




The 2001 New Mexico Alfalfa Variety Test Report



Agricultural Experiment Station
College of Agriculture and Home Economics

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Introduction

In 2001, there continued to be 280,000 acres of alfalfa (*Medicago sativa*) in production in New Mexico. An estimated 1.5 million tons of hay were harvested from this acreage. At an average of \$126/ton (up from \$121 in 2000), gross returns will total approximately \$183 billion, ensuring that alfalfa hay remains New Mexico's No. 1 cash crop (New Mexico Agricultural Statistics Service Weekly AgUpdate). Alfalfa is also the legume of choice in irrigated perennial pastures. 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 tests included in this report ranged from 0.49 to 6.68 tons per acre in 2001. If sold as hay, this translates to a difference in returns of \$62 to \$842 per acre due to variety. Stand longevity, as affected by winter hardiness and pest resistance, also is partially determined by variety.

This report, which is a collaborative effort of New Mexico State University scientists at agricultural science centers throughout the state, provides current yield data for alfalfa varieties included in yield trials in New Mexico and guidelines for variety selection.

Considerations in Selecting an Alfalfa Variety

Local adaptation and persistence. High yields in variety tests over a number of years and locations within a region are the best indication that a variety is locally adapted and persistent. In addition to personal observations, New Mexico alfalfa producers are encouraged to select varieties based on information collected from trials conducted at New Mexico State University's Agricultural science centers located throughout the state. These tests are independent of any possible company bias. Look first at data collected from the Agricultural science center(s) closest to you. For your convenience, data from the Centers are grouped by similarity of latitude and elevation, which affect winter hardiness, and thus, yield and persistence. Persistence is the ability of individual plants to survive field conditions over time. It is strongly influenced by winter hardiness, harvest frequency, and pest resistance. Higher persistence will permit a longer economical stand life, allowing more time to recover establishment costs. Alfalfa stands should be replaced when there are less than 5 plants (or 40 stems) per square foot. Producers should rotate to another irrigated crop for at least one year before reseeding alfalfa into the same field to avoid seedling death due to autotoxicity. If stand life expectancy is only 3 to 4 years, as is the case in a crop

rotation system, higher yields in those early years are more important than persistence.

Winter hardiness. Alfalfa's winter hardiness is determined by its ability to survive cold temperatures. A good indication of winter hardiness is given by the fall dormancy rating (FD), which indicates the variety's tendency to stop growing in the fall. Fall dormancy categories range from 1 (very dormant) to 9 (nondormant). The more dormant (FD 1 to 3) varieties will be slower to green up in the spring and quicker to stop growing in the fall, regardless of local climate. This will have an impact on yield in areas with warmer climates. Additionally, non-dormant varieties (FD 7 to 9) will yield more because of earlier spring green up and later fall production but may not survive severe winters. These varieties may be suitable for use in a short-term rotation system, where alfalfa is used for 4 years or less. Otherwise, producers should select varieties with sufficient dormancy to survive winter conditions at their location, while optimizing forage production during the growing season.

Disease resistance. In New Mexico alfalfa producers should select adapted varieties that have the highest available resistance, preferably an MR (moderate resistance) or greater rating to bacterial wilt (Bw), fusarium wilt (Fw), Phytophthora root rot (PRR), and anthracnose (An) (Alfalfa Analyst, Certified Alfalfa Seed Council).

Bacterial and fusarium wilt are infections of the water-conducting tissues of alfalfa's roots that do not cause any noticeable root rot. These diseases prevent water flow to leaves, resulting in wilted shoots and, eventually, death of infected plants. Roots infected with bacterial wilt often will have a yellowish brown discoloration of the taproot's inner woody cylinder. Fusarium infection can be recognized by brown to red streaks in the taproot's inner woody cylinder.

Phytophthora root rot is a fungal disease associated with excessive soil moisture. This disease causes yellowish to brown areas on roots and crowns that eventually become black and rotten. The topgrowth of infected plants appears stunted and yellow.

Anthracnose, also caused by a fungus, attacks alfalfa stems, preventing water flow to the rest of the shoot and causing sudden wilting. These wilted shoots have a characteristic shepherd's crook appearance. Anthracnose also can cause a bluish black crown rot.

There are many other diseases of alfalfa that occur in New Mexico. Resistances to these diseases have not yet been developed. The best protection against them is proper management. But as producers know, even that, at times, is not sufficient.

Insect resistance. There are many insects that

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feed on alfalfa. Currently, the most detrimental insects to alfalfa production in New Mexico for which varietal resistance is available include spotted alfalfa aphid (SAA), pea aphid (PA), and blue alfalfa aphid (BAA). As with disease resistance, select varieties that have at least an MR rating for each of the insects. Varieties with resistance to insects that are not adapted to your area may not be preferable, due to a historical decrease in yield associated with the resistance.

Another insect, cowpea aphid, has begun infesting alfalfa fields in New Mexico in recent years. Adult cowpea aphids are smaller than the other common aphids. They black with white or yellow markings on legs and antennae. Nymphs are gray to purple and can be confused with blue alfalfa aphid. Critical infestations generally occur in early spring when alfalfa breaks dormancy. Plants are severely stunted, reducing first cutting yields and possible loss of stand if control measures are not taken.

Currently no resistant varieties have been released, but they are being developed. When predatory insects are active, they are successful in controlling populations.

However, the predators may not active in early spring when the alfalfa greens up, especially in northern counties and higher elevations. Thus, in early spring, chemical control is the only option. Economic thresholds and monitoring procedures have not been established.

It is suggested that several areas in each field be scouted for the presence of aphids (purple or black) and stunted plants. Currently labeled alfalfa insecticides that have been found to control cowpea aphid include chlorpyrifos (Lorsban 4EC) and Dimethoate 2.67 EC, neither of which have been tested in New Mexico and permethrin (Pounce 3.2 EC), which was used successfully at Tucumcari on April 3, 2001, when $\frac{1}{2}$ pint/acre was applied.

Varietal resistance to other insects, such as alfalfa weevil and potato leafhopper also may be available in the near future. However, historic resistance has not protected the plant, but rather it masks the symptoms. Currently, the best protection against these insect pests is good harvest management or proper pesticide use. Using pesticides also may be necessary even with resistant varieties, when pest pressure is excessive.

