

**New Mexico  
2003  
Corn and Sorghum Performance Tests**

New Mexico State University  
Agricultural Science Centers  
at  
Artesia, Clovis, Farmington, Los Lunas and Tucumcari

and

Department of Extension Plant Sciences

Agricultural Experiment Station/Cooperative Extension Service  
College of Agriculture and Home Economics  
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Thanks to:

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# New Mexico 2003 Corn and Sorghum Performance Tests

## INTRODUCTION

Performance tests for corn (grain and forage), sorghum (grain and forage) and/or sorghum × sudangrass were conducted at the Agricultural Science Centers at Artesia, Clovis, Farmington, Los Lunas and Tucumcari, New Mexico in 2003 (Figure 1). This report is part of an ongoing program to provide farmers, Extension workers and seed industry personnel with unbiased data on the yield and quality potential of corn and sorghum varieties/hybrids at various locations throughout New Mexico.

New Mexico encompasses eight climate zones, all of which have some form of agricultural production (Figure 2). Variability in climate, soils, water quality and availability and local production practices contribute to the need for crop performance tests in the different regions of the state. Climate data for the Agricultural Science Center testing locations are shown in Table 1. Growers using this report to select adapted varieties or hybrids should rely primarily on test results near their location or on other tests from comparable plant hardiness zones.

Figure 1. Corn and sorghum testing locations.



1. Agricultural Science Center at Artesia
2. Agricultural Science Center at Clovis
3. Agricultural Science Center at Farmington
4. Agricultural Science Center at Los Lunas
5. Agricultural Science Center at Tucumcari

Figure 2. Climate zones in New Mexico.

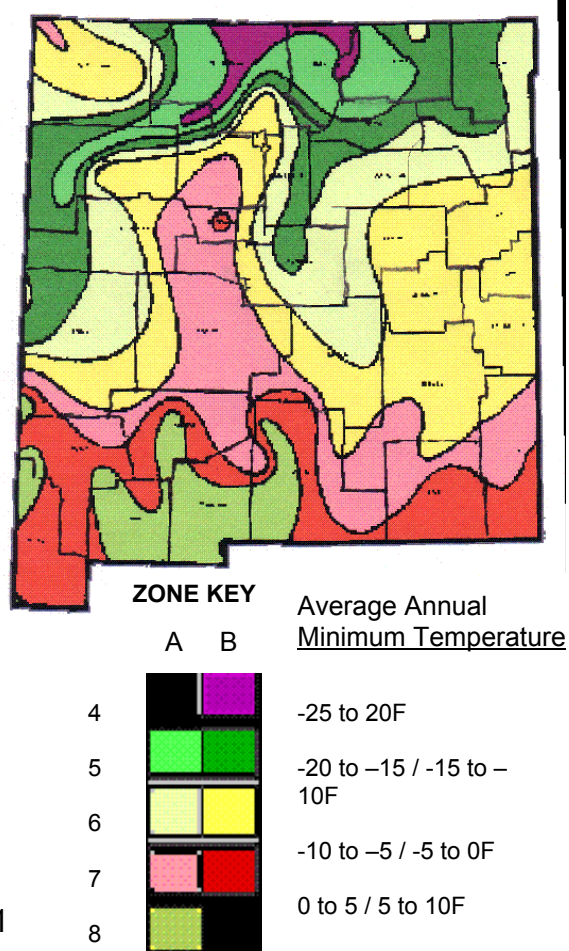


Table 1. Historical average monthly precipitation (inches) and temperatures (°F) for cooperating agricultural science centers.

	Artesia	Clovis	Farmington	Los Lunas	Tucumcari
<b>Precipitation (inches)</b>					
January	0.40	0.34	0.50	0.35	0.37
February	0.41	0.36	0.53	0.41	0.47
March	0.44	0.68	0.78	0.52	0.74
April	0.57	0.83	0.65	0.43	1.10
May	1.25	2.03	0.61	0.48	2.04
June	1.49	2.34	0.22	0.61	1.89
July	1.60	2.85	0.94	1.26	2.65
August	1.77	2.89	1.15	1.76	2.67
September	1.78	1.80	1.07	1.19	1.52
October	1.19	1.58	0.93	1.07	1.28
November	0.47	0.53	0.83	0.49	0.68
December	0.48	0.50	0.46	0.51	0.56
Total	11.86	16.72	8.69	9.11	15.96
<b>Average Temperature (°F)</b>					
January	40.1	38.0	30.1	34.5	38.2
February	45.0	41.7	36.3	40.1	42.0
March	51.5	47.8	43.4	46.8	48.8
April	60.4	56.3	51.0	54.5	57.4
May	70.9	64.9	59.9	63.1	66.1
June	87.7	73.6	69.8	71.9	75.5
July	80.0	76.5	75.0	76.4	78.9
August	78.3	74.9	72.8	74.5	77.2
September	71.4	68.6	65.8	67.1	70.5
October	60.9	58.4	53.5	55.6	59.5
November	48.8	46.3	40.4	43.4	47.3
December	41.0	39.1	31.2	35.0	39.1
Average	61.3	57.2	52.4	55.2	58.4

Source: Western Region Climate Center: <http://www.wrcc.dri.edu/summary/climsmnm.html>

## TEST LOCATIONS

The Agricultural Science Center performance tests were conducted on a grant-in-fee basis. Personnel from each center determined which tests would be conducted at their location and seed companies were invited to participate in the tests. Because seed company participation in individual tests and locations was voluntary, not all of the hybrids/varieties that are grown in the state were included in these tests, and the same group of hybrids/varieties were not grown at each location.

Seed companies participating in the fee-test program in 2003, and relevant contact information are presented in Appendix A. Additional company names and contacts may be added to the list of prospective companies by contacting the Agricultural Science Center at Clovis, 2346 State Road 288, Clovis, NM 88101, (505) 985-2292, [clovis@nmsu.edu](mailto:clovis@nmsu.edu). Entry forms for the 2004 corn and sorghum performance test were mailed to seed companies in February 2004.

## TEST PROCEDURES

In an effort to provide readers with easily accessible information, procedural data for individual tests are presented in the 'Test Description' table that immediately precedes the summary of results for that test. The 'Test Description' tables contain information on location, test design, management practices and growing conditions. Test description tables are designated with an 'A' suffix following the table number.

Each of the Agricultural Science Center performance tests were replicated randomized complete block (RCB) designs. Where appropriate, statistical analyses were used to calculate measures of least significant difference (LSD), coefficient of variability (CV) and F test values. All LSD's are reported at the 95% probability level ( $P > 0.05$ ). For the LSD value to be considered significant at the  $P > 0.05$  level, the F test value for that same variable must be less than 0.05. If the F test value is greater than 0.05 the LSD is non-significant at the 95% probability level. When the F test value is less than 0.05, the LSD value indicates the magnitude by which one entry must differ from another to be considered different. The CV is a measure of variability relative to the mean. A CV below 10% generally indicates reliable, uniform data. CV's of 10 to 20% are indicators of normal variability for grain and forage tests.

Yields for the grain tests (corn and sorghum) are presented on a bushels per acre and pounds per acre basis, adjusted to a standard moisture content and bushel weight. Corn yields are calculated at a standard moisture of 15.5% and a bushel weight of 56 lb. For grain sorghum, the standard moisture is 14% and the standard bushel weight is 56 lb.

Green and dry forage yields, in tons per acre, are reported for the forage tests. Moisture at harvest was calculated from a representative sample (approximately 1 lb) from the harvested plot. Samples from the variety tests at the Agricultural Science Centers at Artesia, Clovis, and Tucumcari were dried in a forced air oven (150°F) for determination of moisture content. Moisture content

determinations at Farmington were derived from air-dried samples. Sub-samples of the dried samples from the Artesia, Clovis and Farmington tests were submitted to Ward Laboratories, Kearney, NE for nutritive quality analysis by NIRS procedures. Samples from the Tucumcari test were not analyzed for nutritive content. Samples from the forage corn test at the Agricultural Science Center at Los Lunas were bagged and frozen after harvest and sent to the University of Wisconsin, Soil and Forage Analysis Laboratory, Marshfield, WI, for determination of dry matter percentages and nutritive quality analysis by NIRS procedures. Because of the differences in the types of analyses conducted by the two laboratories, the quality data reported by the different sources are somewhat different.

## RESULTS

Results for the 2003 corn and sorghum hybrid/variety tests are shown in tables 2-15. Results are presented on tables designated with 'B', 'C' or 'D' suffixes. Within tables, hybrids and varieties are ranked according to grain yield or total dry forage yield. A glossary of terms used in the tables is presented in Appendix B.

### Grain Corn

Entries for the fee-test grain corn tests were accepted by the Agricultural Science Centers at Artesia, Clovis and Farmington. There was only one grain corn entry in the Artesia test so that test was not conducted. Tests were conducted at Clovis and Farmington.

The Clovis grain corn test contained five entries. Problems with the harvest of that test raised concerns about the reliability of that data. As expected, the CV's for grain yields from that test were excessively high, so those data will not be released.

Two grain corn tests were conducted at Farmington. There were ten entries in the early season grain corn test. Mean grain yield was 208 bu/ac and yields were similar for all hybrids (Table 2A-B). Farmington's full-season grain corn test consisted of eight entries. The test's mean grain yield was 222 bu/ac and there was no yield difference among the hybrids (Table 3A-B).

### Forage Corn

Forage corn fee-test tests were conducted at the Agricultural Science Centers at Artesia, Clovis, Farmington and Los Lunas.

The Artesia forage corn test consisted of nine entries. The test's mean dry forage yield was 8.56 ton/ac and there was no yield difference among entries (Table 4A-C). Differences in forage quality were observed for most measured parameters.



There were 17 entries in the Clovis forage corn test. Mean dry forage yield was 9.02 ton/ac and yield differences were significant (Table 5A-C). With the exception of potassium content, all entries had a similar nutritive content.

Five hybrids were entered in the Farmington forage corn test. Dry forage yield averaged 14.27 ton/ac and yields were similar for all hybrids (Table 6A-C). Differences in forage quality were observed for many of the measured parameters.

The Los Lunas forage corn test was comprised of eight hybrids. Mean dry forage yield was 13.50 ton/ac and yields were similar for all hybrids (Table 7A-B). Likewise, all hybrids at Los Lunas had similar predicted milk yields.

### Grain Sorghum

Entries for grain sorghum fee-test tests were accepted at the Agricultural Science Centers at Clovis and Tucumcari. At Clovis, grain sorghum tests were established under full irrigation, limited irrigation, and dryland. A full-irrigated greenbug resistant grain sorghum test was also conducted at Clovis. At Tucumcari, entries were accepted for full irrigation, limited irrigation and dryland grain sorghum tests. Irrigation water from the Arch Hurley Conservancy District, the Tucumcari center's sole source of irrigation water, was not available in 2003. As a result, the full-irrigation test, which contained six entries, and the limited irrigation test, which contained seven entries, were not planted.

The full irrigation grain sorghum test at the Agricultural Science Center at Clovis consisted of 11 entries. The reported grain yields were adjusted for bird damage, since the test incurred a large amount of grain loss due to bird damage (mean = 62%). Mean grain yield for the full irrigation test was 5,726 lb/ac and differences between varieties were observed (Table 8A-B).

Eleven grain sorghum varieties were evaluated under limited irrigation at the Agricultural Science Center at Clovis. As with the full irrigation test, grain loss from bird damage was heavy (mean = 66%). Mean grain yield, adjusted for bird damage, was 5,763 lb/ac and varietal differences were significant (Table 9A-B). Yields for the full irrigation and limited irrigation tests were similar, even though the limited irrigation test received three irrigations compared to four for the full irrigation test. The large amount of precipitation received in June may have offset the effects of the additional August irrigation received by the full irrigation test.

The dryland grain sorghum test at the Agricultural Science Center at Clovis consisted of eight entries. The test was planted on May 28 and experienced soil crusting after the hard rains of June 5 and 6. Additionally, there was no measurable precipitation during the 43-day period from June 29 to August 11. Together, these factors produced poor stands and no harvestable grain. The dryland grain sorghum test at Clovis was not harvested due to crop failure.

Seven dryland grain sorghum entries were established under dryland conditions at the Agricultural Science Center at Tucumcari. Acceptable stands were obtained, but low precipitation during the growing season resulted in a crop failure. The test was not harvested.

The grain sorghum greenbug resistance test at the Agricultural Science Center at Clovis contained five entries. As with the other grain sorghum tests at the Clovis center, bird damage was significant (mean = 69%) and grain yields were adjusted to account for the grain loss. Mean grain yield for the greenbug test was 6,530 lb/acre and varietal differences were significant (Table 10A-B). There was no observed greenbug pressure in any of the grain sorghum tests at Clovis in 2003.

### Forage Sorghum

Entries for forage sorghum evaluations were accepted at the Agricultural Science Centers at Artesia, Clovis, Los Lunas and Tucumcari.

There were 11 entries in the forage sorghum test at the Agricultural Science Center at Artesia. The test was initially established at an off-center location. Scheduling conflicts at that site produced sub-optimal growing conditions and that test was abandoned. The test was replanted at the Artesia center on August 25. The late planting, in conjunction with an early fall frost, produced an average dry forage yield of 0.45 ton/ac (Table 11A-B). Yields were similar for all entries.

At the Agricultural Science Center at Clovis, there were 15 entries in the forage sorghum test. Mean dry forage yield was 6.16 ton/ac and significant yield differences were observed (Table 12A-C). Nutritive quality differences were observed for most of the measured parameters.

