April 9 and harvested on August 21. Mean yield was 38.5 bu/ac. The highest yielding lines were PH984045, N87-0002, and MN087150 (Table 1). More than half of the lines yielded significantly more than the check cultivar, Chris 525-1. Test weights were low, averaging 56.7 lb/bu. Protein contents were high, with an average protein content of 17.1%. Five-year summary tables for yield, test weight and protein content are shown in Tables 2 through 4.

Northern Regional Winter Wheat Nursery

The Northern Regional Winter Wheat Nursery was grown under dryland conditions. The site was fallow in 1989. Planting date was September 14, 1989, and harvest date was August 6, 1990. Mean yield was 41.6 bu/ac. Four South Dakota lines, SD82102, SD82118, SD87156, and SD87144, and a Nebraska line, NE86503, yielded significantly more than Roughrider, the check cultivar (Table 5). Test weights averaged 57.7 and protein contents averaged 15.1%. Five-year summary tables for yield, test weight and protein content are shown in Tables 6 through 8.

Uniform Regional Durum Nursery

The Uniform Regional Durum Nursery was grown under dryland conditions. The site was fallow in 1989. Planting date was April 9, and harvest date was August 10. Mean yield was 35.5 bu/ac. The highest yielding durum lines were North Dakota lines D8302, D86717, and D86741 (Table 9). None of these lines yielded significantly more than the check cultivar, Ward. Test weights averaged 59.8 lb/bu and protein contents averaged 17.15%. Five-year summaries for yield, test weight, and protein content are shown in Tables 10 through 12.

Table 1 Agronomic data obtained from a dryland uniform regional hard red spring wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990.

Date Seeded: April 9, 1990 Date Harvested: Aug. 8, 1990 Size of Plot: 40 Sq. ft. 1/

C.I. or Sel. No.	Variety	Average Heading Date[2/]	Average Height Inches	Average Protein Content Percent	Average Test Weight Lbs/Bu	Average Yield Bu/Acre
PH984045	YR/045/Len	171.33	27.45	16.80	54.0	43.87aa
N87-0002	H582-0467/PR2369	168.00	28.24	16.20	54.5	43.43aa
MN087150	MN82008/VANCE	171.00	28.37	16.33	57.0	43.30aa
MN086165	MN81135/MN80090	172.00	28.11	16.33	59.0	43.17aa
MT 8402	MT7336/SHORTANA	169.33	28.24	16.83	56.0	42.33aa
ND 659	603/ALEX	170.33	30.86	17.40	56.0	42.27aa
ND 660	LEN/ND589	170.33	32.31	16.90	58.0	41.80aa
MN085324	MN73167/MN81070	170.00	30.60	16.30	57.0	41.73aa
N86-0903	H580-0401/PR2360	169.00	28.76	17.27	57.5	41.17aa
N86-0542	NORDIC/NORSEMAN	171.67	24.69	16.27	56.5	41.13aa
ND 582	5TOA	171.00	34.02	16.70	57.0	40.87aa
ND 655	5TOA'5'/ND517'5'	170.33	32.57	16.60	58.5	40.53aa
MN087106	MN82066/MN81247	169.00	28.11	16.87	56.0	40.43aa
CI 13986	ERA	172.00	26.14	16.27	56.0	39.33aa
DA984034	BH1146/VEERY	169.00	27.32	16.40	54.0	38.90aa
ND 656	ND609/3/ND526/KITT//	170.00	35.46	17.63	58.0	38.40aa
ND 657	ND622'5'/CUTLE55	170.00	30.08	17.07	57.5	38.37aa
ND 597	BUTTE86	168.67	33.49	16.73	57.0	38.03aa
XW 371	ERA/AZTECA67//LEN	170.00	29.55	17.37	55.5	37.83aa
MT 8651	CI15838/MT7418//POND	169.33	30.08	17.93	56.5	37.73aa
SD 3014	ND572/SD8025	171.00	33.62	16.60	56.0	36.57
SD 3055	ND604/SD2971	167.67	32.18	18.13	57.5	36.50
N86-0370	H582-0048/ANGUS	171.67	27.05	17.87	56.0	36.47
MN 08383	MN82115/MN81070	169.67	30.34	17.23	56.5	36.13
SD 3035	WHEATON/BRULE//SD288	169.00	33.75	17.63	58.0	36.00
SD 3056	ND604/SD2971	169.00	33.10	18.07	57.0	35.80
BW 114	BW63*2/COLUMBUS	172.00	34.15	17.27	58.0	35.43
SD 3053	ND604/SD8052	168.00	31.91	18.63	57.0	34.63
BW 120	COLUMBUS/BW63//KAT/B	172.00	34.80	17.87	56.5	34.53
CI 13751	CHRIS, 525-1	170.67	34.28	17.27	56.0	33.83
SD 3052	ND604/SD8052	168.00	31.39	18.53	56.0	31.70
CI 3651	MARQUIS	174.00	32.70	16.60	59.4	30.50x

