

**New Mexico
2017
Corn and Sorghum Performance Tests**

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

Department of Extension Plant Sciences

and

Department of Plant and Environmental Sciences

Agricultural Experiment Station/Cooperative Extension Service
College of Agricultural, Consumer and Environmental Sciences
New Mexico State University

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Table of Contents

Introduction	1
Test Locations	3
Test Procedures	3
Results	4
Appendix A. Companies and Contact Information for Paid Participants in the Agricultural Science Center Fee-Test Program.....	35
Appendix B. Glossary of Terms.....	44

List of Tables

Table 1. Historical average monthly precipitation (inches) and temperatures (°F) for cooperating agricultural science centers	2
Table 2A-B. New Mexico 2017 grain corn performance test - Agricultural Science Center at Clovis	5
Table 3A-B. New Mexico 2017 early season grain corn performance test – Agricultural Science Center at Farmington.....	7
Table 4A-B. New Mexico 2017 full season grain corn performance test – Agricultural Science Center at Farmington.....	9
Table 5A-B. New Mexico 2017 grain corn performance test - Agricultural Science Center at Tucumcari.....	11
Table 6A-B. New Mexico 2017 forage corn performance test - Agricultural Science Center at Artesia	13
Table 7A-B. New Mexico 2017 forage corn performance test - Agricultural Science Center at Clovis.....	15
Table 8A-B. New Mexico 2017 forage corn performance test - Agricultural Science Center at Farmington	17
Table 9A-B. New Mexico 2017 dryland grain sorghum performance test - Agricultural Science Center at Clovis	19
Table 10A-B. New Mexico 2017 irrigated forage sorghum (single cut) performance test - Agricultural Science Center at Artesia.....	21
Table 11A-C. New Mexico 2017 irrigated forage sorghum (multi-cut) performance test - Agricultural Science Center at Artesia.....	23
Table 12A-B. New Mexico 2017 irrigated forage sorghum (single-cut) performance test - Agricultural Science Center at Clovis	26
Table 13A-B. New Mexico 2017 dryland forage sorghum (single-cut) performance test - Agricultural Science Center at Clovis	28
Table 14A-C. New Mexico 2017 irrigated forage sorghum (single-cut) performance test - Agricultural Science Center at Los Lunas	30
Table 15A-B. New Mexico 2017 irrigated forage sorghum (single-cut) performance test - Agricultural Science Center at Tucumcari	33

List of Figures

Figure 1. Corn and sorghum testing locations.....	1
Figure 2. Climate zones in New Mexico	1

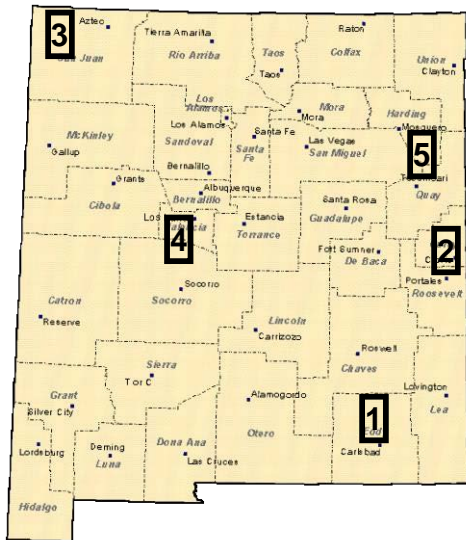
New Mexico 2017 Corn and Sorghum Performance Tests

INTRODUCTION

Performance tests for grain corn, grain sorghum, forage corn, forage sorghum and sorghum sudangrass were conducted at the Agricultural Science Centers at Artesia, Clovis, Farmington, Los Lunas, and Tucumcari New Mexico in 2017 (Figure 1). This report contains information from all Agricultural Science Center corn and sorghum tests; however, it is possible that not all locations contain every test listed above.

The New Mexico corn and sorghum performance testing program is part of an ongoing program to provide farmers, Extension workers and seed industry personnel with reliable, unbiased, information that will allow a valid comparison of corn and sorghum varieties/hybrids at various locations throughout the state. The state of New Mexico encompasses eight climate zones, all of which have some form of agricultural production (Figure 2). Variability in climate, soils, water and local production practices contribute to the need for crop performance tests throughout the state. Climate data for the Agricultural Science Center testing locations are shown in Table 1. Growers who use this report to make cropping decisions should rely primarily on results from tests near their location or in comparable climate 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.

