



The 2011 New Mexico Alfalfa Variety Test Report



Agricultural Experiment Station
College of Agricultural, Consumer
and Environmental Sciences



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Introduction

In 2011, 230,000 acres of alfalfa (*Medicago sativa*) were in production in New Mexico, up from 220,000 acres in 2010. Hay yields were estimated at 1.2 million tons. At a January through October 2011 average of \$223/ton (up from \$159 in 2010), estimated gross returns from 1.14 million tons of alfalfa hay produced in 2011 will total approximately \$267 million. This was an increase from the \$182 million received in 2010, strengthening alfalfa hay's position as New Mexico's No. 1 cash crop (New Mexico Agricultural Statistics Service, www.nass.usda.gov/nm). Alfalfa also is the legume of choice in irrigated perennial pastures. Whether used as pasture or hay, the value of alfalfa to New Mexico is greatly magnified by its contribution to livestock production and receipts from the sale of meat, milk, and other products generated by livestock enterprises.

Choosing a good alfalfa variety is a key step in establishing a highly productive stand of alfalfa, whether for hay or pasture. Differences between the highest- and lowest-yielding varieties in irrigated tests included in this report ranged from 1.03 to 2.31 tons per acre in 2011. If sold as hay, this translates to a difference in returns of \$230 to \$515 per acre due to variety, or an increase of at least \$50.6 million for the industry in 2011 alone.

This report, which is a collaborative effort of New Mexico State University scientists at agricultural science centers throughout the state, provides yield data for alfalfa varieties included in yield trials in New Mexico. While consistently high yields compared to other varieties over a number of years and locations within a region is the best indication of varietal adaptation and persistence, other factors should be considered in the variety selection process (see NMSU's Cooperative Extension Service Circular 654, *Selecting alfalfa varieties for New Mexico*). In addition to fall dormancy and winter hardiness, high levels of pest resistance are critical to protecting an alfalfa stand for long-term production. Alfalfa grown in New Mexico should have at least a resistant (R) rating for bacterial wilt, Fusarium wilt, anthracnose, Phytophthora root rot, spotted alfalfa aphid, blue alfalfa aphid, pea aphid, stem nematode, and southern rootknot nematode. Seed quality also should be high. Selecting an alfalfa variety based on seed cost is a gamble producers often lose. To be assured of achieving a long-lasting, highly productive stand, buy either certified or Plant Variety Protected (PVP) seed, which guarantees the genetics and performance. The best choice of seed of any variety is one that was treated with a fungicide and nitrogen-fixing bacteria before it was bagged.

Description of Tests

Replicated alfalfa variety tests included in this report were conducted under research controls at NMSU's Agricultural Science Centers at Las Cruces (standard and limited irrigation studies sown in 2010), Artesia (2008), Los Lunas (2007 and 2009), and Farmington (2007 and 2009). Weather data for 2011 and the long-term averages from all locations are presented in table 1.

Yield data (on a dry matter basis) are presented in tables 2-8. Varieties are listed in order from highest to lowest average annual production. Yields are given by cutting for 2011 and by year for each production year. Statistical analyses were performed on all alfalfa yield data (including experimentals) to determine if the apparent differences are truly due to variety or just to chance. The variety with the highest numerical yield in each column is marked with two asterisks (**), and those varieties not significantly different from that variety are marked with one asterisk (*). Those are the varieties from which to make an initial selection. Otherwise, to determine if two varieties are truly different, compare the difference between the two varieties to the Least Significant Difference (LSD) at the bottom of the column. If the difference is equal or greater than the LSD, the varieties are truly different in yield when grown under the conditions at a given location. If NS is given for the LSD, there was no statistical difference between the highest and lowest yielding varieties. The Coefficient of Variation (CV), which is a measure of the variability of the data, is included for each column of means. Low variability (<20 percent) is desirable, and increased variability within a study results in higher CVs and larger LSDs. There might be a difference between previously published data and the data given in this publication for the same tests because of differences in the programs used for statistical analysis.