(Continued)

Table 1 Agronomic data obtained from a dryland uniform regional hard red spring wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990.(Continued)

Date Seeded: April 9, 1990 Date Harvested: Aug. 21, 1990 Size of Plot: 40 Sq. ft. 1/

Mean grain yield for experiment = 38.52 bushels per acre
F-Value for variety comparisons = 12.38 (Significant at .05 and .01)
S.E.x. = 1.00 bushels per acre
L.S.D. at .05 = 2.82 bushels per acre
L.S.D. at .01 = 3.75 bushels per acre
C.V. (SE/Mean) = 4.48%
C.V. (S/Mean) = 2.59%

NOTE: Chris, 525-1 is considered to be the check variety for this nursery with an average yield of 33.8 bushels per acre.

aa Indicates a significantly higher yield than the check variety at the .01 level of significance.
x Indicates a significantly lower yield than the check variety at the .05 level of significance.

1/ 4 row plots, rows 10 feet long and 1.0 foot apart. At harvest, two 8 foot samples were taken from the two center rows for yield, test weight and protein determinations.

2/ Heading dates are number of days from January 1.

Previous crop: Summer fallow

Soil type: Williams Loam

Fertilizer: No fertilizer was applied to this nursery due to residual fertilizer left from previous applications.

Herbicide: 1.5 pint per acre Bronate applied May 31, 1990.

Insecticide: None.

Precipitation for average crop year = 13.49 inches. Precipitation for 1990 crop year = 11.74 inches. Crop year considered to be from September 1, 1989, through harvest, 1990.

Precipitation for April 1 - July 31 period during 1990 = 6.41 inches. Average precipitation for same period = 7.69 inches.

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Table 2 Relative yielding ability of uniform regional hard red spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Yield Bu/Acre	Yield in % of Chris Same Trials
MT 8402	1	---	---	---	---	42.3	42.3	125.1
Vance	3	58.2	38.1	7.0	---	---	34.4	118.8
Gus	2	55.8	39.0	7.0	---	---	33.9	117.0
Grandin	3	57.6	37.2	6.7	---	---	33.8	116.7
Stoa	4	---	39.2	5.7	19.9	40.9	26.4	114.4
Amidon	2	51.9	40.8	---	---	---	46.4	113.9
Era	5	52.0	41.1	3.5	19.4	39.3	31.1	111.2
Minnpro	3	54.9	35.6	5.3	---	---	31.91	110.1
Butte 86	4	---	36.3	5.5	19.7	38.0	24.9	107.7
Fjeld	2	52.6	34.5	---	---	---	43.6	107.1
Chris	5	47.2	34.2	5.5	18.9	33.8	27.9	100.0
Pioneer 2385	2	---	30.7	4.9	---	---	17.8	89.7
Marquis	5	27.8	30.7	6.1	14.2	30.5	21.9	78.3

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare yields only to the check variety Chris.

Table 3 Relative test weights of uniform regional hard red spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Test Wt. Lbs/Bu	Test Wt. in % of Chris Same Trials
Grandin	3	63.5	64.0	58.6	---	---	62.0	103.9
Butte 86	4	---	63.0	56.7	57.1	57.0	58.5	102.8
Gus	3	62.5	62.0	58.5	---	---	61.0	102.2
Stoa	4	---	62.0	56.0	56.6	57.0	57.9	101.8
Pioneer 2385	2	---	60.0	57.1	---	---	58.6	100.9
Era	5	63.0	62.0	55.7	56.0	56.0	58.5	100.8
Vance	3	62.5	61.5	55.7	---	---	59.9	100.4
Marquis	5	58.3	61.5	56.7	55.4	59.4	58.3	100.3
Chris	5	63.0	62.0	54.0	55.5	56.0	58.1	100.0
Amidon	2	63.0	62.0	---	---	---	62.5	100.0
MT 8402	1	---	---	---	---	56.0	56.0	100.0
Field	2	63.0	62.0	---	---	---	62.5	100.0
Minnpro	3	62.0	60.0	51.2	---	---	57.7	96.7

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare test weights only to the check variety Chris.