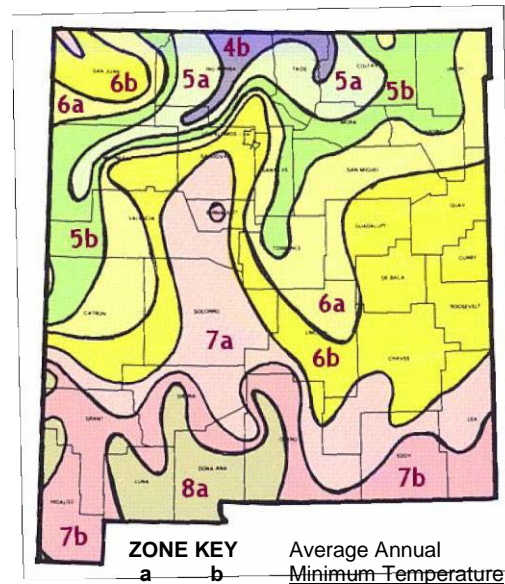


Table 1. Historical average monthly precipitation (inches) and temperatures (°F) for cooperating agricultural science centers.

	Artesia	Clovis	Farmington	Los Lunas	Tucumcari
Precipitation (inches)					
January	0.39	0.35	0.53	0.36	0.37
February	0.42	0.38	0.56	0.41	0.47
March	0.43	0.72	0.71	0.50	0.75
April	0.62	0.81	0.63	0.46	1.10
May	1.20	1.93	0.55	0.46	1.97
June	1.40	2.39	0.20	0.61	1.87
July	1.76	2.75	0.87	1.25	2.62
August	1.67	3.03	1.06	1.70	2.70
September	1.81	1.84	1.02	1.17	1.53
October	1.16	1.66	0.92	1.04	1.28
November	0.53	0.52	0.72	0.46	0.66
December	0.51	0.50	0.48	0.52	0.57
Total	11.88	16.89	8.25	8.93	15.90
Average Temperature (°F)					
January	40.5	37.7	30.3	34.3	38.5
February	45.2	41.3	36.2	40.2	42.3
March	52.0	48.0	44.0	47.2	49.4
April	60.5	56.2	51.0	54.8	57.7
May	69.1	64.5	60.0	63.4	66.3
June	77.7	74.0	70.5	72.7	75.8
July	79.8	76.5	75.7	76.9	79.2
August	78.4	74.8	73.3	74.8	77.4
September	71.7	68.5	66.0	67.4	70.7
October	61.1	58.3	54.0	55.9	59.7
November	48.9	46.5	42.0	43.6	47.7
December	40.8	38.8	31.3	35.1	39.4
Average	60.4	57.0	52.8	55.7	58.7

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

TEST LOCATIONS

The New Mexico corn and sorghum performance testing program is supported by paid fees from the cooperating companies. Personnel at each location determine which tests will be conducted at their site and seed companies are invited to participate in those tests. Because seed company participation in individual tests and locations is voluntary, many of the hybrids/varieties that are grown in the state are not included in the tests, and different groups of hybrids/varieties are evaluated at the different locations.

A list of seed companies that participated in the 2017 fee-test program 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 Los Lunas, 1036 Miller Rd, Los Lunas, NM 87031, (505) 865-7340, <http://loslunassc.nmsu.edu/>. Entry forms for the 2018 Corn and Sorghum Performance Tests will be mailed to seed companies in February 2018. Additional 2018 entry forms can be obtained from the address above.

TEST PROCEDURES

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

All of the Agricultural Science Center performance tests were replicated randomized complete block designs (RBD). Where appropriate, statistical analyses were used to calculate measures of least significant difference (LSD), coefficient of variation (CV) and F test values. All LSD's are reported at the 95% probability level. If the F test value is greater than 0.05 the LSD is not used. When the F test value is less than 0.05, it is appropriate to use the LSD value as a measure of the magnitude by which one entry must differ from another to be considered significantly different. The CV is a measure of variability relative to the mean. A CV below 10 generally indicates reliable data or methodology. CV's of 10 to 20 are indicators of normal variability for grain and forage tests.

Yields for the grain tests are presented on a bushel-per-acre or pound-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. Grain sorghum yields are calculated at a standard moisture of 14% and a bushel weight of 56 lb.

Dry and green (fresh) forage yields reported for the forage tests are in tons per acre. Moisture at harvest was calculated from a representative sample (approximately 1 lb.) from harvested plots. Samples from variety tests at the Agricultural Science Centers 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 material from all locations were submitted to an NFTA-certified forage testing laboratory for nutrient composition analysis using near infrared

reflectance spectroscopy (NIRS). For these trials, milk production estimates were calculated using the University of Wisconsin Milk2000 and Milk2006 spreadsheet programs.

RESULTS

Results for the 2017 corn and sorghum variety tests are shown in Tables 2-15 below. Test procedures for each test are presented in tables designated with an 'A' at each location. Results are presented in tables designated with 'B' or 'C' 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.

The grain sorghum test at Tucumcari was not harvested due to extensive bird damage; the multi-cut forage sorghum/sorghum x sudangrass test at Tucumcari was not harvested due to poor plant establishment.