The Agricultural Science Center at Los Lunas received eight entries for its forage sorghum test. Results from that test were not available at the time this report was prepared.

The forage sorghum test at the Agricultural Science Center at Tucumcari contained nine entries. The forage sorghum test and the sorghum × sudangrass tests at Tucumcari were combined into a single test and results are reported in the following section.

### Sorghum × Sudangrass

Entries for sorghum × sudangrass tests were accepted by the Agricultural Science Centers at Artesia, Clovis, Los Lunas and Tucumcari.

Five entries were entered in the sorghum × sudangrass test at the Agricultural Science Center at Artesia. Like the forage sorghum test at Artesia, the sorghum × sudangrass test was established at an off-center site, and subsequently abandoned due to production problems. The trial was replanted at the Artesia center on August 25. Entries in the late-planted sorghum × sudangrass test produced a mean dry forage yield of 0.39 ton/ac (Table 13A-B). Significant yield differences were observed.

The sorghum × sudangrass test at the Agricultural Science Center at Clovis contained six entries. The test was harvested on July 24 and September 29. Dry forage yields from the first harvest averaged 2.89 ton/ac and there were no significant yield differences between entries (Table 14A-D). Mean dry forage yield at the second harvest was 5.88 ton/ac and significant differences in dry

matter yield were observed. Season-total dry forage yield averaged 8.78 ton/ac and yield differences were significant. Significant differences were observed for some measures of nutritive quality.

Six sorghum × sudangrass hybrids were entered in the Agricultural Science Center at Los Lunas test. Results were unavailable at the time this report was prepared.

The six sorghum × sudangrass entries for the Agricultural Science Center at Tucumcari were combined with the nine forage sorghum entries to form a single test. The test was managed under dryland conditions since irrigation water was not available. Mean dry forage yield was 0.83 ton/ac and significant hybrid/variety differences were observed (Table 15A-B). There was no yield difference between the forage sorghums, as a group, and the sorghum × sudangrass hybrids, as a group.

**Table 2A. New Mexico 2003 Early Season Grain Corn Performance Test - Agricultural Science Center at Farmington**

Investigators: M.K. O'Neill and C.K. Owen

**Test Description**

<p><b>Location:</b>                  County/Area: San Juan                  Longitude: -108.31                  Latitude: 36.68                  Elevation: 5640 ft.                  Soil Name: Wall                  Soil Texture: sandy loam                  Soil Depth: &gt;75 in.</p>	<p><b>Management Practices:</b>                  Previous Crop: fallow                  Planting Date: 14-May                  Harvest Date: 3-Dec</p>	<p><b>Growing Conditions:</b></p>																																																																																																									
<p><b>Test Design:</b>                  Replications: 4                  Plot Length: 20 ft.                  Rows per Plot: 4                  Row Spacing: 34 in.                  Seeding Rate: 35000 seed/a</p>	<p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>12 lb/a</td> <td>Preplant</td> </tr> <tr> <td>Nitrogen</td> <td>138 lb/a</td> <td>Fertigation</td> </tr> <tr> <td>P2O5</td> <td>52 lb/a</td> <td>Preplant</td> </tr> <tr> <td>K2O</td> <td>60 lb/a</td> <td>Preplant</td> </tr> <tr> <td colspan="3"><b>Herbicides:</b></td> </tr> <tr> <td>Guardsman</td> <td>2.6 pt/ac</td> <td>19-May</td> </tr> <tr> <td>Clarity</td> <td>0.125 pt/a</td> <td>19-May</td> </tr> <tr> <td colspan="3"><b>Insecticides:</b></td> </tr> <tr> <td colspan="3">None</td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	12 lb/a	Preplant	Nitrogen	138 lb/a	Fertigation	P2O5	52 lb/a	Preplant	K2O	60 lb/a	Preplant	<b>Herbicides:</b>			Guardsman	2.6 pt/ac	19-May	Clarity	0.125 pt/a	19-May	<b>Insecticides:</b>			None			<table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>37.9</td><td>0.1</td><td></td></tr> <tr><td>February</td><td>36.1</td><td>1.3</td><td></td></tr> <tr><td>March</td><td>43.5</td><td>0.5</td><td></td></tr> <tr><td>April</td><td>51.0</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>62.6</td><td>0.0</td><td>1.9</td></tr> <tr><td>June</td><td>70.5</td><td>0.2</td><td>6.7</td></tr> <tr><td>July</td><td>80.4</td><td>0.1</td><td>9.9</td></tr> <tr><td>August</td><td>76.5</td><td>1.2</td><td>8.6</td></tr> <tr><td>September</td><td>65.8</td><td>0.9</td><td>2.2</td></tr> <tr><td>October</td><td>58.5</td><td>0.7</td><td></td></tr> <tr><td>November</td><td>40.5</td><td>1.0</td><td></td></tr> <tr><td>December</td><td>33.7</td><td>0.3</td><td></td></tr> <tr> <td>Seasonal Precipitation:</td> <td></td> <td>2.4 in.</td> <td></td> </tr> <tr> <td>Total Irrigation:</td> <td></td> <td>29.4 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Frost:</td> <td colspan="3">11-May</td> </tr> <tr> <td>Date of First Fall Frost:</td> <td colspan="3">26-Oct</td> </tr> <tr> <td>Frost Free Period:</td> <td colspan="3">168 days</td> </tr> </tbody> </table>		Average Temp. °F	Precip. in.	Irrigation in.	January	37.9	0.1		February	36.1	1.3		March	43.5	0.5		April	51.0	0.0		May	62.6	0.0	1.9	June	70.5	0.2	6.7	July	80.4	0.1	9.9	August	76.5	1.2	8.6	September	65.8	0.9	2.2	October	58.5	0.7		November	40.5	1.0		December	33.7	0.3		Seasonal Precipitation:		2.4 in.		Total Irrigation:		29.4 in.		Date of Last Spring Frost:	11-May			Date of First Fall Frost:	26-Oct			Frost Free Period:	168 days		
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**Table 2B. New Mexico 2003 Early Season Grain Corn Performance Test - Agricultural Science Center at Farmington**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture						
		Grain Yield bu/a	at Harvest %	Test Weight lb/bu	Plant Height in	Ear Height in	Silk Date	Plant Count no/a
NC+ Hybrids	NC+ 2162	246	13.8	57.6	102	41	31-Jul	29799
Pioneer Hi-Bred	37B35	226	13.4	58.1	102	41	28-Jul	28453
Garst	8787YG1	226	14.1	58.8	96	36	30-Jul	26915
NC+ Hybrids	NC+ 1320	216	13.1	56.9	101	42	28-Jul	27300
NC+ Hybrids	NC+ 1592	204	12.8	57.7	102	44	28-Jul	29222
Pioneer Hi-Bred	38H67	201	13.5	57.7	95	44	28-Jul	29030
Unity	6104A	196	14.0	58.4	112	50	31-Jul	39027
NC+ Hybrids	NC+ 2919	194	14.1	57.3	99	39	1-Aug	22109
NC+ Hybrids	NC+ 3542	190	13.8	56.7	110	48	31-Jul	25569
Pioneer Hi-Bred	37D25	178	12.9	57.6	105	50	28-Jul	29414
	Trial Mean	208	13.5	57.7	102	43	29-Jul	28684
	LSD	62	0.6	0.7	8	6	2.4	6
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	20.69	2.99	0.84	5.44	10.32	0.00	15.44
	F Test	0.5340	0.0002	<0.0001	0.0035	0.0017	0.0005	0.0034

**Table 3A. New Mexico 2003 Full Season Grain Corn Performance Test - Agricultural Science Center at Farmington**

Investigators: M.K. O'Neill and C.K. Owen

**Test Description**

<p><b>Location:</b>                  County/Area: San Juan                  Longitude: -108.31                  Latitude: 36.68                  Elevation: 5640 ft.                  Soil Name: Wall                  Soil Texture: sandy loam                  Soil Depth: &gt;75 in.</p> <p><b>Test Design:</b>                  Replications: 4                  Plot Length: 20 ft.                  Rows per Plot: 4                  Row Spacing: 34 in.                  Seeding Rate: 35000 seed/a</p>	<p><b>Management Practices:</b>                  Previous Crop: fallow                  Planting Date: 14-May                  Harvest Date: 1-Dec</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>12 lb/a</td> <td>Preplant</td> </tr> <tr> <td>Nitrogen</td> <td>138 lb/a</td> <td>Fertigation</td> </tr> <tr> <td>P2O5</td> <td>52 lb/a</td> <td>Preplant</td> </tr> <tr> <td>K2O</td> <td>60 lb/a</td> <td>Preplant</td> </tr> <tr> <td colspan="3"><b>Herbicides:</b></td> </tr> <tr> <td>Guardsman</td> <td>2.6 pt/ac</td> <td>19-May</td> </tr> <tr> <td>Clarity</td> <td>0.125 pt/a</td> <td>19-May</td> </tr> <tr> <td colspan="3"><b>Insecticides:</b></td> </tr> <tr> <td colspan="3">None</td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	12 lb/a	Preplant	Nitrogen	138 lb/a	Fertigation	P2O5	52 lb/a	Preplant	K2O	60 lb/a	Preplant	<b>Herbicides:</b>			Guardsman	2.6 pt/ac	19-May	Clarity	0.125 pt/a	19-May	<b>Insecticides:</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>37.9</td><td>0.1</td><td></td></tr> <tr><td>February</td><td>36.1</td><td>1.3</td><td></td></tr> <tr><td>March</td><td>43.5</td><td>0.5</td><td></td></tr> <tr><td>April</td><td>51.0</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>62.6</td><td>0.0</td><td>1.9</td></tr> <tr><td>June</td><td>70.5</td><td>0.2</td><td>6.7</td></tr> <tr><td>July</td><td>80.4</td><td>0.1</td><td>9.9</td></tr> <tr><td>August</td><td>76.5</td><td>1.2</td><td>8.6</td></tr> <tr><td>September</td><td>65.8</td><td>0.9</td><td>2.2</td></tr> <tr><td>October</td><td>58.5</td><td>0.7</td><td></td></tr> <tr><td>November</td><td>40.5</td><td>1.0</td><td></td></tr> <tr><td>December</td><td>33.7</td><td>0.3</td><td></td></tr> </tbody> </table> <p>Seasonal Precipitation: 2.4 in.                  Total Irrigation: 29.4 in.</p> <p>Date of Last Spring Frost: 11-May                  Date of First Fall Frost: 26-Oct                  Frost Free Period: 168 days</p>		Average Temp. °F	Precip. in.	Irrigation in.	January	37.9	0.1		February	36.1	1.3		March	43.5	0.5		April	51.0	0.0		May	62.6	0.0	1.9	June	70.5	0.2	6.7	July	80.4	0.1	9.9	August	76.5	1.2	8.6	September	65.8	0.9	2.2	October	58.5	0.7		November	40.5	1.0		December	33.7	0.3	
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**Table 3B. New Mexico 2003 Full Season Grain Corn Performance Test - Agricultural Science Center at Farmington**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture		Test Weight	Plant Height	Ear Height	Silk Date	Plant Count
		Grain Yield	at Harvest					
		bu/a	%	lb/bu	in	in		no/ac
NC+ Hybrids	NC+ 5202B	263	17.7	56.4	113	47	4-Aug	27046
Pioneer Hi-Bred	34B97	246	16.5	59.1	108	41	4-Aug	27046
NC+ Hybrids	NC+ 5642W	245	18.5	57.1	120	48	5-Aug	29068
Pioneer Hi-Bred	35Y65	227	15.3	57.7	106	47	1-Aug	25506
NC+ Hybrids	NC+ 4950W	213	17.0	59.2	115	51	4-Aug	30319
NC+ Hybrids	NC+ 4822	211	16.0	56.4	110	45	3-Aug	25795
Garst	8545	208	15.9	56.6	105	44	4-Aug	24063
Pioneer Hi-Bred	34N43	162	16.6	58.2	99	41	1-Aug	19058
	Trial Mean	222	16.7	57.6	109	45	3-Aug	25988
	LSD	73	1.1	1.3	8	7	1.74	7
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	22.49	4.28	1.58	4.76	9.89	0.00	17.26
	F Test	0.1991	0.0001	0.0004	0.0005	0.0406	0.0001	0.0620