Table 9 summarizes information about proprietors, Roundup Ready genetics, fall dormancy, winter survival (measured in the northern United States), pest resistance, and yield performance across years and locations for all varieties currently included in NMSU's alfalfa variety testing program. Varieties are listed alphabetically by fall dormancy category. As in the data tables, the variety with the highest numerical yield in each column is marked with two asterisks (**), and those varieties not significantly different from that variety are marked with one asterisk (*). Remember good performance across several years and locations is the best indicator of broad adaptation, pest resistance, and persistence.

Seed labeled "common," "variety not stated," or "variety unknown", particularly that from other states, is of unknown genetic background and may or may not have the necessary disease or insect resistance. New Mexico Common and African Common seed used in all tests throughout the state has come from the same supplier and seed fields in New Mexico. Seed purchased from other dealers may or may not be of the same quality and performance.

Summary

Consistent production of high alfalfa yields is the result of selecting good varieties and implementing good management techniques. Soil fertility should be maintained at recommended levels based on soil tests, irrigation should be properly applied, weeds and insects should be controlled using appropriate cultural and/or chemical methods, and harvest management should allow sufficient time to restock root energy prior to winter. For dormant (FD 1 to 3) and semidormant (FD 4 to 6) varieties, a 6-week rest period before a dormancy-inducing freeze (27°F) is recommended to

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allow plants to replenish root reserves for winter survival and initiate spring growth, after which harvesting might be done either mechanically or by grazing. Non-dormant (FD 7 to 9) varieties also might benefit from this rest period. Removing fall growth is beneficial to reducing weevil populations the following year as eggs are laid in and overwinter in stems. Harvesting established stands at early bloom would result in 3 to 5 cuttings per year before initiation of the rest period in most areas of New Mexico. More dormant varieties might not produce balable yields during the rest period; however, these can still be grazed. For further information about alfalfa management, refer to the other NMSU Cooperative Extension Service publications listed in table 10.

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Table 1. Temperature and precipitation data for 2011 and the long-term averages for the New Mexico Alfalfa Variety Test locations.

Location Elevation Latitude	Las Cruces ¹ 3832 ft. 32° 12' N				Artesia 3366 ft. 32° 45' N				Los Lunas 4840 ft. 34° 46' N				Farmington 5577 ft. 36° 41' N			
	Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)	
Month	11	Avg.	11	Avg.	11	Avg.	11	Avg.	11	Avg.	11	Avg.	11	Avg.	11	Avg.
Nov-10	46	50	0.00	0.53	48	49	0.00	0.53	42	43	0.20	0.52	39	41	0.12	0.65
Dec-10	45	42	0.00	0.68	44	41	0.04	0.50	39	34	0.43	0.48	38	31	0.78	0.46
Jan-11	41	42	0.00	0.56	39	41	0.00	0.39	33	35	0.00	0.39	24	30	0.03	0.52
Feb-11	42	46	0.07	0.37	41	45	0.18	0.43	34	40	0.21	0.42	32	36	0.18	0.49
Mar-11	59	52	0.00	0.22	57	51	0.00	0.43	50	47	0.00	0.56	45	43	0.34	0.67
Apr-11	60	59	0.00	0.21	64	60	0.00	0.63	57	54	0.00	0.46	50	51	1.09	0.59
May-11	69	68	0.00	0.29	68	69	0.00	1.22	60	63	0.00	0.48	56	60	0.86	0.51
Jun-11	80	77	0.29	0.72	81	78	0.70	1.42	74	72	0.00	0.57	71	70	0.01	0.25
Jul-11	82	80	1.14	1.36	84	80	0.53	1.76	80	77	0.17	1.33	77	76	0.65	0.82
Aug-11	81	78	1.06	2.29	85	78	0.12	1.70	80	75	0.82	1.59	76	74	0.05	1.08
Sep-11	73	72	1.07	1.38	73	71	2.13	1.80	69	67	1.14	1.17	65	66	1.02	1.06
Oct-11	60	61	0.19	0.91	62	60	0.50	1.17	57	56	1.00	1.11	53	54	1.86	0.99
Annual	62	61	3.82	9.52	62	60	4.20	11.98	56	55	3.97	9.08	52	53	6.99	8.09

¹Long-term averages for the Las Cruces test site are from NMSU's weather station, located approximately 5.5 miles to the north.

