



The 2016 New Mexico Alfalfa Variety Test Report



Agricultural Experiment Station
College of Agricultural, Consumer
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Introduction

In 2016, 190,000 acres of alfalfa (*Medicago sativa*) were in production in New Mexico, which was unchanged from 2015 despite 25,000 acres being planted. Hay yields were estimated at 931,000 tons reflecting a 4% increase in yield. At a January through November 2016 average of \$170/ton (down from \$211/ton in 2015), estimated gross returns from alfalfa hay produced in 2016 will total just over \$158 million. This is well below the \$188 million received in 2015, but alfalfa hay continues 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 0.59 to 3.05 tons per acre in 2016. If sold as hay, this translates to a potential difference in returns of \$100 to \$518 per acre due to variety, or an increase of at least \$19 million for the industry in 2016 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 (2014 normal, drought, and early termination irrigation studies),

Artesia [2013, and 2014 (late spring planted)], Tucumcari (2015 irrigated with treated municipal wastewater), Los Lunas (2013), Mora (2013), and Farmington (2014). Weather data for 2016 and the long-term averages from all locations are presented in table 1.

Yield data (on a dry matter basis) are presented in tables 2-10. Varieties are listed in order from highest to lowest average annual production. Yields are given by cutting for 2016 and by year for each production year. Statistical analyses were performed on all alfalfa yield data (including experimental entries) 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 to 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 11 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.

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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 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 yields that can be baled during the rest period; however, these can still be grazed. For further information about alfalfa management, refer to the other NMSU Agricultural Experiment Station and Cooperative Extension Service publications listed in table 12.

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Table 1. Temperature and precipitation data for 2016 and the long-term averages for the New Mexico Alfalfa Variety Test locations.

Location Elevation Latitude	Las Cruces 3832 ft. 32° 12' N				Artesia 3366 ft. 32° 45' N				Tucumcari 4091 ft. 35° 12' N				Los Lunas 4840 ft. 34° 46' N				Mora ¹ 7303 ft. 35° 58' N				Farmington 5640 ft. 36° 41' N			
	Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)		Temp. (°F)		Precip. (in.)					
Month	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.	2016	Avg.				
Nov-15	49	49	0.64	0.53	49	49	0.35	0.53	63	47	1.23	0.71	44	43	0.24	0.46	-	42	0.00	0.21	41	41	0.89	0.65
Dec-15	40	41	0.82	0.68	41	41	0.50	0.51	42	39	2.85	0.67	35	35	0.94	0.53	-	32	1.06	0.48	30	31	0.65	0.47
Jan-16	41	40	0.33	0.56	38	40	0.00	0.39	38	38	0.01	0.42	34	35	0.19	0.38	-	33	2.10	0.11	29	30	0.46	0.51
Feb-16	48	45	0.08	0.37	47	45	0.31	0.42	47	42	0.94	0.49	42	40	0.05	0.41	-	33	0.70	0.30	38	36	0.34	0.48
Mar-16	58	52	0.00	0.22	55	52	0.00	0.43	53	49	0.08	0.76	51	47	0.00	0.49	-	43	0.00	0.29	46	43	0.01	0.64
Apr-16	62	60	0.35	0.21	61	60	0.53	0.62	57	58	0.67	1.14	54	55	0.61	0.45	-	49	2.55	0.31	51	51	0.80	0.58
May-16	68	69	0.14	0.29	67	69	0.98	1.20	66	66	1.30	1.94	62	63	0.50	0.45	-	60	1.26	0.54	59	60	0.93	0.53
Jun-16	80	78	0.27	0.72	79	78	1.02	1.40	78	76	3.28	1.98	77	72	0.75	0.54	-	67	3.39	1.33	76	70	0.00	0.26
Jul-16	84	80	0.21	1.36	85	80	0.43	1.76	84	79	1.11	2.75	80	77	0.75	1.39	-	69	1.56	3.34	76	76	0.36	0.81
Aug-16	77	78	2.08	2.29	78	78	4.17	1.67	77	77	2.33	2.78	73	75	0.50	1.67	-	68	5.37	2.19	72	74	1.37	1.05
Sep-16	72	71	2.11	1.38	72	71	5.93	1.81	73	71	0.41	1.62	68	67	0.68	1.17	-	62	2.40	1.81	65	66	1.05	1.10
Oct-16	64	61	0.01	0.91	65	61	1.42	1.16	66	60	0.00	1.31	60	56	0.70	1.05	-	51	0.00	0.64	58	54	0.28	0.97
Annual	62	60	7.04	9.52	61	60	15.64	11.90	62	58	14.21	16.57	57	55	5.91	8.99	-	51	20.39	11.55	53	53	7.14	8.05

¹Temperature data from Mora was not available due to technical difficulties with the automated station. December 2015 through February 2016 precipitation is 10% of measured snowfall.

Table 2. Dry matter yields (tons/acre) of alfalfa varieties sown October 7, 2014, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated twice per cutting to apply 56.95 inches (normal irrigation)†.