Table 2A. New Mexico 2017 Grain Corn Performance Test - Agricultural Science Center at Clovis

Investigators: A. Mesbah, A. Scott, and B. Niece

Test Description

Location:	Management Practices:	Growing Conditions:																																																																																																																																																		
County/Area: Curry Longitude: -103.22 Latitude: 34.60 Elevation: 4435 ft. Soil Name: Olton Soil Texture: clay loam Soil Depth: >60 in.	Previous Crop: fallow Planting Date: 18-May Harvest Date: 30-Oct <u>Production Inputs</u> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Rate</u></th> <th style="text-align: center;"><u>Date</u></th> </tr> </thead> <tbody> <tr> <td colspan="3">Fertilizer:</td> </tr> <tr> <td>Nitrogen</td> <td>36 lb/a</td> <td>carryover</td> </tr> <tr> <td>Nitrogen</td> <td>15 lb/a</td> <td>18-Apr</td> </tr> <tr> <td>P₂O₅</td> <td>50 lb/a</td> <td>18-Apr</td> </tr> <tr> <td>Zn</td> <td>3 qt/ac</td> <td>18-Apr</td> </tr> <tr> <td>Nitrogen</td> <td>152 lb/ac</td> <td>at plant</td> </tr> <tr> <td>S</td> <td>27.5 lb/ac</td> <td>at plant</td> </tr> <tr> <td>Nitrogen</td> <td>50 lb/ac</td> <td>2-Aug</td> </tr> <tr> <td>S</td> <td>9 lb/ac</td> <td>2-Aug</td> </tr> <tr> <td colspan="3">Herbicides:</td> </tr> <tr> <td>Atrazine</td> <td>1 pt/a</td> <td>at plant</td> </tr> <tr> <td>Balance Flex</td> <td>2 oz/ac</td> <td>at plant</td> </tr> <tr> <td>Diflex</td> <td>8 oz/ac</td> <td>at plant</td> </tr> <tr> <td>Charger Basic</td> <td>1 pt/ac</td> <td>at plant</td> </tr> <tr> <td>Glyphosate</td> <td>40 oz/ac</td> <td>at plant</td> </tr> <tr> <td>Diflex</td> <td>10 oz/ac</td> <td>20-Jun</td> </tr> <tr> <td>Brawl</td> <td>1 pt/ac</td> <td>20-Jun</td> </tr> <tr> <td colspan="3">Insecticides:</td> </tr> <tr> <td>Onager</td> <td>14 oz/ac</td> <td>20-Jun</td> </tr> <tr> <td>Belt SC</td> <td>3 oz/ac</td> <td>3-Aug</td> </tr> <tr> <td>Oberon</td> <td>8 oz/ac</td> <td>3-Aug</td> </tr> </tbody> </table>		<u>Rate</u>	<u>Date</u>	Fertilizer:			Nitrogen	36 lb/a	carryover	Nitrogen	15 lb/a	18-Apr	P ₂ O ₅	50 lb/a	18-Apr	Zn	3 qt/ac	18-Apr	Nitrogen	152 lb/ac	at plant	S	27.5 lb/ac	at plant	Nitrogen	50 lb/ac	2-Aug	S	9 lb/ac	2-Aug	Herbicides:			Atrazine	1 pt/a	at plant	Balance Flex	2 oz/ac	at plant	Diflex	8 oz/ac	at plant	Charger Basic	1 pt/ac	at plant	Glyphosate	40 oz/ac	at plant	Diflex	10 oz/ac	20-Jun	Brawl	1 pt/ac	20-Jun	Insecticides:			Onager	14 oz/ac	20-Jun	Belt SC	3 oz/ac	3-Aug	Oberon	8 oz/ac	3-Aug	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Average</u></th> <th style="text-align: center;"><u>Precip.</u></th> <th style="text-align: center;"><u>Irrigation</u></th> </tr> <tr> <th></th> <th style="text-align: center;">Temp.</th> <th style="text-align: center;">in.</th> <th style="text-align: center;">in.</th> </tr> <tr> <th></th> <th style="text-align: center;">°F</th> <th></th> <th></th> </tr> </thead> <tbody> <tr> <td>January</td> <td style="text-align: center;">36.5</td> <td></td> <td></td> </tr> <tr> <td>February</td> <td style="text-align: center;">45.8</td> <td></td> <td></td> </tr> <tr> <td>March</td> <td style="text-align: center;">51.7</td> <td></td> <td></td> </tr> <tr> <td>April</td> <td style="text-align: center;">55.5</td> <td></td> <td></td> </tr> <tr> <td>May 1-18</td> <td style="text-align: center;">61.4</td> <td style="text-align: center;">1.24</td> <td style="text-align: center;">0.05</td> </tr> <tr> <td>June</td> <td style="text-align: center;">74.1</td> <td style="text-align: center;">1.02</td> <td style="text-align: center;">1.80</td> </tr> <tr> <td>July</td> <td style="text-align: center;">77.0</td> <td style="text-align: center;">2.18</td> <td style="text-align: center;">6.50</td> </tr> <tr> <td>August</td> <td style="text-align: center;">71.0</td> <td style="text-align: center;">7.87</td> <td style="text-align: center;">0.21</td> </tr> <tr> <td>September</td> <td style="text-align: center;">67.0</td> <td style="text-align: center;">4.13</td> <td style="text-align: center;">0.80</td> </tr> <tr> <td>October</td> <td style="text-align: center;">56.5</td> <td style="text-align: center;">2.04</td> <td style="text-align: center;">0.00</td> </tr> <tr> <td>November</td> <td style="text-align: center;">50.0</td> <td></td> <td></td> </tr> <tr> <td>December</td> <td style="text-align: center;">38.0</td> <td></td> <td></td> </tr> <tr> <td colspan="2">Seasonal Precipitation:</td> <td style="text-align: center;">18.5 in.</td> <td></td> </tr> <tr> <td colspan="2">Total Irrigation:</td> <td style="text-align: center;">9.4 in.</td> <td></td> </tr> <tr> <td>Date of Last Spring Frost:</td> <td colspan="3" style="text-align: center;">1-May</td> </tr> <tr> <td>Date of First Fall Frost:</td> <td colspan="3" style="text-align: center;">10-Oct</td> </tr> <tr> <td>Frost Free Period:</td> <td colspan="3" style="text-align: center;">162 days</td> </tr> </tbody> </table>		<u>Average</u>	<u>Precip.</u>	<u>Irrigation</u>		Temp.	in.	in.		°F			January	36.5			February	45.8			March	51.7			April	55.5			May 1-18	61.4	1.24	0.05	June	74.1	1.02	1.80	July	77.0	2.18	6.50	August	71.0	7.87	0.21	September	67.0	4.13	0.80	October	56.5	2.04	0.00	November	50.0			December	38.0			Seasonal Precipitation:		18.5 in.		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Test Design: Replications: 3 Plot Length: 20 ft. Rows per Plot: 2 Row Spacing: 30 in. Seeding Rate: 27,000 seed/a																																																																																																																																																				