Table 2. Dry matter yields (tons/acre) of alfalfa varieties sown October 8, 2010, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated every 14 days†.

Variety Name	2011 Harvests						2011 Total
	27-Apr	26-May	24-Jun	28-Jul	31-Aug	13-Oct	
NM10-0307	1.72**	1.75*	1.70*	2.28*	2.04**	1.70*	11.19**
SuperSonic	1.33	1.69*	1.82**	2.27*	1.89*	1.78*	10.78*
NuMex Bill Melton	1.59*	1.62*	1.51	2.32**	2.01*	1.70*	10.75*
NM08251	1.50*	1.81**	1.68*	2.15*	1.89*	1.71*	10.73*
NM0306	1.37	1.55	1.65*	2.17*	2.02*	1.83**	10.59*
NM08244	1.51*	1.67*	1.68*	2.19*	1.84	1.57	10.46*
NM07240	1.25	1.56	1.69*	2.32**	1.96*	1.66*	10.44*
NM08241	1.28	1.51	1.68*	2.05*	1.91*	1.73*	10.15
59N59	1.13	1.50	1.52	2.22*	1.94*	1.81*	10.11
RD74	1.11	1.52	1.74*	2.20*	1.87*	1.66*	10.09
Wilson	1.48	1.55	1.48	2.08*	1.86*	1.59	10.03
CW058071	1.00	1.34	1.63*	2.30*	1.89*	1.76*	9.92
Dona Ana	1.42	1.50	1.46	2.04*	1.81	1.59	9.83
WL 656HQ	0.98	1.39	1.63*	2.13*	1.82	1.78*	9.73
PGI 908-S	1.06	1.38	1.74*	2.10*	1.79	1.63	9.70
56S82	1.40	1.44	1.50	1.98*	1.76	1.55	9.61
6010	1.09	1.40	1.77*	2.14*	1.66	1.44	9.49
WL 535HQ	1.01	1.31	1.51	2.03*	1.76	1.70	9.30
Mean	1.29	1.53	1.63	2.16	1.87	1.68	10.16
5% LSD	0.23	0.22	0.20	NS	0.19	0.18	0.87
CV%	12.63	10.02	8.46	8.81	7.19	7.38	6.06

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 3. Dry matter yields (tons/acre) of alfalfa varieties sown October 11, 2010, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated every 28 days†.

Variety Name	2011 Harvests						2011 Total
	21-Apr	26-May	26-Jun	30-Jul	1-Sep	18-Oct‡	
NuMex Bill Melton	0.63*	1.25**	1.31**	1.17**	0.94**	1.42**	6.73**
NM08195	0.65*	1.11*	1.15*	1.05*	0.93*	1.42**	6.35*
NM07-0306	0.82**	1.18*	1.04*	0.95	0.84*	1.33*	6.15*
NM08231	0.55	1.03*	1.20*	1.08*	0.92*	1.36*	6.15*
NM07235	0.49	1.09*	1.17*	0.99*	0.85*	1.35*	5.91*
NM07227	0.72*	0.99*	1.01*	0.89	0.89*	1.36*	5.84*
Wilson	0.51	0.99*	1.05*	0.95	0.87*	1.30*	5.70
PGI 908-S	0.48	1.06*	1.16*	0.84	0.81*	1.32*	5.66
56S82	0.54	0.92*	0.95*	0.89	0.88*	1.30*	5.51
NM08281	0.61	1.04*	1.02*	0.87	0.68*	1.22*	5.43
59N59	0.46	0.96*	1.02*	0.88	0.78*	1.34*	5.41
CW058071	0.43	0.96*	1.12*	0.81	0.79*	1.27*	5.39
NM08196	0.48	0.91*	0.96*	0.91	0.82*	1.29*	5.37
Dona Ana	0.49	0.91*	1.01*	0.92	0.75*	1.25*	5.34
NM07237	0.32	0.72*	0.80*	0.74	0.74*	1.11*	4.42
Mean	0.55	1.01	1.07	0.93	0.83	1.31	5.69
5% LSD	0.21	NS	NS	0.21	NS	NS	1.03
CV%	27.18	19.34	17.75	16.16	15.05	9.00	12.62