Table 4 Relative protein content of uniform regional hard red spring wheat varieties as compared to Chris when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Protein Content Percent	Protein in % of Chris Same Trials
Minnpro	3	16.2	15.5	19.5	---	---	17.1	105.8
Pioneer 2385	2	---	15.7	18.2	---	---	17.0	103.7
Grandin	3	15.6	15.4	17.7	---	---	16.2	100.2
Chris	5	15.8	14.5	18.2	18.2	17.3	16.8	100.0
Amidon	2	15.9	14.3	---	---	---	15.1	99.7
Gus	3	16.4	14.2	17.0	---	---	15.9	98.4
Butte 86	4	---	14.9	17.3	17.9	16.7	16.7	97.9
MT 8402	1	---	---	---	---	16.8	16.8	97.1
Vance	3	15.1	14.3	17.8	---	---	15.7	97.1
Stoa	4	---	13.9	17.2	18.2	16.7	16.7	96.8
Marquis	5	13.4	14.0	17.5	18.7	16.6	16.0	95.5
Era	5	14.3	13.2	18.0	18.3	16.3	16.0	95.4
Fjeld	2	13.9	14.0	---	---	---	14.0	92.4

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare protein contents only to the check variety Chris.

Table 5 Agronomic data obtained from an dryland northern regional winter wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990.

Date Seeded: September 14, 1989 Date Harvested: August 6, 1990 Size of Plot: 80 Sq. ft.[a/]

Variety	C.I. or Sel. No.	Average Heading Date	Average Height Inches	Average Protein Content Percent[a/]	Average Test Weight Lbs/Bu	Average Yield Bu/Acre
SD 82102	SD 82102	6/10	32	14.4	57.0	47.0[m,n,o,p]
SD 82118	SD 82118	6/11	32	14.5	60.5	45.9[n,o,p]
SD 87156	SD 87156	6/11	31	14.3	60.0	45.4[n,o,p]
NE 86503	NE 86503	6/11	29	14.4	57.5	45.0[n,o,p]
SD 87144	SD 87144	6/10	33	14.4	59.0	44.8[n,o,p]
Colt	PI 476975	6/10	26	14.4	58.0	43.6[o,p]
NE 83404	NE 83404	6/11	27	14.0	57.5	42.7
XNH 1365	XNH 1365	6/12	30	15.7	56.5	42.7
NE 86501	NE 86501	6/10	30	14.5	58.0	42.1
XNH 1463	XNH 1463	6/10	29	15.7	55.5	42.1
NE 87612	NE 87612	6/10	28	15.1	58.0	42.1
ID 0297	ID 0297	6/15	32	15.4	59.5	41.9
CRL 77022	CRL 77022	6/12	30	15.7	58.0	41.9
MT 7811	MT 7811	6/14	32	16.6	58.0	41.7
ND 85137	ND 85137	6/12	33	15.1	58.5	41.6
ND 8503	ND 8503	6/11	32	15.7	57.0	41.3
XNH 1401	XNH 1401	6/13	33	15.5	59.0	41.2
NE 87613	NE 87613	6/9	29	14.5	58.0	41.1
XNH 1450	XNH 1450	6/14	29	14.9	57.0	41.0
NE 83407	NE 83407	6/11	28	14.3	57.0	40.8
SD 87124	SD 87124	6/12	32	14.7	58.5	40.2
Kharkof	CI 1442	6/14	36	15.1	58.0	40.0
Roughrider	CI 17439	6/14	34	15.4	58.0	39.0
ND 8212	ND 8212	6/14	32	15.9	55.0	38.7
ND 86105	ND 86105	6/13	34	15.6	56.5	34.3
ND 8407	ND 8407	6/13	34	15.5	57.0	36.8
ND 8581	ND 8581	6/12	33	15.9	56.5	35.3

(Continued)

Table 5 Agronomic data obtained from an dryland northern regional winter wheat nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990. (Continued)

Date Seeded: September 14, 1989 Date Harvested: August 6, 1990 Size of Plot: 80 Sq. ft.[1/]

Mean grain yield for experiment = 41.6 bushels per acre
F-Value for variety comparisons = 2.11 (Significant at all levels)
S.E.x = 1.85 bushels per acre
L.S.D. at .10 = 4.4 bushels per acre
L.S.D. at .05 = 5.2 bushels per acre
L.S.D. at .01 = 6.9 bushels per acre
C.V. (SE/Mean) = 4.44%
C.V. (S/Mean) = 8.87%

NOTE: Roughrider is considered to be the check variety for this nursery with an average yield of 39.0 bushels per acre.

