



The 2018  
**New Mexico**  
**Alfalfa Variety**  
Test Report



Agricultural Experiment Station  
**College of Agricultural, Consumer  
and Environmental Sciences**



## The 2018 New Mexico Alfalfa Variety Test Report

Leonard Lauriault, Ian Ray, Chris Pierce, Owen Burney, Koffi Djaman, Robert Flynn, Mark Marsalis, Samuel Allen, Gasper Martinez, Charles Havlik, and Margaret West<sup>1</sup>

### Introduction

In 2018, 180,000 acres of alfalfa (*Medicago sativa*) were in production in New Mexico, which was a 10,000 acre decrease from 2017. Hay production was estimated at 918,000 tons reflecting another 2% increase in yield/acre. At a January through August 2018 average of \$215/ton (up from \$180/ton in 2017), estimated gross returns from alfalfa hay produced in 2018 will total just over \$197 million, a \$26 million increase over 2017. Besides its value for hay, 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 established irrigated tests included in this report ranged from 0.99 to 2.41 tons per acre in 2018. If sold as hay, this translates to a potential difference in returns of \$213 to \$518 per acre due to variety, or an increase of at least \$38 million for the industry in 2018 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 Artesia [2016 (late summer planted) and 2018 (spring planted)], Tucumcari (2015 irrigated with treated municipal wastewater), Los Lunas (2016), and Farmington (2014). Weather data for 2018 and the long-term

averages from all locations are presented in table 1.

Yield data (on a dry matter basis) are presented in tables 2-6. Varieties are listed in order from highest to lowest average annual production. Yields are given by cutting for 2018 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 7 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. For information about other varietal characteristics, such as grazing, salt, or traffic tolerance or GMO traits besides Roundup Ready® genetics, check the National Alfalfa and Forage Alliance website for the Alfalfa Variety Leaflet (<https://www.alfalfa.org/varietyLeaflet.php>). In Table 7, 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.

---

<sup>1</sup>Forage Crop Management Scientist and Superintendent, NMSU Agricultural Science Center at Tucumcari; Alfalfa Breeder, NMSU, Las Cruces; Forage Research Scientist, NMSU, Las Cruces; Superintendent, NMSU John T. Harrington Forestry Research Center at Mora; Agronomist, NMSU Agricultural Science Center at Farmington; Extension Agronomist, NMSU Agricultural Science Center at Artesia; Extension Forage Specialist, NMSU Agricultural Science Center at Los Lunas; Agricultural Research Scientist, NMSU Agricultural Science Center at Farmington; Agricultural Research Assistant, NMSU Agricultural Science Center at Tucumcari; Senior Research Assistant, NMSU Agricultural Science Center at Los Lunas; and Agricultural Research Scientist, NMSU Agricultural Science Center at Farmington, respectively.

## 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

additional information about alfalfa management, refer to the other NMSU Agricultural Experiment Station and Cooperative Extension Service publications listed in table 8.

## Acknowledgements

The authors express appreciation to the following for their significant contribution to The New Mexico Alfalfa Variety Testing Program by helping with planting, maintaining, harvesting, or other data collection, and data entry: Dallen Begay, Nathan Begay, Jason Box, Servando Bustillos, Patty Cooksey, Josh Foster, Lorenzo Gallegos, Christopher Hill, Jared Jennings, Shane Jennings, Jonah Joe, Ruben Pacheco, Tom Place, Dennis Price, Franklin Jason Thomas, Anthony Williams, and the staff at University Marketing and Communications who make publications such as this possible. Salaries and research support were provided by state and federal funds appropriated to the New Mexico Agricultural Experiment Station. Federal funds included those appropriated through the Hatch Act of 1887.

**Table 1. Temperature and precipitation data for 2018 and the long-term averages for the New Mexico Alfalfa Variety Test locations.**