†Data were analyzed using analysis of covariance where alternating plots of 58N57 were used as the covariate.

‡The October 2011 yield increase resulted from more available water due to the study being inadvertently irrigated.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 4. Dry matter yields (tons/acre) of sprinkler-irrigated alfalfa varieties sown September 18, 2008, at NMSU's Agricultural Science Center at Artesia†.

Variety Name	2009	2010	2011 Harvests						2011	3-yr
	Total	Total	5-May	3-Jun	1-Jul	27-Jul	24-Aug	4-Oct	Total	Average
59N59	7.80**	8.03**	1.78*	1.54*	1.50*	1.27*	1.14*	1.19**	8.41*	8.11**
HybriForce-800	7.70*	7.21	1.95**	1.71**	1.67**	1.28*	1.14*	1.12*	8.91**	7.92*
Wilson	7.26*	7.50*	1.73*	1.55*	1.59*	1.28*	1.17**	1.11*	8.40*	7.70*
NM Common	7.08	7.55*	1.78*	1.59*	1.39	1.25*	1.09*	1.09	8.25*	7.61*
HybriForce-700	7.32*	7.33	1.48	1.37*	1.62*	1.21*	1.06*	1.05	7.81	7.46*
African Common	7.32*	6.93	1.52	1.33	1.52*	1.21*	1.17*	1.07	7.80	7.44*
HybriForce-2600	7.05	7.10	1.71*	1.57*	1.36	1.22*	0.89	0.97	7.74	7.27
WL 530HQ	7.21	6.89	1.68*	1.41*	1.24	1.29*	0.86	0.95	7.48	7.18
Dona Ana	6.74	6.80	1.77*	1.58*	1.35	1.27*	1.09*	1.05	8.02*	7.18
Magna 901	6.83	6.60	1.62*	1.44*	1.31	1.28*	1.07*	1.04	7.83	7.10
56S82	6.60	6.81	1.76*	1.52*	1.44*	1.27*	0.85	1.03	7.90	7.08
MagnaGraze	6.50	6.66	1.81*	1.63*	1.26	1.23*	0.91	0.98	7.85	7.06
AmeriStand 407TQ	6.72	6.91	1.56	1.37*	1.23	1.26*	0.98	0.93	7.31	6.97
ms.Sunstra.808	6.70	6.44	1.83*	1.53*	1.40	1.21*	0.92	0.92	7.79	6.95
Dura 843	6.42	6.79	1.76*	1.55*	1.28	1.25*	0.78	0.93	7.52	6.91
PGI 459	6.56	6.42	1.63*	1.43*	1.43*	1.28*	0.96	0.95	7.72	6.88
6552	6.54	6.30	1.62*	1.35*	1.49*	1.27*	0.88	0.97	7.57	6.84
WL 535HQ	6.59	6.84	1.28	1.11	1.31	1.31**	1.04	1.00	7.05	6.84
WL 440HQ	6.56	6.73	1.45	1.29	1.22	1.28*	0.98	0.99	7.17	6.83
Malone	6.89	6.67	1.12	0.90	1.28	1.26*	0.98	0.98	6.54	6.78
FSG 639ST	6.54	6.23	1.71*	1.55*	1.25	1.20*	0.89	0.96	7.42	6.64
WL 711	6.46	6.59	1.20	1.05	1.25	1.28*	0.89	0.95	6.56	6.55
FSG 528SF	6.24	6.35	1.28	1.08	1.26	1.27*	0.88	0.92	6.75	6.44
WL 319HQ	6.00	5.92	1.59*	1.40	1.20	1.26*	0.92	0.90	7.33	6.40
Mean	6.82	6.82	1.61	1.41	1.37	1.26	0.98	1.00	7.63	7.09
5% LSD	0.58	0.62	0.39	0.37	0.25	NS	0.12	0.10	1.01	0.69
CV%	7.43	7.90	20.88	22.79	16.14	5.30	11.10	8.73	11.56	14.87

†Data were analyzed using analysis of covariance where alternating plots of WL 535HQ were used as the covariate.

