

Table 1. Soft white spring wheat variety performance trial at Center ¹ in 2004.

| Variety | Grain Yield ² | Bushel Weight | Heading Date ³ | Grain Moisture | Plant Height | Grain Protein |
|----------------------|--------------------------|---------------|---------------------------|----------------|---------------|---------------|
| | <u>bu/ac</u> | <u>lbs/bu</u> | <u>(June)</u> | <u>%</u> | <u>inches</u> | <u>%</u> |
| IDO599 | 142.4 a | 61.1 | 27.8 | 11.2 | 35.1 | 9.2 |
| Alturas | 136.8 ab | 61.3 | 33.0 | 11.5 | 32.1 | 8.5 |
| Blanca | 136.7 ab | 59.6 | 32.3 | 13.9 | 33.9 | 8.9 |
| Centennial | 135.4 ab | 62.2 | 27.3 | 11.2 | 32.9 | 9.0 |
| IDO563 | 129.8 b | 61.6 | 22.5 | 11.7 | 34.2 | 9.2 |
| Trial Average | 136.3 | 61.2 | 28.6 | 11.9 | 33.6 | 9.0 |
| LSD, .10 | 5.8 | 0.7 | 0.9 | 0.6 | 1.7 | 0.4 |
| CV, % | 3.5 | 0.9 | 2.6 | 4.2 | 4.1 | 2.1 |

¹ San Luis Valley Research Center, Center, CO. Grain yield based on 60 lbs/bushel and 12 % moisture.

² Tukey's Test: yields followed by the same letters are not statistically different.

³ Days after June 1.

Note: There was no lodging this year. There was, however, a severe soil problem which affected most of the plot area; stunting plants, reducing tillering, and reducing yield of all varieties. Two plots were much more severely affected and were discarded. The entire area must have been affected fairly uniformly since the trial resulted in good yields and acceptable variability. The grain yield coefficient of variation (CV= 3.5) means it was a good trial; results should be similar if the trial were repeated.

Site Information:

Date Planted: April 15

Irrigation: center pivot

Herbicide: Bronate @ 1 pt/ac

Nitrogen: 70lb/ac + 30 lb/ac May 25 + 30 lb/ac June 1

Date Harvested: September 7

Seed Rate: 120 lbs/acre

Row Spacing: 8-inch

Plot Size: 6 ft. x 35'; 9 rows planted 8 inches apart

Researcher Comments:

IDO563 yield was disappointing again this year. After producing the highest yield in 2001, this line has not compared well in 2003 and 2004. It is not now looked on to replace Centennial. . IDO599 is early maturing like Centennial, had good bushel weight and low protein; however, it is tall. Possibly IDO599 might be a replacement for Centennial; however, it is taller and might lodge more than Centennial. It needs to be tested more where lodging resistance can be determined

Note that Blanca produced a yield essentially equal to Centennial. This might be expected where lodging is not a problem. However, Centennial should be better than Blanca when lodging is a problem.

Protein was good; very low for all varieties. Thousand kernel weight (not shown) indicated Alturas and Blanca had large seed; IDO 599 and IDO 563 had small seed.

Table 1a. Five year (5-yr) averages, soft white spring wheat variety performance trial, 2000 - 2004.

| Variety | Grain Yield ² | Bushel Weight | Heading Date ³ | Plant Height | Grain Protein |
|----------------------|---------------------------------|----------------------|----------------------------------|---------------------|----------------------|
| | <u>bu/ac</u> | <u>lbs/bu</u> | <u>(June)</u> | <u>in.</u> | <u>%</u> |
| Centennial | 142.5 | 59.9 | 27.6 | 38.2 | 9.4 |
| Blanca | 140.3 | 57.3 | 31.2 | 40.9 | 9.4 |
| Whitebird | 138.7 | 59.2 | 31.3 | 40.7 | 9.2 |
| Alturas | 135.6 | 58.3 | 31.5 | 39.4 | 9.1 |
| Trial Average | 136.8 | 59.7 | 30.0 | 39.3 | 9.2 |

¹ San Luis Valley Research Center, Center, CO. Grain yield based on 60 lbs/bushel and 12 % moisture.

² Tukey's Test: yields followed by the same letters are not statistically different.

³ Days after June 1.

Researcher Comments:

No new soft white varieties have been found to replace Centennial. Centennial is still the highest yielding soft white variety; it has the best bushel weight, the earliest heading, the shortest height, and the most lodging resistance. The search continues, among experimental lines from ARS-Idaho, to find a good replacement variety.