Table 2B. New Mexico 2017 Grain Corn Performance Test - Agricultural Science Center at Clovis

Results

Brand/Company Name	Hybrid/Variety Name	Grain Yield	Moisture at Harvest	Test Weight	Plant Height	Ear Height	Silk Date
		bu/a	%	lb/bu	in	in	
Syngenta Seeds	G15Q98-3000 GT	289.3	16.0	60.6	120.1	53.2	25-Jul
Dyna-Gro Seed	D55VP77 RIB	274.8	16.0	61.8	105.4	53.4	21-Jul
Pioneer	1197	274.4	15.8	60.9	114.6	52.1	26-Jul
Syngenta Seeds	G11B63	272.2	16.0	60.6	106.8	47.2	24-Jul
Pioneer	1151	265.6	16.0	62.8	121.0	46.4	24-Jul
Dyna-Gro Seed	D58VC37 RIB	262.5	16.0	62.1	120.1	49.6	22-Jul
Dyna-Gro Seed	D57VP51 RIB	260.0	15.8	62.9	120.7	46.7	19-Jul
Syngenta Seeds	N76A-3000 GT	251.0	15.9	58.8	107.5	44.0	25-Jul
Pioneer	1602	246.4	16.0	62.8	121.4	51.2	23-Jul
Pioneer	1625	244.8	16.1	62.4	116.1	47.6	22-Jul
Dyna-Gro Seed	D54VC52 RIB	243.4	15.8	62.9	115.4	52.4	19-Jul
Dyna-Gro Seed	D52SS91	243.1	15.9	61.5	104.5	55.9	22-Jul
Dyna-Gro Seed	D57VP75VT3P	242.8	16.0	60.9	115.2	53.5	22-Jul
Syngenta Seeds	G18 D87-3111	241.1	16.1	62.3	113.0	52.2	22-Jul
Syngenta Seeds	N73Y-3111	238.6	15.9	58.4	112.3	49.2	24-Jul
Dyna-Gro Seed	D58QC72 RIB	227.6	16.2	62.5	119.2	42.3	25-Jul
	Trial Mean	254.8	15.9	61.4	114.6	49.8	23-Jul
	LSD (P > 0.05)	34.8	0.3	0.6	2.8	2.3	3
	CV	8.2	1.3	0.6	1.4	2.7	1.0
	F Test	0.0500	<.0001	<.0001	<.0001	<.0001	0.0056

Table 10B. New Mexico 2017 Irrigated Forage Sorghum Performance Test - Agricultural Science Center at Artesia