2009 Harvest dates: 26-May, 25-Jun, 28-Jul, 25-Aug, and 24-Sep.

2010 Harvest dates: 6-May, 7-Jun, 14-Jul, 16-Aug, 16-Sep, and 7-Oct.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 5. Dry matter yields (tons/acre) of alfalfa varieties sown September 19, 2007, at NMSU's Agricultural Science Center at Los Lunas and flood-irrigated twice per cutting†.

Variety Name	2008 Total	2009 Total	2010 Total	2011 Harvests					2011 Total	4-yr Average
				25-May	29-Jun	3-Aug	22-Sep	2-Nov		
PGI 424	8.43**	6.63**	8.05**	2.10	1.74*	1.71*	1.25*	0.78*	7.57*	7.67**
Tango	8.31*	6.36*	7.86*	2.29*	1.66*	1.82*	1.40*	0.79*	7.96*	7.62*
Cimarron VL600	8.18*	6.60*	7.68*	2.43**	1.69*	1.67*	1.41*	0.61	7.81*	7.57*
Archer III	7.61	6.51*	7.88*	2.28*	1.67*	1.77*	1.51**	0.71*	7.94*	7.49*
GT 13R	7.71*	6.28*	7.73*	2.35*	1.74*	1.90*	1.35*	0.85*	8.18**	7.47*
African Common	7.43	6.40*	7.56*	2.13	1.78**	1.94*	1.28*	0.87**	8.01*	7.35*
Dona Ana	7.68	6.36*	7.51*	2.12	1.76*	1.78*	1.25*	0.79*	7.69*	7.31*
AmeriStand 407TQ	7.01	6.47*	7.83*	2.22*	1.70*	1.70*	1.40*	0.78*	7.80*	7.28*
Wilson	7.31	6.21*	7.76*	2.33*	1.75*	1.44*	1.39*	0.87**	7.76*	7.26*
AmeriLeaf 721	8.34*	5.91*	7.63*	2.14	1.56	1.51*	1.29*	0.64	7.14	7.25*
NM Common	7.14	6.23*	7.31*	2.33*	1.65*	1.96**	1.38*	0.82*	8.14*	7.20*
WL 442	7.73	6.30*	7.38*	2.08	1.47	1.56*	1.24*	0.75*	7.10	7.13*
Rancher Special	8.15*	6.09*	7.08*	1.95	1.56	1.62*	1.26*	0.66	7.05	7.09*
SS120	7.60	6.04*	7.05*	2.14	1.64*	1.71*	1.28*	0.71*	7.48*	7.04*
SW6403	7.41	5.91*	7.11*	2.07	1.56	1.73*	1.15*	0.70*	7.21	6.91
WL 343HQ	7.15	5.78*	7.05*	1.79	1.47	1.53*	1.21*	0.57	6.57	6.64
Mean	7.70	6.25	7.53	2.17	1.65	1.71	1.32	0.74	7.59	7.27
5% LSD	0.74	NS	NS	0.27	0.20	NS	NS	0.19	0.72	0.67
CV%	6.72	11.00	8.37	8.64	8.72	13.05	11.09	17.60	6.62	13.22

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance.

2008 Harvest dates: 2-Jun, 10-Jul, 15-Aug, and 1-Oct.

2009 Harvest dates: 1-Jun, 7-Jul, 21-Aug, and 6-Oct.

2010 Harvest dates: 19-May, 30-Jun, 3-Aug, 8-Sep, and 28-Oct.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 6. Dry matter yields (tons/acre) of alfalfa varieties sown September 30, 2009, at NMSU's Agricultural Science Center at Los Lunas and flood-irrigated twice per cutting†.