**Table 4A. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Artesia**

Investigators: R. Flynn

**Test Description**

<p><b>Location:</b>          County/Area: Eddy          Longitude: -104.38          Latitude: 32.75          Elevation: 3359 ft.          Soil Name: Reagan          Soil Texture: clay loam          Soil Depth: 36 in.</p>	<p><b>Management Practices:</b>          Previous Crop: chile          Planting Date: 10-Apr          Harvest Date: 6-Aug</p>	<p><b>Growing Conditions:</b></p>																																																																						
<p><b>Test Design:</b>          Replications: 4          Plot Length: 25 ft.          Rows per Plot: 2          Row Spacing: 40 in.          Seeding Rate: 26700 seed/a</p>	<p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>211 lb/a</td> <td>May-June</td> </tr> <tr> <td>P2O5</td> <td>121 lb/a</td> <td>23-Apr</td> </tr> <tr> <td>K2O</td> <td>0 lb/a</td> <td></td> </tr> <tr> <td>Zn (7%)</td> <td>3 qt/a</td> <td>2-May</td> </tr> </tbody> </table> <p><b>Herbicides:</b> None</p> <p><b>Insecticides:</b> None</p>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	211 lb/a	May-June	P2O5	121 lb/a	23-Apr	K2O	0 lb/a		Zn (7%)	3 qt/a	2-May	<table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>42.5</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>44.7</td><td>0.8</td><td></td></tr> <tr><td>March</td><td>53.1</td><td>0.4</td><td>6.8</td></tr> <tr><td>April</td><td>60.7</td><td>0.0</td><td>2.8</td></tr> <tr><td>May</td><td>69.7</td><td>0.2</td><td>3.1</td></tr> <tr><td>June</td><td>76.8</td><td>0.2</td><td>6.9</td></tr> <tr><td>July</td><td>80.9</td><td>0.7</td><td>9.7</td></tr> <tr><td>August</td><td>80.5</td><td>0.2</td><td></td></tr> <tr><td>September</td><td>71.9</td><td>0.5</td><td></td></tr> <tr><td>October</td><td>64.2</td><td>2.8</td><td></td></tr> <tr><td>November</td><td>52.0</td><td>0.5</td><td></td></tr> <tr><td>December</td><td>41.1</td><td>0.0</td><td></td></tr> </tbody> </table> <p>Seasonal Precipitation: 1.2 in.          Total Irrigation: 29.3 in.</p>		Average Temp. °F	Precip. in.	Irrigation in.	January	42.5	0.0		February	44.7	0.8		March	53.1	0.4	6.8	April	60.7	0.0	2.8	May	69.7	0.2	3.1	June	76.8	0.2	6.9	July	80.9	0.7	9.7	August	80.5	0.2		September	71.9	0.5		October	64.2	2.8		November	52.0	0.5		December	41.1	0.0	
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		<p>Date of Last Spring Freeze: 11-Apr          Date of First Fall Freeze: 27-Oct          Frost Free Period: 199 days</p>																																																																						



**Table 4B. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Artesia**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture			CP	ADF	NDF	RFV	TDN	DMI	RFQ	QI
		Green Forage	Dry Forage	at Harvest								
		t/a	t/a	%	%	%	%	%	% of BW			
NC+ Hybrids	NC+ 7117	36.84	9.55	74	9.50	30.0	49.3	124	66.6	2.95	160	2.09
Monsanto/DeKalb	DKC68-70(YGCB)	32.02	9.34	71	8.68	28.8	47.9	129	67.8	2.91	161	2.10
Monsanto/Asgrow	RX897RR	32.64	8.95	72	9.10	30.7	50.4	120	65.9	2.87	154	2.02
Monsanto/DeKalb	DKC69-70(YGCB)	29.49	8.68	70	8.53	31.6	53.1	113	64.9	2.77	146	1.92
Monsanto/DeKalb	DKC64-11(RR/YGCB)	30.00	8.46	72	8.95	29.6	49.0	125	67.0	2.91	158	2.08
Monsanto/Asgrow	RX799Bt	26.70	8.32	69	8.70	27.9	47.0	133	68.9	2.96	166	2.17
Frontier Hybrids	F3175	28.02	8.07	71	8.65	30.9	51.0	119	65.7	2.82	150	1.98
Garst	8270RR	28.91	8.06	72	8.83	31.5	51.2	117	65.0	2.81	148	1.95
Frontier Hybrids	F3250	26.64	7.58	72	8.95	29.2	48.8	126	67.4	2.93	161	2.10
	Trial Mean	30.14	8.56	71	8.88	30.0	49.7	123	66.6	2.88	156	2.05
	LSD	7.44	1.90	3	0.61	1.3	1.7	6	1.4	0.11	9	0.11
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	16.91	15.21	3.12	4.72	3.06	2.38	3.23	1.46	2.60	3.89	3.71
	F Test	0.1653	0.4827	0.1370	0.0917	<.0001	<.0001	<.0001	<.0001	0.0114	0.0014	0.0014

**Table 4C. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Artesia**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Days to			NE <sub>L</sub> Mcal/lb	NE <sub>M</sub> Mcal/lb	NE <sub>G</sub> Mcal/lb	Ca %	P %	K %	Mg %	Ca:P
		Plant Count	Half Silk	Plant Height								
		no/a	no	in								
NC+Hybrids	NC+ 7117	29516	69	103	0.69	0.69	0.42	0.15	0.21	2.40	0.15	0.71
Monsanto/DeKalb	DKC68-70(YGCB)	23949	66	103	0.70	0.71	0.44	0.10	0.20	2.41	0.13	0.52
Monsanto/Asgrow	RX897RR	25321	69	106	0.68	0.68	0.41	0.11	0.20	2.31	0.13	0.57
Monsanto/DeKalb	DKC69-70(YGCB)	33121	71	105	0.67	0.67	0.40	0.08	0.20	2.39	0.15	0.39
Monsanto/DeKalb	DKC64-11(RR/YGCB)	30027	66	99	0.69	0.70	0.43	0.12	0.21	2.39	0.12	0.56
Monsanto/Asgrow	RX799Bt	26541	67	104	0.71	0.73	0.45	0.08	0.19	2.35	0.14	0.43
Frontier Hybrids	F3175	24451	67	102	0.68	0.68	0.41	0.09	0.22	2.39	0.13	0.42
Garst	8270RR	25286	69	102	0.67	0.67	0.40	0.15	0.21	2.32	0.15	0.73
Frontier Hybrids	F3250	21976	67	108	0.70	0.70	0.43	0.12	0.20	2.31	0.14	0.62
	Trial Mean	26687	68	104	0.69	0.69	0.42	0.11	0.20	2.36	0.14	0.55
	LSD	5620	2	5	0.02	0.02	0.02	0.09	0.02	0.14	0.03	0.48
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	14.43	1.53	3.30	1.58	2.06	3.02	55.55	6.53	3.97	16.17	59.79
	F Test	0.0103	<.0001	0.0414	<.0001	<.0001	<.0001	0.6773	0.4791	0.6755	0.7440	0.7865

**Table 5A. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<b>Location:</b>	<b>Management Practices:</b>	<b>Growing Conditions:</b>		
County/Area: Curry	Previous Crop: fallow			
Longitude: -103.22	Planting Date: 17-Apr			
Latitude: 34.60	Harvest Date: 22-Oct			
Elevation: 4435 ft.				
Soil Name: Olton				
Soil Texture: silty clay loam				
Soil Depth: >60 in.				
	<b>Production Inputs</b>			
	<u>Rate</u>			
	<u>Date</u>			
	<b>Fertilizer:</b>			
	Nitrogen 23 lb/a	12-Feb		
	Nitrogen 110 lb/a	11-Jun		
	P2O5 108 lb/a	12-Feb		
	K2O 61 lb/a	12-Feb		
	<b>Herbicides:</b>			
	Aatrex 1.2 lb/a	31-Mar		
	Dual II Magnum 1 pt/a	31-Mar		
	Aatrex 1 lb/a	2-Jun		
	<b>Insecticides:</b>			
	None			
<b>Test Design:</b>				
Replications: 4				
Plot Length: 8 ft.				
Rows per Plot: 2				
Row Spacing: 40 in.				
Seeding Rate: 36000 seed/a				
		Average		
		Temp.	Precip.	Irrigation
		°F	in.	in.
		January	41.0	0.0
		February	38.0	0.2
		March	49.8	0.7
		April	58.0	0.1
		May	68.6	1.9
		June	72.3	4.3
		July	78.7	0.0
		August	76.9	0.9
		September	69.2	1.3
		October	62.5	2.4
		November	50.0	0.2
		December	42.5	0.0
		Seasonal Precipitation:	10.9 in.	
		Total Irrigation:	21.0 in.	
		(Light hail damage on 16-Jun)		
		Date of Last Spring Freeze:	9-Apr	
		Date of First Fall Freeze:	27-Oct	
		Frost Free Period:	201 days	

**Table 5B. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Green Forage t/a	Dry Forage t/a	Moisture		CP %	ADF %	NDF %	RFV	TDN %	DMI % of BW	RFQ	QI
				Harvest %	at %								
Triumph	2011RR	25.54	10.90	57	5.80	36.6	56.5	100	60.9	2.28	113	1.51	
Grand Valley Hybrids	SX1610	26.22	10.40	60	5.53	36.7	57.7	98	60.8	2.23	111	1.48	
Monsanto/Asgrow	RX897RR	23.77	10.30	57	6.63	33.6	52.8	112	64.3	2.53	133	1.76	
Golden Acres	2995RR	24.25	10.10	58	6.25	35.7	54.6	105	61.9	2.38	120	1.60	
Monsanto/DeKalb	DKC69-70(YGCB)	23.39	9.92	57	6.55	34.3	53.4	111	63.4	2.48	129	1.71	
Triumph	1866Bt	21.08	9.70	54	5.55	35.5	55.3	104	62.2	2.30	116	1.55	
Garst	8270RR	21.91	9.39	57	6.08	36.3	56.4	100	61.2	2.33	116	1.55	
Golden Acres	2980RR	24.75	9.33	62	6.95	35.5	55.2	104	62.2	2.48	126	1.67	
Grand Valley Hybrids	SX2596RR	21.71	8.91	59	6.00	35.3	54.6	105	62.4	2.37	120	1.60	
Grand Valley Hybrids	GVX0178(YGCB/RR)	21.64	8.74	59	6.88	33.5	50.0	120	64.4	2.57	136	1.79	
Grand Valley Hybrids	SX1602	19.75	8.50	57	5.75	34.9	54.7	107	62.8	2.35	121	1.61	
Monsanto/DeKalb	DKC68-70(YGCB)	20.40	8.20	59	6.15	33.9	54.0	109	63.9	2.46	128	1.70	
Triumph	2020RR	19.90	8.08	59	6.48	34.5	53.7	110	63.2	2.47	128	1.70	
Frontier Hybrids	F3175	18.36	8.03	56	5.53	38.8	58.4	94	58.4	2.14	102	1.37	
Frontier Hybrids	F3250	18.95	7.88	58	5.50	35.9	55.2	105	61.6	2.27	115	1.53	
Monsanto/Asgrow	RX799Bt	18.01	7.55	59	6.60	34.2	53.4	110	63.6	2.50	130	1.72	
Monsanto/DeKalb	DKC64-11(RR/YGCB)	17.68	7.39	57	5.73	36.8	57.0	99	60.5	2.25	111	1.49	
	Trial Mean	21.61	9.02	58	6.11	35.4	54.9	105	62.2	2.37	121	1.61	
	LSD	5.29	2.12	6	1.07	4.9	8.0	22	5.6	0.36	29	0.36	
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	CV	17.23	16.51	6.90	12.26	9.71	10.29	14.80	6.31	10.59	16.62	15.62	
	F Test	0.0257	0.0232	0.6615	0.0715	0.8380	0.9269	0.8272	0.8376	0.5314	0.6392	0.6392	

**Table 5C. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Clovis**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Plant Count	Days to		Plant Height	NE <sub>L</sub>	NE <sub>M</sub>	NE <sub>G</sub>	Ca	P	K	Mg	Ca:P
			Half Silk	Plant Height									
		no/a	no	in	Mcal/lb	Mcal/lb	Mcal/lb	%	%	%	%		
Triumph	2011RR	35120	92	74	0.62	0.61	0.35	0.31	0.19	1.98	0.14	1.61	
Grand Valley Hybrids	SX1610	32057	94	75	0.62	0.61	0.34	0.28	0.20	1.91	0.13	1.41	
Monsanto/Asgrow	RX897RR	26749	94	75	0.66	0.66	0.39	0.22	0.20	1.82	0.12	1.07	
Golden Acres	2995RR	31853	94	77	0.63	0.62	0.36	0.29	0.20	1.85	0.14	1.42	
Monsanto/DeKalb	DKC69-70(YGCB)	26544	93	75	0.65	0.65	0.38	0.28	0.21	1.89	0.14	1.35	
Triumph	1866Bt	30016	90	75	0.64	0.63	0.36	0.28	0.21	1.99	0.13	1.37	
Garst	8270RR	32466	94	72	0.63	0.61	0.35	0.28	0.19	1.80	0.14	1.51	
Golden Acres	2980RR	29607	94	78	0.64	0.63	0.36	0.29	0.20	2.04	0.15	1.44	
Grand Valley Hybrids	SX2596RR	27974	94	78	0.64	0.63	0.37	0.29	0.20	1.97	0.14	1.43	
Grand Valley Hybrids	GVX0178(YGCB/RR)	30832	90	78	0.66	0.66	0.39	0.32	0.21	1.90	0.13	1.51	
Grand Valley Hybrids	SX1602	31853	94	77	0.65	0.64	0.37	0.26	0.20	1.94	0.14	1.27	
Monsanto/DeKalb	DKC68-70(YGCB)	29607	94	76	0.66	0.65	0.39	0.23	0.21	2.01	0.13	1.12	
Triumph	2020RR	32262	90	77	0.65	0.64	0.38	0.28	0.20	1.82	0.14	1.44	
Frontier Hybrids	F3175	29199	93	78	0.60	0.57	0.31	0.32	0.19	2.04	0.14	1.66	
Frontier Hybrids	F3250	31853	92	78	0.63	0.62	0.36	0.26	0.20	2.00	0.12	1.34	
Monsanto/Asgrow	RX799Bt	30220	89	74	0.65	0.65	0.38	0.27	0.20	1.88	0.14	1.31	
Monsanto/DeKalb	DKC64-11(RR/YGCB)	30832	88	80	0.62	0.60	0.34	0.28	0.20	2.01	0.15	1.40	
	Trial Mean	30532	92	76	0.64	0.63	0.36	0.28	0.20	1.93	0.14	1.39	
	LSD	7663	5	6	0.06	0.08	0.08	0.07	0.02	0.15	0.03	0.38	
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	CV	17.65	3.98	5.39	6.84	9.32	14.55	17.35	8.08	5.64	14.09	19.08	
	F Test	0.8214	0.2863	0.4832	0.8397	0.8444	0.8469	0.3140	0.7259	0.0175	0.7654	0.2670	