Results

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Type	Maturity [§] Group	Brown Midrib	65% Adj Dry Matter			CP	NDF	NDFD 30hr	Ash	TDN	NE _i	Milk/Ton	Milk/Acre
					Dry Forage	Green Forage	at Harvest								
					t/a	t/a	%	%	%	%	%	Mcal/lb	lb/t	lb/a	
Dyna-Gro Seed	705F	FS	ME	N	8.0	22.9	35.5	5.6	61.7	57.3	6.1	61.0	0.533	3330	25680
Dyna-Gro Seed	F74FS23BMR	FS	M	Y	7.6	21.7	30.3	6.3	52.9	72.7	6.6	69.7	0.670	3923	29954
Alta Seeds	ADV 6504	SxS	PS	Y	7.1	20.3	26.8	6.4	61.2	70.3	8.3	64.7	0.573	3550	25175
Alta Seeds	AF-7401	FS	L	Y	6.3	18.0	29.5	8.3	62.8	71.0	8.7	65.7	0.570	3554	21305
Dyna-Gro Seed	F76FS77BMR	FS	ML	Y	6.2	17.7	29.0	8.0	63.7	69.7	8.7	64.3	0.553	3494	21222
Alta Seeds	XF7302	FS	M	Y	6.0	17.1	30.0	7.4	59.1	71.0	8.2	66.7	0.607	3671	22724
Alta Seeds	XF-7303	FS	M	Y	5.9	16.9	33.0	8.7	63.2	70.7	9.0	64.7	0.557	3524	18588
Dyna-Gro Seed	Dual Forage SCA	GS	ML	N	5.1	14.6	35.3	6.8	60.1	64.3	7.5	64.7	0.583	3461	15905
Alta Seeds	XF7103	FS	E	Y	3.2	9.1	36.3	5.6	59.0	69.7	7.4	66.3	0.600	3665	13337
Trial Mean					6.1	17.4	31.7	7.0	60.4	68.5	7.8	65.3	0.583	3575	21543
LSD					1.9	5.6	3.7	1.9	NS	3.6	1.9	4.0	0.087	273	9426
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					20.7	19.2	7.9	16.0	7.4	3.0	14.0	3.6	8.7	4.4	25.3
F Test					0.0008	0.0001	0.0001	0.0245	0.1879	0.0001	0.0540	0.0290	0.1312	0.0191	0.0424

[†] Sorghum Type: FS=Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid

[§]Maturity Group: E = Early, M = Medium, L = Late, PS = Photoperiod Sensitive

Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Table 11A. New Mexico 2017 Irrigated Forage Sorghum & Sorghum Sudangrass (Multi-Cut) Performance Test - Agricultural Science Center at Artesia

Investigators: R. Flynn, R. Pacheco, S. Bustillos, M. Lopez

Test Description

Location:	Management Practices:	Growing Conditions:
County/Area: Eddy	Previous Crop: fallow	
Longitude: -104.38	Planting Date: 19-May	
Latitude: 32.75	Harvest Dates: 24-Jul 20-Sep	
Elevation: 3360 ft.		
Soil Name: Pima		
Soil Texture: silt loam/scl		
Soil Depth: 60 in.		
	<u>Production Inputs</u>	
	<u>Rate</u> <u>Date</u>	
	Fertilizer:	
	Nitrogen 100 lb/a 16-Jun	
	P ₂ O ₅ 80 lb/a 16-Jun	
	K ₂ O 0 lb/a	
	Zn 1 lb/a 16-Jun	
	Cultivation: hand 3-Jun	
	Herbicides: none	
	pts/a	
	Insecticides:	
	None	
Test Design:		
Replications: 3		
Plot Length: 22 ft.		
Rows per Plot: 2		
Row Spacing: 14 in.		
Seeding Rate: 80,000 seed/a		
		Average
		<u>Temp.</u> <u>Precip.</u> <u>Irrigation</u>
		°F in. in.
		January 43.9 0.89
		February 50.4 0.41
		March 57.7 0.02
		April 62.8 1.09
		May 67.3 0.30 4.00
		June 79.6 1.83 2.00
		July 81.1 1.49 6.00
		August 77.9 3.15 6.00
		September 73.4 1.92 4.00
		October 61.6 0.43
		November
		<u>December</u>
		Seasonal Precipitation ▲ 9.80 in.
		Total Irrigation 22.00 in.
		32
		Date of Last Spring Frost: 30-Apr
		Date of First Fall Frost: 28-Oct
		Frost Free Period: 181 days

Table 11B. New Mexico 2017 Irrigated Forage Sorghum & Sorghum Sudangrass (Multi-Cut) Performance Test - Agricultural Science Center at Artesia