Variety Name	2015 Total	2016 Harvests						2016 Total	2-Yr Average
		27-Apr	1-Jun	28-Jun	28-Jul	14-Sep	26-Oct		
AmeriStand 803T	10.07**	2.05*	1.27**	1.06*	0.97*	1.80*	1.07**	8.22**	9.09**
NM14BMHS1	9.93*	2.16**	1.09	0.90	0.77	1.86**	1.02*	7.80*	8.92*
NM14BMC0	9.85*	2.07*	1.03	0.86	0.79	1.79*	1.05*	7.59*	8.71*
NM14MALHS3	9.85*	2.14*	0.99	0.86	0.76	1.77*	0.99*	7.49*	8.62*
NM14GTAF07235	9.42*	2.00*	1.18*	0.97*	0.84*	1.67*	0.98*	7.71*	8.58*
WL 656HQ	8.98	1.81	1.21*	1.08**	0.99**	1.80*	1.07**	8.01*	8.55*
NM14BMHS3	9.42*	2.12*	1.01	0.83	0.75	1.71*	0.96*	7.37*	8.46*
FSG903	9.33*	1.97*	1.16*	0.97*	0.86*	1.74*	1.01*	7.67*	8.45*
4N900	9.00	1.73	1.17*	1.02*	0.91*	1.81*	1.02*	7.65*	8.30
Cisco II	9.42*	1.93*	0.99	0.81	0.72	1.58	0.86	6.90*	8.15
NM14MLLS2	8.85	2.03*	0.98	0.85	0.81	1.85*	0.98*	7.43*	8.14
NM14ALWLHQ	9.06	1.80	1.07	0.92	0.78	1.58	0.94	7.18*	8.11
NM1407227	8.75	2.06*	1.00	0.90	0.80	1.70*	0.85	7.39*	8.09
NM14BMHR2	9.15	2.03*	0.95	0.82	0.71	1.74*	0.92	7.05*	8.07
AFX149092	8.80	1.81	1.11	0.94*	0.81	1.59	0.94	7.19*	8.03
WL 440HQ	8.99	1.99*	1.00	0.84	0.70	1.53	0.85	6.97*	8.02
NuMex Bill Melton	8.53	1.90*	1.09	0.98*	0.86*	1.78*	0.96*	7.46*	7.99
Malone	8.65	1.63	1.15*	1.00*	0.93*	1.67*	0.93	7.28*	7.97
NM14BM1008251	8.71	1.83	1.02	0.92	0.82	1.70*	0.96*	7.20*	7.93
Hi-Gest 660	8.88	1.87	1.08	0.92	0.77	1.48	0.85	6.98*	7.89
AFX148091	8.60	1.81	1.08	0.89	0.75	1.55	0.88	6.92*	7.79
Sandpiper	8.52	1.86	0.92	0.82	0.76	1.65*	0.95*	7.01*	7.77
Wilson	8.88	1.61	1.02	0.87	0.74	1.50	0.87	6.68*	7.73
57Q53	7.90	1.76	0.98	0.81	0.69	1.46	0.84	6.56*	7.26
Mean	9.06	1.92	1.07	0.91	0.80	1.68	0.95	7.32	8.19
LSD (0.05)	0.81	0.27	0.15	0.16	0.16	0.24	0.13	NS	0.76
CV%	6.08	9.87	10.26	12.12	13.99	9.98	9.65	8.82	9.33

†Data were analyzed using analysis of covariance where check plots of NuMex Bill Melton were used as the covariate.

2015 Harvest dates: 28-Apr, 12-Jun, 16-Jul, 12-Aug, 9-Sep, and 6-Nov.

**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 7, 2014, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated once per cutting to apply 30.87 inches (drought irrigation)†.

Variety Name	2015	2016 Harvests						2016	2-Yr
	Total	27-Apr	27-May	30-Jun	27-Jul	13-Sep	21-Oct	Total	Average
NM14BMHS1	7.29*	1.19**	0.46	0.32	0.19	0.65*	0.70*	3.51*	5.43**
AmeriStand 803T	7.07*	1.06	0.66**	0.44*	0.25*	0.66*	0.83*	3.83*	5.39*
NM14BMHS3	7.44**	1.17*	0.51	0.35	0.18	0.52*	0.58*	3.32*	5.34*
FSG903	6.69*	1.05	0.61*	0.43*	0.25*	0.73**	0.78*	3.84**	5.31*
NM14BM1008251	6.95*	1.02	0.56	0.38*	0.24*	0.60*	0.73*	3.52*	5.21*
Wilson	6.45*	1.01	0.57*	0.39*	0.28*	0.73**	0.80*	3.75*	5.20*
AFX149092	6.80*	0.98	0.61*	0.39*	0.20	0.57*	0.68*	3.40*	5.20*
NM14MALHS3	6.67*	1.18*	0.43	0.33	0.22	0.65*	0.67*	3.50*	5.11*
4N900	6.78*	0.97	0.64*	0.41*	0.25*	0.57*	0.70*	3.56*	5.09*
NuMex Bill Melton	6.27*	1.00	0.53	0.46**	0.30**	0.69*	0.83*	3.79*	5.03*
NM1407227	6.85*	1.06	0.45	0.32	0.18	0.60*	0.66*	3.28*	5.02*
NM14GTAF07235	6.44*	0.95	0.62*	0.41*	0.24*	0.57*	0.69*	3.50*	4.91*
WL 656HQ	5.86	0.98	0.60*	0.44*	0.24*	0.62*	0.84**	3.73*	4.83*
NM14ALWLHQ	6.31*	1.03	0.51	0.39*	0.21	0.54*	0.63*	3.33*	4.83*
NM14BMC0	6.39*	1.07	0.49	0.33	0.21	0.57*	0.72*	3.40*	4.82*
NM14BMHR2	6.07	1.11*	0.43	0.29	0.20	0.68*	0.68*	3.41*	4.77*
Malone	5.77	0.84	0.61*	0.44*	0.30**	0.63*	0.80*	3.64*	4.75*
AFX148091	5.50	0.87	0.60*	0.39*	0.23*	0.61*	0.72*	3.43*	4.46
NM14MLLS2	5.83	1.05	0.38	0.31	0.18	0.47*	0.61*	2.97	4.44
57Q53	5.95	0.95	0.47	0.32	0.17	0.45*	0.57*	2.94	4.44
Hi-Gest 660	5.69	0.80	0.47	0.35	0.23*	0.51*	0.61*	2.99	4.35
Sandpiper	5.64	0.92	0.40	0.25	0.18	0.56*	0.61*	2.94	4.30
Cisco II	5.72	0.94	0.36	0.31	0.16	0.41*	0.55*	2.75	4.16
WL 440HQ	5.32	0.85	0.36	0.27	0.17	0.50*	0.57*	2.71	3.99
Mean	6.32	1.00	0.51	0.36	0.22	0.59	0.69	3.38	4.85
LSD (0.05)	1.29	0.12	0.11	0.11	0.08	NS	NS	0.65	0.82
CV%	13.93	8.19	14.67	21.10	24.81	26.33	20.78	13.54	16.95