| Location<br>Elevation<br>Latitude | Artesia<br>3366 ft.<br>32° 45' N |      |               |       | Tucumcari<br>4091 ft.<br>35° 12' N |      |               |       | Los Lunas<br>4840 ft.<br>34° 46' N |      |               |      | Farmington<br>5640 ft.<br>36° 41' N |      |               |      |
|-----------------------------------|----------------------------------|------|---------------|-------|------------------------------------|------|---------------|-------|------------------------------------|------|---------------|------|-------------------------------------|------|---------------|------|
|                                   | Temp. (°F)                       |      | Precip. (in.) |       | Temp. (°F)                         |      | Precip. (in.) |       | Temp. (°F)                         |      | Precip. (in.) |      | Temp. (°F)                          |      | Precip. (in.) |      |
| Month                             | 2018                             | Avg. | 2018          | Avg.  | 2018                               | Avg. | 2018          | Avg.  | 2018                               | Avg. | 2018          | Avg. | 2018                                | Avg. | 2018          | Avg. |
| Nov-17                            | 53                               | 49   | 0.31          | 0.53  | 54                                 | 48   | 0.01          | 0.74  | 49                                 | 44   | 0.00          | 0.46 | 48                                  | 41   | 0.14          | 0.65 |
| Dec-17                            | 43                               | 41   | 0.28          | 0.51  | 41                                 | 39   | 0.00          | 0.60  | 35                                 | 35   | 0.00          | 0.52 | 35                                  | 31   | 0.00          | 0.47 |
| Jan-18                            | 38                               | 40   | 0.10          | 0.39  | 38                                 | 38   | 0.00          | 0.42  | 35                                 | 35   | 0.02          | 0.38 | 35                                  | 30   | 0.25          | 0.51 |
| Feb-18                            | 46                               | 45   | 0.10          | 0.42  | 43                                 | 42   | 0.03          | 0.50  | 43                                 | 40   | 0.35          | 0.41 | 39                                  | 36   | 0.09          | 0.49 |
| Mar-18                            | 54                               | 42   | 0.03          | 0.43  | 52                                 | 49   | 0.16          | 0.78  | 50                                 | 47   | 0.12          | 0.47 | 44                                  | 44   | 0.09          | 0.62 |
| Apr-18                            | 60                               | 60   | 0.00          | 0.62  | 56                                 | 58   | 0.51          | 1.18  | 61                                 | 55   | 0.00          | 0.47 | 55                                  | 51   | 0.20          | 0.60 |
| May-18                            | 73                               | 69   | 1.89          | 1.20  | 72                                 | 66   | 1.82          | 1.99  | 69                                 | 63   | 0.07          | 0.47 | 64                                  | 60   | 0.32          | 0.55 |
| Jun-18                            | 81                               | 78   | 1.67          | 1.40  | 81                                 | 76   | 0.56          | 2.00  | 78                                 | 73   | 1.30          | 0.55 | 74                                  | 70   | 0.80          | 0.25 |
| Jul-18                            | 81                               | 80   | 1.72          | 1.76  | 81                                 | 79   | 1.16          | 2.77  | 79                                 | 77   | 1.14          | 1.37 | 80                                  | 76   | 0.60          | 0.84 |
| Aug-18                            | 80                               | 78   | 1.38          | 1.67  | 78                                 | 77   | 3.63          | 2.88  | 76                                 | 75   | 0.65          | 1.69 | 76                                  | 74   | 0.21          | 1.03 |
| Sep-18                            | 72                               | 71   | 1.92          | 1.81  | 72                                 | 71   | 0.78          | 1.65  | 69                                 | 67   | 0.78          | 1.18 | 69                                  | 66   | 0.14          | 1.10 |
| Oct-18                            | 59                               | 61   | 3.01          | 1.16  | 58                                 | 60   | 4.27          | 1.37  | 56                                 | 56   | 2.22          | 1.04 | 53                                  | 54   | 0.81          | 0.93 |
| Annual                            | 62                               | 60   | 12.41         | 11.90 | 61                                 | 58   | 12.93         | 16.88 | 58                                 | 56   | 6.65          | 8.97 | 56                                  | 53   | 3.65          | 8.04 |

**Table 2. Dry matter yields (tons/acre) of sprinkler-irrigated alfalfa varieties sown September 16, 2016, at NMSU's Agricultural Science Center at Artesia†.**

| Variety Name      | 2017   | 2018 Harvests |        |        |        |         | 2018   | 2-Yr    |
|-------------------|--------|---------------|--------|--------|--------|---------|--------|---------|
|                   | Total  | 8-May         | 7-Jun  | 3-Jul  | 6-Aug  | 17-Sep‡ | Total  | Average |
| SW 7408           | 9.41** | 1.72**        | 1.54*  | 1.62*  | 2.00** | 1.69*   | 8.28*  | 9.05**  |
| NuMex Bill Melton | 9.16*  | 1.59*         | 1.71*  | 1.62*  | 1.82*  | 1.61*   | 8.22*  | 8.64*   |
| MS sunstra 155203 | 8.67*  | 1.61*         | 1.76** | 1.63*  | 1.87*  | 1.66*   | 8.42*  | 8.60*   |
| African Common    | 8.05*  | 1.60*         | 1.51*  | 1.69*  | 1.95*  | 1.83**  | 8.45** | 8.36*   |
| SW 8412           | 8.09*  | 1.34*         | 1.58*  | 1.82** | 1.92*  | 1.63*   | 8.20*  | 8.32*   |
| SW 8476           | 8.29*  | 1.65*         | 1.63*  | 1.48*  | 1.61*  | 1.76*   | 7.96*  | 8.18*   |
| Zia               | 7.64*  | 1.34*         | 1.56*  | 1.71*  | 1.70*  | 1.64*   | 7.77*  | 7.88*   |
| MS sunstra 155204 | 7.99*  | 1.64*         | 1.47*  | 1.33*  | 1.59*  | 1.78*   | 8.06*  | 7.87*   |
| SW 8409           | 8.08*  | 1.45*         | 1.48*  | 1.48*  | 1.61*  | 1.32*   | 7.75*  | 7.69*   |
| 55ER08            | 7.78*  | 1.57*         | 1.45*  | 1.29*  | 1.79*  | 1.58*   | 7.70*  | 7.69*   |
| SW 7473           | 7.78*  | 1.14*         | 1.43*  | 1.60*  | 1.80*  | 1.66*   | 7.64*  | 7.63*   |
| New Mexico 11-1   | 7.63*  | 1.38*         | 1.02*  | 1.63*  | 1.75*  | 1.71*   | 7.98*  | 7.62*   |
| NM Common         | 7.36*  | 1.44*         | 1.78*  | 1.54*  | 1.62*  | 1.50*   | 7.71*  | 7.55*   |
| Dona Ana          | 7.82*  | 0.78*         | 1.18*  | 1.32*  | 1.69*  | 1.60*   | 6.67*  | 7.19*   |
| Mean              | 8.13   | 1.45          | 1.51   | 1.55   | 1.77   | 1.64    | 7.92   | 8.02    |
| LSD (0.05)        | NS     | NS            | NS     | NS     | NS     | NS      | NS     | NS      |
| CV%               | 10.50  | 32.70         | 27.10  | 15.44  | 14.76  | 12.00   | 9.93   | 9.25    |

†Data were analyzed using analysis of covariance where check plots of AmeriStand 803T were used as the covariate.

