

MAKING BETTER DECISIONS

2001 Colorado Spring Wheat, Barley,
and Oats Performance Trials



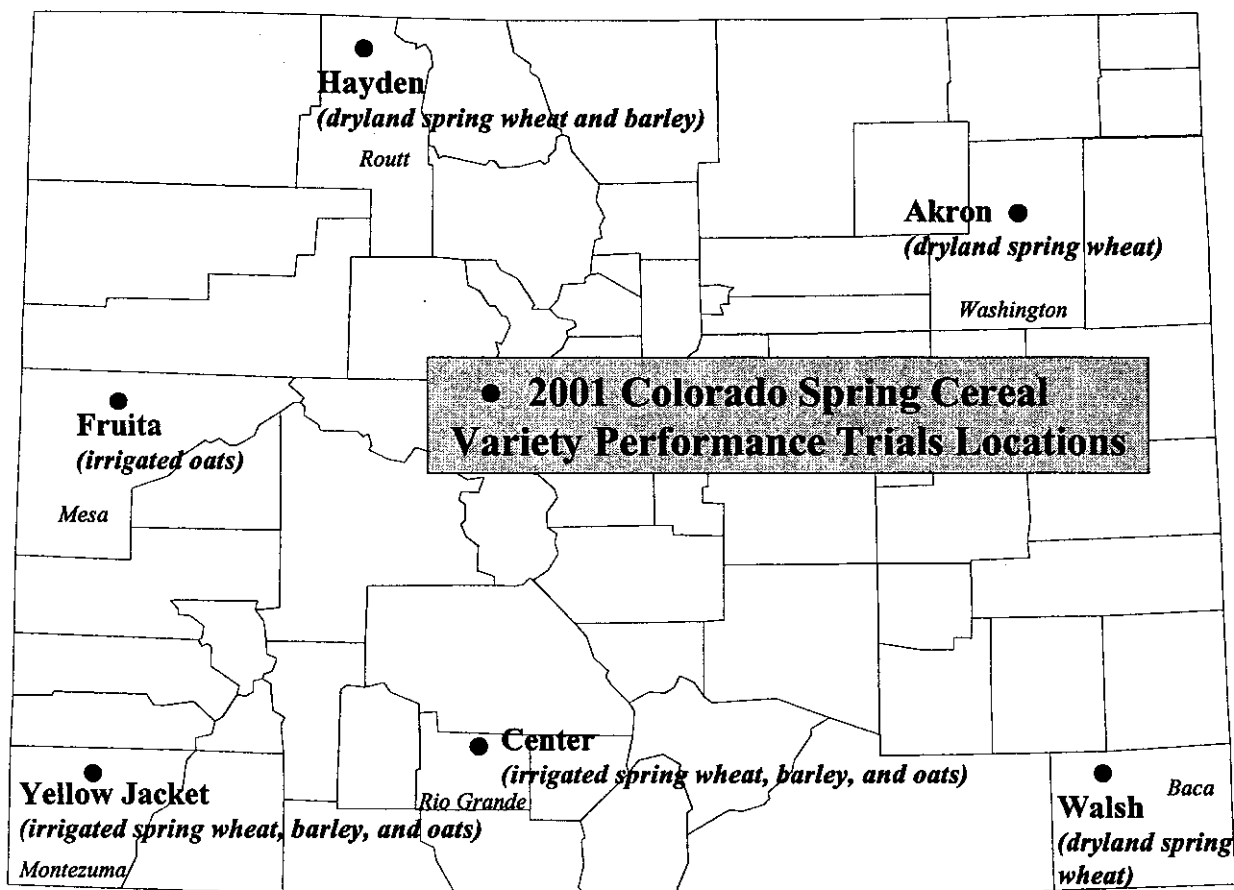
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2001 COLORADO SPRING CEREAL VARIETY PERFORMANCE TRIALS

Introduction

Making Better Decisions is a publication intended for use by farmers, seedsmen, consultants, agribusiness, and others. Colorado State University's crop researchers try to provide reliable and unbiased performance trial results in a timely manner to Colorado cereal producers. Good information can lead to better variety selection and faster adoption of higher yielding varieties.