†Data were analyzed using analysis of covariance where check plots of NuMex Bill Melton were used as the covariate.
2015 Harvest dates: 30-Apr, 6-Jun, 7-Jul, 13-Aug, 10-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 4. Dry matter yields (tons/acre) of alfalfa varieties sown October 7, 2014, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated twice per cutting from March 31 until July 1 to apply 33.01 inches, after which irrigation was terminated (irrigation termination)†.

Variety Name	2015	2016 Harvests			2016	2-Yr
	Total	28-Apr	2-Jun	29-Jun	Total	Average
NM14BMHS1	7.15**	1.96*	0.95*	0.84*	3.76**	5.40**
NM14BMC0	7.08*	1.93*	0.87*	0.80*	3.59*	5.35*
NM14BMHR2	6.96*	2.01**	0.90*	0.81*	3.73*	5.35*
NM14MALHS3	6.89*	1.91*	0.90*	0.79*	3.60*	5.25*
AmeriStand 803T	6.63	1.56	1.04*	1.02*	3.61*	5.16*
NM14MLLS2	6.80*	1.81	0.87*	0.80*	3.47*	5.16*
NM1407227	6.69*	1.87*	0.88*	0.82*	3.56*	5.15*
NM14BMHS3	6.79*	1.81	0.91*	0.82*	3.55*	5.12*
NM14BM1008251	6.60	1.76	0.97*	0.91*	3.64*	5.12*
NM14ALWLHQ	6.65	1.64	0.93*	0.86*	3.42*	5.03*
AFX148091	6.45	1.54	0.96*	1.00*	3.49*	5.01*
AFX149092	6.47	1.57	0.95*	0.87*	3.37*	4.96
FSG903	6.61	1.62	0.90*	0.80*	3.33*	4.95
4N900	6.48	1.60	0.96*	0.86*	3.42*	4.94
NM14GTAF07235	6.18	1.65	1.05**	1.03*	3.74*	4.94
Cisco II	6.39	1.74	0.88*	0.86*	3.48*	4.92
NuMex Bill Melton	6.30	1.69	0.92*	0.89*	3.51*	4.89
Sandpiper	6.27	1.77	0.90*	0.86*	3.54*	4.88
Hi-Gest 660	6.45	1.57	0.86*	0.83*	3.25*	4.86
Wilson	6.16	1.67	0.96*	0.88*	3.50*	4.84
WL 656HQ	6.23	1.49	0.89*	0.84*	3.21*	4.74
WL 440HQ	6.18	1.61	0.81*	0.75*	3.17*	4.67
57Q53	6.02	1.56	0.84*	0.81*	3.21*	4.61
Malone	5.63	1.51	1.04*	1.06**	3.62*	4.60
Mean	6.50	1.70	0.92	0.87	3.49	5.00
LSD (0.05)	0.49	0.18	NS	NS	NS	0.43
CV%	5.66	7.44	12.40	15.45	9.62	8.58

†Data were analyzed using analysis of covariance where check plots of NuMex Bill Melton were used as the covariate.

2015 Harvest dates: 30-Apr, 12-Jun, 17-Jul, and 12-Aug.

**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 sprinkler-irrigated alfalfa varieties sown September 23, 2013, at NMSU's Agricultural Science Center at Artesia†.

Variety Name	2014 Total	2015 Total	2016 Harvests					2016 Total	3-Yr Average	
			12-May	20-Jun	12-Jul	8-Aug	28-Sep			22-Nov
NM Common	8.50*	9.83*	1.87	2.44*	1.67*	2.36*	1.85*	0.69*	10.87*	9.73**
African Common	8.20*	9.22*	1.92	2.46**	1.91**	2.40*	1.88**	0.68*	11.26**	9.56*
Malone	8.00*	10.08**	1.74	2.23*	1.41	2.28*	1.85*	0.79**	10.29*	9.45*
56S82	8.63**	9.00*	2.18*	2.31*	0.89	2.09*	1.81*	0.36	9.63	9.09*
WL 535HQ	8.12*	9.41*	1.88	2.43*	1.06	2.18*	1.70*	0.37	9.62	9.05*
Wilson	8.02*	9.24*	2.29**	2.05*	1.37	2.17*	1.50*	0.44	9.81	9.02*
Zia	7.94*	9.29*	1.61	1.92*	1.37	2.45**	1.81*	0.53*	9.69	8.97
58N57	7.64	9.53*	1.88	2.06*	1.29	2.23*	1.71*	0.45	9.61	8.93
Dona Ana	7.99*	9.76*	1.62	1.66	1.09	2.14*	1.67*	0.53*	8.70	8.82
Artesian Sunrise	8.54*	8.87*	1.63	2.19*	0.97	2.15*	1.71*	0.23	8.88	8.76
55Q27	7.54	9.27*	1.81	1.90*	1.14	2.31*	1.73*	0.25	9.13	8.65
DG9212	7.93*	8.94*	1.46	1.44	1.08	2.19*	1.82*	0.67*	8.67	8.51
55VR05	6.88	8.45*	1.50	2.08	0.83	2.01*	1.71*	0.08	8.21	7.84
Mean	7.99	9.30	1.80	2.09	1.24	2.23	1.75	0.47	9.57	8.95
LSD (0.05)	0.82	NS	0.32	0.59	0.48	NS	NS	0.27	1.35	0.75
CV%	7.17	7.86	12.49	19.61	27.02	11.60	14.69	40.47	9.85	10.15

†Data were analyzed using analysis of variance.