Table 2. Hard spring wheat variety performance trial at Center ¹ in 2004. Trial conducted on adjacent quarter to SLV Research Center, Selters Farm leased by Joe Barela; the field was durum wheat.

| Variety | Wheat Type ² | Grain Yield ³ | Bushel Weight | Heading Date ⁴ | Grain Moisture | Plant Height | Grain Protein |
|---------------------------|-------------------------|--------------------------|---------------|---------------------------|----------------|--------------|---------------|
| | | bu/ac | lbs/bu | (June) | % | in. | % |
| Centennial | SWS | 140.9 a | 61.4 | 22.2 | 9.6 | 33.0 | 11.2 |
| Lolo | HWS | 135.4 ab | 62.1 | 24.3 | 9.8 | 33.9 | 12.4 |
| Jerome | HRS | 134.9 ab | 61.8 | 20.5 | 9.6 | 34.5 | 13.3 |
| YU995-231W | HWS | 130.9 abc | 61.9 | 18.5 | 9.4 | 25.5 | 13.6 |
| Oslo | HRS | 130.7 abc | 60.7 | 20.3 | 9.7 | 33.9 | 12.6 |
| Id 377s | HWS | 130.5 abc | 61.0 | 22.8 | 9.6 | 33.6 | 13.0 |
| IDO597 | HWS | 127.7 abcd | 59.8 | 23.5 | 9.3 | 33.6 | 13.4 |
| Plata | HWS | 125.0 bcd | 59.5 | 25.5 | 9.1 | 30.6 | 13.2 |
| IDO593 | HRS | 123.9 bcd | 59.3 | 22.3 | 9.1 | 33.3 | 13.4 |
| Nora | HRS | 121.3 bcde | 61.9 | 25.3 | 9.6 | 31.8 | 14.4 |
| IDO592 | HRS | 120.0 cde | 59.3 | 22.0 | 9.1 | 33.3 | 13.2 |
| WB 881 | Durum | 118.5 cde | 61.0 | 20.0 | 8.8 | 34.2 | 14.2 |
| Winsome | HWS | 117.7 cde | 57.7 | 31.3 | 8.9 | 31.5 | 12.4 |
| XXX 1 | Durum | 113.4 de | 60.7 | 17.0 | 9.5 | 32.7 | 14.1 |
| Yecora Rojo | HRS | 108.2 ef | 60.6 | 18.8 | 9.6 | 24.9 | 14.3 |
| Pristine | HWS | 98.8 f | 62.3 | 17.8 | 10.2 | 32.1 | 15.2 |
| XXX 2 | Durum | 97.8 f | 60.0 | 17.0 | 8.7 | 31.2 | 15.0 |
| Trial Average | | 122.1 | 60.6 | 21.7 | 9.4 | 32.0 | 13.5 |
| LSD, ¹⁰ | | 6.7 | 0.8 | 2.2 | 0.5 | 1.8 | 0.9 |
| CV % | | 4.6 | 0.9 | 7.1 | 3.4 | 4.0 | 3.8 |

¹ San Luis Valley Research Center, Center, CO. Grain yield based on 60 lbs/bushel and 12 % moisture.

² Wheat Types: SWS is soft white spring; HWS is hard white spring; HRS is hard red spring wheat.

³ Tukey's Test: yields followed by the same letters are not statistically different.

⁴ Days after June 1.

(This trial was unfair to early heading varieties; therefore, two durums are not identified. The trial was unfair to Rojo and Pristine too)

Site Information:

Trial Location: Selters Farm leased by Joe Barela; planted to durum wheat

Previous Crop: potatoes

Date Planted: April 14

Date Harvested: September 8

Irrigation: center pivot

Seed Rate: 120 lbs/acre except durum at 150 lbs/acre

Herbicide: Bronate @ 1 pt/ac

Row Spacing: 8-inch

Nitrogen: 170 lbs/acre

Plot Size: 6 ft. x 35'; 9 rows planted 8 inches apart

Researcher Comments:

Vegetative growth was adequate to produce good yields; the average of all varieties was 122 bu/acre. Even though yields were acceptable, pump irrigation water probably limited yield somewhat this year. The sprinkler pressure dropped considerably during the year. This seemed to have affected early heading varieties more severely. Early maturing varieties which tended to have low yields included varieties such as Pristine, Yecora Rojo, and two durums. One of these varieties, Pristine, produced sucker heads with late tillers. The trial had no lodging except for the very susceptible, ID377s.

Seven varieties produced the highest yields this year: Centennial SWS, Lolo HWS, Jerome HRS, YU995-231W, Oslo HRS, ID377s HWS and IDO597 HWS. Lolo, YU995-231W, and ID377s are hard white varieties that produce excellent yields, comparable or better than Oslo HRS.

Protein content was good, the average was 13.5%. The protein was generally lower for varieties that

produced high yields. Thousand kernel weight (data not shown) revealed durums with large seed size; however, Pristine, Yecora Rojo, and Jerome also produced large seeds.