[1/] 4 row plots, rows 20 feet long and 1.0 foot apart. At harvest, 2 eight-foot rows were harvested from the two center rows for yield, test weight, and protein determinations.

[2/] Proteins are for 1 replication of data only.

" Indicates a significantly higher yield than the check variety at the .10 level of significance.
"a Indicates a significantly higher yield than the check variety at the .05 level of significance.
"a" Indicates a significantly higher yield than the check variety at the .01 level of significance.

Previous crop: Summer fallow

Soil Type: Williams Clay Loam

Fertilizer: None.

Herbicide: None.

Precipitation for average crop year = 11.87 inches. Precipitation for 1990 crop year = 10.66 inches. Crop year considered to be from September 1, 1989, through harvest, 1990.

Precipitation for April 1 - July 31 period during 1989 = 6.83 inches. Average precipitation for same period = 7.60 inches.

Table 6. Relative yielding ability of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana during the 1983 - 1990 period.

Variety	Number of Years	Year Grown					Average Yield Bu/Acre	Yield in % of Roughrider Same Trials
		1983	1986	1987	1988	1990		
Hybritech 1359	1	---	---	56.3	---	---	56.3	125.4
Agassiz	2	53.4	63.9	---	---	---	58.7	112.7
Warrior	2	54.9	56.9	---	---	---	55.9	107.4
MT 7811	1	---	---	---	---	41.7	41.7	106.9
Cheyenne	1	54.9	---	---	---	---	54.9	106.4
Hybritech 696	1	---	---	47.7	---	---	47.7	106.2
Judith	3	---	53.4	50.0	9.3	---	37.6	104.8
Colt	4	---	53.0	45.1	10.7	43.6	38.1	104.0
Abiliene	2	---	---	45.7	11.4	---	28.5	103.8
Roughrider	5	51.6	52.5	44.9	10.1	39.0	39.6	100.0
Winalta	1	49.5	---	---	---	---	49.5	95.9
Kharkof	5	50.1	46.1	40.6	9.96	40.0	37.3	94.2
Norwin	3	47.2	44.3	47.3	---	---	46.8	93.2
Seward	1	---	47.4	---	---	---	47.4	90.2

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare yields only to the check variety Roughrider.

Table 7 Relative test weights of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana during the 1983 - 1990 period.

Variety	Number of Years	Year Grown 1983	1986	1987	1988	1990	Average Test Wt. Lbs/Bu	Test Wt. in % of Roughrider Same Trials
Abilene	2	---	---	65.3	59.6	---	62.5	105.1
Agassiz	2	62.0	61.5	---	---	---	61.8	102.9
Winalta	1	63.0	---	---	---	---	63.0	102.4
Cheyenne	1	63.0	---	---	---	---	63.0	102.4
Colt	4	---	60.5	63.1	57.7	58.0	59.8	101.7
Seward	1	---	59.5	---	---	---	59.5	101.7
Norwin	3	62.0	58.5	64.5	---	---	61.7	100.9
Kharkof	5	61.5	58.0	61.9	57.6	58.0	59.4	100.1
Roughrider	5	61.5	58.5	63.3	55.5	58.0	59.4	100.0
Hybritech 1359	1	---	---	63.3	---	---	63.3	100.0
MT 7811	1	---	---	---	---	58.0	58.0	100.0
Judith	3	---	58.5	61.8	56.9	---	59.1	99.9
Hybritech 696	1	---	---	62.8	---	---	62.8	99.2
Warrior	2	62.5	55.5	---	---	---	59.0	98.3

NOTE: Varieties in this nursey should not be compared to each other since they are not grown in the same years at the same locations. Compare test weights only to the check variety Roughrider.

Table 8 Relative protein contents of winter wheat varieties as compared to Roughrider when grown in the dryland Northern Regional Winter Wheat trial at the Eastern Agricultural Research Center, Sidney, Montana during the 1983 - 1990 period.