The Spring Cereal publication is a collection of all variety performance trials conducted by Colorado State University researchers working on spring wheat, spring barley, and oats. Crops Testing issues the

annual report but the trials are conducted in all four corners of the state by different researchers. Scott Haley screens spring wheat varieties at Akron and at Walsh. Merle Dillon hosts high-yield barley, wheat, and oat trials at Center. Mark Stack and Abdel Berrada test barley, wheat, and oat varieties at Yellow Jacket, and Calvin Pearson tests barley, wheat, and oat varieties at Hayden and Fruita. The sum of this collection of work is quite impressive.

CSU's Crops Testing program publishes current trial results on the Crops Testing Internet page: www.colostate.edu/Depts/SoilCrop/extension/CropVar/index.html

Description of spring barley varieties in western trials.

Variety Name	Origin
2B96-5057	Busch Agricultural Resources, Inc.
6B95-2482	Busch Agricultural Resources, Inc.
95SR7A	USDA-ARS-Aberdeen
Ab 11469	USDA-ARS-Aberdeen
Ab 11695	USDA-ARS-Aberdeen
Ab 11865	USDA-ARS-Aberdeen
Ab 12210	USDA-ARS-Aberdeen
Ab 12905	USDA-ARS-Aberdeen
Ab 12990	USDA-ARS-Aberdeen
Ab 13449	USDA-ARS-Aberdeen
Ab 1368	USDA-ARS-Aberdeen
Ab 2323	USDA-ARS-Aberdeen
Ab 3148	USDA-ARS-Aberdeen
Ab 3203	USDA-ARS-Aberdeen
Ab 5180	USDA-ARS-Aberdeen
Ab 6526	USDA-ARS-Aberdeen
Ab 688	USDA-ARS-Aberdeen
Ab 8333	USDA-ARS-Aberdeen
Ab 859	USDA-ARS-Aberdeen
Alexis	Rio Grande Commodities
Bancroft	AES, USDA-ARS-ID
Baronesse	Western Plant Breeders
C22	Coors Brewing Co.
C37	Coors Brewing Co.
C40	Coors Brewing Co.
C46	Coors Brewing Co.

Variety Name	Origin
C47	Coors Brewing Co.
C53	Coors Brewing Co.
C56	Coors Brewing Co.
C57	Coors Brewing Co.
Camas	AES, USDA-ARS-ID
Colter	AES, USDA-ARS-ID
Comarque	Arkansas Valley Seed Co.
Conlon	North Dakota State University
CoorsT57	Coors Brewing Co.
Farmington	Washington State University
Foster	North Dakota State University
Galena	Coors Brewing Company
Garnet	AES, USDA-ARS-ID
Harrington	University of Saskatchewan
Hector	University of Alberta
Jersey	Western Plant Breeders
Kendall	Western Plant Breeders
Legacy	Western Plant Breeders
Merit	Busch Agricultural Resources, Inc.
Moravian 14	Coors Brewing Co.
Moravian 37	Coors Brewing Co.
RWA 1192	USDA-ARS-Aberdeen
Steptoe	Washington AES, USDA-ARS
Targhee	AES, USDA-ARS-ID
Xena	Western Plant Breeders

Table 1. Irrigated spring malting barley performance trial at Center¹ in 2001.