Table 2a. Five year (5-yr) averages, hard spring wheat variety performance trial, 2000 - 2004.

| Variety | Wheat Type | Grain Yield ¹ | Bushel Weight | Heading Date ² | Plant Height | Grain Protein |
|----------------------|-------------------|---------------------------------|----------------------|----------------------------------|---------------------|----------------------|
| | | <u>Bu/ac</u> | <u>lbs/bu</u> | <u>(June)</u> | <u>inches</u> | <u>%</u> |
| Centennial | SWS | 134.5 | 59.0 | 28.5 | 38.8 | 12.6 |
| Lolo | HWS | 133.2 | 60.5 | 27.6 | 40.6 | 12.5 |
| Oslo | HRS | 128.7 | 59.4 | 23.0 | 38.3 | 13.8 |
| Id 377s | HWS | 121.9 | 58.8 | 25.3 | 38.9 | 13.4 |
| WB 881 | Durum | 117.6 | 59.7 | 18.9 | 36.5 | 13.8 |
| Yecora Rojo | HRS | 117.6 | 60.2 | 20.6 | 29.0 | 14.3 |
| Trial Average | | 121.8 | 59.7 | 23.8 | 36.1 | 13.7 |

¹ San Luis Valley Research Center, Center, CO. Grain yield based on 60 lbs/bushel and 12 % moisture.

² Days after June 1.

Researcher Comments:

Centennial, soft white spring, a check variety in this trial, produced the highest 5-year yield average yield, 134.5 bu/acre. It is quite late maturing compared to WB 881 and Yecora Rojo. Lolo is a hard white variety which is also fairly late. It produced 133 bu per acre. Oslo HRS has been a very consistent yielding variety and is medium maturity. Id 377s is a specialty export variety which often lodges. WB 881 durum is a high quality durum not grown here because other durums yield better. Yecora Rojo is a short statured, early maturing hard red variety that sometimes yields much higher or lower than that shown.

Table 3. 2004 Irrigated spring barley variety performance trial at Center¹. By Merlin A. Dillon, Area Extension Agent, Agronomy, SLV Research Center, Center, CO.

| Variety | Source | Grain Yield ² | Bushel Weight | Heading Date ^{5/} | Grain Moisture | Plant Height | Plant Lodging | Grain Protein | Grain Color | Grain ⁴ Screen |
|---------------------------|-----------|--------------------------|---------------|----------------------------|----------------|--------------|---------------|---------------|-------------|---------------------------|
| | | bu/ac | lbs/bu | (June) | % | inches | % | % | | % |
| Ab13449 | ARS-Idaho | 197.9 a ³ | 46.3 | 20.5 | 16.4 | 46.2 | 31 | 8.9 | 58 | 4.7 |
| C 69 | Coors | 189.4 ab | 48.4 | 36.3 | 20.0 | 32.7 | 0 | 9.5 | 66 | 2.8 |
| C 70 | Coors | 186.0 ab | 48.8 | 32.5 | 15.9 | 33.6 | 0 | 10.5 | 67 | 2.8 |
| C 14 | Coors | 184.2 abc | 51.4 | 21.5 | 13.9 | 34.5 | 3 | 10.4 | 68 | 2.3 |
| Ab11993 | ARS-Idaho | 179.4 abcd | 47.1 | 19.8 | 15.2 | 42.0 | 0 | 9.2 | 63 | 4.7 |
| Baronesse | ARS-Idaho | 177.7 abcd | 51.5 | 29.3 | 14.2 | 43.8 | 18 | 9.2 | 72 | 1.6 |
| C 65 | Coors | 173.9 abcd | 49.2 | 38.3 | 22.7 | 31.8 | 0 | 9.7 | 54 | 1.4 |
| Garnet | ARS-Idaho | 173.3 abcd | 50.4 | 26.5 | 15.6 | 43.8 | 55 | 10.3 | 67 | 2.9 |
| Ab12362 | ARS-Idaho | 164.5 bcd | 47.7 | 21.8 | 14.7 | 45.6 | 25 | 9.3 | 63 | 3.4 |
| Creel | ARS-Idaho | 156.3 cd | 51.1 | 31.5 | 14.3 | 43.8 | 3 | 9.9 | 79 | 1.3 |
| Burton | ARS-Idaho | 155.2 d | 51.4 | 33.3 | 16.1 | 44.4 | 33 | 10.0 | 86 | 0.8 |
| Trial Average | | 176.6 | 49.4 | 28.9 | 16.6 | 39.7 | 14.9 | 9.8 | 66.5 | 2.8 |
| LSD_{,.10} | | 13.1 | 0.95 | 1.7 | 1.9 | 1.8 | 14 | 0.5 | 4.4 | 1.7 |
| CV, % | | 6.3 | 1.6 | 5.0 | 9.4 | 3.8 | 78 | 4.4 | 6.4 | 52.7 |

¹ Trial conducted at the San Luis Valley Research Center, 0249 E Road 9 North, Center, CO.

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

³ Tukey's Test: yields with the same letter are not statistically different.

⁴ Grain screenings: percent that falls through 6/64 inch screen.

⁵ Days after June 1.

Site Information:

Soil Type: Norte gravelly sandy loam

Irrigation: center pivot irrigation = ET.

Previous Crop: potatoes

Herbicide: Bronate at 1 pt/acre

Planted: April 14

Harvest: August 11

Fertilizer: Nitrogen; 75 #/ac dry preplant + 30 #/ac fertigation

Researcher Comments:

Yields were even better than last year with a top yield of 198 bu/acre and a test average of 177 bu/acre. Yields were quite consistent producing a low coefficient of variation (6.3 %) and a fairly low LSD (13.1). Vegetative growth was excellent and produced enough growth that susceptible varieties lodged as much as 55%. This is valuable information; we need to know which varieties are susceptible or resistant to plant lodging. Many newer varieties have short, strong stalks and had zero lodging.