Variety	Number of Years	Year Grown 1983	1986	1987	1988	1990	Average Protein Percent	Protein in % of Roughrider Same Trials
MT 7811	1	---	---	---	---	16.6	16.6	107.8
Hybritech 1359	1	---	---	11.1	---	---	11.1	106.7
Abilene	2	---	---	13.0	14.8	---	13.9	105.7
Agassiz	2	15.9	12.5	---	---	---	14.2	101.8
Roughrider	5	15.8	12.1	10.4	15.9	15.4	13.9	100.0
Kharkof	5	15.0	12.2	11.7	15.2	15.1	13.8	99.4
Cheyenne	1	15.4	---	---	---	---	15.4	97.5
Winalta	1	15.4	---	---	---	---	15.4	97.5
Colt	4	---	12.4	11.2	14.4	14.4	13.1	97.4
Hybritech 696	1	---	---	10.1	---	---	10.1	97.1
Judith	3	---	11.9	9.9	15.3	---	12.4	96.6
Warrior	2	15.3	11.5	---	---	---	13.4	96.1
Seward	1	---	11.3	---	---	---	11.3	93.4
Norwin	3	14.7	11.7	8.7	---	---	11.7	91.6

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare protein contents only to the check variety Roughrider.

Table 9 Agronomic data obtained from a dryland uniform regional durum nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990.

Date Seeded: April 9, 1990 Date Harvested: Aug. 10, 1990 Size of Plot: 40 Sq. ft. 1/

C.I. or Sel. No.	Variety	Average Heading Date 2/	Average Height Inches	Average Protein Content Percent	Average Test Weight Lbs/Bu	Average Yield Bu/Acre
D 8302	D785/D7869	169.7	30.86	17.47	60.0	37.63
D 86717	D8081/RSPC152-227	170.3	27.32	16.93	59.0	37.37
ND 582	STOA	171.3	32.70	16.57	58.5	37.37
D 86741	RSPC152-227/D8292	169.7	25.48	16.07	60.0	37.07
PI476211	LLOYD	172.0	22.72	16.40	60.0	36.93
D 86686	RSPC152-227/D8012	169.3	23.64	17.45	58.5	36.87
D 86560	RSPC152-245/D8281	168.3	27.32	16.54	59.5	36.83
PI510696	RENVILLE	170.7	31.91	17.71	59.5	36.60
D 86725	D8081/RSPC152-227	170.0	25.87	16.70	60.0	36.53
D 86530	D78177/RSPC152-200	170.0	26.53	16.68	60.5	36.50
D 86398	MONROE/D8019	170.7	30.08	17.13	59.0	36.23
D 86683	RSPC152-227/D8012	169.7	22.72	16.23	59.0	36.10
D 86747	RSPC152-227/D8292	168.7	26.40	16.18	61.5	36.07
DT 433	MEDORA	170.3	32.31	18.95	60.5	35.97
D 8475	D79122/D797	169.0	31.13	16.47	60.0	35.73
D 86117	MONROE/D79209	171.0	25.74	15.89	61.0	35.63
D 8460	D8030/D8016	170.3	29.81	18.50	59.0	35.63
CI 15892	WARD	169.3	32.96	18.13	60.0	34.83
D 86743	RSPC152/227/D8292	169.0	24.69	17.13	58.5	34.70
DT 380	SCEPTRE	170.3	28.63	18.28	59.0	34.47
CA885312	CA885-312	172.0	24.17	16.49	61.0	34.23
PI478289	MONROE	168.0	32.96	17.20	59.0	33.87
CI 17789	VIC	169.3	33.23	17.43	60.0	33.10
CI 17284	RUGBY	169.7	31.65	17.82	60.0	33.00
D 8479	D7984/D7926//D7982/D	170.3	28.50	17.68	58.5	32.93
PI 5296	MINDUM	172.0	35.99	17.77	62.4	31.13x

(Continued)

Table 9 Agronomic data obtained from a dryland uniform regional durum nursery conducted at the Eastern Agricultural Research Center, Sidney, Montana, 1990.(Continued)

Date Seeded: April 9, 1990 Date Harvested: Aug. 10, 1990 Size of Plot: 40 Sq. ft. */

Mean grain yield for experiment = 35.51 bushels per acre
F-Value for variety comparisons = 2.43 (Significant at .05 and .01)
S.E.x. = 1.06 bushels per acre
L.S.D. at .05 = 3.02 bushels per acre
L.S.D. at .01 = 4.02 bushels per acre
C.V. (SE/Mean) = 2.98%
C.V. (S/Mean) = 5.18%

NOTE: Ward is considered to be the check variety for this nursery with an average yield of 34.83 bushels per acre.

x Indicates a significantly lower yield than the check variety at the .05 level of significance.

*/ 4 row plots, rows 10 feet long and 1.0 foot apart. At harvest, two 8 foot samples were taken from the two center rows for yield, test weight and protein determinations.

