

1996

**SPRING FEED & MALT BARLEY
&
SPRING OATS**

VARIETY TRIAL DATA

**CENTER
&
HAYDEN**

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FEED BARLEY TRIAL

1996 Irrigated Feed Barley Variety Trial, San Luis Valley, Colorado. By Merlin Dillon, Area Extension Agent, Agronomy. Yield based on 48 lbs/bu & 12% Moisture.

Source	Cultivar	Grain Yield bu/ac	Bushel Weight lbs/bu	Heading Date 1/	Plant Height in.	Plant Lodging %	Grain Moisture %
Germain's	GS 2319X	190 a ^{2/}	48.7	15.5	36.4	0.0	13.2
USDA-IDAHO	Payette	184 a	50.2	24.8	41.4	0.0	13.7
AV Seeds	Comarque	171 ab	52.2	23.0	39.0	10.0	12.5
COORS	Idagold	163 bc	52.7	23.5	36.4	0.0	13.2
AV Seeds	Triumph	161 bc	51.3	25.0	37.8	8.8	13.5
Westbred	Baronesse	156 bc	52.6	19.3	38.8	23.8	13.1
USDA-IDAHO	Colter	148 c	48.6	13.0	43.0	47.5	13.2
Test Average		167	50.9	20.6	41.5	12.9	13.0
LSD, 5%		19	1.4	0.3	1.4	14.5	0.8

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

2/ Duncan's Multiple Range Test; yields followed by the same letter are not statistically different.

PLANTED: April 8

SEEDING RATE: 100 lbs/acre

SOIL TYPE: Sandy Loam

FERTILIZER: 100 lbs/acre following potatoes.

HERBICIDE: Buctril through a sprinkler at 1 pt/acre

HARVESTED: August 19

PLOT SIZE: 6 ft. x 26 ft.

IRRIGATION: Center Pivot

COMMENTS: Barley yields were exceptionally high this year, ranging from 148 to 190 bu/acre. The average was 167 bu/acre. Bushel weight averaged 50.9; however some 2-row varieties made 52 lbs/bushel and some 6-row varieties produced only 48 lbs/bushel, the standard bushel weight. Lodging percentage was not high except for **Colter**, which had 48% lodging.

Germain's experimental (GS 2319X) looks very promising; it produced 190 bu/acre, had average bushel weight for 6-row, short stature with early heading and no lodging. **Payette** also produced an excellent yield (184 bu/acre) and bushel weight; it is taller but did not lodge; also it is later heading. **Comarque** produced an excellent yield (171 bu/acre); it is a medium height barley with very little lodging and later maturity. **Idagold** produced an excellent yield (163 bu/acre); it is a medium height barley with no lodging and later maturity. **Triumph** also produced an excellent yield (161 bu/acre); it is a medium height barley with no lodging and later maturity. **Baronesse** produced a good yield (156 bu/acre); it is a medium height barley but did lodge 24%. **Colter** is the earliest heading barley; however, it lodged 48% this year.

OAT VARIETY TRIAL

1996 Irrigated Oat Variety Trial, San Luis Valley, Colorado. By Merlin Dillon, Area Extension Agent, Agronomy. Yield based on 38 lbs/bu & 12% Moisture.

Cultivar	Source	Yield	Grain Weight bu/ac	Bushel Date lbs/bu	Heading Height **	Plant Lodging inches	Plant %
Monida	USDA-Idaho	-- ^{1/}	42.1	24.5	54.3	80.0	
Ab 3250	USDA-Idaho	230 a	41.3	20.0	44.1	13.3	
Ajay	USDA-Idaho	218 ab	40.8	26.0	42.6	0.0	
Rio Grande	USDA-Colo.	186 bc	40.3	25.3	45.6	56.5	
Ab 1545	USDA-Idaho	167 c	41.1	19.5	46.8	21.3	
Ab 1322	USDA-Idaho	176 c	41.6	27.0	45.9	50.3	
Ab 1616	USDA-Idaho	157 c	46.4	30.3	56.4	26.0	
Test Average		190	41.9	24.6	48.0	35.3	
LSD, 5%		37.8	6.5	5.3	2.8	32.1	

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

1/ Duncan's Multiple Range Test; yields followed by the same letter are not statistically different.

LOCATION: Tom Myers Farm at Road 9 North and 4 East (Rio Grande County)

PLANTED: April 9

SEEDING RATE: 100 lbs/acre

SOIL TYPE: Sandy Loam

FERTILIZER: 50 lbs N/acre following potatoes.

HARVESTED: September 6

PLOT SIZE: 6 ft. x 26 ft.

IRRIGATION: Center Pivot

COMMENTS: Grain yields were excellent in this field at Tom Myers Farm. Vegetative growth was excellent and created a lodging problem for plot harvest. **Monida** lodged so severely that the plots were not combined harvested. A few other plots also were not harvested for the same reason.