2017 Harvest dates: 16-May, 22-Jun, 21-Jul, 24-Aug, and 16-Oct.

‡The sixth harvest was not taken due to excessive precipitation.

\*\*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 sprinkler-irrigated alfalfa varieties sown April 18, 2018, at NMSU's Agricultural Science Center at Artesia†.**

| Variety Name      | 2018 Harvest |
|-------------------|--------------|
|                   | 12-Sep‡      |
| SW 8476           | 1.44**       |
| SW 7408           | 1.43*        |
| SW 8412           | 1.26*        |
| MS sunstra 155203 | 1.24*        |
| SW 8409           | 1.19*        |
| Hi-Gest 660       | 1.14*        |
| Zia               | 1.14*        |
| SW 8421S          | 1.07*        |
| SW 7473           | 1.07*        |
| Dona Ana          | 1.01*        |
| NM Common         | 0.90*        |
| African Common    | 0.89*        |
| Mean              | 1.15         |
| LSD (0.05)        | NS           |
| CV%               | 26.68        |

†Data were analyzed using analysis of covariance where check plots of Pioneer 55VR08 were used as the covariate

‡A prior harvest was not measured due to excessive weeds.

\*\*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 at the 5% level.

**Table 4. 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<br>Total | 2017<br>Total | 2018 Harvests‡ |        |        |        | 2018<br>Total | 3-Yr<br>Average |
|-------------------|---------------|---------------|----------------|--------|--------|--------|---------------|-----------------|
|                   |               |               | 10-Jul         | 14-Aug | 11-Sep | 30-Oct |               |                 |
| NuMex Bill Melton | 4.62**        | 5.85**        | 0.79*          | 0.66** | 0.51*  | 0.19*  | 2.14**        | 4.20**          |
| 6829R             | 4.38*         | 5.68*         | 0.76*          | 0.53*  | 0.57** | 0.23** | 2.08*         | 4.05*           |
| NM14BMHS1         | 4.19*         | 5.36*         | 0.84**         | 0.56*  | 0.50*  | 0.20*  | 2.09*         | 3.88*           |
| African Common    | 3.65          | 5.59*         | 0.76*          | 0.54*  | 0.51*  | 0.19*  | 1.99*         | 3.74*           |
| NM14BMHR2         | 4.17*         | 5.33*         | 0.65           | 0.46   | 0.39   | 0.13   | 1.63          | 3.71            |
| Mallard           | 3.98*         | 5.23*         | 0.58           | 0.54*  | 0.43   | 0.13   | 1.68          | 3.63            |
| NM14BMC0          | 3.99*         | 5.26*         | 0.62           | 0.37   | 0.42   | 0.13   | 1.53          | 3.59            |
| Malone            | 3.77          | 5.22*         | 0.66           | 0.43   | 0.45   | 0.15   | 1.68          | 3.55            |
| NM14BM1008251     | 3.94*         | 5.00          | 0.69           | 0.39   | 0.42   | 0.19*  | 1.68          | 3.54            |
| NM14MalHS3        | 3.69          | 5.12          | 0.64           | 0.55*  | 0.44   | 0.16   | 1.78*         | 3.53            |
| NM Common         | 3.52          | 5.10          | 0.70*          | 0.42   | 0.46   | 0.17   | 1.74          | 3.45            |
| Zia               | 3.23          | 4.94          | 0.64           | 0.49*  | 0.47*  | 0.17   | 1.76*         | 3.31            |
| NM14MLLS2         | 3.65          | 4.50          | 0.56           | 0.34   | 0.32   | 0.15   | 1.37          | 3.17            |
| SW 5213           | 3.27          | 4.93          | 0.52           | 0.30   | 0.32   | 0.11   | 1.24          | 3.15            |
| ICON              | 3.33          | 4.51          | 0.63           | 0.42   | 0.37   | 0.14   | 1.56          | 3.13            |
| SW 5909           | 3.27          | 4.61          | 0.52           | 0.34   | 0.38   | 0.10   | 1.33          | 3.07            |
| Red Falcon BR     | 3.19          | 4.19          | 0.52           | 0.35   | 0.42   | 0.12   | 1.40          | 2.93            |
| SW 5113           | 3.10          | 4.28          | 0.53           | 0.35   | 0.39   | 0.11   | 1.38          | 2.92            |
| Roadrunner        | 3.03          | 4.50          | 0.52           | 0.25   | 0.29   | 0.09   | 1.15          | 2.89            |
| Mean              | 3.68          | 5.01          | 0.64           | 0.43   | 0.42   | 0.15   | 1.64          | 3.44            |
| LSD (0.05)        | 0.72          | 0.72          | 0.15           | 0.19   | 0.11   | 0.05   | 0.39          | 0.48            |
| CV%               | 13.85         | 10.18         | 16.49          | 30.51  | 18.46  | 23.64  | 16.60         | 17.12           |

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

‡Irrigation water delivery system failures at the wastewater plant prevented irrigation from October 2017 through May 2018 and in August 2018.