Variety Name	2010	2011 Harvests					2011	2-yr
	Total	25-May	29-Jun	3-Aug	22-Sep	2-Nov	Total	Average
Artesian Sunrise	6.78*	2.35**	1.94**	1.55*	1.32*	1.11*	8.26**	7.52**
Dona Ana	6.99**	2.15*	1.78*	1.71*	1.41*	1.02*	8.05*	7.52**
WL 440HQ	6.81*	2.20*	1.70*	1.84**	1.31*	0.95*	7.99*	7.40*
Wilson	6.76*	1.80	1.75*	1.75*	1.27*	1.12**	7.70*	7.23*
Dura 843	6.95*	2.07*	1.74*	1.58*	1.20	0.86	7.45	7.20*
Malone	6.63*	1.88	1.79*	1.65*	1.35*	1.07*	7.73*	7.18*
HybriForce-2400	6.66*	2.19*	1.76*	1.65*	1.29*	0.77	7.65*	7.16*
Mountaineer 2.0	6.70*	1.84	1.75*	1.78*	1.25	0.98*	7.59*	7.14*
NM Common	6.41*	2.15*	1.69*	1.51*	1.47**	1.07*	7.87*	7.14*
4S417	6.85*	2.07*	1.63*	1.59*	1.15	0.84	7.27	7.06*
Velvet	6.67*	1.91	1.77*	1.87*	1.20	0.68	7.42	7.04*
WL 363HQ	6.51*	1.80	1.81*	1.61*	1.43*	0.83	7.47	6.99*
Rugged	6.66*	2.04	1.69*	1.68*	1.23	0.56	7.18	6.92*
AmeriStand 201+Z	6.30*	2.24*	1.78*	1.55*	1.14	0.69	7.39	6.85*
Maxi Graze	6.37*	1.95	1.76*	1.69*	1.31*	0.52	7.24	6.80
6422Q	6.50*	1.84	1.65*	1.60*	1.23	0.79	7.10	6.80
African Common	6.06*	2.05	1.42*	1.84*	1.28*	0.92*	7.50	6.78
HybriForce-2420/wet	6.43*	2.02	1.61*	1.41*	1.17	0.74	6.94	6.68
LegenDairy 5.0	6.36*	1.67	1.70*	1.57*	1.13	0.55	6.62	6.49
63Q105	5.81*	1.62	1.53*	1.53*	1.09	0.53	6.29	6.05
Mean	6.56	1.99	1.71	1.65	1.26	0.83	7.44	7.00
5% LSD	NS	0.30	NS	NS	0.22	0.23	0.76	0.70
CV%	8.43	10.52	11.89	12.13	12.14	19.65	7.22	10.05

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance. 2010 Harvest dates: 19-May, 30-Jun, 3-Aug, 8-Sep, and 29-Oct.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD. NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 7. Dry matter yields (tons/acre) of alfalfa varieties sown September 20, 2007, at NMSU's Agricultural Science Center at Farmington and sprinkler-irrigated three times per week†.