Seed quality. Selecting an alfalfa variety based on seed cost is like playing Russian roulette. Seed labeled as common, variety not stated, or variety unknown are of unknown genetic background and may or may not be locally adapted or have the necessary disease or insect resistance. 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. Look for the blue tag, which must be attached to all bags of certified seed or look for Plant Variety Protection labeling, which is the proprietor's guarantee. Regardless of the variety, be sure to read the seed tag, which gives other important information about the seed, including purity, amounts of other crop and weed seed (including any noxious weed seed), germination, and the test date, which should be

Insect resistance. There are many insects that feed on within the previous 9 months to accurately reflect the germination. Order seed well in advance of planting time

to assure that it will be available when needed.

Forage quality. High quality alfalfa hay possesses the following characteristics: >19 percent crude protein, <31 percent acid detergent fiber, <40 percent neutral detergent fiber, leafiness, and free of foreign material. Varietal differences in quality are relatively small compared to other factors. Cultural and management practices, such as soil fertility, irrigation, weed and insect control, maturity at cutting, baling, and storage conditions, are major factors that affect alfalfa quality. The optimum balance between forage yield and quality occurs at 1-10 percent bloom. Harvesting at pre-bloom increases quality but sacrifices yield. Continued harvesting at prebloom reduces stand life, because the plant is not able to replenish root reserves for subsequent growth and overwintering. Since some hay buyers specify prebloom, producers must weigh price against decreased yields and stand life. Prebloom harvests in the middle cuttings are likely to be less detrimental to stand life than the first and last cuttings of any given year. Cutting at >10 percent bloom increases yield, but quality declines rapidly as fiber increases and mineral content decreases (Alfalfa for Dairy Animals, Certified Alfalfa Seed Council). Leaf retention, affected by insect feeding, maturity (as the plant matures the lower leaves drop) and baling, is important because the digestibility and nutrient content in leaves is greater than in stems.

Description of Tests

Replicated alfalfa variety tests included in this report were conducted under research controls at the NMSU's agricultural science centers at Las Cruces (sown in 1999), Artesia (1999), Tucumcari (1997 and 1999), Los Lunas (1999), and Farmington (1999). Weather data for 2001 and the long-term averages from these locations are presented in table 1. Yield data (on a dry matter basis) for all tests are presented in tables 2-9. Varieties are listed in order from highest to lowest total production for the life of the test. Yields are given by cutting for 2001 and by year for each year of production. Statistical analyses were performed on all alfalfa yield data (including experimental) to determine if the apparent differences are truly due to variety or just due to chance (SAS). 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 (*). 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. 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 may 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 10 summarizes information about proprietors, fall dormancy, pest resistance, and yield performance across years and locations for all varieties currently included in New Mexico State University's Alfalfa Variety Testing Program. Varieties are listed by alphabetical order within fall dormancy. In table 10, shaded areas indicate that the variety was not in that particular test (labeled at the top of the column), while clear blocks mean that the variety was in the test. As before, a double asterisk (**) indicates that the variety had the highest yield in the test for that year, and a single asterisk (*) means that the variety was not significantly different from the highest yielding variety based on the 5% LSD. It is best to choose a variety that has performed well over several years and locations as indicated by the asterisks. Tests are grouped by location, and locations are grouped by similar elevations and latitudes within New Mexico.

Once varietal choices are made using table 10, look at cutting data (tables 2 to 9) to make sure the variety will be productive during the desired season. Varieties selected for grazing should produce over a longer season. Those to be used for hay should produce well in times that avoid potential problems. For instance, horse hay should be harvested

early in the season to avoid blister beetle infestations in the later cuttings. Higher-value dairy hay may be produced later in the season to avoid spring weed problems.

Regarding common varieties, notice that the same variety may yield well in one area but not another. And those that do yield well may not do so consistently across years. Generally, those that produce well will do so until a pest problem occurs. Then the stand can be lost, requiring a waiting period before reseeding.

Conclusions

Consistent production of high alfalfa yields is the result of selecting good varieties, along with implementing good management techniques. Soil fertility should be maintained at recommended levels based on soil tests, and weeds and insects should be controlled using appropriate cultural and/or chemical methods. For dormant (FD 1 to 3) and semidormant (FD 4 to 6) varieties, a 7-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 may be done either mechanically or by grazing. 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 will result in four to five cuttings per year before initiation of the rest period in most of New Mexico. For further information about alfalfa management refer to the other New Mexico State University Cooperative Extension Service publications listed in table 11.

Table 1. Temperature and precipitation data for 2001 and the long-term averages for the New Mexico Alfalfa Variety Test locations.

Location	Las Cruces				Artesia				Tucumcari				Los Lunas				Farmington			
	3832 ft.				3376 ft.				4091 ft.				4842 ft.				5577 ft.			
Month	32° 12' N				32° 45' N				35° 12' N				34° 16' N				36° 41' N			
	Temp. (°F)		Precip. (In)		Temp. (°F)		Precip. (In)		Temp. (°F)		Precip. (In)		Temp. (°F)		Precip. (In)		Temp. (°F)		Precip. (In)	
	2001	Ave. ¹	2001	Ave. ¹	2001	Ave.	2001	Ave.	2001	Ave.	2001	Ave.	2001	Ave.	2001	Ave.	2001	Ave.	2001	Ave.
Nov-00	44	50	0.65	0.53	43	48	2.51	0.50	54	47	0.43	0.63	38	49	1.05	0.45	35	40	0.78	0.72
Dec-00	40	42	0.57	0.68	38	40	0.23	0.47	50	39	0.84	0.58	36	35	0.52	0.51	34	31	0.22	0.43
Jan-01	40	42	0.12	0.56	37	39	0.55	0.52	35	38	0.67	0.34	33	44	1.46	0.34	31	30	0.44	0.50
Feb-01	48	46	0.11	0.37	47	44	0.38	0.41	45	42	0.95	0.47	41	44	0.41	0.46	37	36	0.80	0.42
Mar-01	55	52	0.30	0.22	49	51	0.87	0.37	47	48	2.65	0.68	48	54	1.01	0.50	45	43	1.37	0.67
Apr-01	63	59	0.01	0.21	62	60	0.08	0.50	63	57	0.10	1.13	56	52	0.21	0.46	54	51	0.67	0.61
May-01	72	68	0.25	0.29	71	68	1.46	1.20	66	65	2.82	1.98	67	64	0.19	0.46	63	60	0.87	0.55
Jun-01	78	77	0.28	0.72	79	75	1.03	1.54	77	75	1.76	1.83	75	73	0.06	0.56	71	70	0.03	0.29
Jul-01	80	80	0.64	1.36	83	79	0.41	1.50	84	79	0.67	2.61	79	78	1.09	1.24	77	75	0.82	0.89
Aug-01	78	78	0.62	2.29	79	77	0.34	2.12	79	77	2.83	2.69	76	76	1.28	1.80	74	74	1.01	1.11
Sep-01	73	72	0.38	1.38	73	70	1.60	2.11	73	70	0.19	1.42	69	66	0.37	1.30	70	66	0.26	1.08
Oct-01	61	61	0.00	0.91	62	59	0.52	1.19	61	59	0.15	1.29	58	69	0.21	0.97	57	53	0.24	0.92
Annual	61	61	3.93	9.40	60	59	9.98	12.43	61	58	14.06	15.65	56	59	7.86	9.05	54	52	7.51	8.15