2016 Harvest dates: 24-May, 22-Jun, 9-Aug, 13-Sep, and 8-Nov.

2017 Harvest dates: 19-May, 20-Jun, 19-Jul, 15-Aug, 11-Sep, and 30-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 flood-irrigated alfalfa varieties sown September 20, 2016, at NMSU's Agricultural Science Center at Los Lunas†.**

| Variety Name        | 2017<br>Total | 2018 Harvests |        |        |        |        | 2018<br>Total | 2-Yr<br>Average |
|---------------------|---------------|---------------|--------|--------|--------|--------|---------------|-----------------|
|                     |               | 1-Jun         | 3-Jul  | 9-Aug  | 12-Sep | 7-Nov  |               |                 |
| Roadrunner          | 6.57*         | 1.90***       | 1.85*  | 1.66*  | 1.16*  | 0.89   | 7.46**        | 7.01**          |
| WL 454HQ.RR         | 6.83*         | 1.42          | 1.86*  | 1.65*  | 1.22*  | 0.99** | 7.14*         | 6.98*           |
| NM14BMHS1           | 6.78*         | 1.72**        | 1.82*  | 1.59*  | 1.19*  | 0.83   | 7.15*         | 6.96*           |
| NM14MalHS3          | 6.70*         | 1.69*         | 1.83*  | 1.66*  | 1.16*  | 0.84   | 7.18*         | 6.94*           |
| AmeriStand 715NT RR | 6.73*         | 1.56*         | 1.84*  | 1.61*  | 1.14*  | 0.98*  | 7.13*         | 6.93*           |
| NuMex Bill Melton   | 7.03**        | 1.46          | 1.77*  | 1.64*  | 1.07   | 0.85   | 6.79          | 6.91*           |
| Artesian Sunrise    | 6.62*         | 1.65*         | 1.80*  | 1.63*  | 1.19*  | 0.89   | 7.16*         | 6.89*           |
| Meadowlark          | 6.59*         | 1.67*         | 1.97** | 1.62*  | 1.09   | 0.79   | 7.13*         | 6.86*           |
| SW 7473             | 6.32*         | 1.70*         | 1.79*  | 1.77** | 1.07   | 0.96*  | 7.29*         | 6.80*           |
| msSunstra 155204    | 6.41*         | 1.61*         | 1.67*  | 1.66*  | 1.25** | 0.98*  | 7.16*         | 6.79*           |
| Transition 6.10 RR  | 6.51*         | 1.47          | 1.72*  | 1.71*  | 1.16*  | 0.91*  | 6.97          | 6.74*           |
| HybriForce 2600     | 6.41*         | 1.53          | 1.84*  | 1.65*  | 1.12   | 0.86   | 7.00          | 6.70*           |
| NM14ALWLHQ          | 6.17          | 1.69*         | 1.73*  | 1.69*  | 1.15*  | 0.85   | 7.11*         | 6.64*           |
| Dona Ana            | 6.20          | 1.61*         | 1.77*  | 1.57*  | 1.25** | 0.87   | 7.07          | 6.64*           |
| Stratica RR         | 6.32*         | 1.51          | 1.86*  | 1.57*  | 1.10   | 0.89   | 6.93          | 6.63*           |
| WL 440HQ            | 6.29*         | 1.51          | 1.86*  | 1.63*  | 1.10   | 0.83   | 6.93          | 6.61*           |
| Archer III          | 6.44*         | 1.41          | 1.73*  | 1.73*  | 1.05   | 0.79   | 6.72          | 6.58            |
| msSunstra 155206    | 6.41*         | 1.34          | 1.66*  | 1.63*  | 1.06   | 0.87   | 6.56          | 6.49            |
| SW 7408             | 5.95          | 1.51          | 1.74*  | 1.64*  | 1.15*  | 0.93*  | 6.96          | 6.46            |
| WL 552HQ.RR         | 5.83          | 1.41          | 1.78*  | 1.70*  | 1.17*  | 0.97*  | 7.03          | 6.43            |
| Six Shooter RR      | 6.08          | 1.43          | 1.68*  | 1.56*  | 1.17*  | 0.90*  | 6.74          | 6.41            |
| Malone              | 5.97          | 1.30          | 1.84*  | 1.50*  | 1.18*  | 0.87   | 6.69          | 6.33            |
| Tonnica RR          | 5.95          | 1.32          | 1.80*  | 1.55*  | 1.14*  | 0.90*  | 6.71          | 6.33            |
| Hi-Gest 660         | 6.04          | 1.45          | 1.70*  | 1.55*  | 1.11   | 0.81   | 6.61          | 6.33            |
| NM Common           | 5.59          | 1.54          | 1.75*  | 1.57*  | 1.23*  | 0.84   | 6.92          | 6.25            |
| WL 372HQ.RR         | 6.10          | 1.22          | 1.60*  | 1.65*  | 1.03   | 0.82   | 6.32          | 6.21            |
| AmeriStand 855T RR  | 5.75          | 1.25          | 1.73*  | 1.51*  | 1.11   | 0.92*  | 6.53          | 6.14            |
| NM14BM1008251       | 5.54          | 1.40          | 1.76*  | 1.57*  | 1.11   | 0.82   | 6.65          | 6.09            |
| Mean                | 6.29          | 1.51          | 1.78   | 1.62   | 1.14   | 0.88   | 6.93          | 6.61            |
| LSD (0.05)          | 0.76          | 0.19          | NS     | NS     | 0.13   | 0.10   | 0.39          | 0.41            |
| CV%                 | 8.61          | 8.92          | 8.12   | 8.40   | 7.95   | 7.68   | 4.00          | 6.28            |

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

2017 Harvest dates: 6-Jun, 18-Jul, 1-Sep, and 6-Nov.

\*\*\*Highest numerical value in the column.