Variety	Yield ² bu/ac	Test	Grain	Heading	Plant	Plant	Grain	Grain
		Weight lb/bu	Moisture %	Date June	Height in	Lodging %	Protein %	Screenings ³ %
Ab 688	178	50.2	13.7	17	36	4	8.6	9.3
Jersey	160	52.2	13.4	27	29	0	9.3	2.5
Ab 12210	159	53.1	13.6	26	30	0	9.9	8.9
Farmington	154	52.2	13.8	27	31	4	9.7	4.0
96 RWA 1192	153	50.3	13.1	15	38	41	9.9	7.4
C53	152	50.3	13.9	26	27	0	10.1	2.0
Legacy	152	50.8	12.2	19	40	0	10.0	3.4
Ab 11865	150	52.4	15.2	27	31	10	9.5	5.8
Colter	149	48.9	13.8	17	35	9	8.5	8.2
Ab 12905	147	49.3	13.4	14	34	3	9.0	4.7
C46	147	51.9	14.2	28	28	3	9.3	2.0
Ab 5180	147	46.5	15.5	19	35	15	8.8	5.9
Merit	144	50.6	15.0	25	37	0	9.5	3.3
Alexis	143	52.1	15.0	26	30	3	9.8	2.7
C57	143	49.3	13.3	27	29	0	9.5	3.2
Comarque	143	52.5	15.0	25	32	0	9.1	2.9
Ab 8333	141	49.9	13.2	12	31	0	9.3	9.1
Ab 13449	140	49.6	14.5	15	35	15	10.7	7.4
C56	140	53.7	12.3	19	23	0	10.0	2.1
Ab 859	138	52.5	15.0	24	33	26	10.1	2.6
Moravian14	136	52.9	12.9	16	26	0	7.8	4.3
Moravian 37	135	53.1	15.9	25	26	0	9.8	2.5
Kendall	133	51.7	13.0	25	37	24	0.7	1.7
Galena	131	51.8	13.5	26	29	0	9.5	2.5
Garnet	130	52.1	13.3	26	34	9	9.5	1.6
Ab 1368	127	49.4	13.6	15	34	19	9.2	4.1
2B96-5057	127	52.1	14.6	26	36	6	9.5	2.3
C40	123	49.2	13.2	17	29	0	10.6	4.7
6B95-2482	116	50.3	13.1	20	36	21	10.9	4.1
Average	143	51.0	13.7	22	32	7	9.5	4.3
LSD _(0.10)	37							

¹Trial conducted at the San Luis Valley Research Center; seeded 4/10 and harvested 8/14 & 8/15.

²Yield based on 12% moisture and 48 lbs/bu.

³Grain screening: percent smaller than 6/64 inch.

Site Information:

Soil type: Norte gravelly sandy loam

Previous crop: Potatoes

Herbicide: Bronate at 1 pt/ac

Fertilizer: Nitrogen; 75 lbs/ac preplant + 66 lbs/ac fertigation

Irrigation: Center pivot

Comments: Yields were very good this year; however, there was a shortage of N on a part of the trial which increased the variability of the test. The large LSD = 36 bu/ac limits the usefulness of variety comparisons.

Table 2. Irrigated spring barley performance trial at Yellow Jacket¹ in 2001.

Variety	Yield ² bu/ac	Test Weight lb/bu	Plant Height in	Heading Date ³ date
93Ab 688	151	47.5	26	6/27
98Ab 12905	145	47.4	26	6/29
98Ab 11865	144	51.7	22	7/3
96RWA 1192	141	48.2	25	6/27
Baronesse	137	50.1	21	6/27
Garnet	135	50.4	25	7/2
93Ab 859	131	51.5	26	7/2
97Ab 8333	130	45.6	26	6/27
94Ab 13449	128	47.9	28	6/29
Colter	127	44.8	27	6/26
98Ab 12210	127	49.4	19	7/2
Alexis	126	50.2	21	7/5
92Ab 5180	125	43.9	27	6/29
Comarque	112	48.6	21	7/3
Moravian 14	99	50.1	17	6/24
Average	131	48.5	24	
LSD _(0.05)	11			

¹Trial conducted at the Southwestern Colorado Research Center; seeded 5/1 and harvested 9/6.

²Bushel yield based on 12% moisture and 48 lbs/bu.

³Date 50% of the plants headed.

Site Information:

Soil type: Wetherill silty clay loam
 Previous crop: Alfalfa (spring moldboard plowed)
 Seeding rate: 100 lbs/ac; 8 in. row spacing
 Fertilizer: 75 lbs/ac N broadcast preplant
 Herbicide: 2,4-D Amine 1 pt/ac
 Insecticide: Lorsban SG 1pt/ac
 Irrigation: 14.5 inches (center pivot)

Comments: Precipitation was below normal for May thru August (4.4 in. vs. 5.0 in. long-term average). The excellent barley yields for southwestern Colorado may be attributed to alfalfa in the crop rotation. Lorsban was applied to control Russian wheat aphid.