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

Table 2. Dry matter yields (tons/acre) of alfalfa varieties sown September 8, 1999, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated every 14 days.

Variety	2000	2001 Harvests						2001	2-yr
	Total ¹	May 1	June 11	July 13	Aug. 14	Sep. 27	Nov. 7	Total	Total
NM9D11A-PAR	14.48**	2.00*	2.23*	1.76 ³	1.86**	1.91*	0.86*	10.60*	25.08**
NM Stress 94	13.73*	1.96*	2.26*	1.80 ³	1.78*	1.96**	0.82	10.58*	24.31*
Signal 8000	13.25*	1.99*	2.53**	1.89 ³	1.86**	1.80*	0.88*	10.96**	24.21*
CW 5875	13.95*	1.53*	2.19*	1.80 ³	1.83*	1.87*	0.93*	10.16*	24.12*
Rio Grande	13.38*	2.02**	2.38*	1.76 ³	1.71*	1.63*	0.85*	10.35*	23.73*
CW 68115	13.30*	1.88*	2.18*	1.75 ³	1.82*	1.81*	0.96*	10.40*	23.70*
AmeriLeaf 721	13.51*	1.92*	2.20*	1.62 ³	1.69*	1.76*	0.80	10.00*	23.51*
57Q77	13.72*	1.87*	2.11*	1.63 ³	1.63*	1.62*	0.86*	9.72*	23.44*
GT 13-R Plus	13.61*	1.49	1.98*	1.75 ³	1.82*	1.68*	0.91*	9.63*	23.24*
Mesa	13.85*	1.49	1.91	1.59 ³	1.75*	1.73*	0.91*	9.38*	23.24*
Arriba	13.06	1.98*	2.16*	1.68 ³	1.72*	1.77*	0.73	10.04*	23.10*
CW 78122	13.34*	1.64*	2.11*	1.72 ³	1.67*	1.66*	0.92*	9.71*	23.05*
PGI 8000	12.72	1.72*	2.18*	1.78 ³	1.81*	1.71*	0.97**	10.16*	22.88
Common, NM	13.29*	1.42	1.99*	1.74 ³	1.83*	1.70*	0.84*	9.53*	22.81
CW 5666	13.14	1.87*	2.02*	1.60 ³	1.59*	1.72*	0.85*	9.65*	22.79
ZX9889B	13.51*	1.39	1.83	1.60 ³	1.64*	1.61*	0.91*	8.98*	22.49
WL612	12.81	1.54*	1.96	1.67 ³	1.64*	1.57*	0.93*	9.31*	22.12
Pershing	13.05	1.43	1.82	1.59 ³	1.65*	1.39	0.82	8.70	21.76
Wilson	12.33	1.79*	2.12*	1.63 ³	1.53*	1.53	0.69	9.3*	21.63
5715	12.76	1.54*	1.74	1.55 ³	1.62*	1.56*	0.82	8.82	21.58
ZG9891	12.37	1.72*	1.78	1.47 ³	1.57*	1.51	0.82	8.88*	21.25
CutMor	12.72	1.44	1.76	1.44	1.54*	1.50	0.83	8.51	21.23
Monsanto 180ML	12.40	1.65*	1.91	1.41	1.43	1.52	0.82	8.73	21.13
Dona Ana	12.03	1.62*	1.81	1.45	1.69*	1.63*	0.82	9.02*	21.06
WL442	12.92	1.44	1.60	1.23	1.44	1.36	0.71	7.79	20.71
WL525HQ	12.07	1.21	1.61	1.58 ³	1.60*	1.45	0.88*	8.33	20.40
AmeriGraze 701	11.86	1.40	1.83	1.48 ³	1.49	1.58*	0.67	8.47	20.32
ZL9876	12.48	1.33	1.69	1.39	1.42	1.28	0.70	7.81	20.29
ZX9894	12.01	1.26	1.68	1.39	1.51*	1.44	0.94*	8.22	20.23
58N57	10.69	1.79*	1.79	1.41	1.41	1.29	0.39	8.08	18.77
LSD (0.05)	1.29	0.52	0.57	0.42	0.36	0.42	0.14	2.14	3.04
Mean	7.08	1.65	1.98	1.61	1.65	1.62	0.86	9.32	22.27
CV, %	12.94	22.34	20.45	19.03	15.35	18.52	11.64	16.36	9.73

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods. 2000 Harvest dates: 3-May, 1-Jun, 7-Jul, 4-Aug, 16-Sep, and 2-Nov.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 3. Dry matter yields (tons/acre) of alfalfa varieties sown September 8, 1999, at NMSU's Leyendecker Plant Science Research Center at Las Cruces and flood-irrigated every 28 days.