**Table 6A. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Farmington**

Investigators: M.K. O'Neill and C.K. Owen

**Test Description**

<p><b>Location:</b>                  County/Area: San Juan                  Longitude: -108.31                  Latitude: 36.68                  Elevation: 5640 ft.                  Soil Name: Wall                  Soil Texture: sandy loam                  Soil Depth: &gt;75 in.</p> <p><b>Test Design:</b>                  Replications: 4                  Plot Length: 20 ft.                  Rows per Plot: 4                  Row Spacing: 34 in.                  Seeding Rate: 35000 seed/a</p>	<p><b>Management Practices:</b>                  Previous Crop: fallow                  Planting Date: 14-May                  Harvest Date: 16-Sep</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>12 lb/a</td> <td>Preplant</td> </tr> <tr> <td>Nitrogen</td> <td>138 lb/a</td> <td>Fertigation</td> </tr> <tr> <td>P2O5</td> <td>52 lb/a</td> <td>Preplant</td> </tr> <tr> <td>K2O</td> <td>60 lb/a</td> <td>Preplant</td> </tr> <tr> <td colspan="3"><b>Herbicides:</b></td> </tr> <tr> <td>Guardsman</td> <td>2.6 pt/ac</td> <td>19-May</td> </tr> <tr> <td>Clarity</td> <td>0.125 pt/a</td> <td>19-May</td> </tr> <tr> <td colspan="3"><b>Insecticides:</b></td> </tr> <tr> <td colspan="3">None</td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	12 lb/a	Preplant	Nitrogen	138 lb/a	Fertigation	P2O5	52 lb/a	Preplant	K2O	60 lb/a	Preplant	<b>Herbicides:</b>			Guardsman	2.6 pt/ac	19-May	Clarity	0.125 pt/a	19-May	<b>Insecticides:</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>37.9</td><td>0.1</td><td></td></tr> <tr><td>February</td><td>36.1</td><td>1.3</td><td></td></tr> <tr><td>March</td><td>43.5</td><td>0.5</td><td></td></tr> <tr><td>April</td><td>51.0</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>62.6</td><td>0.0</td><td>1.9</td></tr> <tr><td>June</td><td>70.5</td><td>0.2</td><td>6.7</td></tr> <tr><td>July</td><td>80.4</td><td>0.1</td><td>9.9</td></tr> <tr><td>August</td><td>76.5</td><td>1.2</td><td>8.6</td></tr> <tr><td>September</td><td>65.8</td><td>0.9</td><td>2.2</td></tr> <tr><td>October</td><td>58.5</td><td>0.7</td><td></td></tr> <tr><td>November</td><td>40.5</td><td>1.0</td><td></td></tr> <tr><td>December</td><td>33.7</td><td>0.3</td><td></td></tr> </tbody> </table> <p>Seasonal Precipitation: 2.4 in.                  Total Irrigation: 29.4 in.</p> <p>Date of Last Spring Frost: 11-May                  Date of First Fall Frost: 26-Oct                  Frost Free Period: 168 days</p>		Average Temp. °F	Precip. in.	Irrigation in.	January	37.9	0.1		February	36.1	1.3		March	43.5	0.5		April	51.0	0.0		May	62.6	0.0	1.9	June	70.5	0.2	6.7	July	80.4	0.1	9.9	August	76.5	1.2	8.6	September	65.8	0.9	2.2	October	58.5	0.7		November	40.5	1.0		December	33.7	0.3	
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**Table 6B. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Farmington**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture			CP	ADF	NDF	RFV	TDN	Silk Date
		Green Forage	Dry Forage	at Harvest						
		t/a	t/a	%	%	%	%	%		
NC+ Hybrids	NC+ 6962R	56.07	15.74	72	7.3	33.0	52.4	113	65.0	6-Aug
Frontier Hybrids	F3175	47.83	14.68	69	8.8	28.0	43.8	144	70.7	4-Aug
Frontier Hybrids	F3250	47.49	14.34	70	8.4	29.9	46.6	131	68.5	5-Aug
NC+ Hybrids	NC+ 5202B	44.46	13.92	69	8.8	27.7	41.9	151	71.0	4-Aug
NC+ Hybrids	NC+ 7117	47.83	12.67	74	8.3	30.8	46.7	130	67.4	6-Aug
	Trial Mean	48.74	14.27	71	8.3	29.9	46.3	134	68.5	5-Aug
	LSD	16.05	4.71	2	2.0	2.3	5.1	19	2.6	0.7
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	21.36	21.42	2.17	15.92	5.01	7.17	9.47	2.49	0.00
	F Test	0.6105	0.7134	0.0055	0.5030	0.0019	0.0081	0.0107	0.0019	<.0001

**Table 6C. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Farmington**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Plant	Plant	Ear	NE <sub>L</sub>	NE <sub>M</sub>	NE <sub>G</sub>	Ca	P	K	Mg	Ca:P
		Count	Height	Height								
		no/a	in	in	Mcal/lb	Mcal/lb	Mcal/lb	%	%	%	%	
NC+ Hybrids	NC+ 6962R	31939	116	51	0.67	0.67	0.40	0.32	0.21	1.63	0.12	1.55
Frontier Hybrids	F3175	35402	110	50	0.73	0.75	0.48	0.34	0.23	1.72	0.13	1.49
Frontier Hybrids	F3250	28860	115	50	0.71	0.72	0.45	0.32	0.22	1.72	0.12	1.47
NC+ Hybrids	NC+ 5202B	28091	107	47	0.74	0.76	0.48	0.30	0.23	1.73	0.08	1.29
NC+ Hybrids	NC+ 7117	30784	113	51	0.70	0.70	0.43	0.30	0.22	1.79	0.11	1.36
	Trial Mean	31015	112	50	0.71	0.72	0.45	0.32	0.22	1.72	0.11	1.43
	LSD	8	11	8	0.03	0.04	0.03	0.07	0.03	0.25	0.04	0.31
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	16.81	6.21	10.67	2.68	3.41	4.87	14.51	7.46	9.58	23.98	14.07
	F Test	0.3505	0.3727	0.7475	0.0019	0.0018	0.0017	0.7751	0.2284	0.7447	0.1739	0.4222



**Table 7A. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Los Lunas**

**Investigators:** D.A. McWilliams and L.M. English

**Test Description**

<p><b>Location:</b>                  County/Area: Valencia                  Longitude: -106.75                  Latitude: 34.77                  Elevation: 4840 ft.                  Soil Name: Gila                  Soil Texture: clay loam                  Soil Depth: 40 in.</p> <p><b>Test Design:</b>                  Replications: 4                  Plot Length: 10 ft.                  Rows per Plot: 2                  Row Spacing: 30 in.                  Seeding Rate: 26000 seed/a</p>	<p><b>Management Practices:</b>                  Previous Crop: sorghum × sudangrass                  Planting Date: 12-May                  Harvest Date: 16-Sep</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>76 lb/a</td> <td>29-Apr</td> </tr> <tr> <td>Nitrogen</td> <td>90 lb/a</td> <td>12-Jun</td> </tr> <tr> <td>Nitrogen</td> <td>90 lb/a</td> <td>26-Jun</td> </tr> <tr> <td>P2O5</td> <td>38 lb/a</td> <td>29-Apr</td> </tr> <tr> <td>K2O</td> <td>33 lb/a</td> <td>29-Apr</td> </tr> <tr> <td colspan="3"><b>Herbicides:</b></td> </tr> <tr> <td>Frontier</td> <td>1 qt/a</td> <td>13-May</td> </tr> <tr> <td>Bladex</td> <td>1 qt/a</td> <td>13-May</td> </tr> <tr> <td colspan="3"><b>Insecticides:</b></td> </tr> <tr> <td colspan="3">None</td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	76 lb/a	29-Apr	Nitrogen	90 lb/a	12-Jun	Nitrogen	90 lb/a	26-Jun	P2O5	38 lb/a	29-Apr	K2O	33 lb/a	29-Apr	<b>Herbicides:</b>			Frontier	1 qt/a	13-May	Bladex	1 qt/a	13-May	<b>Insecticides:</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>39.6</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>40.3</td><td>1.2</td><td></td></tr> <tr><td>March</td><td>46.3</td><td>0.9</td><td></td></tr> <tr><td>April</td><td>54.4</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>65.4</td><td>0.1</td><td>3.0</td></tr> <tr><td>June</td><td>72.7</td><td>0.3</td><td>9.0</td></tr> <tr><td>July</td><td>81.0</td><td>0.3</td><td>12.0</td></tr> <tr><td>August</td><td>77.6</td><td>1.1</td><td>9.0</td></tr> <tr><td>September</td><td>68.8</td><td>0.9</td><td>6.0</td></tr> <tr><td>October</td><td>60.2</td><td>1.3</td><td></td></tr> <tr><td>November</td><td>44.7</td><td>0.9</td><td></td></tr> <tr><td>December</td><td>35.2</td><td>0.1</td><td></td></tr> <tr> <td>Seasonal Precipitation:</td> <td></td> <td>2.7 in.</td> <td></td> </tr> <tr> <td>Total Irrigation:</td> <td></td> <td>39.0 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Freeze:</td> <td colspan="3">11-May</td> </tr> <tr> <td>Date of First Fall Freeze:</td> <td colspan="3">26-Oct</td> </tr> <tr> <td>Frost Free Period:</td> <td colspan="3">168 days</td> </tr> </tbody> </table>		Average Temp. °F	Precip. in.	Irrigation in.	January	39.6	0.0		February	40.3	1.2		March	46.3	0.9		April	54.4	0.0		May	65.4	0.1	3.0	June	72.7	0.3	9.0	July	81.0	0.3	12.0	August	77.6	1.1	9.0	September	68.8	0.9	6.0	October	60.2	1.3		November	44.7	0.9		December	35.2	0.1		Seasonal Precipitation:		2.7 in.		Total Irrigation:		39.0 in.		Date of Last Spring Freeze:	11-May			Date of First Fall Freeze:	26-Oct			Frost Free Period:	168 days		
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**Table 7B. New Mexico 2003 Forage Corn Performance Test - Agricultural Science Center at Los Lunas**

**Results**

Brand/Company Name	Hybrid/Variety Name	Green Forage t/a	Dry Forage t/a	Moisture	CP %	ADF %	NDF %	IVTD- 48hr %	Starch %	Ash %	Milk/ ton lb/t	Milk/ acre lb/a
				at Harvest %								
Monsanto/DeKalb	DKC68-70(YGCB)	43.88	16.05	63	6.08	30.4	50.5	57	22.2	2.08	3261	52586
Monsanto/DeKalb	DKC64-11(RR/YGCB)	43.68	15.38	65	6.53	32.9	53.2	57	20.0	2.48	3235	49018
Monsanto/DeKalb	DKC69-70(YGCB)	43.14	14.63	66	5.53	35.8	58.9	54	14.7	1.53	2904	42142
Monsanto/DeKalb	DK679 BtY	39.11	13.83	65	6.43	28.6	47.9	58	26.5	2.15	3496	48336
Monsanto/Asgrow	RX897RR	36.6	13.08	64	6.15	32.6	54.1	57	18.3	2.38	3181	41623
Monsanto/Asgrow	RX799Bt	30.46	12.03	61	6.30	29.7	49.9	58	22.1	2.25	3161	38166
Frontier Hybrids	F3175	31.18	11.68	63	6.65	29.8	49.0	58	24.7	2.38	3289	38092
Frontier Hybrids	F3250	32.95	11.35	66	6.20	32.2	53.2	57	21.3	2.33	3240	37065
	Trial Mean	37.48	13.50	64	6.20	31.5	52.1	57	21.2	2.20	3221	43378
	LSD		3.57	7	1.42	9.9	14.8	4	14.2	0.66	444	11068
	LSD P >		0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV		18.00	7.95	15.52	21.41	19.28	4.85	45.47	20.51	9.36	17.35
	F Test		0.0891	0.0825	0.8167	0.8437	0.8240	0.4281	0.7649	0.1460	0.3547	0.0545

**Table 8A. New Mexico 2003 Grain Sorghum - Full Irrigation Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<b>Location:</b>	<b>Management Practices:</b>	<b>Growing Conditions:</b>		
County/Area: Curry	Previous Crop: fallow	Average		
Longitude: -103.22	Planting Date: 9-May	Temp.	Precip.	Irrigation
Latitude: 34.60	Harvest Date: 19-Nov	°F	in.	in.
Elevation: 4435 ft.		January	41.0	0.0
Soil Name: Olton		February	38.0	0.2
Soil Texture: silty clay loam		March	49.8	0.7
Soil Depth: >60 in.		April	58.0	0.1
		May	68.6	1.9
		June	72.3	4.3
		July	78.7	0.0
		August	76.9	0.9
		September	69.2	1.3
		October	62.5	2.4
		November	50.0	0.2
		December	42.5	0.0
		Seasonal Precipitation:	10.9 in.	
		Total Irrigation:	12.0 in.	
		(Light hail damage on 16-Jun)		
		Date of Last Spring Freeze:	9-Apr	
		Date of First Fall Freeze:	27-Oct	
		Frost Free Period:	201 days	

**Test Design:**

Replications: 4  
 Plot Length: 8 ft.  
 Rows per Plot: 2  
 Row Spacing: 40 in.  
 Seeding Rate: 8 lb/a