\*\*Second highest numerical value in the column; not significantly different from the highest numerical value in the column based on the 5% LSD.

\*Not significantly different from the second 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 August 21, 2014, at NMSU's Agricultural Science Center at Farmington†.**

| Variety Name    | 2015<br>Total | 2016<br>Total | 2017<br>Total | 2018 Harvests |        |        |        | 2018<br>Total | 4-Yr<br>Average |
|-----------------|---------------|---------------|---------------|---------------|--------|--------|--------|---------------|-----------------|
|                 |               |               |               | 31-May        | 3-Jul  | 7-Aug  | 10-Oct |               |                 |
| Raven           | 10.48*        | 10.13*        | 7.29*         | 1.00**        | 2.30*  | 2.37** | 1.97*  | 7.64**        | 8.88**          |
| Ranger          | 10.23*        | 10.31*        | 7.26*         | 0.89*         | 2.36*  | 2.23*  | 1.98** | 7.45*         | 8.81*           |
| Lahonton        | 10.32*        | 9.86*         | 7.11*         | 0.80*         | 2.36*  | 2.01*  | 1.67*  | 6.84*         | 8.53*           |
| Arrowhead II    | 10.18*        | 10.15*        | 7.08*         | 0.69          | 2.21*  | 2.30*  | 1.43   | 6.63          | 8.51*           |
| Mallard         | 10.50*        | 10.07*        | 6.79*         | 0.83*         | 2.40** | 1.88*  | 1.56   | 6.67          | 8.51*           |
| MagnaGraze II   | 9.87*         | 10.50**       | 7.36**        | 0.80*         | 2.18*  | 1.84*  | 1.44   | 6.26          | 8.50*           |
| Roadrunner      | 10.77**       | 9.30          | 6.47*         | 0.97*         | 2.15*  | 2.30*  | 1.56   | 6.97*         | 8.38*           |
| GrandStand      | 9.52          | 9.90*         | 6.80*         | 0.94*         | 1.82   | 1.76*  | 1.67*  | 6.18          | 8.10            |
| Archer III      | 10.48         | 9.34          | 5.99          | 0.92*         | 2.22*  | 1.90*  | 1.48   | 6.52          | 8.08            |
| PGI 424         | 10.04*        | 9.37          | 6.32          | 0.77*         | 1.97*  | 2.19*  | 1.61*  | 6.54          | 8.07            |
| Hi-Gest 360     | 9.87*         | 9.54*         | 6.01          | 0.71          | 2.33*  | 2.18*  | 1.60   | 6.81*         | 8.05            |
| 4S417           | 10.04*        | 9.92*         | 6.49*         | 0.74          | 1.74   | 1.69*  | 1.57   | 5.74          | 8.05            |
| NM Common       | 9.90*         | 9.35          | 6.18          | 0.66          | 1.89*  | 2.02*  | 1.73*  | 6.30          | 7.93            |
| Mountaineer 2.0 | 9.81*         | 9.61*         | 6.31          | 0.84*         | 1.67   | 1.91*  | 1.55   | 5.95          | 7.92            |
| WL 363HQ        | 9.90*         | 9.98*         | 5.81          | 0.61          | 1.89*  | 1.90*  | 1.40   | 5.79          | 7.87            |
| Gunner          | 9.61          | 9.18          | 6.52*         | 0.86*         | 1.93*  | 1.60*  | 1.40   | 5.79          | 7.78            |
| 54VR03          | 9.64          | 8.75          | 6.20          | 0.86*         | 1.95*  | 2.02*  | 1.43   | 6.24          | 7.71            |
| Dona Ana        | 9.52          | 9.22          | 5.76          | 0.69          | 2.05*  | 1.80*  | 1.72*  | 6.26          | 7.69            |
| Wilson          | 9.33          | 8.82          | 5.64          | 0.72          | 1.93*  | 1.91*  | 1.95*  | 6.51          | 7.57            |
| WL 354HQ        | 9.86*         | 9.19          | 5.62          | 0.60          | 2.04*  | 1.61*  | 1.12   | 5.38          | 7.51            |
| Malone          | 8.87          | 8.71          | 6.03          | 0.68          | 1.90*  | 1.69*  | 1.38   | 5.65          | 7.31            |
| Zia             | 8.87          | 8.12          | 5.43          | 0.67          | 1.30   | 1.73*  | 1.53   | 5.23          | 6.91            |
| Mean            | 9.89          | 9.51          | 6.38          | 0.78          | 2.03   | 1.95   | 1.58   | 6.33          | 8.03            |
| LSD (0.05)      | 1.06          | 0.98          | 0.96          | 0.24          | 0.56   | NS     | 0.38   | 0.95          | 0.63            |
| CV%             | 7.55          | 7.26          | 10.67         | 21.48         | 19.46  | 18.71  | 16.86  | 10.63         | 11.13           |

†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.