Variety	2000	2001 Harvests					2001	2-yr
	Total ¹	May 15	June 18	July 23	Aug. 22	Oct. 17	Total	Total
GT 13-R Plus	8.66**	2.52*	1.63**	1.76**	1.18**	1.80**	8.89**	17.55**
Mesa	8.27*	2.75**	1.58*	1.56*	1.13*	1.25*	8.26*	16.53*
CW 78122	7.27*	1.70*	1.06*	1.28*	0.97*	1.29*	6.30*	13.57*
Common, NM	6.54*	2.06*	1.26*	1.24*	1.00*	1.09*	6.66*	13.20*
CW 68115	7.40*	1.52	0.97*	1.02*	0.75*	1.11*	5.36*	12.76*
Monsanto 180ML	7.37*	1.47	0.77	0.88	0.84*	1.18*	5.13*	12.50*
57Q77	6.83*	1.32	1.04*	1.20*	0.75*	1.04*	5.36*	12.19*
WL 612	6.11*	1.72*	1.08*	1.06*	0.82*	1.09*	5.79*	11.90*
WL525HQ	6.70*	1.18	0.57	0.74	0.72*	0.91	4.12	10.82
ZX9894	5.87	1.51	0.94*	0.88	0.70*	0.81	4.84	10.72
ZG9891	6.19*	1.25	0.65	0.81	0.72*	0.92	4.35	10.54
Wilson	5.79	1.51	0.89*	0.81	0.67*	0.80	4.67	10.46
Signal 8000	6.21*	1.11	0.63	0.67	0.57*	0.69	3.67	9.89
Pershing	5.87	1.03	0.71	0.81	0.77*	0.68	4.00	9.87
AmeriGraze 701	5.30	1.54	0.79	0.75	0.68*	0.80	4.56	9.86
NM9D11A-PAR	6.02	1.07	0.66	0.63	0.76*	0.62	3.74	9.76
Rio Grande	5.99	1.18	0.67	0.59	0.53*	0.62	3.59	9.58
PGI 8000	6.09*	0.82	0.62	0.65	0.56*	0.72	3.38	9.46
NMST94	5.78	0.76	0.76	0.81	0.61*	0.59	3.53	9.31
CW 5875	5.90	1.04	0.57	0.61	0.48*	0.51	3.20	9.10
WL442	5.47	1.07	0.56	0.55	0.48*	0.55	3.21	8.68
ZL9876	5.12	1.39	0.48	0.48	0.51*	0.56	3.43	8.55
Amba	6.02	0.81	0.37	0.41	0.38	0.51	2.49	8.52
AmeriLeaf 721	5.03	0.92	0.52	0.59	0.53*	0.64	3.21	8.23
5715	5.77	0.62	0.37	0.40	0.39	0.43	2.21	7.98
CutMor	5.36	0.75	0.36	0.33	0.76*	0.41	2.62	7.97
Dona Ana	5.40	0.96	0.38	0.39	0.36	0.42	2.52	7.92
CW 5666	5.18	0.61	0.45	0.55	0.43	0.48	2.53	7.70
ZX9889B	5.22	0.81	0.35	0.34	0.43	0.37	2.30	7.52
58N57	4.43	0.71	0.40	0.47	0.45*	0.45	2.47	6.90
LSD (0.05)	2.59	1.18	0.80	0.84	0.64	0.80	4.01	6.53
Mean	6.11	1.26	0.74	0.77	0.67	0.78	4.21	10.32
CV, %	30.15	60.28	70.14	69.55	61.98	66.15	61.28	40.70

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods. 2000 Harvest dates: 1-Jun, 7-Jul, 8-Aug, 8-Sep, and 4-Oct.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 4. Dry matter yields (tons/acre) of flood-irrigated alfalfa varieties sown September 2, 1999, at NMSU's Agricultural Science Center at Artesia.

Variety	2000	2001 Harvests						2001	2-yr
	Total ¹	May 10	June 11	July 9	Aug. 7	Sep. 10	Oct. 29	Total	Total
CW 78122	7.98*	1.06*	1.37*	1.46*	1.77*	1.54*	0.98*	8.18*	16.17**
CW 5875	7.85*	0.90	1.38*	1.45*	1.83*	1.55*	1.10**	8.21*	16.06*
WL442	7.88*	1.01*	1.42*	1.41*	1.71*	1.51*	0.95*	8.00*	15.88*
CW 5666	8.40**	0.92	1.32*	1.30*	1.60*	1.36	0.98*	7.47	15.87*
ZS9890	7.76*	1.16**	1.40*	1.40*	1.70*	1.47*	0.93*	8.06*	15.82*
CW 68115	7.86*	0.98*	1.36*	1.43*	1.62*	1.47*	1.05*	7.90*	15.76*
ZX9393	7.84*	1.01*	1.33*	1.47*	1.65*	1.45*	0.98*	7.90*	15.73*
Evergreen 2.0	7.76*	0.99*	1.35*	1.40*	1.65*	1.49*	0.98*	7.85*	15.60*
Tahoe	7.19*	1.04*	1.45**	1.41*	1.73*	1.61**	1.10**	8.35**	15.53*
Rio Grande	7.63*	0.91	1.34*	1.45*	1.62*	1.48*	1.08*	7.89*	15.52*
ZX9886	7.68*	0.85	1.37*	1.41*	1.66*	1.49*	1.03*	7.81*	15.49*
AmeriGraze 701	7.65*	1.06*	1.33*	1.33*	1.70*	1.53*	0.88	7.84*	15.48*
DS981	7.31*	0.98*	1.40*	1.42*	1.70*	1.58*	1.05*	8.15*	15.46*
WL414	7.45*	0.94	1.33*	1.44*	1.69*	1.53*	1.03*	7.95*	15.40*
58N57	7.80*	0.92	1.31*	1.41*	1.47	1.46*	0.98*	7.51*	15.31*
Monsanto 180ML	7.15*	0.95	1.40*	1.38*	1.72*	1.57*	1.05*	8.06*	15.21*
WL525HQ	7.42*	0.85	1.36*	1.28*	1.69*	1.57*	1.08*	7.79*	15.21*
DS771	7.38*	0.96*	1.34*	1.49**	1.52	1.35	1.05*	7.68*	15.06*
Magna 901	7.00*	1.01*	1.36*	1.40*	1.62*	1.49*	1.03*	7.90*	14.89*
Amiba	7.57*	0.89	1.34*	1.38*	1.52	1.24	0.93*	7.32	14.88*
57Q77	7.18*	0.89	1.38*	1.32*	1.55	1.53*	1.03*	7.67*	14.85*
NM9D11A-PAR	7.65*	1.00*	1.21	1.39*	1.40	1.30	0.93*	7.20	14.84*
DS68FQ	7.28*	0.96*	1.32*	1.31*	1.61*	1.31	0.98*	7.50	14.77*
CutMor	7.12*	0.94	1.29*	1.29*	1.52	1.43*	0.98*	7.46	14.59*
LSD (0.05)	Ns	0.21	0.19	Ns	0.27	0.21	0.18	0.84	Ns
Mean	7.57	0.96	1.35	1.39	1.63	1.47	1.00	7.81	15.39
CV, %	13.42	15.20	9.94	11.29	11.75	10.15	12.20	7.64	7.53