Results

Brand/Company Name	Hybrid/Variety Name	Type ¹	Harvest 1					Harvest 2					Total	
			Dry Forage	Green Forage	Harvest Moisture	Milk/Ton	Milk/Acre	Dry Forage	Green Forage	Harvest Moisture	Milk/Ton	Milk/Acre	Dry Forage	Milk/Acre
			t/a	t/a	%	lb/t	lb/a	t/a	t/a	%	lb/t	lb/a	t/a	lb/a
Blue River Hybrids	Seahawk	SxS	5.5	23.4	76.2	3711	19527	8.1	29.8	73.0	3672	34977	13.6	54504
Alta Seeds	AS-6401	SxS	3.7	19.5	81.0	3743	13275	8.4	36.3	77.0	3734	29667	12.1	42941
Blue River Hybrids	Blackhawk	SxS	4.8	19.6	75.5	3734	18863	7.3	29.6	75.2	3708	33795	12.1	52658
Blue River Hybrids	Pelican	SxS	4.3	18.7	76.7	3844	15481	7.6	28.4	73.5	3722	29356	11.9	44837
Dyna-Gro Seed	Dannyboy BMR	SxS	3.7	18.0	79.0	3777	15203	7.2	30.1	75.7	3738	31702	10.9	46905
Blue River Hybrids	Nighthawk	SxS	3.7	17.1	78.0	3695	13010	6.5	24.9	74.0	3663	24403	10.2	37412
Alta Seeds	AS-6402	SxS	3.7	15.6	76.5	3707	12001	6.1	22.9	73.5	3608	25263	9.8	37264
Dyna-Gro Seed	Fullgraze BMR	SxS	3.6	16.7	78.0	3700	12400	6.0	24.9	75.5	3677	26438	9.6	38838
Trial Mean			4.0	18.6	77.6	3739	14970	7.1	28.4	74.7	3690	29450	11.3	44420
LSD			1.0	4.6	2.9	81	3407	NS	NS	2.0	83	4290	2.7	5719
CV			16.0	17.0	8.8	1.2	13.0	21.7	20.9	5.3	1.3	8.3	16.4	7.4
F Test			0.0034	0.0678	0.0179	0.0207	0.0014	0.3089	0.1022	0.0043	0.0664	0.0007	0.0731	0.0001

¹FS and SxS signify forage sorghum and sorghum x sudangrass, respectively.

Table 11C. New Mexico 2017 Irrigated Forage Sorghum & Sorghum Sudangrass (Multi-Cut) Performance Test - Agricultural Science Center at Artesia

Results

Brand/Company Name	Hybrid/Variety Name	Type ¹	Harvest 1						Harvest 2								
			NDFD						NDFD								
			CP	NDF	48hr	RFQ	TDN	NE _i	CP	NDF	48hr	RFQ	TDN	NE _i			
			%	%	%	%	%	Mcal/lb				%	%	%	%	%	Mcal/lb
BlueRiver	Seahawk	SxS	8.1	59.8	74.0	142	67.7	0.610	8.1	61.5	74.0	138	64.7	0.573			
Advanta_Alta	AS-6401	SxS	8.4	61.6	79.3	149	66.3	0.587	9.3	59.6	77.0	147	64.0	0.577			
BlueRiver	Blackhawk	SxS	7.3	61.2	72.7	141	68.0	0.607	8.9	61.6	74.7	143	64.0	0.567			
BlueRiver	Pelican	SxS	7.6	59.1	76.7	152	68.3	0.620	9.2	61.1	76.0	145	65.0	0.580			
DynaGro	Dannyboy BMR	SxS	7.2	60.8	77.7	152	66.3	0.593	8.9	59.9	77.3	146	64.7	0.583			
BlueRiver	Nighthawk	SxS	6.5	63.8	76.7	144	66.3	0.573	10.0	61.9	75.7	144	63.0	0.560			
Advanta_Alta	AS-6402	SxS	6.1	61.4	75.7	145	67.3	0.597	9.7	60.8	73.3	140	63.3	0.567			
DynaGro	Fullgraze BMR	SxS	6.0	61.3	73.3	144	67.0	0.597	9.3	60.9	74.7	143	63.7	0.570			
Trial Mean			7.1	61.1	75.8	146	67.2	0.598	9.2	60.9	75.3	143	64.0	0.572			
LSD			NS	2.7	2.4	NS	1.6	NS	1.1	NS	1.8	7	1.6	NS			
CV			21.7	2.5	1.7	3.9	1.4	2.9	7.0	2.2	1.0	2.8	1.4	2.7			
F Test			0.3089	0.0722	0.0004	0.1733	0.0946	0.1058	0.0896	0.4228	0.0029	0.1535	0.1619	0.6292			

¹FS and SxS signify forage sorghum and sorghum x sudangrass, respectively.