2016 Harvest dates: 2-Jun, 11-Jul, 17-Aug, and 5-Oct.

2017 Harvest dates: 7-Jun, 11-Jul, and 24-Aug (equipment failure prevented fourth harvest).

\*\*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. Characteristics and performance of alfalfa varieties across years and tests in New Mexico. |                          | Varietal Characteristics <sup>1</sup> |    |     |    |                 |     |     |     |     |     |     |     |     | Artesia |    | Tucumcari |    |    | Los Lunas |    | Farmington |    |    |    |    |    |    |    |    |   |  |
|---|--------------------------|---------------------------------------|----|-----|----|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|---------|----|-----------|----|----|-----------|----|------------|----|----|----|----|----|----|----|----|---|--|
|   |                          | RR                                    | FD | WS  | Or | Pest resistance |     |     |     |     |     |     |     |     | 2016    |    | 2015      |    |    | 2016      |    | 2014       |    |    |    |    |    |    |    |    |   |  |
|   |                          |                                       |    |     |    | BW              | FW  | AN  | PRR | SAA | PA  | BAA | SN  | RKN | 17      | 18 | 18        | 16 | 17 | 18        | 17 | 18         | 15 | 16 | 17 | 18 |    |    |    |    |   |  |
| Variety   | Proprietor               |                                       |    |     |    |                 |     |     |     |     |     |     |     |     |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| Arrowhead II  | Alforex Seeds            |                                       | 2  | 2   |    | HR              | HR  | HR  | HR  | n/r | R   | n/r | HR  | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    | *  | *  | *  | * |  |
| Hi-Gest 360   | Alforex Seeds            |                                       | 3  | n/r |    | HR              | HR  | HR  | HR  | n/r | n/r | R   | n/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 |         |    |           |    |    |           |    |            |    |    |    |    | *  | *  | *  | *  |   |  |
| 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 |         |    |           |    |    |           |    |            |    |    |    |    | *  |    |    |    |   |  |
| GrandStand  | Crop Production Services |                                       | 4  | 2   |    | HR              | HR  | HR  | HR  | R   | HR  | n/r | MR  | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    | *  | *  |    |   |  |
| Meadowlark  | Blue River Hybrids       |                                       | 4  | 2   | Y  | 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   | Y  | HR              | R   | R   | R   | R   | HR  | R   | R   | n/r |         |    |           |    |    |           |    |            |    |    |    |    | *  | *  | ** | ** |   |  |
| Red Falcon BR   | Blue River Hybrids       |                                       | 4  | 2   | Y  | HR              | HR  | HR  | HR  | n/r | n/r | n/r | R   | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| Roadrunner  | Blue River Hybrids       |                                       | 4  | 2   | Y  | HR              | HR  | HR  | HR  | HR  | LR  | n/r | R   | n/r |         |    |           |    |    |           | *  | **         |    |    |    |    | ** | .  | *  | *  |   |  |
| RR Stratica   | Croplan Genetics         | Y                                     | 4  | n/r |    | HR              | HR  | HR  | HR  | HR  | R   | n/r | R   | n/r |         |    |           |    |    |           | *  |            |    |    |    |    |    |    |    |    |   |  |
| WL 354HQ  | W-L Research             |                                       | 4  | 1   |    | HR              | HR  | HR  | HR  | HR  | HR  | n/r | R   | n/r |         |    |           |    |    |           |    |            |    |    |    |    | *  |    |    |    |   |  |
| 55VR05  | Pioneer HiBred Int'l     | Y                                     | 5  | n/r |    | HR              | HR  | HR  | HR  | n/r | n/r | n/r | HR  | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| 55VR08  | Pioneer HiBred Int'l     | Y                                     | 5  | 2   |    | R               | HR  | HR  | HR  | R   | HR  | n/r | n/r | 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   | Blue River Hybrids       |                                       | 5  | 2   | Y  | HR              | HR  | HR  | HR  | R   | HR  | n/r | R   | n/r |         |    |           |    |    | *         |    |            |    |    |    |    | *  | *  | *  | *  |   |  |
| Mountaineer 2.0   | Croplan Genetics         |                                       | 5  | 2   |    | HR              | HR  | HR  | HR  | R   | HR  | n/r | HR  | R   |         |    |           |    |    |           |    |            |    |    |    |    | *  | *  | *  |    |   |  |
| RR Tonnica  | Croplan Genetics         | Y                                     | 5  | n/r |    | HR              | HR  | HR  | HR  | n/r | R   | n/r | R   | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| SW 5113   | 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 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  |         |    |           |    |    |           |    |            |    |    |    |    | *  | *  |    |    |   |  |
| WL 372HQ.RR   | W-L Research             | Y                                     | 5  | 2   |    | HR              | HR  | HR  | HR  | HR  | HR  | n/r | HR  | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| Zia   | Roswell Seed             |                                       | 5  | n/r |    | MR              | MR  | S   | S   | MR  | S   | S   | n/r | n/r | *       | *  | *         |    |    | *         |    |            |    |    |    |    |    |    |    |    |   |  |
| 56S82   | Pioneer HiBred Int'l     |                                       | 6  | 5   |    | HR              | HR  | HR  | HR  | HR  | HR  | HR  | HR  | HR  |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |
| Hi-Gest 660   | Alforex Seeds            |                                       | 6  | n/r |    | R               | HR  | HR  | R   | n/r | n/r | R   | n/r | n/r |         |    |           |    |    |           |    |            |    |    |    |    |    |    |    |    |   |  |

8

<sup>1</sup>RR=Roundup Ready if "Y"; 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), WS=Winter Survival (1=No injury, 6=Dead plants), Or=Organically certified seed, 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).