**/ Heading dates are number of days from January 1. 173 = June 22.

Previous crop: Summer fallow

Soil type: Williams Loam

Fertilizer: No fertilizer was applied to this nursery due to residual fertilizer left from previous applications.

Herbicide: 1.5 pint per acre Bronate applied May 31, 1990.

Insecticide: None.

Precipitation for average crop year = 13.49 inches. Precipitation for 1990 crop year = 11.74 inches. Crop year considered to be from September 1, 1989, through harvest, 1990.

Precipitation for April 1 - July 31 period during 1990 = 6.41 inches. Average precipitation for same period = 7.69 inches.

Table 10 Relative yielding ability of uniform regional durum wheat varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Yield Bu/Acre	Yield in % of Monroe Same Trials
Renville	5	53.5	39.5	2.8	22.2	36.6	30.9	116.5
Lloyd	5	50.5	34.7	3.8	18.5	36.9	28.9	108.8
Sceptre	5	50.1	35.1	4.0	18.2	34.5	28.4	106.9
Westbred Regal	4	46.3	37.3	3.9	16.2	---	25.9	105.0
Stockholm	2	---	37.8	4.1	---	---	21.0	103.7
Medora	5	50.5	34.4	0.9	14.1	36.0	27.2	102.4
Vic	5	43.8	35.8	3.7	18.9	33.1	27.1	102.0
Monroe	5	40.2	35.6	4.8	18.2	33.9	26.5	100.0
Ward	5	41.8	34.3	1.4	18.5	34.8	26.2	98.6
Rugby	5	42.8	32.6	2.4	19.4	33.0	26.0	98.1
Mindum	5	41.5	32.9	0.1	15.8	31.1	24.2	91.1

NOTE: Varieties in this summary should not be compared to each other since they are not gorwn in the same years at the same locations. Compare yields only to the check variety Monroe.

Table 11. Relative test weights of uniform regional durum wheat varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Test Wt. Lbs/Bu	Test Wt. in % of Monroe Same Trials
Mindum	4	64.0	64.0	**	58.7	62.4	62.3	103.4
Westbred Regal	4	63.5	63.5	57.8	59.5	---	61.1	102.5
Vic	5	63.0	63.5	56.4	59.5	60.0	60.5	101.7
Rugby	4	63.0	63.0	**	58.4	60.0	61.1	101.5
Stockholm	2	---	63.0	58.1	---	---	60.6	101.4
Medora	4	63.5	63.0	**	56.9	60.5	61.0	101.2
Ward	4	62.5	63.0	**	58.3	60.0	61.0	101.2
Renville	5	63.0	63.0	55.7	58.2	59.5	59.5	100.7
Monroe	5	62.0	63.0	56.4	56.9	59.0	59.5	100.0
Sceptre	5	62.5	61.0	56.4	57.4	59.0	59.3	99.7
Lloyd	5	62.5	61.0	56.0	56.9	60.0	59.3	99.7

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare test weights only to the check variety Monroe.

** Not enough sample was obtained for a test weight determination.

Table 12. Relative protein contents of uniform regional durum wheat varieties as compared to Monroe when grown under dryland conditions at the Eastern Agricultural Research Center, Sidney, Montana during the 1986 - 1990 period.

Variety	Number of Years	Year Grown 1986	1987	1988	1989	1990	Average Protein Content Percent	Protein in % of Monroe Same Trials
Medora	5	16.1	17.7	20.0	20.6	19.0	18.3	105.2
Renville	5	16.9	14.9	19.9	19.1	17.7	17.7	101.8
Sceptre	5	14.8	14.9	19.8	19.6	18.3	17.5	100.6
Ward	5	16.1	15.3	18.8	19.0	18.1	17.5	100.5
Monroe	5	16.2	15.4	18.4	19.7	17.2	17.4	100.0
Rugby	5	15.9	15.4	19.0	18.6	17.8	17.3	99.8
Vic	5	16.8	15.2	18.2	18.7	17.4	17.3	99.3
Mindum	4	15.6	15.0	---	19.3	17.8	16.9	98.8
Westbred Regal	4	15.7	13.6	18.6	19.3	---	16.8	96.4
Stockholm	2	---	14.1	18.0	---	---	16.1	95.0
Lloyd	5	14.1	13.6	17.7	19.1	16.4	16.2	93.1

NOTE: Varieties in this summary should not be compared to each other since they are not grown in the same years at the same locations. Compare protein contents only to the check variety Monroe.