

San Luis Valley Alfalfa Variety Trial at Center

By **Merlin A. Dillon**

Area Extension Agent, Agronomy

San Luis Valley Research Center, Center, CO

(719) 754-3494 x12

e-mail: merlin.dillon@colostate.edu

The 2002-2004 results of Colorado State University's alfalfa variety performance trial at Center are presented here. Plots were planted in June 2000 and the 2004 data are the third full year of the three-year testing period. Since only two harvests were taken in 2001, this data is not reported. Three full years' data include 2002-2004. Results for 2004 by cutting are presented in [Table 1](#); yearly total results for 2002-2004 are presented in [Table 2](#).

Alfalfa stands were excellent with few weeds throughout the testing period. The plots were center pivot irrigated at the Sherrel Mix farm (Rio Grande County Roads 8N & 1 W), two miles from the Research Center.

Summer 2002 was hot and dry which made for good haymaking conditions. The entire summer was dry and there was no rain damage. The first cutting was early, the second cutting was not rained on, and the third cutting was larger than normal because of the warm season. Yields were exceptionally high, averaging 7.0 tons per acre. Twelve varieties were significantly higher yielding than the other varieties in 2002 ([Table 2](#)).

Summer 2003 was not quite as warm and dry as 2002. The first cutting was early, the second cutting received some showers and the third cutting yield was lower yielding than in 2002. Twenty four varieties averaged 5.7 tons per acre ([Table 2](#)). 2003 total yield differences were not significantly different.

Summer 2004 started warmer than normal and the first cutting was earlier than normal. The summer of 2004 was much cooler than the previous two years. The cooler weather reduced the third cutting yield and total yield compared to the previous two years ([Table 1](#)). The average yield was 5.5 tons per acre. Eight varieties yielded significantly higher than the other varieties in 2004 and also were significantly higher yielding in the first and third cuttings.

Results averaged over several years are more useful, more important than single year results. The three-year average yields are shown in Table 2. Thirteen of 24 varieties produced high yields when averaged for all 3 years. These did not include the control varieties Vernal and Ranger. The high yield varieties included WL 327, DK 143, FG 3R139, Pro Gro, Baralfa 42IQ, Select, Pioneer 53V08, WL 325HQ, Magnum V, Geneva, Abound, DK 142, and Columbia 2000. The high yield varieties included newer, improved disease and insect resistant varieties already being grown by progressive growers in the San Luis Valley.

Table 1. Forage yields of 24 alfalfa varieties at the San Luis Valley¹ in 2004.

		1 st Cut	2 nd Cut	3 rd Cut	Total ³	3-yr
Variety	Brand/Source	June 16	July 24	Sept 21	2004	Average
-----tons/acre ² -----						
DK 143	DeKalb	2.6	2.2	1.2	6.0	5.1
FG 3R139	Forage Genetics	2.6	2.1	1.3	6.0	5.1
WL 327	WL Research	2.5	2.1	1.3	5.9	5.1
Geneva	Novartis	2.4	2.2	1.2	5.8	5.0
Baralfa 42IQ	Barenbrug	2.5	2.1	1.2	5.8	5.0
WL 325 HQ	WL Research	2.6	2.0	1.2	5.8	5.0
Select	Forage Genetics	2.4	2.0	1.3	5.7	5.0
Pro Gro	M.B.S., Inc.	2.4	2.1	1.2	5.7	5.1
53V08	Pioneer	2.3	2.2	1.2	5.7	5.0
Abound	Asgrow	2.3	2.1	1.2	5.6	4.9
Magnum V	Dairyland	2.3	2.1	1.2	5.6	5.0
DK 142	DeKalb	2.3	2.0	1.2	5.5	4.9
Columbia 2000	Public	2.3	2.0	1.1	5.5	4.9
Award	Asgrow	2.3	2.1	1.1	5.5	4.8
FG 4200	Forage Genetics	2.3	1.9	1.2	5.5	4.7
DK 134	DeKalb	2.3	2.0	1.1	5.4	4.7
54Q53	Pioneer	2.3	1.9	1.2	5.4	4.7
Aspire	Asgrow	2.3	2.0	1.1	5.4	4.7
AmeriStand 201	ABI Alfalfa	2.3	2.0	1.0	5.3	4.6
WL 232 HQ	WL Research	2.2	2.0	1.1	5.3	4.7
Ranger	USDA-NE AES	2.1	2.2	0.9	5.2	4.8
Gold Plus	M.B.S., Inc.	2.4	1.8	1.1	5.2	4.5
HybriForce TM 400	Dairyland	2.1	1.9	1.1	5.1	4.6
Vernal	USDA-WI AES	2.1	2.0	0.8	4.9	4.5
Average		2.3	2.1	1.1	5.5	4.9
CV(%)		8.3	10.1	10.5	6.7	5.0
LSD(0.10)		0.2	NS	0.1	0.4	0.3