Table 12A. New Mexico 2017 Irrigated Forage Sorghum Performance Test - Agricultural Science Center at Clovis

Investigators: A. Mesbah, A. Scott, and B. Niece

Test Description

Location:	Management Practices:	Growing Conditions:																																																																																																																									
County/Area: Curry Longitude: -103.22 Latitude: 34.60 Elevation: 4435 ft. Soil Name: Olton Soil Texture: clay loam Soil Depth: >60 in.	Previous Crop: fallow Planting Date: 31-May Harvest Date: 13-Oct <u>Production Inputs</u> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Rate</th> <th style="text-align: center; border-bottom: 1px solid black;">Date</th> </tr> </thead> <tbody> <tr> <td colspan="3">Fertilizer:</td> </tr> <tr> <td>Nitrogen</td> <td style="text-align: center;">81 lb/ac</td> <td style="text-align: center;">carryover</td> </tr> <tr> <td>Nitrogen</td> <td style="text-align: center;">100 lb/ac</td> <td style="text-align: center;">at plant</td> </tr> <tr> <td style="padding-left: 20px;">P₂O₅</td> <td style="text-align: center;">35 lb/ac</td> <td style="text-align: center;">at plant</td> </tr> <tr> <td style="padding-left: 20px;">S</td> <td style="text-align: center;">16 lb/ac</td> <td style="text-align: center;">at plant</td> </tr> <tr> <td style="padding-left: 20px;">Zn</td> <td style="text-align: center;">1 qt/ac</td> <td style="text-align: center;">at plant</td> </tr> <tr> <td colspan="3">Herbicides:</td> </tr> <tr> <td>Atrazine</td> <td style="text-align: center;">1.5 pt/ac</td> <td style="text-align: center;">at plant</td> </tr> <tr> <td>Huskie</td> <td style="text-align: center;">1 pt/ac</td> <td style="text-align: center;">5-Jul</td> </tr> <tr> <td>Brawl</td> <td style="text-align: center;">12 oz/ac</td> <td style="text-align: center;">5-Jul</td> </tr> <tr> <td>Atrazine</td> <td style="text-align: center;">8 oz/ac</td> <td style="text-align: center;">5-Jul</td> </tr> <tr> <td colspan="3">Insecticides:</td> </tr> <tr> <td>Sivanto</td> <td style="text-align: center;">7 oz/ac</td> <td style="text-align: center;">30-Aug</td> </tr> <tr> <td>Sivanto</td> <td style="text-align: center;">7 oz/ac</td> <td style="text-align: center;">2-Oct</td> </tr> </tbody> </table>		Rate	Date	Fertilizer:			Nitrogen	81 lb/ac	carryover	Nitrogen	100 lb/ac	at plant	P ₂ O ₅	35 lb/ac	at plant	S	16 lb/ac	at plant	Zn	1 qt/ac	at plant	Herbicides:			Atrazine	1.5 pt/ac	at plant	Huskie	1 pt/ac	5-Jul	Brawl	12 oz/ac	5-Jul	Atrazine	8 oz/ac	5-Jul	Insecticides:			Sivanto	7 oz/ac	30-Aug	Sivanto	7 oz/ac	2-Oct	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 15%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Average Temp.</th> <th style="text-align: center; border-bottom: 1px solid black;">Precip.</th> <th style="text-align: center; border-bottom: 1px solid black;">Irrigation</th> </tr> <tr> <th></th> <th style="text-align: center;">°F</th> <th style="text-align: center;">in.</th> <th style="text-align: center;">in.</th> </tr> </thead> <tbody> <tr><td>January</td><td style="text-align: center;">36.5</td><td></td><td></td></tr> <tr><td>February</td><td style="text-align: center;">45.8</td><td></td><td></td></tr> <tr><td>March</td><td style="text-align: center;">51.7</td><td></td><td></td></tr> <tr><td>April</td><td style="text-align: center;">55.5</td><td></td><td></td></tr> <tr><td>May</td><td style="text-align: center;">61.4</td><td></td><td></td></tr> <tr><td>June</td><td style="text-align: center;">74.1</td><td style="text-align: center;">1.02</td><td style="text-align: center;">3.80</td></tr> <tr><td>July</td><td style="text-align: center;">77.0</td><td style="text-align: center;">2.18</td><td style="text-align: center;">3.60</td></tr> <tr><td>August</td><td style="text-align: center;">71.0</td><td style="text-align: center;">7.87</td><td style="text-align: center;">1.06</td></tr> <tr><td>September</td><td style="text-align: center;">67.0</td><td style="text-align: center;">4.13</td><td style="text-align: center;">1.00</td></tr> <tr><td>October 1-13</td><td style="text-align: center;">56.5</td><td style="text-align: center;">2.01</td><td style="text-align: center;">0.06</td></tr> <tr><td>November</td><td style="text-align: center;">50.0</td><td></td><td></td></tr> <tr><td>December</td><td style="text-align: center;">38.0</td><td></td><td></td></tr> <tr> <td style="text-align: right;">Seasonal Precipitation:</td> <td></td> <td style="text-align: center;">17.2 in.</td> <td></td> </tr> <tr> <td style="text-align: right;">Total Irrigation:</td> <td></td> <td style="text-align: center;">9.5 in.</td> <td></td> </tr> <tr> <td style="text-align: right;">Date of Last Spring Frost:</td> <td></td> <td colspan="2" style="text-align: center;">1-May</td> </tr> <tr> <td style="text-align: right;">Date of First Fall Frost:</td> <td></td> <td colspan="2" style="text-align: center;">10-Oct</td> </tr> <tr> <td style="text-align: right;">Frost Free Period:</td> <td></td> <td colspan="2" style="text-align: center;">162 days</td> </tr> </tbody> </table>		Average Temp.	Precip.	Irrigation		°F	in.	in.	January	36.5			February	45.8			March	51.7			April	55.5			May	61.4			June	74.1	1.02	3.80	July	77.0	2.18	3.60	August	71.0	7.87	1.06	September	67.0	4.13	1.00	October 1-13	56.5	2.01	0.06	November	50.0			December	38.0			Seasonal Precipitation:		17.2 in.		Total Irrigation:		9.5 in.		Date of Last Spring Frost:		1-May		Date of First Fall Frost:		10-Oct		Frost Free Period:		162 days	
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Test Design: Replications: 3 Plot Length: 20 ft. Rows per Plot: 2 Row Spacing: 30 in. Seeding Rate: 75000 seed/a																																																																																																																											