**Production Inputs**

	Rate	Date
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**Fertilizer:**

Nitrogen	23 lb/a	12-Feb
Nitrogen	100 lb/a	13-Aug
P2O5	108 lb/a	12-Feb
K2O	61 lb/a	12-Feb

**Herbicides:**

Aatrex	1.0 lb/a	2-Jun
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**Insecticides:**  
 None

**Table 8B. New Mexico 2003 Grain Sorghum - Full Irrigation Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Grain Yield bu/a	Grain Yield lb/a	Moisture	Test Weight lb/bu	Plant Height in	Head Exertion in	Lodging %	Bird Damage %
				at Harvest %					
Sorghum Partners	NK7655	124	6940	8.4	44.9	41.50	4.50	0.0	70
Richardson	RS225	113	6353	9.7	47.1	41.25	4.75	0.0	51
Richardson	9200Y	109	6097	8.5	47.8	40.25	7.50	0.0	65
Seed Resource	SR544	109	6077	9.2	52.7	44.75	6.50	1.0	28
Seed Resource	SR510	108	6026	8.8	45.4	44.00	5.25	0.0	65
Frontier Hybrids	F700E	106	5960	9.7	49.5	44.00	5.25	0.0	60
Frontier Hybrids	F303C	102	5712	9.9	44.4	39.25	5.75	0.3	63
Sorghum Partners	K59-Y2	102	5709	8.9	45.8	44.25	7.00	0.0	65
Sorghum Partners	K35-Y5	97	5413	9.7	44.8	34.25	8.00	0.3	75
Sorghum Partners	NK8828	81	4529	8.4	47.5	35.50	4.50	0.3	73
Sorghum Partners	KS585	74	4165	9.3	46.5	37.25	5.25	1.3	73
	Trial Mean	102	5726	9.1	46.9	40.57	5.84	0.3	62
	LSD	25	1406	0.7	3.6	2.56	1.73	1.0	21
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	17.00	17.00	5.11	5.32	4.37	20.53	252.91	23.34
	F Test	0.0196	0.0196	<.0001	0.0021	<.0001	0.0011	0.1474	0.0047

**Table 9A. New Mexico 2003 Grain Sorghum - Limited Irrigation Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<p><b>Location:</b>                  County/Area: Curry                  Longitude: -103.22                  Latitude: 34.60                  Elevation: 4435 ft.                  Soil Name: Olton                  Soil Texture: silty clay loam                  Soil Depth: &gt;60 in.</p> <p><b>Test Design:</b>                  Replications: 4                  Plot Length: 8 ft.                  Rows per Plot: 2                  Row Spacing: 40 in.                  Seeding Rate: 5 lb/a</p>	<p><b>Management Practices:</b>                  Previous Crop: fallow                  Planting Date: 9-May                  Harvest Date: 19-Nov</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>23 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>Nitrogen</td> <td>100 lb/a</td> <td>13-Aug</td> </tr> <tr> <td>P2O5</td> <td>108 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>K2O</td> <td>61 lb/a</td> <td>12-Feb</td> </tr> <tr> <td colspan="3"><b>Herbicides:</b></td> </tr> <tr> <td>Aatrex</td> <td>1.0 lb/a</td> <td>2-Jun</td> </tr> <tr> <td colspan="3"><b>Insecticides:</b></td> </tr> <tr> <td colspan="3">None</td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	23 lb/a	12-Feb	Nitrogen	100 lb/a	13-Aug	P2O5	108 lb/a	12-Feb	K2O	61 lb/a	12-Feb	<b>Herbicides:</b>			Aatrex	1.0 lb/a	2-Jun	<b>Insecticides:</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>41.0</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>38.0</td><td>0.2</td><td></td></tr> <tr><td>March</td><td>49.8</td><td>0.7</td><td></td></tr> <tr><td>April</td><td>58.0</td><td>0.1</td><td></td></tr> <tr><td>May</td><td>68.6</td><td>1.9</td><td>3.0</td></tr> <tr><td>June</td><td>72.3</td><td>4.3</td><td></td></tr> <tr><td>July</td><td>78.7</td><td>0.0</td><td>3.0</td></tr> <tr><td>August</td><td>76.9</td><td>0.9</td><td>3.0</td></tr> <tr><td>September</td><td>69.2</td><td>1.3</td><td></td></tr> <tr><td>October</td><td>62.5</td><td>2.4</td><td></td></tr> <tr><td>November</td><td>50.0</td><td>0.2</td><td></td></tr> <tr><td>December</td><td>42.5</td><td>0.0</td><td></td></tr> </tbody> </table> <p>Seasonal Precipitation: 10.9 in.                  Total Irrigation: 9.0 in.</p> <p>(Light hail damage on 16-Jun)</p> <p>Date of Last Spring Freeze: 9-Apr                  Date of First Fall Freeze: 27-Oct                  Frost Free Period: 201 days</p>		Average Temp. °F	Precip. in.	Irrigation in.	January	41.0	0.0		February	38.0	0.2		March	49.8	0.7		April	58.0	0.1		May	68.6	1.9	3.0	June	72.3	4.3		July	78.7	0.0	3.0	August	76.9	0.9	3.0	September	69.2	1.3		October	62.5	2.4		November	50.0	0.2		December	42.5	0.0	
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**Table 9B. New Mexico 2003 Grain Sorghum - Limited Irrigation Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Grain Yield bu/a	Grain Yield lb/a	Moisture		Plant Height in	Head Exertion in	Lodging %	Bird Damage %
				at Harvest %	Test Weight lb/bu				
Sorghum Partners	K59-Y2	127	7087	9.3	49.7	41.75	4.50	0.3	44
Sorghum Partners	NK7655	116	6511	8.8	50.0	40.50	2.50	0.0	48
Seed Resource	SR510	111	6231	9.6	53.3	42.00	2.75	0.0	60
Frontier Hybrids	F303C	107	5999	8.6	46.8	38.00	4.75	0.0	74
Seed Resource	SR420	107	5980	9.4	52.8	36.00	3.50	0.0	73
Frontier Hybrids	F270E	97	5419	9.2	49.2	32.50	1.25	0.0	69
Sorghum Partners	K35-Y5	96	5366	9.8	50.3	32.50	6.50	0.0	85
Triumph.	TR460	93	5184	9.8	53.9	36.75	4.50	0.5	61
Sorghum Partners	NK8828	90	5058	8.5	49.2	35.75	2.75	0.0	64
Sorghum Partners	KS585	86	4796	9.2	50.4	34.50	3.75	0.0	88
	Trial Mean	103	5763	9.2	50.5	37.03	3.68	0.1	66
	LSD	22	1210	0.7	3.9	1.67	1.56	0.3	19
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	14.47	14.47	4.87	5.31	3.10	29.19	311.64	19.21
	F Test	0.0133	0.0133	0.0015	0.0255	<.0001	<.0001	0.0678	0.0005

**Table 10A. New Mexico 2003 Grain Sorghum - Greenbug Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<b>Location:</b>	<b>Management Practices:</b>	<b>Growing Conditions:</b>		
County/Area: Curry	Previous Crop: fallow	Average		
Longitude: -103.22	Planting Date: 9-May	Temp.	Precip.	Irrigation
Latitude: 34.60	Harvest Date: 19-Nov	°F	in.	in.
Elevation: 4435 ft.		January	41.0	0.0
Soil Name: Olton		February	38.0	0.2
Soil Texture: silty clay loam		March	49.8	0.7
Soil Depth: >60 in.		April	58.0	0.1
		May	68.6	1.9
		June	72.3	4.3
		July	78.7	0.0
		August	76.9	0.9
		September	69.2	1.3
		October	62.5	2.4
		November	50.0	0.2
		December	42.5	0.0
		Seasonal Precipitation: 10.9 in.		
		Total Irrigation: 12.0 in.		
		(Light hail damage on 16-Jun)		
		Date of Last Spring Freeze: 9-Apr		
		Date of First Fall Freeze: 27-Oct		
		Frost Free Period: 201 days		

**Test Design:**

Replications: 4  
 Plot Length: 8 ft.  
 Rows per Plot: 2  
 Row Spacing: 40 in.  
 Seeding Rate: 8 lb/a

**Production Inputs**

	Rate	Date
<b>Fertilizer:</b>		
Nitrogen	23 lb/a	12-Feb
Nitrogen	100 lb/a	13-Aug
P2O5	108 lb/a	12-Feb
K2O	61 lb/a	12-Feb

**Herbicides:**

Aatrex 1.0 lb/a 2-Jun

**Insecticides:**

None

**Table 10B. New Mexico 2003 Grain Sorghum - Greenbug Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Grain Yield bu/a	Grain Yield lb/a	Moisture	Test Weight lb/bu	Plant Height in	Head Exertion in	Lodging %	Bird Damage %
				at Harvest %					
Sorghum Partners	K59-Y2	146	8160	9.1	49.3	46.75	6.75	0.0	61
Sorghum Partners	K35-Y5	120	6724	9.7	49.0	35.25	6.00	0.5	88
Sorghum Partners	NK7655	119	6659	9.1	51.3	42.00	3.25	0.0	50
Sorghum Partners	KS585	101	5668	9.3	48.8	37.00	3.75	0.0	71
Sorghum Partners	1486	97	5436	8.7	47.1	35.25	3.00	0.0	74
	Trial Mean	117	6530	9.2	49.1	39.25	4.55	0.1	69
	LSD	24	1351	1.1	5.3	2.44	1.72	0.7	29
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	13.43	13.43	7.45	6.95	4.04	24.49	447.21	27.07
	F Test	0.0067	0.0067	0.3447	0.5651	<.0001	0.0011	0.4449	0.1206



**Table 11A. New Mexico 2003 Late-Planted Forage Sorghum Performance Test - Agricultural Science Center at Artesia**

Investigators: R.P. Flynn

**Test Description**

<p><b>Location:</b>          County/Area: Eddy          Longitude: -104.22          Latitude: 32.45          Elevation: 3351 ft.          Soil Name: Reeves          Soil Texture: sandy clay loam          Soil Depth: 36 in.</p> <p><b>Test Design:</b>          Replications: 4          Plot Length: 25 ft.          Rows per Plot: 2          Row Spacing: 40 in.          Seeding Rate: 28000 seed/a</p> <p><b>(Late planted after loss of first crop.)</b></p>	<p><b>Management Practices:</b>          Previous Crop: grain sorghum          Planting Date: 25-Aug          Harvest Date: 27-Oct</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>35 lb/a</td> <td></td> </tr> <tr> <td>P2O5</td> <td>165 lb/a</td> <td></td> </tr> <tr> <td>K2O</td> <td>0 lb/a</td> <td></td> </tr> <tr> <td colspan="3"><b>Herbicides</b></td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> <tr> <td colspan="3"><b>Insecticides</b></td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	35 lb/a		P2O5	165 lb/a		K2O	0 lb/a		<b>Herbicides</b>			None			<b>Insecticides</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>42.5</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>44.7</td><td>0.8</td><td></td></tr> <tr><td>March</td><td>53.1</td><td>0.4</td><td></td></tr> <tr><td>April</td><td>60.7</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>69.7</td><td>0.2</td><td></td></tr> <tr><td>June</td><td>76.0</td><td>0.2</td><td></td></tr> <tr><td>July</td><td>80.9</td><td>0.7</td><td></td></tr> <tr><td>August</td><td>80.5</td><td>0.2</td><td>5.0</td></tr> <tr><td>September</td><td>71.9</td><td>0.5</td><td>2.4</td></tr> <tr><td>October</td><td>64.2</td><td>2.8</td><td></td></tr> <tr><td>November</td><td>52.0</td><td>0.5</td><td></td></tr> <tr><td>December</td><td>41.1</td><td>0.0</td><td></td></tr> <tr> <td>Seasonal Precipitation</td> <td></td> <td>4.2 in.</td> <td></td> </tr> <tr> <td>Total Irrigation</td> <td></td> <td>7.4 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Frost</td> <td colspan="3">9-Apr</td> </tr> <tr> <td>Date of First Fall Frost</td> <td colspan="3">27-Oct</td> </tr> <tr> <td>Frost Free Period</td> <td colspan="3">201 days</td> </tr> </tbody> </table>		Temp. °F	Precip. in.	Irrigation in.	January	42.5	0.0		February	44.7	0.8		March	53.1	0.4		April	60.7	0.0		May	69.7	0.2		June	76.0	0.2		July	80.9	0.7		August	80.5	0.2	5.0	September	71.9	0.5	2.4	October	64.2	2.8		November	52.0	0.5		December	41.1	0.0		Seasonal Precipitation		4.2 in.		Total Irrigation		7.4 in.		Date of Last Spring Frost	9-Apr			Date of First Fall Frost	27-Oct			Frost Free Period	201 days		
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**Table 11B. New Mexico 2003 Late-Planted Forage Sorghum Performance Test - Agricultural Science Center at Artesia**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture		Plant Height
		Dry Forage t/a	at Harvest %	
Seed Resource	FS515HQ	0.58	81	38
Frontier Hybrids	Silmaker 7000	0.58	83	39
Richardson	EXP PPS BMR	0.48	83	42
Richardson	Dairy Master BMR	0.47	83	41
Seed Resource	FS575	0.47	84	39
Frontier Hybrids	Silmaker 6000	0.45	84	37
Richardson	Bundle King BMR	0.42	85	38
Seed Resource	BMR100	0.41	85	44
Seed Resource	FS555	0.41	86	43
Garst	325	0.40	86	35
Garst	344BMR	0.40	87	46
	Trial Mean	0.45	84	40
	LSD	0.25	5	9
	LSD P >	0.05	0	0.05
	CV	37.70	20.20	15.01
	F Test	0.8715	0.3669	0.2795