Eight varieties made up the top yield group. This group includes C 69, which Coors Brewing intends to use for contract malting barley production next year. The group also included C 14 which Coors Brewing is currently using. The yield advantage for C 69 is expected to be greater than what we found here. Grain protein was low, not a problem for any varieties tested this year. Grain color was very good, considering this barley harvested standing. Screenings, often a problem for C 14, was not a problem this year. C 69 produced a lighter bushel weight than C 14 both this year and last year; however, since the seed is larger, screenings problems should be less than for C 14.

AB 13449, an experimental 6-row barley, produced an excellent yield this year. Creel, a relatively new 2-row barley produced a relatively low yield this year. Comparing more than one year is important (see Table 3a)..

Burton, a new variety released in Idaho, yielded less than many other barleys. Burton, however, is resistant to Russian Wheat Aphid.

Table 3a. Three year (3-yr) averages, Irrigated spring barley variety performance trial at Center¹, 2004.
 By Merlin A. Dillon, Area Extension Agent, Agronomy, SLV Research Center, Center, CO.

| Variety | Grain Yield ² | | | Bushel Weight | Heading Date | Plant Height | Plant Lodging | Grain Protein | Grain ³ Screen |
|-------------------|--------------------------|--------------|--------------|---------------|--------------|--------------|---------------|---------------|---------------------------|
| | 3 yr | 4 yr | 7 yr | | | | | | |
| | bu/acre | | | lbs/bu | (June) | inches | % | % | % |
| Creel | 168.5 | 170.8 | 162.6 | 49.9 | 22.1 | 41.5 | 1.0 | 9.5 | 5.3 |
| Ab 11993 | 168.5 | --- | --- | 50.3 | 21.3 | 38.8 | 0.0 | 10.1 | 4.7 |
| Moravian 14 | 170.6 | 161.9 | 145.8 | 52.7 | 19.7 | 32.1 | 1.0 | 10.8 | 3.3 |
| Ab 13449 | 167.6 | 160.7 | --- | 48.7 | 17.3 | 42.3 | 10.3 | 9.4 | 4.8 |
| Ab 12362 | 161.0 | --- | --- | 49.5 | 20.4 | 43.4 | 8.3 | 9.7 | 3.3 |
| Garnet | 151.1 | 145.8 | 137.6 | 51.4 | 25.7 | 40.9 | 18.3 | 10.8 | 2.7 |
| Trial Mean | 159.8 | 155.5 | 145.7 | 50.5 | 29.3 | 37.2 | 5.0 | 10.3 | 3.8 |

¹ Trial conducted at the San Luis Valley Research Center, 0249 E Road 9 North, Center, CO.

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

³ Grain screenings: percent that falls through 6/64 inch screen.

Researcher Comments:

Creel is a six-row feed barley developed and released by USDA-ARS in Aberdeen, Idaho. It has outyielded the other varieties over seven years' trials. It is tall but stands fairly well (1% lodging). The bushel weight (49.9) is good for a six-row barley. It performs as well as three newer Aberdeen (Ab) experimental lines.

Moravian 14 produced a high yield for a 3-year average; however, the 4-yr and 7-yr averages are less than Creel. Moravian 14 is early maturing, has good bushel weight, short height and resists lodging. It has fairly low protein and though it doesn't show here, sometimes the screenings are too high. Moravian 14 is scheduled to be replaced by C 69.

delays heading, usually increases vegetative growth and plant height, increases protein. Higher population usually makes heading earlier; and usually increases screenings.

Nitrogen Rate Affect on Yield

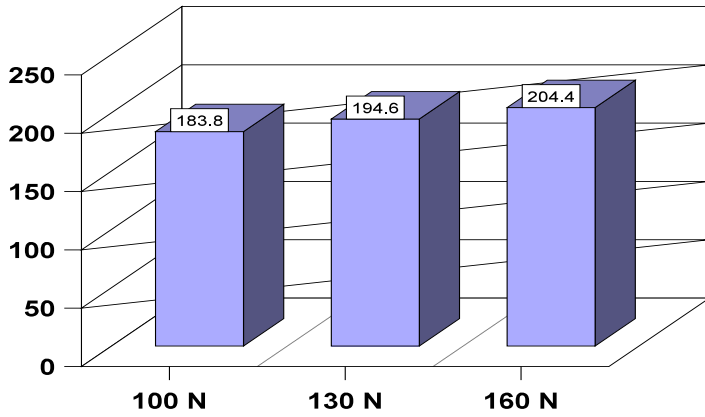


Fig. 1. Nitrogen added beyond that needed for C 14 increased grain yield.