Monida is currently the most popular oat variety in the San Luis Valley. **Monida** is a good dual purpose variety that yields very well; however, under center pivot irrigation it lodges excessively.

Ajay is an extremely short variety which is extremely resistant to lodging. However, several Idaho experimental lines' testes are mid-tall and also resist lodging. **Ajay** might or might not produce acceptable forage yields (not tested).

Ab 3250 is a variety tall enough to make high forage yields, resists lodging and also produces excellent grain yields.

Ab 1545 is similar except that its yield is slightly less than **Ab 1545** this year.

MALT BARLEY TRIAL

1996 Irrigated Malt Barley Variety Trial, San Luis Valley, Colorado. By Merlin Dillon, Area Extension Agent, Agronomy. Yield based on 48 lbs/bu & 12% Moisture.

Source	Cultivar	Grain Yield bu/ac	Bushel Weight lbs/bu	Heading Date 1/	Plant Height in.	Grain Protein %	Grain Screening %
COORS	Moravian 22	188 a ^{2/}	50.8	22.3	36.0	10.4	2.3
AV Seeds	AVS 51817	188 a	51.9	23.5	40.2	11.3	1.8
AV Seeds	AVS 1651	186 a	50.9	22.5	36.6	11.9	1.5
AV Seeds	Comarque	186 a	51.1	23.0	37.2	10.2	5.1
COORS	Moravian 14	182 ab	52.3	15.3	35.4	10.4	6.1
USDA-IDAHO	Russell	182 ab	47.4	11.8	42.6	10.0	7.5
COORS	Moravian 19	182 ab	50.9	21.8	34.1	9.7	4.2
COORS	C 27	181 ab	49.8	20.8	31.5	9.7	4.4
COORS	Galena	178 ab	52.2	23.5	35.7	10.1	3.6
COORS	C 28	176 abc	49.1	20.3	31.5	11.0	8.9
COORS	Moravian 13	174 abc	51.5	24.0	37.2	10.6	1.4
AV Seeds	AVS 51807	173 abc	51.2	22.5	32.1	10.6	2.6
USDA-IDAHO	Ab 2323	171 abc	50.6	16.5	39.0	11.3	7.5
COORS	C 29	169 abc	50.6	16.8	33.0	10.7	6.9
Av Seeds	Triumph	165 abc	49.8	24.5	36.3	10.2	9.1
Minnesota	Stander	158 abc	47.1	15.8	43.8	10.5	11.1
USDA-IDAHO	Ab 2317	156 abc	49.8	20.5	42.3	12.0	5.8
USDA-IDAHO	Ab 321	152 abc	50.5	11.3	35.1	12.9	2.4
USDA-IDAHO	Crystal	148 bc	50.6	20.8	41.4	11.9	8.7
Minnesota	Morex	140 cd	48.0	15.3	45.6	11.5	12.9
USDA-IDAHO	Klages	112 d	49.3	30.3	43.5	12.8	20.5
Test Average		169	50.2	20.1	37.7	10.9	6.4
LSD, 5%		30	1.5	1.3	1.8	0.9	4.8

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

2/ Duncan's Multiple Range Test; yields followed by the same letter are not statistically different.

PLANTED: April 8

SEEDING RATE: 100 lbs/acre

SOIL TYPE: Sandy Loam

FERTILIZER: 100 lbs N/acre; planted after potatoes.

HERBICIDE: Buctril through a sprinkler at 1 pt/acre.

HARVESTED: August 20

PLOT SIZE: 6 ft. x 26 ft.

IRRIGATION: Center Pivot

COMMENTS: Barley yields were exceptionally high this year, ranging from 112 to 188 bu/acre. The average was 169 bu/acre. Nitrogen fertility was almost exactly right as vegetative growth was excellent and caused some lodging. Bushel weight averaged 50.2; however, some 6-row varieties produced only 47 lbs/bushel. Lodging was not excessive this year; however, some varieties were lodged severely at harvest.

Probably because of the high yields, protein was low this year. Most varieties produced proteins between 10-12%. Grain screenings were generally low too; ranging from 1-9% for most varieties. **Klages, Morex, and Stander** had the highest screenings.

All three Arkansas Valley experimental lines produced yields over 173 bu/acre; mostly these varieties have short plant heights; low protein; and low screenings. **Moravian 14** produced 182 bu/acre, headed early, mid-short height, low protein, and only 6.1% screenings this year. **Moravian 22**, a newer Coors variety, produced 188 bu/acre, headed later, mid-short height, low protein and very low screenings. **Comarque**, used as a feed barley, also produced one of the highest grain yields, 186 bu/acre. It is later heading, medium height, low screenings and low protein. **Moravian 19**, also new, produced 182 bu/acre and similar statistics to **Moravian 22**. **C27** and **C28** are about one day earlier to head than **Moravian 19** and **22**; they also are shorter height. **C29** heads early, similar to **Moravian 14**. **Triumph** produced an excellent yield at 165 bu/acre; later heading; and medium height.