¹Trial conducted on the Sherrel Mix farm, Rio Grande County Roads 8N & 1 W; seeded at 16 lbs/acre on 6/16/2000.

²Yields calculated on oven-dry basis.

³Table is arranged by decreasing, 2004 Total yield

Site Information:

Elevation = 7700 ft.

Average annual precipitation = 6.92 inches.

Average frost-free days = 88days (32 0 F).

Average last spring frost - June 10; average first fall frost - September 6.

Soil Series: Norte gravelly sandy loam.

Table 2. Three Year Alfalfa Variety Performance Trial Results, San Luis Valley¹, 2002-2004.

Variety	Brand/Source	Total 2002	Total 2003	Total 2004	3-yr Average ³
-----tons/acre ² -----					
WL 327	WL Research	7.4	5.9	5.9	5.1
DK 143	DeKalb	7.1	6.0	6.0	5.1
FG 3R139	Forage Genetics	7.2	5.9	6.0	5.1
Pro Gro	M.B.S., Inc.	7.3	5.6	5.7	5.1
Baralfa 42IQ	Barenbrug	7.1	5.8	5.8	5.0
Select	Forage Genetics	7.3	5.9	5.7	5.0
53V08	Pioneer	7.1	5.8	5.7	5.0
WL 325 HQ	WL Research	7.2	5.8	5.8	5.0
Magnum V	Dairyland	7.2	6.1	5.6	5.0
Geneva	Novartis	7.0	5.9	5.8	5.0
Abound	Asgrow	7.1	5.8	5.6	4.9
DK 142	DeKalb	7.1	5.8	5.5	4.9
Columbia 2000	Public	7.1	5.7	5.5	4.9
Award	Asgrow	6.7	5.5	5.5	4.8
Ranger	USDA-NE AES	6.9	5.5	5.2	4.8
Aspire	Asgrow	6.8	5.5	5.4	4.7
DK 134	DeKalb	6.9	5.5	5.4	4.7
FG 4200	Forage Genetics	6.8	5.5	5.5	4.7
54Q53	Pioneer	6.8	5.7	5.4	4.7
WL 232 HQ	WL Research	6.9	5.5	5.3	4.7
HybriForce TM 400	Dairyland	6.8	5.6	5.1	4.6
AmeriStand 201	ABI Alfalfa	6.5	5.1	5.3	4.6
Gold Plus	M.B.S., Inc.	6.5	5.0	5.2	4.5
Vernal	USDA-WI AES	6.6	5.6	4.9	4.5
Average		7.0	5.7	5.5	4.9
CV(%)		4.6	8.3	6.7	5.0
LSD(0 .10)		0.4	NS	0.4	0.3

¹Trial conducted on the Sherrel Mix farm, Rio Grande County Roads 8N & 1W; seeded at 16 lbs/acre on 6/16/2000.

²Yields calculated on oven-dry basis.

³Table is arranged by decreasing, 3-yr average yield.