2014 Harvest dates: 20-May, 18-Jul, 20-Aug, and 2-Oct.

2015 Harvest dates: 8-May, 19-Jun, 17-Jul, 20-Aug, and 29-Sep.

**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 sprinkler-irrigated alfalfa varieties sown March 31, 2014, at NMSU's Agricultural Science Center at Artesia†.

Variety Name	2014 Total	2015 Total	2016 Harvests					2016 Total	3-Yr Average
			8-Jun	11-Jul	8-Aug	30-Sep	28-Nov		
58N57	4.42*	7.57*	1.86*	1.97**	1.29*	2.15**	2.15**	9.41**	7.13**
Malone	4.28*	7.97*	1.76*	1.78*	1.32*	2.07*	2.07*	9.00*	7.08*
Wilson	4.30*	7.84*	1.81*	1.90*	1.34*	2.02*	2.02*	9.10*	7.08*
NuMex Bill Melton	4.06*	8.03*	2.12*	1.87*	1.39*	1.78*	1.78*	8.93*	7.01*
56S82	4.15*	8.37**	1.75*	1.74*	1.29*	1.85*	1.85*	8.49*	7.00*
NM Common	4.36*	8.13*	1.96*	1.71*	1.25*	1.78*	1.78*	8.47*	6.99*
SW 8357	4.09*	8.00*	1.84*	1.81*	1.17	1.95*	1.95*	8.71*	6.93*
SW 7410	4.18*	7.69*	2.12*	1.94*	1.47**	1.65*	1.65*	8.82*	6.89*
Artesian Sunrise	4.16*	7.56*	2.40**	1.60*	1.20	1.79*	1.79*	8.77*	6.83*
SW 8421S	3.82*	8.09*	1.86*	1.43*	1.11	2.05*	2.05*	8.49*	6.80*
WL 535HQ	4.08*	7.51*	2.11*	1.69*	1.25*	1.87*	1.87*	8.79*	6.79*
DG9212	4.45*	7.66*	1.97*	1.68*	1.01	1.88*	1.67*	8.21*	6.77*
SW 8208	4.49**	7.50*	1.80*	1.73*	1.08	1.82*	1.82*	8.24*	6.74*
Zia	4.32*	7.37*	1.64*	1.58*	1.37*	1.98*	1.98*	8.54*	6.74*
African Common	4.28*	7.18*	1.83*	1.69*	1.28*	1.89*	1.89*	8.57*	6.68*
Dona Ana	3.98*	7.41*	1.80*	1.68*	1.01	1.94*	1.94*	8.37*	6.59*
55VR05	3.68*	7.00*	1.92*	1.78*	1.17	1.53*	1.53*	7.93*	6.20*
Mean	4.18	7.70	1.91	1.74	1.23	1.88	1.87	8.64	6.84
LSD (0.05)	NS	NS	NS	NS	0.27	NS	NS	NS	NS
CV%	9.91	9.50	20.66	16.76	15.45	12.31	14.39	7.57	9.74

†Data were analyzed using analysis of variance.

2014 Harvest dates: 24-Jun, 2-Sep, and 3-Oct.

2015 Harvest dates: 26-May, 13-Jul, 12-Aug, and 30-Sep.

**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 May 12, 2015, at NMSU's Agricultural Science Center at Tucumcari and sprinkler-irrigated twice per week with treated municipal wastewater†.

Variety Name	2016 Harvests					2016 Total
	24-May	22-Jun	9-Aug	13-Sep	8-Nov	
NuMex Bill Melton	1.25*	0.60**	1.04*	1.10**	0.63**	4.62**
6829R	1.16*	0.57*	1.07**	1.00*	0.60*	4.38*
NM14BMHS1	1.31*	0.50*	0.84*	1.01*	0.54*	4.19*
NM14BMHR2	1.38**	0.50*	0.80*	0.99*	0.49	4.17*
NM14BMC0	1.28*	0.47*	0.84*	0.95	0.46	3.99*
Mallard 5	1.38**	0.45*	0.82*	0.88	0.46	3.98*
NM14BM1008251	1.04	0.52*	0.93*	0.93	0.53*	3.94*
Malone	0.87	0.60**	0.94*	0.92	0.44	3.77
NM14MALHS3	1.11	0.42*	0.74*	0.90	0.53*	3.69
African Common	0.86	0.44*	0.93*	0.95	0.47	3.65
NM14MLLS2	1.16	0.38*	0.79*	0.89	0.43	3.65
NM Common	0.87	0.49*	0.89*	0.87	0.41	3.52
ICON	0.88	0.37*	0.86*	0.82	0.41	3.33
SW 5909	0.89	0.43*	0.77*	0.86	0.34	3.27
SW 5213	0.80	0.45*	0.77*	0.91	0.34	3.27
Zia	0.74	0.45*	0.83*	0.83	0.39	3.23
Red Falcon BR	0.99	0.41*	0.74*	0.78	0.27	3.19
SW 4113	0.85	0.40*	0.73*	0.81	0.31	3.10
Roadrunner	0.98	0.34*	0.72*	0.71	0.28	3.03
Mean	1.04	0.46	0.84	0.90	0.44	3.68
LSD (0.05)	0.27	NS	NS	0.15	0.13	0.72
CV%	18.26	25.38	19.81	11.97	20.99	13.85

†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 8. Dry matter yields (tons/acre) of flood-irrigated alfalfa varieties sown September 30, 2013, at NMSU's Agricultural Science Center at Los Lunas†.