OAT SUMMARY

Oat Variety Summary, San Luis Valley, Colorado
on 38 lbs/bushel and 12% moisture

Variety	<u>Grain Yield</u>		<u>Bushel Weight</u>		<u>Heading Date</u>		<u>Plant Height</u>		<u>Lodging</u>	
	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.
	bu/acre		lbs/bushel		**		inches		%	
Ab 3250	144.9	142.0	39.5	37.6	26.0	35.5	39.4	44.2	5.7	19.4
Monida	141.2	136.8	40.3	38.1	28.0	35.9	48.2	52.0	32.1	34.3
Ajay	139.6	129.1	40.2	38.2	26.8	34.7	35.8	39.9	----	----
Ab 1322	138.8	----	40.6	----	28.9	----	39.6	----	16.8	----
Rio Grande	127.0	----	39.5	38.2	24.9	30.8	38.7	44.5	18.8	25.9
Ab 1545	138.8	----	40.7	----	23.0	----	39.3	----	7.1	----
Average	129.9	125.5	40.3	38.6	27.1	34.4	40.6	45.2	18.1	19.2

** Date of 50% heading; days from June 1.

NOTE: Yields are now expressed in 38 pounds bushels, beginning this year.

COMMENTS: *Ab 3250* has a slightly higher yield average compared to *Monida*. *Monida* is currently the most popular oat variety in the San Luis Valley. *Monida* is tall and under center pivots or other lush growing environments, it lodges excessively. In comparison, *Ab 3250* seems to have an advantage in yield, is shorter height and has lodged less than *Monida*.

Ajay has had absolutely zero lodging during the past 7 years in these trials. *Ajay* is a very short stature variety that might not produce as much when planted for oat hay. *Ajay* is early maturing, has good bushel weight, and its yield is very close to *Monida*.

Ab 1322 has had very good yield during 3 years testing. It has good bushel weight, late maturity, medium height, and low lodging.

Rio Grande is an early maturing oat variety. Its yield is lower and its lodging is only moderately less than *Monida*.

Ab 1545 is also an early variety with a yield less than *Monida*. It has good lodging resistance.

MALT BARLEY SUMMARY

*Malt Barley Summary, San Luis Valley, Colorado
Yield based on 48 lbs/bushel and 12% moisture*

Variety	<u>Grain Yield</u>		<u>Bushel Weight</u>		<u>Heading Date</u>		<u>Height</u>		<u>Lodging</u>	
	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.	3 yr.	7 yr.
	bu/acre		lbs/bushel		**		inches		%	
Ab 3250	144.9	142.0	39.5	37.6	26.0	35.5	39.4	44.2	5.7	19.4
Monida	141.2	136.8	40.3	38.1	28.0	35.9	48.2	52.0	32.1	34.3
Ajay	139.6	129.1	40.2	38.2	26.8	34.7	35.8	39.9	---	---
Ab 1322	138.8	---	40.6	---	28.9	---	39.6	---	16.8	---
Rio Grande	127.0	---	39.5	38.2	24.9	30.8	38.7	44.5	18.8	25.9
Ab 1545	138.8	---	40.7	---	23.0	---	39.3	---	7.1	---
Average	129.9	125.5	40.3	38.6	27.1	34.4	40.6	45.2	18.1	19.2

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Ab 1322 has had very good yield during 3 years testing. It has good bushel weight, late maturity, medium height, and low lodging.

Rio Grande is an early maturing oat variety. Its yield is lower and its lodging is only moderately less than *Monida*. *Ab 1545* is also an early variety with a yield less than *Monida*. It has good lodging resistance.

FEED BARLEY TRIAL

1996 Dryland Spring Feed Barley Variety Trial, Hayden, Colorado. By Harold Golds, Superintendent.

Dutch Williams/C.J. Mucklow

Variety	Yield	Test	Plant
	bu/ac	Weight	Height
Variety		lbs/ac	inches
Triumph	17.7	49.1	16
Steptoe	16.5	45.5	15
Baronesse	15.7	48.0	13
Otis	14.7	50.4	14
Camarque	9.0	48.7	18
Average	14.7	48.3	15
CV%	13.1	0.9	
LSD_(.05)	3.0	0.7	

PLANTED: May 8

HARVESTED: September 4

FERTILIZER: None

HERBICIDE: None

INSECTICIDE: None

PREVIOUS CROP: Wheat

COMMENTS: Excellent deep moisture at planting, (surface dry, however) but no rainfall of any consequence till mid-summer.