The best yielding entry 93Ab 688 averaged 25% lodging in the four replications. Baronesse's lodging ranged from 10 to 50% while Comarque's lodging ranged from 50 to 75%. Lodging for Alexis, Garnet, 93Ab 859, and 98Ab 12210 averaged less than 20%. None of the other entries had significant lodging.

The entry 98Ab 12905 may mature too late for southwestern Colorado.

Table 3. Dryland spring barley performance trial at Hayden¹ in 2001.

Variety	Yield bu/ac	Grain Moisture %	Test Weight lb/bu	Plant Height in
Steptoe	29	9.2	46.2	14
Hector	28	10.7	50.6	15
Targhee	28	10.5	49.4	14
Conlon	26	9.3	48.9	14
Xena	26	9.5	49.5	14
91Ab 3148	26	10.2	48.2	14
C37	26	9.1	49.1	16
85Ab 2323	26	10.5	49.3	14
Camas	25	9.6	50.2	14
91Ab 3203	25	10.2	50.4	15
91Ab 6526	25	10.8	50.1	14
Harrington	25	9.6	49.2	14
CoorsT57	24	8.9	49.7	14
94Ab 12990	24	9.5	49.3	14
Bancroft	24	10.8	49.8	13
Baronesse	24	9.3	48.6	14
95SR7A	24	10.5	48.6	14
92Ab 5180	23	9.7	46.5	15
95Ab 11469	23	9.8	49.0	15
98Ab 11695	23	9.4	49.5	15
Garnet	22	9.6	47.5	14
C22	21	9.6	48.4	15
C47	21	9.3	48.2	13
97Ab 8333	20	9.4	49.3	13
Foster	20	9.0	46.9	13
C40	18	9.1	48.3	15
Average	24	9.7	48.9	14
LSD _(0.05)	4			

¹Trial conducted on the Dutch and Mike Williams farm; seeded 4/30 and harvested 9/5.

Site Information:

Seeding rate: 56 lbs/ac
 Herbicide: 2,4-D at 0.50 lbs/ac
 Fertilizer: 20 lbs/ac Nas 34-0-0
 Irrigation: Precipitation during the 2001 growing season for the months of April, May, June, July, August, September, and October was 0.98, 1.37, 0.69, 1.49, 1.51, 0.90, and 0.99 inches, respectively. Precipitation in the Craig/Hayden area varies considerably from month to month and year to year and is the most limiting factor for dryland grain yields.

Comments: Grain yield in the spring barley variety performance test averaged 23.9 bu/ac and ten of the twenty-six were considered high yielding compared to other varieties. Grain yield ranged from a high of 29.1 bu/ac for Steptoe to a low of 18 bu/ac for Coors C40. Grain moisture averaged 9.7%. There was no lodging.

Description of spring oat varieties in western trials.

Variety Name	Origin
Ab 10854	USDA-ARS-Aberdeen
Ab 12970	USDA-ARS-Aberdeen
Ab 1322	USDA-ARS-Aberdeen
Ab 406	USDA-ARS-Aberdeen
Ab 502	USDA-ARS-Aberdeen
Ab 5543	USDA-ARS-Aberdeen
Ab 5546	USDA-ARS-Aberdeen
Ab 5818	USDA-ARS-Aberdeen
Ab 9074	USDA-ARS-Aberdeen
Absp 19-9	USDA-ARS-Aberdeen
Absp 9-2	USDA-ARS-Aberdeen
Ajay	AES, USDA-ARS-ID
Lamont	AES, USDA-ARS-ID
Monida	AES, UDA-ARS-ID-MT-OR-WA
Otana	AES, USDA-ARS-MT
Powell	AES, USDA-ARS-ID
Provena	AES, USDA-ARS-ID
Rio Grande	AES, USDA-ARS-ID-CO
Russell	Canada

Table 4. Irrigated spring oat performance trial at Center¹ in 2001.