**Table 12A. New Mexico 2003 Forage Sorghum Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<p><b>Location:</b>          County/Area: Curry          Longitude: -103.22          Latitude: 34.60          Elevation: 4435 ft.          Soil Name: Olton          Soil Texture: silty clay loam          Soil Depth: &gt;60 in.</p>	<p><b>Management Practices:</b>          Previous Crop: fallow          Planting Date: 9-May          Harvest Date: 18-Sep</p>	<p><b>Growing Conditions:</b></p>																																																																																																										
<p><b>Test Design:</b>          Replications: 3          Plot Length: 8 ft.          Rows per Plot: 2          Row Spacing: 40 in.          Seeding Rate: 12 lb/a</p>	<p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>23 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>Nitrogen</td> <td>100 lb/a</td> <td>13-Aug</td> </tr> <tr> <td>P2O5</td> <td>108 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>K2O</td> <td>61 lb/a</td> <td>12-Feb</td> </tr> <tr> <td colspan="3"><b>Herbicides</b></td> </tr> <tr> <td></td> <td>None</td> <td></td> </tr> <tr> <td colspan="3"><b>Insecticides</b></td> </tr> <tr> <td></td> <td>None</td> <td></td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	23 lb/a	12-Feb	Nitrogen	100 lb/a	13-Aug	P2O5	108 lb/a	12-Feb	K2O	61 lb/a	12-Feb	<b>Herbicides</b>				None		<b>Insecticides</b>				None		<table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>41.0</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>38.0</td><td>0.2</td><td></td></tr> <tr><td>March</td><td>49.8</td><td>0.7</td><td></td></tr> <tr><td>April</td><td>58.0</td><td>0.1</td><td></td></tr> <tr><td>May</td><td>68.6</td><td>1.9</td><td>3.0</td></tr> <tr><td>June</td><td>72.3</td><td>4.3</td><td></td></tr> <tr><td>July</td><td>78.7</td><td>0.0</td><td>6.0</td></tr> <tr><td>August</td><td>76.9</td><td>0.9</td><td>3.0</td></tr> <tr><td>September</td><td>69.2</td><td>1.3</td><td></td></tr> <tr><td>October</td><td>62.5</td><td>2.4</td><td></td></tr> <tr><td>November</td><td>50.0</td><td>0.2</td><td></td></tr> <tr><td>December</td><td>42.5</td><td>0.0</td><td></td></tr> <tr><td colspan="2">Seasonal Precipitation</td><td>10.9 in.</td><td></td></tr> <tr><td colspan="2">Total Irrigation</td><td>12.0 in.</td><td></td></tr> <tr><td colspan="4">(Light hail damage on 16-Jun)</td></tr> <tr><td colspan="2">Date of Last Spring Freeze</td><td>9-Apr</td><td></td></tr> <tr><td colspan="2">Date of First Fall Freeze</td><td>27-Oct</td><td></td></tr> <tr><td colspan="2">Frost Free Period</td><td>201 days</td><td></td></tr> </tbody> </table>		Average Temp. °F	Precip. in.	Irrigation in.	January	41.0	0.0		February	38.0	0.2		March	49.8	0.7		April	58.0	0.1		May	68.6	1.9	3.0	June	72.3	4.3		July	78.7	0.0	6.0	August	76.9	0.9	3.0	September	69.2	1.3		October	62.5	2.4		November	50.0	0.2		December	42.5	0.0		Seasonal Precipitation		10.9 in.		Total Irrigation		12.0 in.		(Light hail damage on 16-Jun)				Date of Last Spring Freeze		9-Apr		Date of First Fall Freeze		27-Oct		Frost Free Period		201 days	
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**Table 12B. New Mexico 2003 Forage Sorghum Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Green Forage t/a	Dry Forage t/a	Moisture at Harvest		CP %	ADF %	NDF %	RFV	TDN %	DMI % of BW	RFQ	QI
				Moisture %	Harvest %								
Sorghum Partners	SS506	32.35	10.35	68	4.70	42.9	68.8	75	53.6	1.81	79	1.09	
Sorghum Partners	1990	35.23	8.90	75	5.83	41.6	66.5	79	55.1	1.98	89	1.21	
Sorghum Partners	SS405	21.86	8.49	61	5.73	42.8	66.2	78	53.8	1.91	84	1.15	
Richardson	EXP PPS BMR	33.06	7.59	77	6.00	42.1	70.4	74	54.6	1.99	88	1.20	
Seed Resource	BMR100	25.04	6.59	74	6.83	39.2	61.0	89	57.8	2.23	104	1.40	
Seed Resource	FS575	22.10	5.96	73	5.60	39.9	64.0	84	57.0	2.07	96	1.30	
Garst	344BMR	24.39	5.84	76	6.90	41.0	63.7	83	55.8	2.12	96	1.30	
Seed Resource	FS555	20.85	5.62	73	6.17	41.2	65.7	81	55.6	2.04	92	1.25	
Frontier Hybrids	Silmaker 7000	19.15	5.48	71	6.80	40.8	64.3	83	56.1	2.15	98	1.32	
Richardson	Bundle King BMR	19.63	5.45	72	6.40	38.6	62.4	88	58.5	2.24	107	1.43	
Richardson	Dairy Master BMR	19.96	5.13	74	7.10	38.3	62.6	88	58.9	2.32	111	1.49	
Triumph	Super Sile 20	15.39	4.68	70	5.30	39.5	62.8	86	57.5	2.04	96	1.29	
Frontier Hybrids	Silmaker 6000	16.91	4.58	73	8.13	42.7	64.7	80	53.9	2.13	93	1.26	
Sorghum Partners	NK300	14.38	3.92	73	7.20	41.8	65.9	80	54.9	2.11	95	1.28	
Seed Resource	FS515HQ	10.36	3.85	63	5.63	40.5	61.7	87	56.4	2.02	93	1.26	
	Trial Mean	22.04	6.16	72	6.29	40.9	64.7	82	56.0	2.08	95	1.28	
	LSD	8.62	2.59	4	2.23	2.9	4.5	9	3.4	0.33	20	0.24	
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
	CV	23.38	25.15	3.33	21.16	4.28	4.11	6.22	3.60	9.49	12.30	11.37	
	F Test	<.0001	0.0004	<.0001	0.2608	0.0385	0.0082	0.0226	0.0411	0.2518	0.1636	0.1636	

**Table 12C. New Mexico 2003 Forage Sorghum Performance Test - Agricultural Science Center at Clovis**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Plant Height	Lodging	NE <sub>L</sub>	NE <sub>M</sub>	NE <sub>G</sub>	Ca	P	K	Mg	Ca:P
				in	%	Mcal/lb	Mcal/lb	Mcal/lb	%	%	%
Sorghum Partners	SS506	92	2	0.54	0.50	0.25	0.36	0.15	1.84	0.17	2.48
Sorghum Partners	1990	93	0	0.56	0.52	0.27	0.51	0.18	1.99	0.24	2.77
Sorghum Partners	SS405	80	0	0.54	0.50	0.25	0.46	0.17	1.87	0.20	2.72
Richardson	EXP PPS BMR	101	1	0.55	0.51	0.26	0.48	0.18	2.31	0.24	2.64
Seed Resource	BMR100	94	0	0.59	0.56	0.30	0.52	0.17	1.70	0.25	3.05
Seed Resource	FS575	102	0	0.58	0.55	0.29	0.56	0.17	1.74	0.25	3.33
Garst	344BMR	78	2	0.57	0.53	0.28	0.50	0.16	1.73	0.22	3.04
Seed Resource	FS555	87	1	0.56	0.53	0.27	0.50	0.17	1.75	0.24	2.90
Frontier Hybrids	Silmaker 7000	95	0	0.57	0.53	0.28	0.60	0.19	1.95	0.28	3.19
Richardson	Bundle King BMR	88	3	0.60	0.57	0.31	0.54	0.17	1.87	0.25	3.12
Richardson	Dairy Master BMR	88	0	0.60	0.58	0.32	0.59	0.18	1.76	0.29	3.34
Triumph	Super Sile 20	88	0	0.59	0.56	0.30	0.45	0.18	1.74	0.24	2.57
Frontier Hybrids	Silmaker 6000	80	0	0.55	0.50	0.25	0.72	0.20	2.11	0.36	3.58
Sorghum Partners	NK300	65	0	0.56	0.52	0.26	0.55	0.20	2.21	0.28	2.65
Seed Resource	FS515HQ	72	0	0.57	0.54	0.28	0.71	0.20	2.15	0.34	3.46
	Trial Mean	87	1	0.57	0.53	0.28	0.54	0.18	1.91	0.26	2.99
	LSD	32	3	0.04	0.05	0.05	0.14	0.03	0.28	0.08	0.55
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	22.25	338.45	3.92	5.81	10.26	15.69	8.76	8.86	18.25	11.08
	F Test	0.6199	0.6848	0.0405	0.0414	0.0415	0.0017	0.0053	0.0008	0.0066	0.0035

**Table 13A. New Mexico 2003 Late-Planted Sorghum x Sudangrass Performance Test - Agricultural Science Center at Artesia**

Investigators: R.P. Flynn

**Test Description**

<p><b>Location:</b>                  County/Area: Eddy                  Longitude: -104.23                  Latitude: 32.45                  Elevation: 3351 ft.                  Soil Name: Reeves                  Soil Texture: sandy clay loam                  Soil Depth: 36 in.</p> <p><b>Test Design:</b>                  Replications 4                  Plot Length: 25 ft.                  Rows per Plot: 2                  Row Spacing: 40 in.                  Seeding Rate: 28000 seed/a</p> <p><b>(Late planted after loss of first crop.)</b></p>	<p><b>Management Practices:</b>                  Previous Crop: grain sorghum                  Planting Date: 25-Aug                  Harvest Date: 27-Oct</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>35 lb/a</td> <td></td> </tr> <tr> <td>P2O5</td> <td>165 lb/a</td> <td></td> </tr> <tr> <td>K2O</td> <td>0 lb/a</td> <td></td> </tr> <tr> <td colspan="3"><b>Herbicides</b></td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> <tr> <td colspan="3"><b>Insecticides</b></td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	35 lb/a		P2O5	165 lb/a		K2O	0 lb/a		<b>Herbicides</b>			None			<b>Insecticides</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>42.5</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>44.7</td><td>0.8</td><td></td></tr> <tr><td>March</td><td>53.1</td><td>0.4</td><td></td></tr> <tr><td>April</td><td>60.7</td><td>0.0</td><td></td></tr> <tr><td>May</td><td>69.7</td><td>0.2</td><td></td></tr> <tr><td>June</td><td>76.0</td><td>0.2</td><td></td></tr> <tr><td>July</td><td>80.9</td><td>0.7</td><td></td></tr> <tr><td>August</td><td>80.5</td><td>0.2</td><td>5.0</td></tr> <tr><td>September</td><td>71.9</td><td>0.5</td><td>2.4</td></tr> <tr><td>October</td><td>64.2</td><td>2.8</td><td></td></tr> <tr><td>November</td><td>52.0</td><td>0.5</td><td></td></tr> <tr><td>December</td><td>41.1</td><td>0.0</td><td></td></tr> <tr> <td>Seasonal Precipitation:</td> <td></td> <td>4.2 in.</td> <td></td> </tr> <tr> <td>Total Irrigation:</td> <td></td> <td>7.4 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Frost:</td> <td colspan="3">9-Apr</td> </tr> <tr> <td>Date of First Fall Frost:</td> <td colspan="3">27-Oct</td> </tr> <tr> <td>Frost Free Period:</td> <td colspan="3">201 days</td> </tr> </tbody> </table>		Temp. °F	Precip. in.	Irrigation in.	January	42.5	0.0		February	44.7	0.8		March	53.1	0.4		April	60.7	0.0		May	69.7	0.2		June	76.0	0.2		July	80.9	0.7		August	80.5	0.2	5.0	September	71.9	0.5	2.4	October	64.2	2.8		November	52.0	0.5		December	41.1	0.0		Seasonal Precipitation:		4.2 in.		Total Irrigation:		7.4 in.		Date of Last Spring Frost:	9-Apr			Date of First Fall Frost:	27-Oct			Frost Free Period:	201 days		
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**Table 13B. New Mexico 2003 Late-Planted Sorghum x Sudangrass Performance Test - Agricultural Science Center at Artesia**

**Results**

Brand/Company Name	Hybrid/Variety Name	Moisture		Plant Height
		Dry Forage t/a	at Harvest %	
Garst	Graze & Bale+	0.47	80	45
Seed Resource	PS210BMR	0.42	82	46
Richardson	Sweeter'n Honey II	0.38	81	45
Seed Resource	SS200BMR	0.38	81	45
Richardson	Sweeter'n Honey BMR	0.28	80	42
	Trial Mean	0.39	81	45
	LSD	0.09	5	9
	LSD P >	0.05	0.05	0.05
	CV	15.97	20.20	13.46
	F Test	0.0102	0.5112	0.8920