Variety Name	2014 Total	2015 Total	2016 Harvests				2016 Total	3-Yr Average
			7-Jun	18-Jul	17-Aug	16-Nov		
NuMex Bill Melton	8.33***	8.57*	1.95	2.70*	1.98*	1.37*	8.00**	8.30***
WL 454HQ.RR	7.28*	8.59**	1.86	2.68*	1.90*	1.32*	7.75*	7.87**
Artesian Sunrise	7.65**	7.93*	1.97	2.68*	1.85	1.40**	7.90*	7.83*
Meadowlark	7.13	7.98*	2.00*	2.62*	1.71	1.12	7.45*	7.52*
Cimarron VL600	7.10	7.52	2.18**	2.65*	1.71	1.35*	7.89*	7.50*
Wilson	7.53*	7.57	1.74	2.57*	1.81	1.16	7.27	7.45
Transition 6.10RR	7.29*	7.71	1.78	2.60*	1.75	1.22	7.35	7.45
Malone	7.19*	7.73	1.68	2.62*	2.02*	1.10	7.41	7.44
Dona Ana	7.15	7.73	1.68	2.56*	1.86	1.21	7.30	7.39
Roadrunner	6.79	7.47	2.13*	2.72**	1.82	1.25*	7.91*	7.39
PGI 424	7.13	7.31	2.04*	2.50*	1.89*	1.27*	7.69*	7.38
WL 440HQ	6.87	7.68	1.81	2.52*	1.89*	1.24*	7.45*	7.33
NM Common	7.13	7.16	1.71	2.58*	2.06**	1.14	7.49*	7.26
HybriForce-2400	7.23*	6.80	1.93	2.66*	1.75	1.20	7.53*	7.19
55Q27	6.84	7.34	1.84	2.61*	1.82	1.10	7.36	7.18
Mallard 5	6.44	7.44	1.95	2.61*	1.80	1.26*	7.61*	7.16
Archer III	6.45	7.33	1.89	2.46*	1.68	1.16	7.19	6.99
PGI 557	6.57	7.21	1.77	2.42	1.65	1.21	7.05	6.94
Bluejay HR	6.63	6.83	1.92	2.47*	1.54	1.22	7.14	6.87
DG4210	6.27	7.16	1.84	2.47*	1.74	1.12	7.17	6.87
55VR05	6.06	6.75	1.72	2.19	1.73	0.96	6.59	6.47
Bluejay 2	5.67	6.93	1.78	2.17	1.46	1.14	6.54	6.38
Mean	6.94	7.49	1.87	2.55	1.79	1.20	7.41	7.28
LSD (0.05)	0.50	0.78	0.20	0.29	0.19	0.18	0.56	0.39
CV%	5.06	7.38	7.64	7.94	7.62	10.41	5.34	6.49

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

2014 Harvest dates: 28-May, 30-Jun, 18-Aug, and 4-Nov.

2015 Harvest dates: 17-Jun, 23-Jul, 21-Aug, 12-Oct, and 12-Nov.

***Highest numerical value in the column; significantly higher than all other varieties.

Second highest numerical value in the column where * is shown.

*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 9. Dry matter yields (tons/acre) of sprinkler-irrigated alfalfa varieties sown August 28, 2013, at NMSU's John T. Harrington Forestry Research Center at Mora†.

Variety Name	2014 Total	2015 Total	2016 Harvests			2016 Total	3-Yr Average
			24-Jun	11-Aug	12-Oct		
SS 120	3.77*	2.43*	1.29*	0.94**	0.44**	2.67*	2.96**
DG4210	3.30*	2.65*	1.53**	0.87*	0.42*	2.82**	2.92*
55VR05	3.49*	2.63*	1.43*	0.76*	0.36*	2.56*	2.89*
WL 319HQ	3.16*	2.66*	1.52*	0.75*	0.32	2.59*	2.81*
Dona Ana	4.06**	2.36*	0.94	0.58	0.27	1.79	2.73*
55Q27	2.72*	2.69*	1.51*	0.91*	0.31	2.72*	2.71*
WL 354HQ	3.32*	2.65*	1.30*	0.59	0.23	2.12	2.70*
Wilson	3.00*	2.44*	1.40*	0.87*	0.39*	2.66*	2.70*
FG27C102	3.28*	2.48*	1.11	0.67	0.36*	2.14	2.63*
Ladak	2.45*	2.80**	1.48*	0.86*	0.29	2.63*	2.63*
Spredor 5	2.77*	2.44*	1.29*	0.66	0.21	2.16	2.46*
Ranger	2.65*	2.47*	0.94	0.54	0.30	1.77	2.30*
Mean	3.16	2.56	1.31	0.75	0.32	2.39	2.70
LSD (0.05)	NS	NS	0.35	0.25	0.12	0.63	NS
CV%	24.25	16.65	18.49	23.35	25.05	18.38	28.10

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

2014 Harvest dates: 22-Jul, 2-Sep, and 14-Oct.

2015 Harvest dates: 22-Jun, 14-Aug, and 5-Nov.

**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. Dry matter yields (tons/acre) of sprinkler-irrigated alfalfa varieties sown August 21, 2014, at NMSU's Agricultural Science Center at Farmington†.