Variety Name	2008	2009	2010	2011 Harvests				2011	4-yr
	Total	Total	Total	8-Jun	14-Jul	17-Aug	13-Oct	Total	Average
Mountaineer 2.0	8.18*	10.32*	11.36*	2.48*	3.04*	2.23*	1.94*	9.69*	9.89**
AmeriStand 444NT	8.24*	10.05*	11.48**	2.43*	2.84*	2.24*	1.96*	9.47*	9.81*
Masterpiece	8.26**	10.38*	11.01*	2.39*	2.77*	2.30*	1.86*	9.32*	9.74*
PGI 459	7.61*	9.51	10.38	2.51*	3.18**	2.51**	1.93*	10.12**	9.40*
54V09	7.82*	10.13*	10.45*	2.58*	2.77*	2.07*	1.74*	9.15*	9.39*
CW500	7.51*	9.97*	10.36	2.68*	2.64*	2.38*	1.79*	9.49*	9.33*
FSG 528SF	7.22*	10.39**	10.42*	2.06*	2.64*	2.30*	1.86*	8.87*	9.22*
Medalist	7.01*	9.13	10.13	3.02**	2.82*	2.38*	1.85*	10.07*	9.08*
AmeriStand 407TQ	7.72*	9.00	10.35	2.56*	2.79*	2.29*	1.52*	9.16*	9.06*
Integra 8400	7.41*	9.41	10.09	2.33*	2.63*	2.24*	2.01**	9.20*	9.03*
Archer II	6.97*	9.54	10.04	2.67*	2.90*	2.33*	1.59*	9.48*	9.00
Grandstand	7.09*	9.21	9.99	2.79*	2.60*	2.25*	1.96*	9.59*	8.97
Legend	6.48*	9.40	10.91*	2.25*	2.80*	2.19*	1.76*	8.99*	8.94
Wilson	6.97*	8.93	10.53*	2.57*	2.58*	2.29*	1.82*	9.26*	8.92
Archer III	7.33*	9.27	10.24	2.21*	2.62*	2.13*	1.71*	8.66*	8.88
A 5225	7.09*	9.49	10.10	2.42*	2.46*	2.24*	1.56*	8.68*	8.84
NM0306	7.52*	9.71	10.30	1.96*	2.25*	1.97*	1.61*	7.78*	8.83
NuMex Bill Melton	6.88*	9.11	9.38	2.72*	2.67*	2.34*	2.01**	9.73*	8.77
African Common	7.28*	9.41	9.18	2.30*	2.56*	2.36*	1.93*	9.16*	8.76
Dona Ana	7.19*	9.26	10.12	2.22*	2.36*	1.96*	1.52*	8.06*	8.65
Ranger	7.19*	9.11	9.78	2.46*	2.57*	1.90*	1.52*	8.43*	8.63
WL 343HQ	6.92*	8.46	9.68	2.45*	2.86*	2.15*	1.66*	9.12*	8.54
NM0313	6.99*	8.77	8.90	2.29*	2.67*	2.18*	1.99*	9.13*	8.45
NM Common	6.52*	8.21	9.24	2.00*	2.02*	2.01*	1.72*	7.75*	7.93
Mean	7.31	9.42	10.18	2.43	2.67	2.22	1.78	9.10	9.00
5% LSD	NS	0.78	1.08	NS	NS	NS	NS	NS	0.89
CV%	12.61	5.90	7.53	16.40	14.13	12.41	15.20	11.00	14.17

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance.

2008 Harvest dates: 12-Jun, 16-Jul, 21-Aug, and 3-Oct.

2009 Harvest dates: 4-Jun, 15-Jul, 20-Aug, and 9-Oct.

2010 Harvest dates: 3-Jun, 13-Jul, 18-Aug, and 13-Oct.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 8. Dry matter yields (tons/acre) of alfalfa varieties sown August 26, 2009, at NMSU's Agricultural Science Center at Farmington†.