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods. 2000 Harvest dates: 3-May, 14-Jun, 20-Jul, and 21-Aug.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 5. Dry matter yields (tons/acre) of furrow-irrigated alfalfa varieties sown April 30, 1997, at NMSU's Agricultural Science Center at Tucumcari.

Variety	1997	1998	1999	2000	2001 Harvests					2001	5-yr	
	Total ¹	Total	Total	Total	May 10	June 11	July 9	Aug. 7	Sep. 10	Oct. 29	Total	Total
Dona Ana	4.26*	8.71*	7.90*	9.48*	1.09	1.48*	1.60*	1.80**	1.64**	1.13*	8.75**	39.10**
Signal 7000	4.30**	8.86*	7.80*	9.60*	0.84	1.31*	1.58*	1.63*	1.43*	1.15*	7.95*	38.50*
Wilson	3.38	8.68*	8.11*	9.99**	0.93	1.30*	1.50*	1.79*	1.39*	1.01	7.92*	38.08*
Tahoe	4.13*	8.54*	7.33*	9.69*	1.01	1.42*	1.42*	1.58*	1.44*	1.11*	7.98*	37.67*
WL525HQ	3.67	7.52	7.85*	9.64*	1.05	1.41*	1.60*	1.76*	1.53*	1.24**	8.60*	37.27*
13R Supreme	3.49	8.06*	7.89*	9.47*	0.88	1.24	1.54*	1.71*	1.55*	1.09*	8.01*	36.93*
Jade II	3.38	8.50*	7.36*	9.48*	0.97	1.38*	1.55*	1.70*	1.40*	0.94	7.93*	36.65*
Archer	3.61	8.85*	7.57*	8.85	0.94	1.34*	1.53*	1.63*	1.37*	0.93	7.75*	36.62*
Landmark	3.44	8.38*	7.66*	9.16*	1.13*	1.46*	1.57*	1.60*	1.32	0.90	7.97*	36.62*
WL612	3.72	7.92	7.53*	9.09*	0.88	1.47*	1.62*	1.69*	1.46*	1.22*	8.34*	36.59*
Salado	3.96*	8.32*	7.31*	8.54	0.76	1.04	1.41*	1.63*	1.38*	0.99	7.20	35.33
Monsanto 127	3.19	7.63	7.03	8.81	1.46**	1.57**	1.41*	1.67*	1.50*	0.84	8.46*	35.12
Baralfa54	3.10	8.07*	7.46*	8.71	1.03	1.30*	1.47*	1.63*	1.37*	0.96	7.77*	35.11
Rainier	3.20	7.88	7.06	8.78	1.06	1.39*	1.50*	1.66*	1.33	0.89	7.82*	34.73
Garst 645	3.14	8.03*	7.52*	8.27	1.12*	1.27*	1.44*	1.67*	1.37*	0.72	7.58*	34.54
Viking I	3.46	7.60	6.82	8.49	1.18*	1.29*	1.34	1.31	1.40*	0.88	7.41	33.78
LSD (0.05)	0.58	0.88	0.81	1.09	0.37	0.33	0.28	0.26	0.27	0.20	1.25	3.47
Mean	3.59	8.22	7.51	9.13	1.02	1.35	1.50	1.65	1.43	1.00	7.97	36.42
CV, %	11.28	7.49	7.53	8.35	25.74	17.19	13.15	11.17	13.33	14.10	11.05	6.70

¹Yield data from previous years may be different than that presented in other publications due to a difference in analysis methods.

1997 Harvest dates: 21-Jul, 8-Aug, 16-Sep, and 28-Oct.

1998 Harvest dates: 12-May, 16-Jun, 21-Jul, 17-Aug, 15-Sep, and 29-Oct..

1999 Harvest dates: 21-May, 16-Jun, 13-Jul, 11-Aug, 9-Sep, and 25-Oct.

2000 Harvest dates: 16-May, 20-Jun, 18-Jul, 16-Aug, 11-Sep, and 1-Nov.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 6. Dry matter yields (tons/acre) of furrow-irrigated alfalfa varieties sown September 19, 1997, at NMSU's Agricultural Science Center at Tucumcari and grown under differing soil moisture constraints.