Variety Name	2015	2016 Harvests				2016	2-Yr
	Total	2-Jun	11-Jul	17-Aug	5-Oct	Total	Average
Raven	10.48*	3.20*	2.89*	2.50*	1.54*	10.13*	10.31**
Mallard 5	10.50*	3.13*	2.98*	2.54*	1.44*	10.07*	10.29*
Ranger	10.23*	3.42**	2.97*	2.39*	1.54*	10.31*	10.27*
MagnaGraze II	9.87*	3.40*	2.95*	2.51*	1.64**	10.50**	10.18*
Arrowhead II	10.18*	3.06*	2.97*	2.71**	1.42	10.15*	10.16*
Lahonton	10.32*	2.85	2.84*	2.58*	1.59*	9.86*	10.09*
Roadrunner	10.77**	2.99*	2.57	2.31*	1.44*	9.30	10.03*
4S417	10.04*	2.94	3.00**	2.54*	1.45*	9.92*	9.98*
WL 363HQ	9.90*	3.12*	2.94*	2.52*	1.40	9.98*	9.94*
Archer III	10.48*	2.71	2.97*	2.41*	1.25	9.34	9.91*
Mountaineer 2.0	9.81*	2.82	2.96*	2.24*	1.60*	9.61*	9.71*
GrandStand	9.52	3.25*	2.95*	2.31*	1.39	9.90*	9.71*
PGI 424	10.04*	2.86	2.87*	2.29*	1.36	9.37	9.70*
Hi-Gest 360	9.87*	3.06*	2.75*	2.19*	1.54*	9.54*	9.70*
NM Common	9.90*	3.13*	2.46	2.21*	1.56*	9.35	9.62*
WL 354HQ	9.86*	3.03*	2.71*	2.27*	1.18	9.19	9.53*
Gunner	9.61	2.82	2.75*	2.26*	1.36	9.18	9.39
Dona Ana	9.52	2.97*	2.61	2.15*	1.49*	9.22	9.37
54VR03	9.64	2.46	2.64*	2.37*	1.29	8.75	9.20
Wilson	9.33	2.57	2.39	2.30*	1.57*	8.82	9.07
Malone	8.87	2.63	2.28	2.32*	1.48*	8.71	8.79
Zia	8.87	2.19	2.17	2.23*	1.54*	8.12	8.49
Mean	9.89	2.94	2.75	2.37	1.46	9.51	9.70
LSD (0.05)	1.06	0.48	0.38	NS	0.22	0.98	0.81
CV%	7.55	11.67	9.78	13.78	10.55	7.26	8.36

†Data were detrended using nearest neighbor analysis, and analyzed using analysis of variance. 2015 Harvest dates: 2-Jun, 6-Jul, 17-Aug, and 9-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 11. Characteristics and performance of alfalfa varieties across years and tests in New Mexico.		Varietal Characteristics ¹											Las Cruces						Artesia			Tucumcari	Los Lunas			Mora			Farmington							
													2014 ²						2013			2014			2015	2013			2013			2014				
		Variety	Proprietor	RR	FD	WS	Pest resistance								N ³		D		ET		2013			2014			2015	2013			2013			2014		
BW	FW						AN	PRR	SAA	PA	BAA	SN	RKN	15 ⁴	16	15	16	15	16	14	15	16	14	15	16	16	14	15	16	14	15	16	15	16		
Arrowhead II	Alforex Seeds		2	2	HR	HR	HR	HR	n/r	R	n/r	HR	n/r																						*	*
FG 27C102	Forage Genetics Int.		2	1	HR	HR	HR	h	n/r	R	n/r	n/r	n/r																					*	*	
Spreader 5	Nexgrow Alfalfa		2	1	HR	HR	HR	n/r	R	n/r	n/r	n/r	n/r																				*	*		
Hi-Gest 360	Alforex Seeds		3	n/r	HR	HR	HR	HR	n/r	n/r	R	n/r	n/r																				*	*		
Ladak	USDA		3	n/r	R	n/r	n/r	n/r	n/r	n/r	n/r	R	n/r																			*	**	*		
MagnaGraze II	Sharp Brothers		3	2	HR	HR	HR	n/r	R	n/r	n/r	R	n/r																			*	*			
Ranger	USDA/Univ. of Nebraska		3	n/r	R	n/r	n/r	n/r	R	n/r	n/r	R	n/r																			*	*			
SS120	Seed Solutions		3	3	HR	R	R	R	R	R	R	n/r	n/r																			*	*			
WL 319HQ	W-L Research		3	1	HR	HR	HR	HR	R	n/r	HR	n/r	n/r																			*	*			
4S417	Mycogen Seeds		4	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r																			*	*			
54VR03	Pioneer HiBred Int'l	Y	4	n/r	HR	HR	HR	HR	n/r	HR	n/r	n/r	n/r																							
Bluejay 2	Blue River Hybrids		4	2	HR	HR	HR	HR	R	HR	n/r	n/r	n/r																							
Bluejay HR	Blue River Hybrids		4	2	HR	HR	HR	HR	R	HR	n/r	R	n/r																							
DG4210	Crop Production Services		4	1	HR	HR	HR	HR	HR	R	n/r	R	n/r																			*	*	**		
GrandStand	Crop Production Services		4	2	HR	HR	HR	HR	R	HR	n/r	MR	n/r																					*		
HybriForce-2400	Sharp Brothers		4	2	HR	HR	HR	HR	n/r	n/r	n/r	HR	R												*		*									
Meadowlark	Blue River Hybrids		4	2	HR	HR	HR	HR	R	HR	n/r	R	n/r														*	*								
PGI 424	Alforex Seeds		4	2	HR	HR	HR	HR	R	R	n/r	R	n/r														*					*	*			
Raven	Blue River Hybrids		4	2	HR	R	R	R	R	HR	R	R	n/r																			*	*			
Red Falcon BR	Blue River Hybrids		4	2	HR	HR	HR	HR	n/r	n/r	n/r	R	n/r																							
Roadrunner	Blue River Hybrids		4	2	HR	HR	HR	HR	HR	LR	n/r	R	n/r														*				**	**				
SW 4113	S & W Seeds		4	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r														*	*								
WL 354HQ	W-L Research		4	1	HR	HR	HR	HR	HR	HR	n/r	R	n/r																		*	*				
55Q27	Pioneer HiBred Int'l		5	n/r	HR	HR	HR	HR	R	R	n/r	HR	n/r				*											*	*	*						
55VR05	Pioneer HiBred Int'l	Y	5	n/r	HR	HR	HR	HR	n/r	n/r	n/r	HR	n/r				*		*	*	*							*	*	*						
Archer III	America's Alfalfa		5	2	HR	HR	HR	HR	n/r	HR	n/r	HR	HR																		*	*				
Gunner	Croplan Genetics		5	1	HR	HR	HR	HR	HR	R	n/r	R	n/r																							
Mallard 5	Blue River Hybrids		5	2	HR	HR	HR	HR	R	HR	n/r	R	n/r													*		*			*	*				