Variety	Yield ²	Test Weight	Heading Date ³	Plant Height	Forage Yield
	bu/ac	lb/bu	days	in	t/ac
Absp 19-9	182	40.6	30	41	4.5
Absp 9-2	171	41.9	25	42	4.1
Ab 5543	165	41.1	29	40	--
Powell	164	38.9	29	36	4.0
Monida	157	40.9	31	36	4.3
Ab 406	156	40.3	25	34	3.7
Ab 502	155	39.7	22	36	--
Ab 1322	151	40.9	28	37	4.1
Rio Grande	151	39.1	23	33	3.7
Ajay	147	39.1	26	32	3.8
Ab 9074	140	40.5	26	35	--
Ab 12970	133	41.1	24	40	--
Lamont	121	46.1	32	36	--
Provena	93	47.3	30	34	--
Average	149	41.2	27	38	3.6
LSD _(0.05)	35				

¹Trial conducted on Jim Myers farm; seeded 4/9 and harvested 8/22.

²Yield based on 12% moisture and 38 lbs/bu.

³Date 50% of the plants headed; days after June 1.

Site Information:

Previous crop: Potatoes

Fertilizer: 13 lbs/ac N and 62 lbs/ac P₂O₅

Table 5. 2-Yr average irrigated oat performance at Center, 1999-00.

Variety	Yield	Test Weight	Heading Date ¹	Plant Height	Forage Yield
	bu/ac	lb/bu	days	in	t/ac
Ab 406	187	39.7	29	36	3.8
Powell	187	38.9	31	36	4.2
Ab 1322	186	41.7	31	38	4.5
Absp 19-9	182	40.4	32	41	4.8
Monida	183	39.5	34	42	4.3
Absp 9-2	174	40.5	29	41	4.2
Rio Grande	167	40.2	27	35	3.8
Ajay	161	39.5	30	31	4.1
Average	164	39.4	31	38	4.2

¹Date 50% of the plants headed; days after June 1.

*No lodging.

Table 6. Irrigated spring oat performance trial at Yellow Jacket¹ in 2001.

Variety	Yield ²	Test Weight	Heading Date ³
	bu/ac	lb/bu	date
Absp 9-2	154	36.7	7/2
95Ab 10854	152	39.8	7/10
90Ab 1322	151	36.2	7/5
Powell	151	36.4	7/6
91Ab 406	148	33.6	7/5
94Ab 5546	146	37.6	7/5
Absp 19-9	146	35.4	7/5
94Ab 5818	143	36.3	6/27
91Ab 502	140	33.9	6/25
Ajay	138	36.7	7/6
Monida	137	35.1	7/6
Rio Grande	135	34.9	7/2
Lamont	133	44.0	7/12
Otana	132	37.8	7/12
Russell	124	35.7	7/4
95Ab 12970	118	40.0	7/2
Average	141	36.9	
LSD _(0.05)	16		

¹Trial conducted at the Southwestern Colorado Research Center; seeded 5/7 and harvested 9/14.

²Bushel yield based on 12% moisture and 38 lbs/bu.

³Date 50% of the plants headed.

Site Information:

Soil type: Wetherill silty clay loam

Previous crop: Alfalfa (spring moldboard plowed)

Seeding rate: 100 lbs/ac; 8 in. row spacing

Fertilizer: 75 lbs /ac N broadcast preplant

Herbicide: 2,4-D Amine 1 pt/ac

Irrigation: 14.5 inches (center pivot)

Comments: Precipitation was below normal for May thru August (4.4 in. vs. 5.0 in. long-term average). The excellent oat yields may be attributed to alfalfa in the crop rotation. The USDA-ARS may release Absp 9-2 as a named variety this year.

All of the entries had significant lodging at harvest. Plant height was not measured due to the lodging. The lodging may be attributable to good soil fertility. The relatively low test weights may be due to the extensive lodging in the trial.

Lamont and 95Ab 12970 are hull-less spring oats.

Description of spring wheat varieties in trials.