<sup>2</sup>Establishment year.

<sup>3</sup>Harvest year.

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

\*\*Highest yielding variety in the test for that year.

\*Not significantly different from the highest yielding variety in the test for that year.

6

| Table 7 (cont.). Characteristics and performance of alfalfa varieties across years and tests in New Mexico. |                             | Varietal Characteristics <sup>1</sup> |    |     |    |                 |     |     |     |     |     |     |     |     | Artesia |    | Tucumcari |    |    | Los Lunas |    | Farmington |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
|---|-----------------------------|---------------------------------------|----|-----|----|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|---------|----|-----------|----|----|-----------|----|------------|----|----|----|----|--|---|---|---|---|--|--|--|--|--|--|
|   |                             | RR                                    | FD | WS  | Or | Pest resistance |     |     |     |     |     |     |     |     | 2016    |    | 2015      |    |    | 2016      |    | 2014       |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
|   |                             |                                       |    |     |    | BW              | FW  | AN  | PRR | SAA | PA  | BAA | SN  | RKN | 17      | 18 | 18        | 16 | 17 | 18        | 17 | 18         | 15 | 16 | 17 | 18 |  |   |   |   |   |  |  |  |  |  |  |
| Variety   | Proprietor                  |                                       |    |     |    |                 |     |     |     |     |     |     |     |     |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| HybriForce-2600   | Alforex Seeds               |                                       | 6  | 2   |    | HR              | HR  | HR  | HR  | n/r | R   | n/r | HR  | 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 |         |    |           |    |    |           |    |            |    |    |    |    |  | * | * | * | * |  |  |  |  |  |  |
| msSunstra 155203  | Alforex Seeds               |                                       | 6  | n/r |    | n/r             | n/r | n/r | n/r | n/r | n/r | n/r | n/r | n/r |         |    | *         | *  |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| msSunstra 155204  | Alforex Seeds               |                                       | 6  | n/r |    | n/r             | n/r | n/r | n/r | n/r | n/r | n/r | n/r | n/r |         |    | *         | *  |    |           |    | *          | *  |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| msSunstra 155206  | Alforex Seeds               |                                       | 6  | n/r |    | n/r             | n/r | n/r | n/r | n/r | n/r | n/r | n/r | n/r |         |    |           |    |    |           |    | *          | *  |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| RR Six Shooter  | Croplan Genetics            | Y                                     | 6  | n/r |    | HR              | HR  | HR  | HR  | HR  | HR  | n/r | HR  | R   |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Wilson  | 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  | HR  | HR  | HR  | HR  | n/r | HR  | HR  |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| WL 454HQ.RR   | W-L Research                | Y                                     | 6  | n/r |    | R               | HR  | HR  | HR  | HR  | HR  | n/r | HR  | n/r |         |    |           |    |    |           | *  | *          |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| 6829R   | Nexgrow Alfalfa             |                                       | 7  | n/r |    | R               | R   | HR  | HR  | HR  | HR  | R   | HR  | n/r |         |    |           |    |    | *         | *  | *          |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Ameristand 715NTR   | America's Alfalfa           | Y                                     | 7  | n/r |    | R               | HR  | HR  | HR  | HR  | HR  | n/r | HR  | n/r |         |    |           |    |    |           | *  | *          |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Artesian Sunrise  | Croplan Genetics            |                                       | 7  | n/r |    | MR              | HR  | R   | HR  | HR  | HR  | R   | R   | n/r |         |    |           |    |    |           | *  | *          |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Dona Ana  | Roswell Seed                |                                       | 7  | n/r |    | MR              | MR  | LR  | R   | MR  | R   | n/r | n/r | n/r | *       | *  | *         |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Malone  | Roswell Seed                |                                       | 7  | n/r | Y  | 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 7408   | S & W Seeds                 |                                       | 7  | n/r |    | R               | n/r | HR  | HR  | n/r | n/r | n/r | R   | n/r | **      | *  | *         |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 7410   | S & W Seeds                 |                                       | 7  | n/r |    | R               | R   | HR  | MR  | HR  | R   | R   | MR  | R   |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 7473   | S & W Seeds                 |                                       | 7  | n/r |    | R               | n/r | HR  | HR  | n/r | n/r | n/r | HR  | n/r | *       | *  | *         |    |    |           | *  | *          |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Transition 6.10RR   | Croplan Genetics            | Y                                     | 7  | n/r |    | R               | R   | R   | HR  | R   | HR  | n/r | MR  | n/r |         |    |           |    |    |           | *  |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| 58N57   | Pioneer HiBred Int'l        |                                       | 8  | n/r |    | LR              | R   | HR  | HR  | R   | HR  | HR  | MR  | HR  |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| Ameristand 855TRR   | America's Alfalfa           | Y                                     | 8  | n/r |    | R               | R   | R   | HR  | HR  | n/r | n/r | R   | R   |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 8409   | S & W Seeds                 |                                       | 8  | n/r |    | HR              | HR  | HR  | HR  | HR  | HR  | n/r | R   | n/r | *       | *  | *         |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 8412   | S & W Seeds                 |                                       | 8  | n/r |    | HR              | R   | HR  | HR  | HR  | HR  | n/r | HR  | n/r | *       | *  | *         |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 8421S  | S & W Seeds                 |                                       | 8  | n/r |    | n/r             | HR  | LR  | R   | R   | n/r | n/r | R   | n/r |         |    |           |    |    |           | *  |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| SW 8476   | S & W Seeds                 |                                       | 8  | n/r |    | R               | n/r | R   | R   | n/r | n/r | n/r | n/r | n/r | *       | *  | **        |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| WL 535HQ  | W-L Research                |                                       | 8  | n/r |    | n/r             | HR  | n/r | HR  | HR  | n/r | n/r | R   | R   |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| WL 552HQ.RR   | W-L Research                | Y                                     | 8  | n/r |    | R               | R   | R   | HR  | HR  | R   | n/r | R   | R   |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |
| DG9212  | Crop Production Services    |                                       | 9  | n/r |    | LR              | HR  | HR  | HR  | HR  | HR  | HR  | HR  | n/r |         |    |           |    |    |           |    |            |    |    |    |    |  |   |   |   |   |  |  |  |  |  |  |