¹RR=Roundup Ready if "Y"; WS=Winter Survival (1=No injury, 6=Dead plants), FD=Fall Dormancy (1 & 2 Very dormant; 3 & 4 Dormant; 5 Moderately dormant; 6 & 7 Semi-dormant; 8 & 9 Non-dormant; 10 & 11 Very non-dormant), BW=Bacterial wilt, PRR=Phytophthora root rot, FW=Fusarium wilt, AN=Anthracnose, SAA=Spotted alfalfa aphid, PA=Pea aphid, BAA=Blue alfalfa aphid, SN=Stem nematode, RKN=Rootknot nematode (southern); (S=Susceptible, LR=Low resistance, MR=Moderate resistance, R=Resistant, HR=High resistance, n/r indicates either that the variety was not rated for that characteristic or no rating was available).

²Establishment year.

³N, D, and ET signify normal irrigation, drought irrigation, and early termination irrigation, respectively.

⁴Harvest year.

Shaded boxes indicate that the variety was not in the test.

***Significantly higher than all other values in the column.

**Highest yielding variety in the test for that year, except for Los Lunas 2013 test when it is the second highest yielding variety.

*Not significantly different from the highest yielding variety in the test for that year, except for Los Lunas 2013 test in 2014 when it is not significantly different from the second highest yielding variety.

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Table 11 (cont.). Characteristics and performance of alfalfa varieties across years and tests in New Mexico.		Varietal Characteristics ¹											Las Cruces						Artesia			Tucumcari	Los Lunas	Mora	Farmington											
													2014 ²						2013			2014			2015	2013			2013		2014					
		RR	FD	WS	Pest resistance									N ³		D		ET		2013			2014			16	2013			2013		2014				
Variety	Proprietor				BW	FW	AN	PRR	SAA	PA	BAA	SN	RKN	15 ⁴	16	15	16	15	16	14	15	16	14	15	16	16	14	15	16	14	15	16	15	16		
Mountaineer 2.0	Croplan Genetics		5	2	HR	HR	HR	HR	R	HR	n/r	HR	R																				*	*		
PGI 557	Alforex Seeds		5	2	HR	HR	HR	HR	n/r	R	R	HR	n/r																							
SW 5213	S & W Seeds		5	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r										*	*												
SW 5909	S & W Seeds		5	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r										*	*												
WL 363HQ	W-L Research		5	2	HR	HR	HR	HR	R	R	MR	MR	MR																				*	*		
Zia	NMSU/Roswell Seed		5	n/r	MR	MR	S	S	MR	S	S	MR	n/r							*	*		*	*	*											
56S82	Pioneer HiBred Int'l		6	5	HR	HR	HR	HR	HR	HR	HR	HR	HR							**	*		*	**	*											
Cimarron VL600	Cimarron USA		6	n/r	R	R	R	HR	HR	HR	R	R	n/r																			*				
Cisco II	Alforex Seeds		6	2	HR	HR	HR	R	n/r	HR	n/r	R	R	*	*					*																
Hi-Gest 660	Alforex Seeds		6	n/r	R	HR	HR	R	n/r	n/r	R	n/r	n/r			*				*																
ICON	S & W Seeds		6	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r																							
Lahontan	USDA/Univ. of Nevada		6	n/r	R	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r																			*	*			
Transition 6.10RR	Croplan Genetics	Y	6	n/r	R	R	R	HR	R	HR	n/r	MR	n/r																		*					
Wilson	NMSU/Roswell Seed		6	n/r	R	R	n/r	n/r	MR	R	n/r	MR	n/r	*	*	*	*	*	*	*	*	*	*	*	*	*		*	*	*	*	*	*	*		
WL 440HQ	W-L Research		6	n/r	HR	HR	R	HR	HR	HR	HR	HR	HR	*					*													*				
WL 454HQ.RR	W-L Research	Y	6	n/r	R	HR	HR	HR	R	HR	n/r	HR	n/r														*	**	*							
57Q53	Pioneer Hi-Bred Int'l.		7	n/r	MR	HR	HR	R	MR	HR	R	R	MR	*				*																		
Artesian Sunrise	Croplan Genetics		7	n/r	MR	HR	R	HR	HR	HR	R	R	n/r							*	*		*	*	*			**	*	*						
Dona Ana	NMSU/Roswell Seed		7	n/r	MR	MR	LR	R	MR	R	n/r	n/r	n/r							*	*	*	*	*	*	*				**	*					
Malone	NMSU/Roswell Seed		7	n/r	R	HR	R	R	R	HR	S	MR	n/r	*	*	*	*	*	*	*	*	*	*	*	*		*									
NuMex Bill Melton	New Mexico State University		7	n/r	MR	R	R	R	R	MR	MR	n/r	n/r	*	*	*	*	*	*	*	*	*	*	*	*	**	**	**	*	**	*	**	*	**	*	**
SW 7410	S & W Seeds		7	n/r	R	R	HR	MR	HR	R	R	MR	R																			*	*			
58N57	Pioneer HiBred Int'l		8	n/r	LR	R	HR	HR	R	HR	HR	MR	HR							*			*	*	*	**										
AmeriStand 803T	America's Alfalfa		8	n/r	MR	HR	m	h	r	HR	HR	HR	HR	**	**	*	*	*	*	*	*	*	*	*	*											
Sandpiper	Blue River Hybrids		8	4	HR	HR	HR	H	R	HR	R	HR	n/r	*				*																		
SW 8421S	S & W Seeds		8	n/r	HR	HR	n/r	R	HR	R	R	n/r	R													*	*									
WL 535HQ	W-L Research		8	n/r	n/r	HR	n/r	HR	HR	n/r	n/r	R	R							*	*		*	*	*											
4N900	Mycogen Seeds		9	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*	*	*	*	*	*	*	*											