Variety Name	Class	Origin
2375	Hard Red	North Dakota
Alsen	Hard Red	North Dakota
Butte 86	Hard Red	North Dakota
Centennial	Soft White	Idaho
Challis	Soft White	Western Plant Breeders
CO98S17	Hard Red	Colorado State University
CO98S49	Hard Red	Colorado State University
CO98S13	Hard Red	Colorado State University
CO98S24	Hard Red	Colorado State University
CO98S12	Hard Red	Colorado State University
CO98S28	Hard Red	Colorado State University
CO98S31	Hard Red	Colorado State University
CO98S21	Hard Red	Colorado State University
CO98S01	Hard Red	Colorado State University
CO98S68	Hard Red	Colorado State University
CO98S44	Hard Red	Colorado State University
CO98S75	Hard Red	Colorado State University
Dirkwin	Hard Red	Idaho
Edwin	Soft White	Washington
Ember	Hard Red	South Dakota
Forge	Hard Red	South Dakota
GM 0002	Durum	General Mills
GM 0009	Durum	General Mills
GM 40002	Hard White	General Mills
GM 40003	Hard White	General Mills
GM 40004	Hard White	General Mills
GM 40016	Hard White	General Mills
GM 40019	Hard White	General Mills
GM 40020	Hard White	General Mills
GM 90002	Durum	General Mills
GM 90009	Durum	General Mills
Grandin	Hard Red	North Dakota
Hank	Hard Red	Western Plant Breeders
ID 377s	Hard White	Idaho (Promar)
ID 526	Soft White	Idaho

Variety Name	Class	Origin
ID 557	Hard Red	Idaho
ID 560	Hard White	Idaho
ID 563	Soft White	Idaho
ID 566	Hard Red	Idaho
Jubilee	Soft White	Westbred
Kauz	Hard White	CIMMYT (Mexico)
Keene	Hard Red	North Dakota
Kronos	Durum	Arizona Plant Breeders
Lolo	Hard White	Idaho
MTRWA 116	Hard Red	Montana
Oslo	Hard Red	Agripro Biosciences, Inc
Pomerelle	Soft White	Idaho
Pristine	Hard White	Western Plant Breeders
Spillman	Hard Red	Washington
Sylvan	Hard Red	Utah/Colorado
Treasure	Soft White	Idaho
Utopia	Durum	General Mills
WB 881	Durum	Western Plant Breeders
Whitebird	Soft White	Idaho
Winsome	Hard White	Oregon
Yecora Rojo	Hard Red	California
YU995-241	Hard Red	Westbred
Zeke	Hard Red	Western Plant Breeders



Harvesting wheat plots at Hayden, Colorado. August 29, 2001. Photo by Daniel Dawson.

Table 7. Irrigated soft white spring wheat performance trial at Center¹ in 2001.

Variety	Yield ² bu/ac	Test Weight lb/bu	Heading Date ³ days	Plant Height in	Grain Protein %
ID 563	127	60.9	22	40	12.0
Challis	118	59.3	27	40	12.1
Jubilee	113	60.1	31	41	11.8
ID 526	113	58.2	30	41	12.5
Whitebird	107	60.1	30	41	12.1
Centennial	106	59.7	25	37	12.1
Pomerelle	99	56.2	31	39	13.1
Treasure	98	55.8	31	39	12.7
Average	109	58.7	28	40	12.3
LSD _(0.05)	12				

Site Information:

Seed rate: 120 lbs/ac

Herbicide: 2,4-D

Nitrogen: 180 lbs/ac

Comments: Freeze damage very light; stripe rust very light. The crop matured too early; test weights were light; yields were lower than expected.

¹Trial conducted on the Mike Jordan farm; seeded 4/15 and harvested 9/1.

²Yield based on 12% moisture and 60 lbs/bu.

³Number of days after June 1.

Table 8. Irrigated hard red spring and durum wheat performance trial at Center¹ in 2001.