Variety	1999	2000	2001 Harvests					2001	3-yr	
	Total ¹	Total	May 10	June 11	July 9	Aug. 7	Sep. 10	Oct. 29	Total	Total
Dryland: Not irrigated since 5-Oct 1997.										
OK49	2.03**	0.54	1.32*	0.49*	0.21*	.	.	.	2.03*	4.59**
Common, CO	1.40	0.50	1.61*	0.59*	0.21*	.	.	.	2.41**	4.32*
ABT 405	1.24	0.59**	1.68*	0.40*	0.12*	.	.	.	2.20*	4.03*
Salado	1.78*	0.30	1.12*	0.27	0.11*	.	.	.	1.50	3.58*
AmeriGraze 401+Z	1.41	0.18	1.21*	0.31	0.05	.	.	.	1.57	3.16
Supercuts	1.14	0.28	1.27*	0.28	0.07	.	.	.	1.62	3.03
AlfaGraze	0.97	0.20	1.09*	0.21	0.09	.	.	.	1.38	2.55
LSD (0.05)	0.56	0.05	Ns	0.23	0.11	.	.	.	0.70	1.31
Mean	1.43	0.35	1.31	0.36	0.12	.	.	.	1.79	3.58
CV, %	25.72	58.91	26.11	41.20	57.63	.	.	.	25.80	24.15
Poorly-drained/saline: Has 700 ppm sodium in the surface 6 inches.										
OK49	3.72*	6.51**	2.50*	1.78*	1.35*	1.44*	1.42	0.76**	9.24**	19.47**
Salado	4.15**	5.91*	1.41	1.54	1.24*	1.32*	1.35	0.72*	7.58	17.63*
Common, CO	2.90	5.73*	2.14*	1.61*	1.08	1.32*	1.29	0.25	7.68	16.31
Supercuts	2.97	5.91*	1.85	1.37	1.04	1.02	1.15	0.44*	6.87	15.75
AmeriGraze 401+Z	3.00	5.35*	1.85	1.53	1.13	1.20*	1.19	0.41*	7.30	15.64
AlfaGraze	2.83	5.34*	2.33*	1.35	1.03	1.20*	1.21	0.29	7.41	15.58
ABT 405	2.75	4.93*	2.40*	1.57*	1.17	1.18*	1.19	0.34*	7.85	15.53
LSD (0.05)	0.79	Ns	0.58	0.22	0.15	0.34	Ns	0.21	1.08	3.10
Mean	3.19	5.67	2.07	1.53	1.15	1.24	1.26	0.46	7.70	16.56
CV, %	16.70	19.50	18.94	9.51	8.59	18.44	15.79	30.16	9.47	12.58
Standard irrigation: Irrigated once before each harvest.										
OK49	5.08**	5.18**	1.81*	1.37*	1.37*	1.50*	1.38*	0.50*	7.93**	18.19**
Supercuts	3.97	4.55*	1.91*	1.21*	1.44*	1.25*	1.26*	0.30	7.38*	15.89*
Salado	4.10*	4.62*	1.39	1.26*	1.40*	1.36*	1.15	0.36*	6.92	15.64*
ABT 405	3.90	4.20*	1.79*	0.83	1.23*	1.39*	1.10	0.19	6.54	14.64
Common, CO	3.17	3.81*	2.00*	1.24*	1.26*	1.35*	1.00	0.18	7.03	14.02
AmeriGraze 401+Z	3.20	3.56	1.62*	1.30*	1.32*	1.32*	1.00	0.23	6.80	13.55
AlfaGraze	3.04	3.36	1.83*	1.08*	1.14	1.28*	1.10	0.15	6.57	12.98
LSD (0.05)	1.06	1.50	0.55	0.38	0.29	Ns	0.23	0.20	0.65	2.69
Mean	3.78	4.18	1.76	1.18	1.31	1.35	1.14	0.27	7.02	14.99
CV, %	18.84	24.13	20.94	21.36	14.76	14.78	13.65	50.39	6.18	12.10
Winter irrigation: Same as standard but also monthly during winter (Nov. to Apr.).										
OK49	8.17**	7.82**	2.74*	1.73*	1.39*	1.47*	1.41*	0.69**	9.42**	25.41**
AlfaGraze	7.65*	7.30*	2.93*	1.43*	1.15*	1.40*	1.32*	0.41	8.64*	23.59*
Common, CO	7.54*	6.88*	2.75*	1.54*	1.23*	1.48*	1.49*	0.48*	8.98*	23.40*
Supercuts	7.42*	6.85*	3.04*	1.46*	1.25*	1.45*	1.38*	0.47*	9.05*	23.32*
AmeriGraze 401+Z	7.65*	7.11*	2.47	1.41*	1.14*	1.41*	1.37*	0.39	8.18	22.94
Salado	7.58*	6.64*	2.33	1.21	1.17*	1.48*	1.39*	0.69**	8.27	22.49
ABT 405	5.96	5.91	2.75*	1.37*	1.17*	1.36*	1.27*	0.45	8.37	20.23
LSD (0.05)	1.18	1.41	0.40	0.44	Ns	Ns	Ns	0.24	0.91	3.23
Mean	7.42	6.92	2.71	1.45	1.22	1.44	1.38	0.51	8.70	23.04
CV, %	15.08	13.68	9.82	20.40	15.49	7.33	12.72	30.93	7.01	9.39

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods.

1998 Harvest dates: None taken to allow for collection of other data.

1999 Harvest dates: 21-May, 16-Jun, 13-Jul, 11-Aug, 9-Sep, and 25-Oct, except for the Dryland test, which was not harvested 9-Sep.

2000 Harvest dates: 16-May, 20-Jun, 20-Jul, 17-Aug, 11-Sep, and 2-Nov, except for the Dryland test, which was not harvested after Jul.

**Highest numerical value in the column for that test.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 7. Dry matter yields (tons/acre) of furrow-irrigated alfalfa varieties sown September 14, 1999, at NMSU's Agricultural Science Center at Tucumcari.