¹RR=Roundup Ready if "Y"; WS=Winter Survival (1=No injury, 6=Dead plants), FD=Fall Dormancy (1 & 2 Very dormant; 3 & 4 Dormant; 5 Moderately dormant; 6 & 7 Semi-dormant; 8 & 9 Non-dormant; 10 & 11 Very non-dormant), BW=Bacterial wilt, PRR=Phytophthora root rot, FW=Fusarium wilt, AN=Anthracnose, SAA=Spotted alfalfa aphid, PA=Pea aphid, BAA=Blue alfalfa aphid, SN=Stem nematode, RKN=Rootknot nematode (southern); (S=Susceptible, LR=Low resistance, MR=Moderate resistance, R=Resistant, HR=High resistance, n/r indicates either that the variety was not rated for that characteristic or no rating was available).

²Establishment year.

³N, D, and ET signify normal irrigation, drought irrigation, and early termination irrigation, respectively.

⁴Harvest year.

Shaded boxes indicate that the variety was not in the test.

***Significantly higher than all other values in the column.

**Highest yielding variety in the test for that year, except for Los Lunas 2013 test when it is the second highest yielding variety.

*Not significantly different from the highest yielding variety in the test for that year, except for Los Lunas 2013 test in 2014 when it is not significantly different from the second highest yielding variety.

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Table 11 (cont.). Characteristics and performance of alfalfa varieties across years and tests in New Mexico.		Varietal Characteristics ¹											Las Cruces						Artesia						Tucumcari			Los Lunas			Mora			Farmington					
													2014 ²						2013						2015			2013			2013			2014					
		Variety	Proprietor	RR	FD	WS	Pest resistance								N ³		D		ET		2013			2014			2015			2013			2013			2014			
BW	FW			AN	PRR	SAA	PA	BAA	SN	RKN	15 ⁴	16	15	16	15	16	14	15	16	14	15	16	16	14	15	16	14	15	16	15	16								
DG9212	Crop Production Services		9	n/r	LR	HR	HR	HR	HR	HR	HR	HR	n/r						*	*	*	*	*	*															
FSG903	Farm Science Genetics		9	n/r	n/r	HR	HR	MR	R	R	HR	n/r	n/r	*	*	*	**	*																					
AFX148091	Alforex Seeds		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
AFX149092	Alforex Seeds		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM Common	Roswell Seed		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r						*	**	*	*	*	*							*				*	*			
NM1407227	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14ALWLHQ	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14BM1008251	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14BMC0	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14BMHR2	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14BMHS1	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	**	**																				
NM14BMHS3	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	**	*	*	*																				
NM14GTAF07235	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14MALHS2	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14MALHS3	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*	*	*	*	*																					
NM14MLLS2	New Mexico State University		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	*			*	*																					
SW 8208	S & W Seeds		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r																										
SW 8357	S & W Seeds		n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r	n/r																										

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Table 12. 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-137	Soil analysis: A key to soil nutrient management
A-145	Certified noxious weed free program
A-229	Phymatotrichum root rot
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
A-336	Managing Roundup Ready alfalfa and conventional or organic alfalfa hay in nearby fields in New Mexico
A-337	Recommendations for Roundup Ready alfalfa weed management and stand removal in New Mexico
A-338	Alfalfa weevil control options in New Mexico
A-339	Alfalfa integrated pest management: Aphids
H-158	How to collect and send plant specimens for disease diagnosis
CR-536	Blister beetles in alfalfa
CR-633	Using a computer application to predict irrigated alfalfa yield
CR-641	Hay quality, sampling and testing
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
CR-659	Whitefringed beetle in New Mexico alfalfa
CR-668	Reducing harvest and post-harvest losses of alfalfa and other hay
RR-766	Furrow-irrigated alfalfa dry matter yield is not affected by different seeding rates in the Southern High Plains, USA
RR-772	Observations on how cowpea aphid affects alfalfa

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/