Variety	Yield ² bu/ac	Test Weight lb/bu	Heading Date ³ days	Plant Height in	Plant Lodging %	Grain Protein %	Grain Hardness rating ⁴
GM 0009	117	56.1	24	36	0	14.3	129
GM 40020	117	60.2	19	35	13	14.5	48
GM 40003	117	58.9	19	40	28	14.1	50
Utopia	110	54.2	23	37	44	15.3	94
Yecora Rojo	110	59.5	19	31	8	14.9	77
Oslo	110	57.0	23	38	11	14.9	28
GM 40002	109	57.3	18	40	61	15.2	15
ID 560	109	53.3	29	41	3	14.3	109
WB 881	108	56.4	25	37	5	14.8	116
YU995-241	106	55.2	25	35	8	15.9	37
GM 0002	105	59.0	24	39	28	15.1	118
Centennial	103	56.5	27	38	4	13.4	5
GM 40016	103	59.1	20	41	30	15.6	53
Hank	102	53.2	24	39	14	16.8	42
ID 566	101	54.9	20	40	23	14.9	57
Pristine	101	58.5	19	41	48	14.8	79
GM 40019	101	55.6	29	35	0	15.2	38
Zeke	99	54.1	25	42	65	16.0	20
GM 40004	94	56.3	26	38	13	14.9	50
Lolo	94	55.9	28	42	63	13.9	79
ID 557	89	54.9	25	41	55	16.5	40
ID 377s	75	52.4	25	40	69	15.4	-36
Average	103	56.3	23	38	27	15.0	57
LSD _(0.05)	21						

Site Information:

Seed rate: 120 lbs/ac; durum at 140 lbs/ac

Nitrogen: Field at 180 lbs/ac + 2 Reps at 40 lbs/ac and 2 Reps at 70 lbs/ac

Comments: Freeze damage was very light; stripe rust was light. The field matured early; test weights were low; yields were lower than expected.

¹Trial conducted on the Mike Jordan farm; seeded 4/15 and harvested 8/31.

²Yield based on 12% moisture and 60 lbs/bu.

³Number of days after June 1.

⁴Grain hardness reading of <40 indicates soft wheat and >40 indicates hard wheat.

Table 9. Irrigated spring wheat performance trial at Yellow Jacket¹ in 2001.

Variety	Yield ² bu/ac	Test Weight lb/bu	Plant Height in	Heading Date ³ date	Grain Protein %	Grain Hardness ⁴ rating
GM 40019	108	62.3	29	7/6	16.1	19
GM 40016	100	62.0	29	6/23	13.6	63
GM 40004	99	59.8	29	6/25	15.0	80
ID 377s	97	58.7	30	6/25	15.6	60
Centennial	93	58.7	27	6/29	16.7	65
GM 40020	92	62.0	25	6/25	15.3	69
GM 40003	91	61.7	25	6/23	14.7	63
Spillman	90	55.8	32	7/5	18.2	53
GM 90009	83	55.1	24	6/26	15.2	88
Utopia	80	55.1	25	6/23	14.3	63
GM 90002	80	56.8	25	6/23	14.1	111
Kronos	75	57.0	25	6/27	13.8	109
GM 40002	74	61.6	27	6/23	14.5	39
Average	91	59.0	28		15.2	67
LSD _(0.05)	13					

¹Trial conducted at the Southwestern Colorado Research Center; seeded 5/2 and harvested 9/11.

²Bushel yield based on 12% moisture and 60 lbs/bu.

³Date 50% of the plants headed.

⁴Grain hardness: Hard wheats >40; Soft wheats <40.

Site Information:

Soil type: Wetherill silty clay loam

Previous crop: Alfalfa (spring moldboard plowed)

Seeding rate: 90 lbs/ac; 8 in. row spacing
 Fertilizer: 75 lbs/ac N broadcast preplant + 40 lbs/ac N top-dress
 Herbicide: 2,4-D Amine 1 pt/ac
 Insecticide: Lorsban SG 1pt/ac
 Irrigation: 14.5 inches (center pivot)

Comments: Precipitation was below normal for May thru August (4.4 in. vs. 5.0 in. long-term average). The spring wheat benefitted from following alfalfa in the rotation – less compaction and root diseases. The high grain protein indicates that nitrogen did not limit grain yields. The good test weights indicate that yields were not impacted by insufficient irrigation water. Lorsban was applied to control Russian wheat aphid.

The hard white entries (GM 40002, GM 40003, GM 40016, GM 40020) incurred some frost damage to their heads from a freeze on June 14 (31°F). GM 40004 and GM 40019 escaped damage from the freeze. None of the other entries exhibited any freeze damage to their heads.

Both Sylvan and Spillman had lodging that ranged from 10 to 50% in the four replications. ID377s lodged 20 to 90% while the durum entry GM 90009 had lodging that ranged from 10 to 50%. None of the other entries had significant lodging.