Variety	2000	2001 Harvests						2001	2-yr
	Total ¹	May 10	June 11	July 9	Aug. 7	Sep. 10	Oct. 29	Total	Total
NM9D11A-PAR	4.44*	1.94	1.91*	1.64*	1.80**	1.62*	0.95*	9.85*	14.29**
Rio Grande	4.11*	1.97	1.74*	1.74**	1.72*	1.77*	0.99**	9.92**	14.03*
NC+X605	4.48**	1.74	1.90*	1.60*	1.60*	1.72*	0.92*	9.47*	13.94*
5681	4.25*	2.28*	1.70	1.55*	1.58*	1.78**	0.80*	9.67*	13.92*
Archer II	3.95*	2.53**	1.93*	1.51*	1.45	1.57*	0.74	9.72*	13.67*
ZX9362	4.06*	1.83	1.94*	1.55*	1.61*	1.72*	0.72	9.36*	13.42*
Magna 601	3.80*	1.89	1.94*	1.53*	1.63*	1.74*	0.82*	9.54*	13.34*
Wilson	4.28*	1.66	1.96*	1.46	1.55	1.49*	0.85*	8.96*	13.23*
WL327	3.30	2.13*	1.86*	1.52*	1.49	1.63*	0.72	9.35*	12.64*
Abilene +Z	3.34	2.12*	1.98**	1.48	1.52	1.53*	0.65	9.28*	12.61*
Ram	3.49**	1.79	1.92*	1.51*	1.49	1.48	0.77	8.95*	12.44*
WL442	4.01*	1.44	1.74*	1.57*	1.44	1.51*	0.69	8.39	12.40*
Dona Ana	3.34	1.82	1.93*	1.40	1.59*	1.47	0.82*	9.04*	12.38*
Common, NM	3.22	1.90	1.80*	1.55*	1.57*	1.57*	0.79*	9.16*	12.38*
Dagger +EV	3.03	2.06	1.91*	1.49*	1.53	1.56*	0.60	9.14*	12.17
Sutter	3.02	1.84	1.89*	1.48	1.56*	1.66*	0.71	9.14*	12.16
Cimarron 3i	3.09	2.31*	1.87*	1.39	1.45	1.34	0.55	8.91*	12.00
54Q53	2.95	1.98	1.93*	1.46	1.53	1.46	0.64	8.99*	11.94
Garst 6420	2.72	2.35*	1.92*	1.24	1.41	1.52*	0.66	9.10*	11.82
Magnum V	2.78	2.03	1.89*	1.40	1.41	1.64*	0.54	8.92*	11.70
Monsanto 142	2.81	2.04	1.89*	1.35	1.36	1.48	0.62	8.74	11.55
Garst 6550	2.75	2.02	1.97*	1.49*	1.40	1.27	0.63	8.80	11.54
Common, SD	2.40	2.18*	1.82*	1.48	1.49	1.64*	0.44	9.04*	11.44
ABT 400 SCI	2.88	1.84	1.86*	1.36	1.42	1.51*	0.55	8.54	11.42
GH 766	2.75	1.92	1.67	1.44	1.45	1.32	0.60	8.38	11.13
ABT 350	2.92	1.93	1.83*	1.24	1.39	1.27	0.52	8.17	11.09
GH 750	2.29	2.02	1.87*	1.32	1.41	1.42	0.55	8.57	10.86
PGI 4372	1.70	2.01	1.87*	1.18	1.25	1.32	0.37	7.98	9.68
LSD (0.05)	1.04	0.44	0.22	0.26	0.25	0.30	0.22	1.04	1.86
Mean	3.29	1.98	1.87	1.46	1.50	1.53	0.68	9.04	12.33
CV, %	22.39	15.82	8.51	12.78	12.05	14.09	22.78	8.18	10.71

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods.

2000 Harvest dates: 21-Jun, 20-Jul, 17-Aug, 11-Sep, and 2-Nov.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 8. Dry matter yields (tons/acre) of flood-irrigated alfalfa varieties sown September 1, 1999, at NMSU's Agricultural Science Center at Los Lunas.

Variety	2000	2001 Harvests				2001	2-yr
	Total ¹	May 29	July 5	Aug. 17	Oct. 4	Total	Total
Evergreen 2.0	11.27*	3.69*	3.15*	2.68*	1.94**	11.47*	22.74**
CW 55112	11.37**	3.66*	3.21*	2.53*	1.94**	11.34*	22.71*
CW 5567	11.03*	3.83**	3.15*	2.72*	1.78*	11.48*	22.52*
CW 6699	10.13*	3.77*	3.35**	2.77**	1.93*	11.83**	21.95*
LSD (0.05)	Ns	Ns	Ns	Ns	Ns	Ns	Ns
Mean	10.94	3.74	3.21	2.68	1.90	11.53	22.48
CV, %	5.61	7.54	5.15	6.84	9.89	1.76	3.99

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods. 2000 Harvest dates: 9-May, 13-Jun, 24-Jul, 2-Sep, and 1-Nov.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 9. Dry matter yields (tons/acre) of sprinkler-irrigated alfalfa varieties sown August 13 ,1999, at NMSU's Agricultural Science Center at Farmington.

Variety	2000	2001 Harvests				2001	2-yr
	Total ¹	June 1	July 5	Aug. 8	Sep. 20	Total	Total
Monsanto 142	8.18*	3.30*	2.26*	2.17*	1.86*	9.59*	17.77**
Millennia	7.80*	3.15*	2.34*	2.36**	2.03**	9.88**	17.68*
Select	8.23*	3.36*	2.14	2.13*	1.80*	9.43*	17.65*
Geneva	7.93*	3.35*	2.44**	2.11*	1.52	9.41*	17.34*
Somerset	8.35**	3.27*	2.22*	2.00	1.47	8.96	17.31*
Affinity +Z	7.90*	3.37*	2.17*	2.02	1.69	9.25*	17.15*
Archer II	7.30*	3.39**	2.16*	2.24*	1.87*	9.66*	16.96*
ZX935 I	7.45*	3.24*	2.17*	1.81	1.84*	9.06	16.51*
Focus HSN	7.33*	3.17*	2.25*	1.89	1.62	8.92	16.24*
LSD (0.05)	Ns	Ns	0.29	0.32	0.28	0.70	Ns
Mean	7.83	3.29	2.24	2.08	1.74	9.35	17.18
CV, %	12.09	10.15	8.99	10.55	11.06	5.10	7.20

¹Yield data for previous years may be different than that presented in other publications due to a difference in analysis methods. 2000 Harvest dates: 31-May, 6-Jul, 8-Aug, and 21-Sep.

**Highest numerical value in the column.

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

LSD (0.05) stands for the Least Significant Difference at the 5% level. If the difference between two numbers within a column is equal to or greater than the LSD, it is a 95% certain that they are truly different.