Nitrogen Rate Affect on Heading

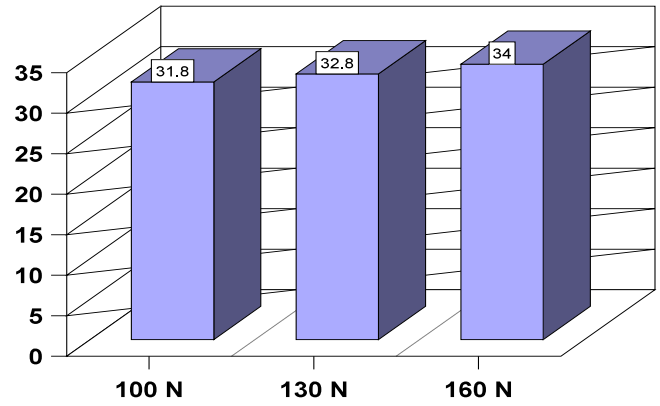


Fig. 2. Added nitrogen delayed heading date (days after June 1).

Nitrogen Rate Affect on Plant Height

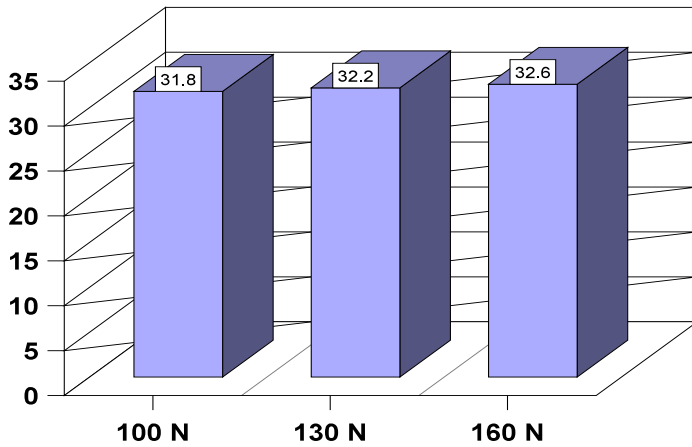


Fig. 3. Added nitrogen made plants grow taller.

Nitrogen Rate Affect on Protein %

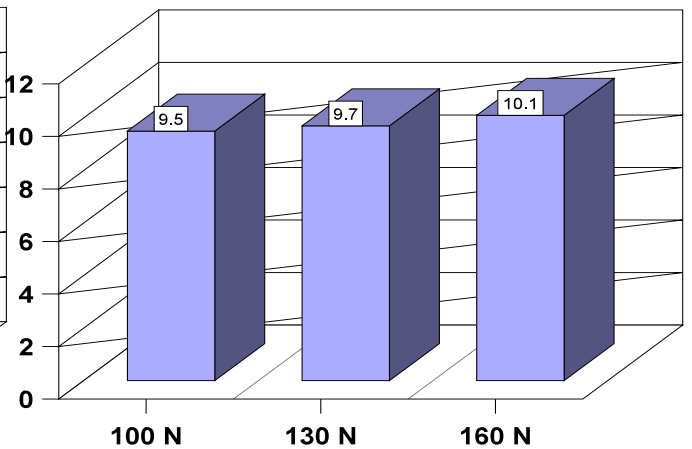


Fig. 4. Added nitrogen increased grain protein content (%).

Seeding Rate Affect on Heading Date

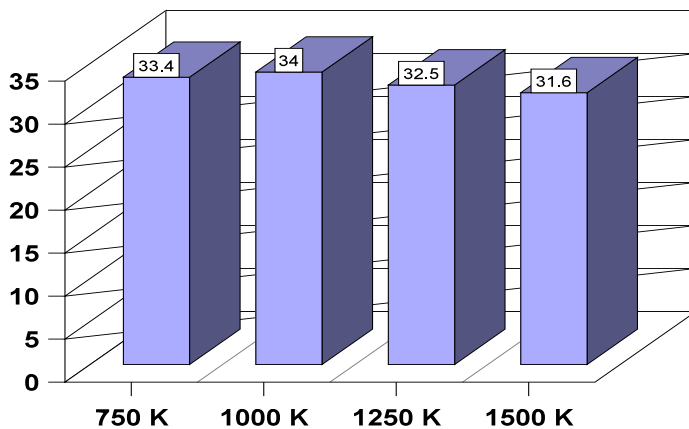


Fig. 5. Higher seeding rates made heading date earlier.

Fig. 6. Higher seeding rates increased grain screenings

Table 5. Oat variety performance trial at Center¹ in 2004.

| Variety | Grain Yield ² | Bushel Weight | Heading Date ⁴ | Plant Height | Plant Lodging |
|--------------------------|--------------------------|---------------|---------------------------|--------------|---------------|
| | bu/ac ³ | lbs/bu | (June) | inches | % |
| Monida | 173.8 a | 35.7 | 34.0 | 38.7 | 20 |
| Powell | 172.3 a | 37.6 | 33.8 | 33.3 | 3 |
| Maverick | 171.6 a | 37.9 | 32.0 | 33.3 | 4 |
| Monico | 170.3 a | 39.3 | 28.3 | 37.8 | 11 |
| Rio Grande | 158.9 ab | 39.3 | 26.3 | 37.8 | 1 |
| Lamont (HL) | 130.8 bc | 46.5 | 34.0 | 37.2 | 0 |
| Provena (HL) | 101.3 c | 47.7 | 33.5 | 31.8 | 0 |
| Test Average | 154.1 | 40.6 | 31.7 | 35.8 | 5.4 |
| LSD_{10%} | 22.0 | 2.1 | 1.3 | 2.4 | N.S. |
| C.V. % | 11.7 | 4.2 | 3.4 | 5.6 | 208 |

¹ Trial conducted at SLV Research Center, 0249 E Road 9North, Center, CO

² Tukey's Test; yields followed by the same letter are not statistically different.