**Table 14A. New Mexico 2003 Sorghum x Sudangrass Performance Test - Agricultural Science Center at Clovis**

**Investigators:** R.E. Kirksey, C.M. Bishop and J. Irwin

**Test Description**

<p><b>Location:</b>                  County/Area: Curry                  Longitude: -103.22                  Latitude: 34.60                  Elevation: 4435 ft.                  Soil Name: Olton                  Soil Texture: silty clay loam                  Soil Depth: &gt;60 in.</p> <p><b>Test Design:</b>                  Replications: 4                  Plot Length: 8 ft.                  Rows per Plot: 2                  Row Spacing: 40 in.                  Seeding Rate: 16 lb/a</p>	<p><b>Management Practices:</b>                  Previous Crop: fallow                  Planting Date: 9-May                  Harvest Dates: 24-Jul and 29-Sep</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>23 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>Nitrogen</td> <td>100 lb/a</td> <td>13-Aug</td> </tr> <tr> <td>P2O5</td> <td>108 lb/a</td> <td>12-Feb</td> </tr> <tr> <td>K2O</td> <td>61 lb/a</td> <td>12-Feb</td> </tr> </tbody> </table> <p><b>Herbicides:</b>                  None</p> <p><b>Insecticides:</b>                  None</p>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	23 lb/a	12-Feb	Nitrogen	100 lb/a	13-Aug	P2O5	108 lb/a	12-Feb	K2O	61 lb/a	12-Feb	<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>41.0</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>38.0</td><td>0.2</td><td></td></tr> <tr><td>March</td><td>49.8</td><td>0.7</td><td></td></tr> <tr><td>April</td><td>58.0</td><td>0.1</td><td></td></tr> <tr><td>May</td><td>68.6</td><td>1.9</td><td>3.0</td></tr> <tr><td>June</td><td>72.3</td><td>4.3</td><td></td></tr> <tr><td>July</td><td>78.7</td><td>0.0</td><td>6.0</td></tr> <tr><td>August</td><td>76.9</td><td>0.9</td><td>3.0</td></tr> <tr><td>September</td><td>69.2</td><td>1.3</td><td></td></tr> <tr><td>October</td><td>62.5</td><td>2.4</td><td></td></tr> <tr><td>November</td><td>50.0</td><td>0.2</td><td></td></tr> <tr><td>December</td><td>42.5</td><td>0.0</td><td></td></tr> </tbody> </table> <p>Seasonal Precipitation: 10.9 in.                  Total Irrigation: 12.0 in.</p> <p>(Light hail damage on 16-Jun)</p> <p>Date of Last Spring Freeze: 9-Apr                  Date of First Fall Freeze: 27-Oct                  Frost Free Period: 201 days</p>		Average Temp. °F	Precip. in.	Irrigation in.	January	41.0	0.0		February	38.0	0.2		March	49.8	0.7		April	58.0	0.1		May	68.6	1.9	3.0	June	72.3	4.3		July	78.7	0.0	6.0	August	76.9	0.9	3.0	September	69.2	1.3		October	62.5	2.4		November	50.0	0.2		December	42.5	0.0	
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**Table 14B. New Mexico 2003 Sorghum x Sudangrass Performance Test - Agricultural Science Center at Clovis**

**Results**

Brand/Company Name	Hybrid/Variety Name	Harvest 1			Harvest 2			Season Total		Harvest 1		Harvest 2	
		Green Forage	Dry Forage	Moisture	Green Forage	Dry Forage	Moisture	Green Forage	Dry Forage	CP	ADF	CP	ADF
				at Harvest			at Harvest						
		t/a	t/a	%	t/a	t/a	%	t/a	t/a	%	%	%	%
Sorghum Partners	Sordan 79	15.89	3.00	81	25.36	7.72	70	41.25	10.72	10.65	38.6	8.48	40.8
Sorghum Partners	Sordan Headless	17.25	3.04	83	24.08	6.77	72	41.34	9.81	13.13	37.6	9.03	40.3
Seed Resource	SS200BMR	15.17	2.88	81	20.30	6.17	70	35.47	9.05	12.83	34.9	8.28	40.1
Richardson	Sweeter 'n Honey II	16.34	2.97	82	19.34	5.41	72	35.67	8.38	10.55	39.4	8.23	40.4
Seed Resource	PS210BMR	15.44	2.74	82	18.25	5.22	71	33.69	7.96	12.75	36.1	8.85	41.1
Richardson	Sweeter n' Honey BMR	14.09	2.74	81	13.61	3.99	71	27.70	6.73	11.53	36.1	8.88	39.4
	Trial Mean	15.70	2.89	82	20.16	5.88	71	35.85	8.78	11.90	37.1	8.62	40.3
	LSD	4.56	1.03	3	6.90	1.76	3	8.95	2.12	2.75	3.0	1.53	2.0
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	19.29	23.52	2.31	22.72	19.89	2.60	16.56	15.99	15.33	5.40	11.78	3.29
	F Test	0.7674	0.9770	0.5804	0.0292	0.0070	0.3772	0.0469	0.0161	0.2236	0.0456	0.8078	0.5497

**Table 14C. New Mexico 2003 Sorghum x Sudangrass Performance Test - Agricultural Science Center at Clovis**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Harvest 1		Harvest 2		Harvest 1		Harvest 2		Harvest 1		Harvest 2	
		NDF	RFV	NDF	RFV	TDN	DMI	TDN	DMI	RFQ	QI	RFQ	QI
		%		%		%	% of BW	%	% of BW				
Sorghum Partners	Sordan 79	61.1	90	62.7	85	58.5	2.51	56.0	2.27	120	1.60	103	1.39
Sorghum Partners	Sordan Headless	59.2	94	62.0	87	59.7	2.62	56.6	2.34	127	1.69	108	1.44
Seed Resource	SS200BMR	57.6	100	61.6	87	62.8	2.85	56.9	2.31	146	1.92	107	1.43
Richardson	Sweeter 'n Honey II	61.6	88	61.6	87	57.7	2.42	56.5	2.29	114	1.52	106	1.42
Seed Resource	PS210BMR	57.2	99	62.1	85	61.4	2.74	55.7	2.27	137	1.81	103	1.38
Richardson	Sweeter n' Honey BMR	58.7	97	60.8	89	61.5	2.71	57.6	2.40	136	1.80	112	1.50
	Trial Mean	59.2	95	61.8	87	60.3	2.64	56.6	2.31	130	1.72	106	1.43
	LSD	4.0	10	2.8	6	3.5	0.29	2.3	0.18	22	0.27	12	0.15
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	4.45	6.89	2.97	4.55	3.82	7.40	2.67	5.24	11.06	10.43	7.65	7.13
	F Test	0.1587	0.0983	0.7804	0.6911	0.0495	0.0655	0.5582	0.6482	0.0593	0.0593	0.6175	0.6175

**Table 14D. New Mexico 2003 Sorghum x Sudangrass Performance Test - Agricultural Science Center at Clovis**

**Results - Supplemental Data**

Brand/Company Name	Hybrid/Variety Name	Harvest 1			Harvest 2			Harvest 1			Harvest 2		
		NE <sub>L</sub>	NE <sub>M</sub>	NE <sub>G</sub>	NE <sub>L</sub>	NE <sub>M</sub>	NE <sub>G</sub>	Ca	P	K	Ca	P	K
		Mcal/lb	Mcal/lb	Mcal/lb	Mcal/lb	Mcal/lb	Mcal/lb	%	%	%	%	%	%
Sorghum Partners	Sordan 79	0.60	0.57	0.31	0.57	0.53	0.28	0.48	0.21	2.28	0.35	0.19	2.44
Sorghum Partners	Sordan Headless	0.61	0.59	0.33	0.58	0.54	0.29	0.50	0.23	2.40	0.33	0.20	2.69
Seed Resource	SS200BMR	0.64	0.64	0.37	0.58	0.55	0.29	0.49	0.22	2.07	0.45	0.19	2.58
Richardson	Sweeter 'n Honey II	0.59	0.56	0.30	0.58	0.54	0.29	0.47	0.22	2.40	0.32	0.20	2.63
Seed Resource	PS210BMR	0.63	0.62	0.35	0.57	0.53	0.27	0.49	0.23	2.31	0.34	0.21	2.88
Richardson	Sweeter n' Honey BMR	0.63	0.62	0.35	0.59	0.56	0.30	0.52	0.21	2.22	0.46	0.20	2.55
	Trial Mean	0.62	0.60	0.34	0.58	0.54	0.29	0.49	0.22	2.28	0.38	0.20	2.63
	LSD	0.04	0.05	0.05	0.03	0.03	0.03	0.06	0.02	0.41	0.14	0.02	0.32
	LSD P >	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
	CV	4.16	5.79	9.33	2.92	4.27	7.43	7.97	6.72	11.92	24.02	5.63	8.08
	F Test	0.0486	0.0479	0.0480	0.5539	0.5508	0.5515	0.5826	0.3805	0.5500	0.1320	0.1301	0.1424

**Table 15A. New Mexico 2003 Forage Sorghum and Sorghum x Sudangrass Performance Test - Agricultural Science Center at Tucumcari**

**Investigators:** L.M. Lauriault and R.E. Kirksey

**Test Description**

<p><b>Location:</b>  County/Area: Quay  Longitude: -103.68  Latitude: 35.20  Elevation: 4091 ft.  Soil Name: Canez  Soil Texture: fine sandy loam  Soil Depth: &gt;60 in.</p> <p><b>Test Design:</b>  Replications: 4  Plot Length: 20 ft.  Beds per Plot: 2  Rows per Bed: 4  Row Spacing: 7 in.  Seeding Rate: 25 lb/a</p>	<p><b>Management Practices:</b>  Previous Crop: sorghum x sudangrass  Planting Date: 29-May  Harvest Dates: 22-Oct</p> <p><b>Production Inputs</b></p> <table border="1"> <thead> <tr> <th></th> <th>Rate</th> <th>Date</th> </tr> </thead> <tbody> <tr> <td colspan="3"><b>Fertilizer:</b></td> </tr> <tr> <td>Nitrogen</td> <td>91 lb/a</td> <td></td> </tr> <tr> <td>P2O5</td> <td>104 lb/a</td> <td></td> </tr> <tr> <td>K2O</td> <td>0 lb/a</td> <td></td> </tr> <tr> <td colspan="3"><b>Herbicides</b></td> </tr> <tr> <td>Aatrex</td> <td>2.5 lb/a</td> <td>8-Apr</td> </tr> <tr> <td colspan="3"><b>Insecticides</b></td> </tr> <tr> <td>None</td> <td></td> <td></td> </tr> </tbody> </table>		Rate	Date	<b>Fertilizer:</b>			Nitrogen	91 lb/a		P2O5	104 lb/a		K2O	0 lb/a		<b>Herbicides</b>			Aatrex	2.5 lb/a	8-Apr	<b>Insecticides</b>			None			<p><b>Growing Conditions:</b></p> <table border="1"> <thead> <tr> <th></th> <th>Average Temp. °F</th> <th>Precip. in.</th> <th>Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td>43.0</td><td>0.0</td><td></td></tr> <tr><td>February</td><td>43.0</td><td>0.6</td><td></td></tr> <tr><td>March</td><td>52.0</td><td>1.3</td><td></td></tr> <tr><td>April</td><td>61.0</td><td>0.7</td><td></td></tr> <tr><td>May</td><td>70.0</td><td>1.9</td><td></td></tr> <tr><td>June</td><td>73.0</td><td>4.0</td><td></td></tr> <tr><td>July</td><td>84.0</td><td>0.5</td><td></td></tr> <tr><td>August</td><td>81.0</td><td>4.3</td><td></td></tr> <tr><td>September</td><td>71.0</td><td>0.3</td><td></td></tr> <tr><td>October</td><td>64.0</td><td>1.0</td><td></td></tr> <tr><td>November</td><td>49.0</td><td>0.9</td><td></td></tr> <tr><td>December</td><td>44.0</td><td>0.2</td><td></td></tr> <tr> <td>Seasonal Precipitation</td> <td></td> <td>12.0 in.</td> <td></td> </tr> <tr> <td>Total Irrigation</td> <td></td> <td>0.0 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Freeze</td> <td></td> <td>17-Apr</td> <td></td> </tr> <tr> <td>Date of First Fall Freeze</td> <td></td> <td>23-Oct</td> <td></td> </tr> <tr> <td>Frost Free Period</td> <td></td> <td>189 days</td> <td></td> </tr> </tbody> </table>		Average Temp. °F	Precip. in.	Irrigation in.	January	43.0	0.0		February	43.0	0.6		March	52.0	1.3		April	61.0	0.7		May	70.0	1.9		June	73.0	4.0		July	84.0	0.5		August	81.0	4.3		September	71.0	0.3		October	64.0	1.0		November	49.0	0.9		December	44.0	0.2		Seasonal Precipitation		12.0 in.		Total Irrigation		0.0 in.		Date of Last Spring Freeze		17-Apr		Date of First Fall Freeze		23-Oct		Frost Free Period		189 days	
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<p>Test was intended for furrow irrigation, but irrigation was not available during 2003 growing season.</p>																																																																																																					

**Table 15B. New Mexico 2003 Forage Sorghum and Sorghum x Sudangrass Performance Test - Agricultural Science Center at Tucumcari**

**Results**

Brand/Company Name	Hybrid/Variety Name	Type <sup>†</sup>	Moisture			
			Green Forage t/a	Dry Forage t/a	at Harvest %	Stand %
Sorghum Partners	Sordan 79	SxS	3.16	1.09	65.6	96
Sorghum Partners	SS405	FS	3.25	1.07	67.1	94
Seed Resource	FS575	FS	3.25	1.05	65.9	91
Seed Resource	FS555	FS	3.19	1.02	66.4	91
Kelly Green	4-S	SxS	2.78	1.01	63.5	96
Seed Resource	FS515HQ	FS	2.47	0.92	61.7	89
Seed Resource	SS200BMR	SxS	2.54	0.91	63.9	81
Sorghum Partners	SS506	FS	2.60	0.82	66.5	94
Sorghum Partners	Sordan Headless	SxS	2.01	0.74	61.3	90
Seed Resource	PS210BMR	SxS	2.26	0.74	65.8	93
Sorghum Partners	1990	FS	2.01	0.68	66.0	98
Seed Resource	BMR100	FS	2.07	0.67	67.3	93
Sorghum Partners	NK300	FS	1.67	0.63	61.6	93
Richardson	Sweeter'n Honey II	SxS	1.55	0.62	59.0	89
Richardson	Sweeter'n Honey BMR	SxS	1.11	0.40	63.9	93
	Trial Mean		2.39	0.83	64.4	92
	LSD		0.93	0.27	4.1	13
	LSD P >		0.05	0.05	0.05	0.05
	CV		27.07	22.92	7.99	9.91
	F Test		0.1387	0.0399	0.0161	0.6552