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

Table 10. Characteristics and performance of alfalfa varieties across years and tests in New Mexico.		Varietal Characteristics ¹								Las Cruces				Artesia		Tucumcari												Los Lunas		Farmington							
										1999 ²						1997												99									
		Pest resistance ³								F ⁴		L ⁵		99		Fall Dormancy ⁶				D ⁷		P ⁸		S ⁹		W ¹⁰		99		99							
Variety	Proprietor	FD ¹¹	BW	PRR	FW	AN	SAA	PA	BAA	00 ¹²	01	00	01	00	01	97	98	99	00	01	99	00	01	99	00	01	99	00	01	00	01	00	01	00	01		
Common, CO	Colorado Variety Not Stated	?	?	?	?	?	?	?	?												*	*	**	*	*	*	*	*	*	*	*	*	*	*	*		
Common, NM	New Mexico VNS	?	?	?	?	?	?	?	?	*	*	*	*																					*			
Common, SD	South Dakota VNS	?	?	?	?	?	?	?	?																								*				
NM Stress 94	New Mexico State University	?	?	?	?	?	?	?	?	*	*	*																									
NM9D11A-PAR	New Mexico State University	?	?	?	?	?	?	?	?	**	*	*		*																			*	*			
AlfaGraze	America s Alfalfa	2	R	LR	R	MR	?	R	?												*			*		*	*	*	*	*	*	*	*	*	*		
Viking I	Syngenta	2	R	R	HR	R	?	MR	MR																												
ABT350	AgriBioTech	3	HR	HR	HR	HR	R	R	?																												
Garst 645	Garst Seed	3	HR	HR	R	HR	MR	R	?												*																
GH766	Golden Harvest	3	HR	HR	HR	HR	?	R	R																												
Monsanto 127	Monsanto Global Seed Group	3	HR	HR	R	HR	HR	HR	?												*																
Somerset	Syngenta	3	HR	HR	HR	HR	?	?	?																										*		
Rainier	Syngenta	3	HR	HR	HR	HR	HR	HR	?												*																
54Q53	Pioneer HiBred Int I	4	HR	HR	R	R	MR	MR	?																								*				
ABT400SCI	AgriBioTech	4	HR	HR	HR	HR	R	HR	?																												
ABT405	AgriBioTech	4	HR	HR	HR	HR	?	R	?												*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Affinity + Z	America s Alfalfa	4	HR	HR	HR	HR	?	R	?																									*	*	*	
AmeriGraze 401+Z	America s Alfalfa	4	HR	HR	HR	HR	?	R	?												*	**	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Cimarron 3i	Great Plains Research	4	HR	R	HR	HR	R	R	?																								*				
Focus HSN	Arkansas Valley Seed Solutions	4	HR	HR	HR	HR	HR	MR	?																									*			
Garst 6420	Garst Seed Co.	4	HR	HR	HRR	R	R	R	?																							*					
Geneva	Syngenta	4	HR	HR	HR	HR	HR	R	?																									*	*	*	
GH750	Golden Harvest	4	H	HR	HR	HR	R	R	R																												
Select	IFA	4	HR	HR	HR	HR	R	R	MR																									**	*	*	
Jade II	NC+ Hybrids	4	MR	R	HR	MR	R	R	MR								*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Landmark	Geertson Farms	4	R	HR	R	R	?	R	?								*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Magnum V	Dairyland Seed Co.	4	HR	HR	HR	R	R	R	MR																							*					
Millennei	IFA	4	HR	HR	HR	HR	R	R	?																								*	*	*	**	
Monsanto 142	Monsanto Global Seed Group	4	HR	HR	HR	R	?	HR	HR																								*	*	*	*	
PGI 4372	PGI/MBS - Helena Chemical	4	HR	HR	HR	R	?	?	?																												
Supercuts	AgriBioTech	4	HR	HR	HR	HR	?	R	?												*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
WL327	WL Research	4	HR	HR	HR	HR	R	?	?																							*					
Abilene+Z	America s Alfalfa	5	HR	HR	HR	HR	MR	HR	MR																								*				
Archer	America s Alfalfa	5	MR	R	HR	R	HR	HR	R							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Archer II	America s Alfalfa	5	R	HR	HR	HR	R	MR	HR																						*	*	*	*	*	*	
Baralfa54	Barenbrug USA	5	R	HR	HR	HR	HR	HR	?							*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	*	
Dagger+EV	AgriPro	5	HR	HR	HR	HR	MR	HR	MR																						*						
Garst 6550	Garst Seed Co.	5	HR	HR	HR	HR	?	?	?																												
LM 459	Lohse Mill	5	R	R	HR	LR	R	HR	R																												
OK49	Cal/West Seeds	5	MR	MR	R	MR	R	?	LR												*	*	*	*	**	**	**	**	**	**	**	**	**	**	**	**	
ZX9351	ABI Alfalfa	5	R	R	HR	MR	R	R	?																									*			
5681	Pioneer HiBred Int I	6	R	HR	HR	HR	HR	R	HR																						*	*	*	*	*	*	
C/W 55112	Cal/West Seeds	6	?	HR	HR	HR	R	HR	R																							*	*	*	*	*	
C/W 5567	Cal/West Seeds	6	?	HR	HR	HR	R	HR	R																							*	*	*	*	*	
C/W 6699	Cal/West Seeds	6	?	HR	HR	HR	HR	?	HR																						*	**	*	*	*	*	
Magna 601	Dairyland Seed Co.	6	R	HR	HR	R	HR	HR	R																					*	*	*	*	*	*	*	

Table 11. New Mexico State University Cooperative Extension Service publications related to alfalfa management.

Number	Title	Online ?
A-107	Managing saline soils	
A-113	Selection of fertilizers	Y
A-114	Test your soil	Y
A-122	Soil test interpretations	Y
A-123	Sampling for plant tissue analysis	
A-128	Fertilizer guide for New Mexico	Y
A-128	Nitrogen fixation by legumes	Y
A-130	Inoculation of legumes	Y
A-131	Certified seed	Y
A-133	Calculating fertilizer costs	Y
A-134	Selecting synthetic fertilizers in New Mexico	Y
A-18	Micronutrient fertility guide	
A-216	Know what is in a bag of seed	Y
A-309	Alfalfa weevil and clover leaf weevil	
A-316	Structure of a hay bale	
A-317	Alfalfa fertilization in New Mexico	
A-318	Reducing alfalfa harvest losses	Y
A-325	Managing weeds in alfalfa	Y
A-327	Introduction to hay testing	Y
A-328	Sampling guidelines for hay testing	Y
A-329	Variations in hay grading	Y
A-330	Alfalfa growth stages	Y
A-331	Alfalfa quality definitions	Y
B-115	Balancing forage supply and demand	Y
CR-536	Blister beetles in alfalfa	Y
HB-11	Suggestions for managing insects in alfalfa 19 and clover 1996	
W-01	Submitting plants for plant tissue analysis	
W-13	Alfalfa disease control	

These publications are available from your county office of the NMSU Cooperative Extension Service.
 To view publications online from the Internet visit <http://www.cahe.nmsu.edu/pubs/>