³ Yield based on 38 lbs/bu and 12% moisture.

⁴ Date 50% of the plants headed; days after June 1.

(HL) indicates hullless oat varieties which have higher bushel weights.

Site Information:

Date Planted: April 15

Date Harvested: August 30

Irrigation: center pivot

Seed Rate: Variable treatment

Herbicide: Bronate @ 1 pt/ac

Nitrogen: 70 lbs/acre preplant + 30 lb/ac sprinkler

Researcher Comments:

This trial was severely affected by the same soil problem that affected the Soft White Trial and the Wheat Seeding Rate Trial. Yields were reduced by the problem which caused stunting and reduced tillering. The area was not affected fairly uniformly since the trial resulted in fair yields and unacceptable variability. The grain yield coefficient of variation (CV= 11.7) was too high; results might not be similar if the trial were repeated.

This trial has five (5) varieties in the top yield group. It does not show any yield advantage for Monico or Maverick such as the last years 5-year average. Monico, Maverick and Powell have a yield advantage in the 5-year yield average. Monico and Maverick have also shown heavier bushel weight, earlier heading date, shorter plant height, lower lodging percentage and equal forage yield.

Foundation seed of Maverick is available beginning Spring 2005 from Merlin Dillon, Area Extension Agronomist, SLV Research Center.

Table 5b. Six year (6-yr) averages (1998-2004), oat variety performance trial in Center¹.

| Variety | Grain Yield | Bushel Weight | Heading Date ^{1/} | Plant Height | Plant Lodging ^{2/} | Forage Yield ^{3/} |
|-------------------|--------------------|----------------------|-----------------------------------|---------------------|------------------------------------|-----------------------------------|
| | bu/ac | lbs/bu | (June) | inches | % | tons/acre |
| Monico | 191.7 | 40.7 | 30.3 | 46.3 | 32.6 | 4.0 |
| Maverick | 191.3 | 40.3 | 32.0 | 41.8 | 14.2 | 4.1 |
| Powell | 190.9 | 38.7 | 32.8 | 41.4 | 50.4 | 4.0 |
| Monida | 185.5 | 39.1 | 33.9 | 46.3 | 63.6 | 4.3 |
| Rio Grande | 175.2 | 39.8 | 21.9 | 40.0 | 40.7 | 3.7 |
| Average | 173.4 | 40.2 | 31.7 | 42.3 | 32.3 | 4.0 |

^{1/} Days after June 1.

^{2/} Plant lodging average for three years.

^{3/} Forage yield averaged for 3 years, 1999-2001.

Researcher Comments:

This table shows results for six years testing at this location. Monico, Maverick and Powell have produced high grain yields each year. Monico and Maverick seem to have better bushel weight. Rio Grande is the earliest variety tested by far; however, other newer varieties yield more with less lodging. Rio Grande, Maverick and Powell have been the shortest height varieties; Monida and Monico have been the tallest. Maverick showed the least lodging followed by Monico. All varieties seemed to produce the same forage yields in limited testing.

It should be noted that lodging resistance is a very important characteristic for forage varieties and for varieties planted as cover crop for alfalfa seeding. Lodged oats causes reduced stand in newly seeded alfalfa.

Table 6. Canola variety performance trial in 2004. Randomized, replicated On-Farm trial located on Worley Seed Farm, 4.5 N on Rio Grande County Road 4 E. Trial conducted by Merlin Dillon, Area Extension Agent, Agronomy, San Luis Valley Research Center, Center, CO. Sponsored by Blue Sun Bio-diesel, Ft. Collins, CO

| Variety ¹ | Grain Yield ² | Bushel Weight | Heading Date ³ | Grain Moisture | Plant Lodging | Oil Content |
|----------------------|--------------------------|---------------|---------------------------|----------------|---------------|-------------|
| | lbs/ac | lbs/bu | (July) | % | % | % |
| DK 223 | 3658 a | 48.1 | 12.3 | 9.9 | 23.8 a | |
| Hyola 401 | 3584 ab | 49.8 | 11.5 | 9.7 | 23.8 b | |
| PHI-04-05 | 3561 ab | 48.9 | 13.8 | 9.7 | 13.8 b | |
| PHI-04-01 | 3256 abc | 51.8 | 11.3 | 8.3 | 27.5 c | |
| PHI-04-04 | 3253 abc | 49.5 | 13.5 | 9.7 | 51.3 c | |
| Hylite 292 CL | 3057 bc | 49.9 | 15.5 | 11.4 | 81.3 c | |
| In Vigor 4870 | 2959 c | 48.0 | 19.3 | 18.6 | 63.8 cd | |
| HyClass 905 | 2926 c | 47.3 | 19.0 | 16.0 | 16.3 cd | |
| Blue-01-001 | 2854 c | 50.1 | 11.0 | 10.3 | 2.5 d | |
| Ski Patriot RR | 2820 c | 49.1 | 12.5 | 11.6 | 65.0 d | |
| Trial Average | 3193 | 49.2 | 14.0 | 11.5 | 36.9 | |
| LSD, .10 | 307 | 0.7 | 0.9 | 1.0 | 16 | |
| CV % | 8.0 | 1.1 | 5.3 | 7.3 | 35 | |