Sylvan was released in 1994 by Colorado State University and is the predominant spring wheat planted in southwestern Colorado.

Table 10. Dryland spring wheat performance trials at three eastern Colorado locations.

Variety	Pedigree	Location			Yield	Averages				
		Akron ¹	Akron ²	Walsh ³		Yield	Test Weight	Kernel Weight	Plant Height	Days to Heading
			Yield (bu/ac)				lb/bu	200g	in	days
CO98S17	2375/MTRWA116	26	21	58	35	55.0	22.2	32	76	
CO98S49	N93-0196/MTRWA116	22	23	59	35	51.8	20.6	29	77	
CO98S13	2375/MTRWA116	26	21	57	35	52.1	20.0	23	75	
CO98S24	Oxen/MTRWA116	29	22	52	34	55.6	24.2	30	73	
CO98S12	2375/MTRWA116	27	21	54	34	52.0	19.1	26	75	
CO98S28	N92-0434/MTRWA116	24	22	56	34	53.5	21.1	32	76	
CO98S31	N92-0434/MTRWA116	29	20	50	33	56.6	24.7	35	74	
CO98S21	Russ/MTRWA116	26	21	53	33	54.4	19.6	32	74	
CO98S01	Butte86/MTRWA116	20	18	60	33	49.9	18.7	28	78	
CO98S68	V5/MTRWA116	26	22	49	32	57.3	21.9	32	77	
CO98S44	N93-0196/MTRWA116	23	21	53	32	55.9	26.1	32	75	
Kauz		25	17	53	32	51.5	22.0	24	77	
CO98S75	V5/MTRWA116	26	19	50	32	56.3	25.2	36	75	
Butte 86		20	17	47	28	53.4	22.1	33	78	
MTRWA 116		21	18	42	27	51.6	19.8	28	78	
Average		25	20	53	33	53.8	21.8	30	76	

¹Trial conducted at the Central Great Plains Research Center; seeded 3/27 and harvested 7/23.

²Trial conducted on the Rick Lewton farm; seeded 3/27 and harvested 7/23.

³Trial conducted at the Plainsman Research Center; seeded in March and harvested 7/10.

Table 11. Dryland spring wheat performance test at Hayden¹ in 2001.

Variety	Yield bu/ac	Grain Moisture %	Test Weight lb/bu	Plant Height in	Grain Protein %	Grain Hardness ² rating
ID 377s	21	8.3	58.9	19	14.9	29
Dirkwin	19	8.6	54.0	18	11.7	9
Edwin	19	8.2	55.3	18	12.8	0.5
Winsome	18	8.1	57.2	19	12.5	48
Grandin	17	8.0	60.0	21	13.4	92
Forge	17	8.0	60.4	20	12.8	59
Keene	17	7.9	59.2	21	14.4	67
Ember	16	8.1	62.0	20	12.1	85
Butte 86	16	7.8	60.5	21	14.7	71
Alsen	15	7.7	59.8	19	14.6	48
Pristine	14	8.2	60.5	18	14.7	50
2375	14	8.1	58.0	18	13.5	49
Average	17	8.1	58.8	19	13.5	
LSD _(0.05)	3					

¹Trial conducted on the Dutch and Mike Williams farm; seeded 4/30 and harvested 8/29.

²Reading of <40 indicates soft wheat and reading of >40 indicates hard wheat.

Site Information:

Seeding rate: 60 lbs/ac

Herbicide: 2,4-D at 0.50 lb/ac

Fertilizer: 20 lbs/ac N as 34-0-0

Comments: Grain yield in the spring wheat variety performance test averaged 16.8 bu/ac. There was no lodging. Varieties with a hardness below 40 were Dirkwin, Edwin, and ID 377s. Precipitation during the 2001 growing season for the months of April, May, June, July, August, September, and October was 0.98, 1.37, 0.69, 1.49, 1.51, 0.90, and 0.99 inches, respectively. Precipitation in the Craig/Hayden area varies considerably from month to month and year to year and is the most limiting factor for dryland grain yields.



2001 Spring wheat and barley plots at Hayden, Colorado. July 30, 2001. Photo by Calvin Pearson.

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