<sup>†</sup>FS=forage sorghum, SxS=sorghum x sudangrass

**Appendix A.**  
**Companies and Contact Information for Participants in the Agricultural  
Science Center Fee-Test Program**

## New Mexico 2003 Grain Corn Hybrid Performance Test

Brand/Company Name	Hybrid/Variety Name
<b>Garst Seed Company</b> Box 500 Slater, IA 50244 (620) 723-2454 Jeff Schaefer	<b>Early season:</b> 8387YG1 <b>Full season:</b> 8383YGI 8545
<b>Grand Valley Hybrids</b> 840 23 Road Grand Junction, CO 81505 (970) 243-3115 Bill Rooks	<b>Full season:</b> GVX0178YGCB/RR SX1303YGRW SX1395YGCB
<b>NC+ Hybrids</b> Box 4408 Lincoln, NE 68504 (402) 467-2517 Wes Zart	<b>Early season:</b> NC+ 1320 NC+ 1592 NC+ 2162 NC+ 2919 NC+ 3542 <b>Full season:</b> NC+ 4822 NC+ 4950W NC+ 5202B NC+ 5433BR NC+ 5642W
<b>Pioneer Hi-Bred International, Inc.</b> 390 Union Blvd. Suite 500A Lakewood, CO 80228 (303) 716-3960 Brad Lance	<b>Early season:</b> 37B35 37D25 38H67 <b>Full season:</b> 34B97 34N43 35Y65
<b>Unity Seeds</b> P.O. Box 6128 Phoenix, AZ 85005 (602) 695-5823 Bob Posten	<b>Early season</b> 6104A

## New Mexico 2003 Forage Corn Hybrid Performance Test

Brand/Company Name	Hybrid/Variety Name
<b>Frontier Hybrids</b> P.O. Box 177 Abernathy, TX 79311 (806) 298-2595 Billy McClenney	F3175 F3250
<b>Garst Seed Company</b> Box 500 Slater, IA 50244 (620) 723-2454 Jeff Schaef	8270RR
<b>Golden Acres Genetics</b> P.O. Box 579 Buchanan Dam, TX 78609 (512) 793-5202 James Allison	2980RR 2995RR
<b>Grand Valley Hybrids</b> 840 23 Road Grand Junction, CO 81505 (970) 243-3115 Bill Rooks	GVX0178YGCB/RR SX1602 SX1610 SX2596RR
<b>Monsanto</b> 800 N. Lindberg Blvd. St. Louis, MO 63167 (815) 758-9323 Diane Freeman	<b>Asgrow</b> RX799Bt RX897RR <b>DeKalb</b> DKC64-11(RR/YGCB) DKC68-70(YGCB) DKC69-70(YGCB)
<b>NC+ Hybrids</b> Box 4408 Lincoln, NE 68504 (402) 467-2517 Wes Zart	NC+ 5202B NC+ 6962R NC+ 7117
<b>Triumph Seed Co., Inc.</b> P.O. Box 1050 Ralls, TX 79357 1-800-530-4789 Ben Benton	1866Bt 2011RR 2020RR



## New Mexico 2003 Grain Sorghum Hybrid Performance Test

Brand/Company Name	Hybrid/Variety Name
<b>Frontier Hybrids</b> P.O. Box 177 Abernathy, TX 79311 (806) 298-2595 Billy McClenney	<b>Full irrigation:</b> F303C F700E <b>Limited irrigation:</b> F303C F270E <b>Dryland:</b> F270E
<b>Richardson Seeds, Ltd.</b> P.O. Box 60 Vega, TX 79092 (806) 267-2379 Chuck Cielencki	<b>Full irrigation:</b> 9200Y RS225
<b>Seed Resource</b> P.O. Box 326 Tulia, TX 79088 (806) 995-3882 Chick Childress	<b>Full irrigation:</b> SR510 SR544 <b>Limited irrigation:</b> SR420 SR510 <b>Dryland:</b> SR251 SR420 SR510
<b>Sorghum Partners, Inc.</b> P.O. Box 189 New Deal, TX 79350 (806) 746-5566 David Thomas	<b>Full irrigation:</b> K35-Y5 K59-Y2 KS585 NK7655 NK8828 <b>Limited irrigation:</b> K35-Y5 K59-Y2 KS585 NK7655 NK8828 <b>Dryland:</b> K35-Y5 K59-Y2 KS585 NK7655 NK8828

## New Mexico 2003 Grain Sorghum Hybrid Performance Test (continued)

<b>Brand/Company Name</b>	<b>Hybrid/Variety Name</b>
<b>Sorghum Partners, Inc.</b> P.O. Box 189 New Deal, TX 79350 (806) 746-5566 David Thomas	<b>Greenbug:</b> 1486 K35-Y5 K59-Y2 KS585 NK7655
<b>Triumph Seed Company, Inc.</b> P.O. Box 1050 Ralls, TX 79357 1-800-530-4789 Ben Benton	<b>Limited irrigation:</b> TR460

## New Mexico 2003 Forage Sorghum Hybrid Performance Test

Brand/Company Name	Hybrid/Variety Name
<b>Frontier Hybrids</b> P.O. Box 177 Abernathy, TX 79311 (806) 298-2595 Billy McClenney	Silmaker 6000 Silmaker 7000
<b>Garst Seed Company</b> Box 500 Slater, IA 50244 (620) 723-2454 Jeff Schaefer	325 344BMR
<b>Richardson Seeds, Ltd.</b> P.O. Box 60 Vega, TX 79092 (806) 267-2379 Chuck Cieloncki	Bundle King BMR Dairy Master BMR EXP PPS BMR
<b>Seed Resource</b> P.O. Box 326 Tulia, TX 79088 (806) 995-3882 Chick Childress	BMR100 FS515HQ FS555 FS575
<b>Sorghum Partners, Inc.</b> P.O. Box 189 New Deal, TX 79350 (806) 746-5566 David Thomas	1990 NK300 SS405 SS506
<b>Triumph Seed Company, Inc.</b> P.O. Box 1050 Ralls, TX 79357 1-800-530-4789 Ben Benton	Super Sile 20

## New Mexico 2003 Sorghum × Sudangrass Hybrid Performance Test

Brand/Company Name	Hybrid/Variety Name
<b>Garst Seed Company</b> Box 500 Slater, IA 50244 (620) 723-2454 Jeff Schaefer	Graze & Bale+
<b>Kelly Green</b> P.O. Box 916 Farwell, TX 79532 (806) 481-3810 Steve Myrick	4-S
<b>Richardson Seeds, Ltd.</b> P.O. Box 60 Vega, TX 79092 (806) 267-2379 Chuck Cieloncki	Sweeter'n Honey BMR Sweeter'n Honey II
<b>Seed Resource</b> P.O. Box 326 Tulia, TX 79088 (806) 995-3882 Chick Childress	PS210BMR SS200BMR
<b>Sorghum Partners</b> P.O. Box 189 New Deal, TX 79350 (806) 746-5566 David Thomas	Sordan Headless Sordan 79

**Appendix B.**  
**Glossary of Terms**

ADF (Acid Detergent Fiber): ADF consists primarily of cellulose, lignin and acid detergent fiber crude protein. It is closely related to the indigestibility of forages. The greater the ADF, the less digestible the feed and the less energy it will contain.

Ash: Ash is the percentage of residue remaining after all organic matter in a sample has been completely incinerated.

Bird Damage: Bird Damage is a visual estimate of the percentage of grain that has been damaged or consumed by birds.

Ca (Calcium): Ca is the percentage of calcium in the forage.

Ca:P: Ca:P is the ratio of Calcium to Phosphorus in the forage.

CP (Crude Protein): CP is termed 'crude' because it is not a direct measurement of protein. CP is an estimation of total protein based on the nitrogen content of a sample.

Days to Half Silk: Days to Half Silk is the number of days from planting until 50% of plants have begun to show silks.

DMI (Dry Matter Intake): DMI is an estimate of the amount of forage an animal will eat in a given period of time. Estimates of DMI are based on results from feeding tests and the measured NDF concentration of the forage.

Dry Forage: Dry Forage is green forage converted to a 100% dry matter basis by deducting the amount of Moisture at Harvest.

Ear Height: Ear Height is the average distance from the ground to the base of the ear.

Green Forage: Green Forage is the harvested yield from the entire plot area, except for the basal part of the stem and the roots, multiplied by a conversion factor to convert the harvested plot yield to a per acre equivalent.

Grain Yield: Grain Yield is the harvested grain yield adjusted to a standard moisture and a standard bushel weight then converted to a per acre equivalent. For grain corn, the standard moisture is 15.5% and the standard bushel weight is 56 pounds. For grain sorghum, the standard moisture is 14% and the standard bushel weight is 56 pounds.

Head Exertion: Head Exertion is the distance from the plant's flag leaf to the bottom of the seed head.

IVTD-48hr (*In vitro* true digestion after 48-hour incubation): IVTD-48hr is an estimation of *in vitro* digestibility of the forage obtained by incubating a sample in rumen fluid for 48 hours.

K (Potassium): K is the percentage of potassium in the forage.

Lodging: Lodging is a visual estimate of the percentage of plants with stalks broken below the head or leaning at an angle in excess of 45 degrees.

Mg (Magnesium): Mg is the percentage of magnesium in the forage.

Milk/acre (Milk production per acre): Milk/acre is Milk/ton multiplied by Dry Forage (ton/ac).

Milk/ton (Milk production per ton of dry matter forage): Milk/ton is an index of forage quality. Milk/ton is calculated from the Milk2000 Excel spreadsheet <http://www.uwex.edu/ces/forage/pubs/milk2000.xls> (accessed Jan. 5. 2004). This index uses forage analyses (CP, NDF, *in vitro* NDF digestibility, starch and non-fiber carbohydrate) to estimate energy content, and DMI and *in vitro* NDF digestibility to predict milk/ton.

Moisture at Harvest: Moisture at Harvest is the percentage of the green sample weight that is moisture at the time of harvest.

NDF (Neutral Detergent Fiber): NDF is the total fiber content of the forage. The NDF or cell wall fraction contains cellulose, hemicellulose and lignin. NDF gives the best estimate of the total fiber content of the feed and is closely related to feed intake.

NE<sub>G</sub> (Net Energy for Gain): NE<sub>G</sub> is the net energy value of feeds for the deposition of body tissue, growth or gain.

NE<sub>L</sub> (Net Energy for Lactation): NE<sub>L</sub> is the energy value of feeds for lactating cows.

NE<sub>M</sub> (Net Energy for Maintenance): NE<sub>M</sub> is the net energy value of feeds for maintenance of body condition. Feed energy for maintenance is used more efficiently than feed energy for gain.

P (Phosphorus): P is the percentage of phosphorus in the forage.

Plant Count: Plant Count is the number of plants per acre based on a count of the number of plants in a plot converted to a per acre equivalent.

Plant Height: Plant Height is the average height of the plant measured from the ground to the top of the canopy at harvest.

QI (Quality Index): QI is an expression of voluntary TDN intake as a multiple of the TDN requirement for maintenance. QI and RFV are similar, except that QI is based on organic matter (OM) digestibility rather than dry matter (DM) digestibility. The base QI is set to 1.0 to differentiate it from RFV, which has a base of 100. When QI equals 1.0 neither weight gain or loss would be expected. QI values below 1.0 indicate weight loss is expected. QI values in excess of 1.8 (medium-quality) indicate growing cattle should gain 1.3 lb/day and lactating cows should produce 22 lb milk/day.

RFQ (Relative Feed Quality): RFQ is a forage quality index that is based on the estimated TDN content of the forage. TDN is estimated from *in vitro* digestibility of NDF, and measured values for CP, Crude fat, Ash and NDF. The numbers are adjusted so the RFQ index has the same scale as RFV. RFQ is a newer concept in forage quality measurement and should provide a more accurate prediction of the performance of forage-fed animals. Because RFQ requires *in vitro* NDF determinations, many laboratories do not provide the necessary information to calculate RFQ.

RFV (Relative Feed Value): RFV is an overall estimate of the quality of the forage to a ruminant. The equation uses ADF to estimate the digestible dry matter content of the forage. This is then combined with an estimate of DMI by the animal which is derived from NDF content of the forage. RFV is the most widely used forage quality index in the United States. It is scaled so that full-bloom alfalfa hay would score 100. Typically, hay must score above 150 RFV to be considered 'dairy quality' hay.

Silk Date: Silk Date is the date when 50% of plants have begun to show silks.

Stand: Stand is a visual estimate of the plot's percentage of the desired plant population density.

Starch: Starch is the percentage of starch in the forage.

TDN (Total Digestible Nutrients): TDN represents the sum of digestible crude protein, digestible carbohydrates and digestible fat. TDN is highly correlated with the energy content of the feed.

Test Weight: Test Weight is the bushel weight equivalent of a sample of grain.