¹ Mustard varieties include: Blue-01-001 and PHI 04-01.

² Tukey's Test: yields followed by the same letters are not statistically different. Grain yield based on 10 % moisture.

³ Days after July 1.

Site Information:

Trial Location: 4.5 north on Rio Grande County Road 4E.

Previous Crop: potatoes

Date Planted: May 17

Date Harvested: October 4

Irrigation: center pivot

Seed Rate: 10 lbs/acre

Herbicide: None

Row Spacing: 8-inch

Nitrogen: 130 lbs/acre

Plot Size: 6 ft. x 35'; 9 rows planted 8 inches apart

Comments:

The field in which this small plot, replicated trial was planted suffered severe wind erosion immediately after planting. The plot area had more moisture and suffered much less. Most of the field was replanted except for a small area near this plot. The field made only about 2000 lbs/acre. This trial averaged 3200 lbs/acre because it had plenty of fertilizer, plenty of water, few weeds and an excellent stand. The plots, had excellent germination; good stands that did not need replanting. The huge yield difference was probably because of the delayed date of replanting. In my opinion, these results show that high yields of canola can be obtained.

Since some of the varieties were not Roundup Ready, this product could not be applied. Even though the plots had no herbicide, weeds were not a problem. This was a great trial with excellent canola yields and good precision (low variability). Five varieties produced highest yields which ranged from 3253 to 3658 lbs per acre. The average of all varieties, including some mustards, was 3193 lbs/acre. Two varieties were actually mustards, varieties Blue-01-001 and one other. Blue-01-001 produced 2854 lbs/acre and was not outstanding. Others in the top yield group were DK223, Hyola 401, PHI 04-05, and PHI 04-04.

Table 10. SLV Wheat Seed Treatment Trial.
 by Merlin Dillon, Area Extension Agronomist, SLV Research Center, Center, Colorado.

| Seed Treatment | Plant Population | Grain Yield ¹ | Bushel Weight | Grain Moisture | Heading Date |
|--------------------------------|------------------|--------------------------|---------------|----------------|--------------|
| | (1000/acre) | (bu/acre) | (lbs/bu) | (%) | (June) |
| 1 Control | 1,090 | 156.1 | 60.8 | 14.4 | 30.5 |
| 2 KNF 2829 @ 50ML | 1,120 | 146.9 | 61.1 | 14.1 | 30.0 |
| 3 KNF 2829 @ 75ML | 1,110 | 152.3 | 61.1 | 13.0 | 30.5 |
| 4 KNF 2829 @ 100ML | 1,120 | 156.8 | 60.9 | 13.8 | 30.5 |
| 5 KNF 2826 @ 200ML | 1,120 | 154.0 | 61.4 | 12.7 | 30.5 |
| 6 KNF 2826 @ 300ML | 1,120 | 153.3 | 61.0 | 14.7 | 30.0 |
| 7 KNF 2826 @ 400ML | 1,140 | 154.1 | 61.5 | 12.0 | 30.0 |
| 8 KNF 2827 @ 100ML | 1,110 | 153.5 | 61.2 | 14.5 | 30.5 |
| 9 KNF 2827 @ 150ML | 1,100 | 155.9 | 60.1 | 14.9 | 30.0 |
| 10 KNF 2827 @ 200ML | 1,120 | 155.0 | 62.2 | 12.9 | 30.5 |
| 11 Raxil @ 5 oz/cwt | 1,090 | 154.2 | 61.2 | 12.8 | 31.0 |
| 12 DividendXL @ 2oz/cwt | 1,130 | 153.3 | 61.4 | 12.3 | 30.5 |
| Test Average | 1,120 | 153.8 | 61.1 | 13.5 | 30.4 |
| LSD .05 | NS | NS | NS | NS | NS |
| CV, % | 2.98 | 2.0 | 2.0 | 15.1 | 1.9 |

¹ Grain yield based on 60 lbs/bushel and corrected to 12% moisture.

Site Information:

Soil Type: Norte gravelly sandy loam **Irrigation:** center pivot irrigation = ET.
Previous Crop: potatoes **Herbicide:** Bronate at 1 pt/acre
Fertilizer: Nitrogen; 75 #/ac dry preplant + 30 #/ac fertigation +
 60 lb/acre dry urea on May 25 + 40 lb/acre on June 1. Total applied = 205 lb/acre.
Planted: April 16 **Harvest:** September 2

Note: Reps I and II were discarded because of a severe soil problem that affected some plots more than others. The problem caused short roots, chlorotic plants with stunted growth and few tillers. Yields were much lower and much more erratic for Reps I & II (discarded) compared to Reps III & IV (yields reported).