Variety Name	2010	Yield (dry tons/acre)				2011	2-yr
	Total	7-Jun	13-Jul	18-Aug	11-Oct	Total	Average
Lahontan	9.76**	3.33**	2.81**	2.42**	1.87	10.42**	10.09‡
Mountaineer 2.0	9.35*	2.88*	2.50*	2.35*	2.03*	9.75*	9.55**
4S417	9.19*	3.00*	2.29	2.32*	1.89*	9.50	9.35*
SW435	8.99	3.05*	2.50*	2.26*	1.84	9.65*	9.32*
Dona Ana	9.15*	2.85	2.68*	2.19*	1.75	9.45	9.30*
LegenDairy 5.0	9.22*	3.16*	2.68*	1.92	1.54	9.30	9.26*
HybriForce-2400	9.40*	3.06*	2.34	2.04	1.57	9.02	9.21*
WL 440HQ	9.09	2.69	2.49	2.19*	1.79	9.16	9.12*
AmeriStand 201+Z	8.59	3.00*	2.38	2.28*	1.80	9.45	9.02
African Common	9.16*	2.59	2.52*	2.16	1.59	8.85	9.00
Dura 843	9.29*	2.49	2.26	2.15	1.78	8.67	8.98
NM Common	8.90	2.59	2.53*	2.14	1.75	9.01	8.96
HybriForce-2420/wet	8.69	3.00*	2.41	2.17*	1.65	9.23	8.96
WL 363HQ	9.14*	2.67	2.49*	1.94	1.54	8.64	8.89
SW6330	8.90	2.29	2.14	2.26*	2.11**	8.79	8.85
63Q105	8.51	2.85	2.60*	2.00	1.69	9.15	8.83
Rugged	8.62	2.85	2.36	2.08	1.63	8.92	8.77
Artesian Sunrise	9.03	2.16	2.03	2.29*	1.94*	8.42	8.72
Malone	8.60	2.43	2.55*	2.06	1.80	8.83	8.72
Velvet	8.62	2.84	2.27	2.18*	1.48	8.76	8.69
Ranger	8.52	2.88	2.21	2.03	1.65	8.76	8.64
Maxi Graze	8.25	3.02	2.38	2.05	1.57	9.02	8.63
Wilson	8.74	2.46	2.27	2.02	1.62	8.36	8.55
6422Q	8.37	2.99	2.51*	1.66	1.44	8.61	8.49
Mean	8.92	2.80	2.42	2.13	1.72	9.07	8.99
5% LSD	0.63	0.46	0.39	0.26	0.23	0.90	0.49
CV%	4.99	11.69	11.31	8.61	9.30	7.02	5.42

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance.

2010 Harvest dates: 4-Jun, 14-Jul, 24-Aug, and 14-Oct.

‡Lahontan had significantly higher yields than all others in this column. Consequently, yields not different from the second highest yielding variety are also shown using asterisks.

**Highest numerical value in the column.

*Not significantly different from the highest numerical value in the column based on the 5% LSD.

NS means that there were no significant differences between the varieties within that column at the 5% level.

Table 10. New Mexico State University Agricultural Experiment Station and Cooperative Extension Service publications related to alfalfa management.

Number	Title
A-114	Test your soil
A-122	Soil test interpretations
A-123	Sampling for plant tissue analysis
A-129	Nitrogen fixation by legumes
A-130	Inoculation of legumes
A-131	Certified seed
A-133	Calculating fertilizer costs
A-134	Selecting synthetic fertilizers in New Mexico
A-137	Soil analysis: A key to soil nutrient management
A-145	Certified noxious weed free program
A-325	Managing weeds in alfalfa
A-326	Downy mildew on alfalfa
A-333	User manual of the alfalfa yield predictor
A-334	Beet armyworm in New Mexico Hay
A-335	Variegated cutworm in New Mexico Hay
BL-796	Perennial cool-season forage legume performance in diverse soil moisture treatments, Southern High Plains, USA
CR-585	Species selection and establishment for irrigated pastures in New Mexico
CR-586	Grazing systems and management for irrigated pastures in New Mexico
CR-633	Using a computer application to predict irrigated alfalfa yield
CR-641	Hay quality, sampling and testing
CR-642	Silage microbial inoculants: Use in hot weather conditions
CR-644	Assessing alfalfa stands after winter injury, freeze damage, or any time renovation is considered in New Mexico
CR-646	Managing alfalfa during drought
CR-654	Selecting alfalfa varieties for New Mexico
RR-766	Furrow-irrigated alfalfa dry matter yield is not affected by different seeding rates in the Southern High Plains, USA

These publications, and alfalfa variety test reports from previous years, are available from your county office of the NMSU Cooperative Extension Service or online at <http://forages.nmsu.edu/resources.html> and aces.nmsu.edu/pubs/