<sup>1</sup>RR=Roundup Ready if "Y"; 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), WS=Winter Survival (1=No injury, 6=Dead plants), Or=Organically certified seed, 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).

<sup>2</sup>Establishment year.

<sup>3</sup>Harvest year.

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

\*\*Highest yielding variety in the test for that year.

\*Not significantly different from the highest yielding variety in the test for that year.

L.M. Lauriault, I.M. Ray, C.A. Pierce, O. Burney, K. Djaman, R.P. Flynn, M.A. Marsalis, S. Allen, C. Havlik, G.K. Martinez, and M.M. West  
New Mexico St. Univ. College of Agricultural, Consumer and Environmental Sciences. Agric. Exp. Stn and Coop. Ext. Ser.

| Table 7 (cont.). Characteristics and performance of alfalfa varieties across years and tests in New Mexico. |                             | Varietal Characteristics <sup>1</sup> |     |     |    |                 |     |     |     |     |     |     |     |     | Artesia |    | Tucumcari |      |    | Los Lunas |      | Farmington |      |    |    |    |   |   |  |  |  |  |  |  |  |
|---|-----------------------------|---------------------------------------|-----|-----|----|-----------------|-----|-----|-----|-----|-----|-----|-----|-----|---------|----|-----------|------|----|-----------|------|------------|------|----|----|----|---|---|--|--|--|--|--|--|--|
|   |                             | RR                                    | FD  | WS  | Or | Pest resistance |     |     |     |     |     |     |     |     | 2016    |    | 2018      | 2015 |    |           | 2016 |            | 2014 |    |    |    |   |   |  |  |  |  |  |  |  |
|   |                             |                                       |     |     |    | BW              | FW  | AN  | PRR | SAA | PA  | BAA | SN  | RKN | 17      | 18 | 18        | 16   | 17 | 18        | 17   | 18         | 15   | 16 | 17 | 18 |   |   |  |  |  |  |  |  |  |
| Variety   | Proprietor                  |                                       |     |     |    |                 |     |     |     |     |     |     |     |     |         |    |           |      |    |           |      |            |      |    |    |    |   |   |  |  |  |  |  |  |  |
| African 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 | 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 | n/r     | *  | *         | *    |    |           |      |            |      |    |    |    |   | * |  |  |  |  |  |  |  |
| NM11-1  | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | 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 | n/r     |    |           |      |    |           |      |            |      |    |    |    |   |   |  |  |  |  |  |  |  |

<sup>1</sup>RR=Roundup Ready if "Y"; 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), WS=Winter Survival (1=No injury, 6=Dead plants), Or=Organically certified seed, 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).

<sup>2</sup>Establishment year.

<sup>3</sup>Harvest year.

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

\*\*Highest yielding variety in the test for that year.

\*Not significantly different from the highest yielding variety in the test for that year.

L.M. Lauriault, I.M. Ray, C.A. Pierce, O. Burney, K. Djaman, R.P. Flynn, M.A. Marsalis, S. Allen, C. Havlik, G.K. Martinez, and M.M. West  
New Mexico St. Univ. College of Agricultural, Consumer and Environmental Sciences. Agric. Exp. Stn and Coop. Ext. Ser.

**Table 8. New Mexico State University Agricultural Experiment Station and Cooperative Extension Service publications related to alfalfa management.**

| Number | Title   |
|--------|---|
| 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/](http://aces.nmsu.edu/pubs/)



**New Mexico State University**  
**BE BOLD.** Shape the Future.

---

The College of Agricultural, Consumer and Environmental Sciences is an engine for economic and community development in New Mexico, improving the lives of New Mexicans through academic, research, and Extension programs.

New Mexico State University is an equal opportunity/affirmative action employer and educator. NMSU and the U.S. Department of Agriculture cooperating.