Comments:

This trial was planted in good moisture on April 16. Because it was planted slightly too wet, it was irrigated with 0.50 inch on April 17. Snowfall moisture measured another .10 inch on April 22 and .28 inch on April 23. Plant population averaged 1.12 million plants per acre, slightly higher than typical in this area. The combination of irrigation applied plus small snowfall amounts prior to emergence resulted in excellent plant stands. The wheat emergence was excellent with no problems nor any real stresses. With the excellent conditions for germination, it is not unexpected that seed treatments would have no effect.

Each plot plant population was counted three times; each plot count was from 8 sq. ft. The trial was planted on April 16. Plots were counted on April 29-30; as the wheat was just finishing emergence. Plots were harvested with a Hege combine 4.7 feet wide; harvesting the inside 7 rows and leaving one border row on each edge of the plot. There was no significant differences for plant population, yield, moisture, bushel weight, plant height or heading date.

Table 7. San Luis Valley Seed Treatment Trial, 2004

Sponsored by Crompton Crop Protection: Contact: Julius Fajardo, (203) 573-3411
 By Merlin Dillon, Area Extension Agronomist, SLV Research Center, Center, Colorado.

| Seed Treatment | Plant Population | Grain Yield¹ | Bushel Weight | Grain Moisture | Heading Date |
|-------------------------------|-------------------------|--------------------------------|----------------------|-----------------------|---------------------|
| | (1000/acre) | (bu/acre) | (lbs/bu) | (%) | (June) |
| 1 Control | 1,090 | 156.1 | 60.8 | 14.4 | 30.5 |
| 2 KNF 2829 @ 50ML | 1,120 | 146.9 | 61.1 | 14.1 | 30.0 |
| 3 KNF 2829 @ 75ML | 1,110 | 152.3 | 61.1 | 13.0 | 30.5 |
| 4 KNF 2829 @ 100ML | 1,120 | 156.8 | 60.9 | 13.8 | 30.5 |
| 5 KNF 2826 @ 200ML | 1,120 | 154.0 | 61.4 | 12.7 | 30.5 |
| 6 KNF 2826 @ 300ML | 1,120 | 153.3 | 61.0 | 14.7 | 30.0 |
| 7 KNF 2826 @ 400ML | 1,140 | 154.1 | 61.5 | 12.0 | 30.0 |
| 8 KNF 2827@ 100ML | 1,110 | 153.5 | 61.2 | 14.5 | 30.5 |
| 9 KNF 2827@ 150ML | 1,100 | 155.9 | 60.1 | 14.9 | 30.0 |
| 10 KNF 2827@ 200ML | 1,120 | 155.0 | 62.2 | 12.9 | 30.5 |
| 11 Raxil @ 5 oz/cwt | 1,090 | 154.2 | 61.2 | 12.8 | 31.0 |
| 12 DividendXL @2oz/cwt | 1,130 | 153.3 | 61.4 | 12.3 | 30.5 |
| Test Average | 1,120 | 153.8 | 61.1 | 13.5 | 30.4 |
| LSD .05 | NS | NS | NS | NS | NS |
| CV, % | 2.98 | 2.0 | 2.0 | 15.1 | 1.9 |

¹ Grain yield based on 60 lbs/bushel and corrected to 12% moisture.

Site Information:

Soil Type: Norte gravelly sandy loam

Irrigation: center pivot irrigation = ET.

Previous Crop: potatoes

Herbicide: Bronate at 1 pt/acre

Fertilizer: Nitrogen; 75 #/ac dry preplant + 30 #/ac fertigation +

60 lb/acre dry urea on May 25 + 40 lb/acre on June 1. Total applied = 205 lb/acre.

Planted: April 16

Harvest: September 2

Note: Reps I and II were discarded because of a severe soil problem that affected some plots more than others. The problem caused short roots, chlorotic plants with stunted growth and few tillers. Yields were much lower and much more erratic for Reps I & II (discarded) compared to Reps III & IV (yields reported).

Comments:

The trial was planted in good moisture on April 16. Because it was planted slightly too wet, it was irrigated with 0.50 inch on April 17. Snowfall moisture measured another .10 inch on April 22 and .28 inch on April 23. Plant population averaged 1.12 million plants per acre, slightly higher than typical in this area. The combination of irrigation applied plus small snowfall amounts prior to emergence resulted in excellent plant stands. The wheat emergence was excellent with no problems nor any real stresses.

Each plot plant population was counted three times; each plot count was from 8 sq. ft. The trial was planted on April 16. Plots were counted on April 29-30; as the wheat was just finishing emergence.

Plots were harvested with a Hege combine 4.7 feet wide; harvesting the inside 7 rows and leaving one border row on each edge of the plot. There was no significant differences for plant population, yield, moisture, bushel weight, plant height or heading date.