Table 12B. New Mexico 2017 Irrigated Forage Sorghum Performance Test - Agricultural Science Center at Clovis

Results

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Type	Maturity [§] Group	Brown Midrib	Moisture			CP	NDF	NDFD 48hr	Ash	TDN	NE _l	Milk/Ton	Milk/Acre
					Dry Forage	Green Forage	at Harvest								
					t/a	t/a	%	%	%	%	%	%	Mcal/lb	lb/t	lb/a
NuTech Seed, LLC	FS300	FS	ML	Conv	7.6	19.5	60.9	8.4	52.2	61.6	5.5	62.3	0.638	3085	23527
Dyna-Gro Seed	705F	FS	ME	Conv	7.4	19.2	61.5	8.4	49.5	62.1	6.1	61.5	0.629	3017	22367
Dyna-Gro Seed	F74FS23 BMR	FS	M	BMR	6.8	21.2	68.1	8.4	51.2	68.8	6.5	62.7	0.643	2965	20102
NuTech Seed, LLC	FSB310	FS	ML	BMR	6.6	23.6	71.7	9.7	48.7	68.6	6.9	64.4	0.662	2972	19711
Blue River Hybrids	Seahawk	SxS	ML	BMR	6.5	16.8	61.4	7.6	54.8	60.0	5.5	60.5	0.618	3119	20248
NuTech Seed, LLC	PrimeCut	SxS	PS	Conv	6.4	31.1	79.4	7.9	59.3	62.5	6.7	57.1	0.580	3240	20724
Alta Seeds	AF7401	FS	L	BMR	6.3	23.2	73.0	9.1	47.3	71.3	6.8	66.2	0.681	2973	18532
Alta Seeds	XF7302	FS	M	BMR	6.2	20.9	70.0	9.0	52.9	70.1	7.4	64.6	0.664	3050	18915
Blue River Hybrids	Nighthawk	SxS	L	BMR	5.9	19.4	69.4	9.2	52.9	68.5	7.0	63.4	0.650	2936	17319
Blue River Hybrids	Blackhawk	SxS	ML	BMR	5.7	17.6	67.3	7.9	55.5	64.3	5.7	61.8	0.633	2982	17109
Alta Seeds	XF7303	FS	M	BMR	5.5	16.2	65.9	8.6	51.9	67.8	7.2	64.4	0.661	3067	16771
Dyna-Gro Seed	F76FS77 BMR	FS	ML	BMR	5.3	18.0	70.8	8.2	52.1	71.9	6.9	65.2	0.670	2976	15570
Blue River Hybrids	Pelican	SxS	ML	BMR	5.3	13.9	61.7	8.8	51.1	66.2	6.3	62.6	0.642	2847	15148
Dyna-Gro Seed	Fullgraze BMR	SxS	M	BMR	5.3	22.4	76.4	8.3	53.4	69.8	5.9	60.4	0.617	3069	16162
Dyna-Gro Seed	Dual Forage SCA	GS	ML	Conv	4.0	8.0	49.6	8.2	46.7	64.7	5.6	65.7	0.676	2870	11483
Alta Seeds	XF7103	FS	E	BMR	3.2	7.9	57.8	8.7	42.3	68.5	5.7	66.3	0.682	3044	9657
Trial Mean					5.9	18.7	66.6	8.5	51.4	66.7	6.4	63.1	0.647	3013	14211
LSD					1.5	5.0	4.8	1.0	5.0	4.6	1.3	2.5	0.027	192	3736
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					15.7	16.2	4.3	7.2	5.9	4.1	11.9	2.3	2.5	3.8	15.8
F Test					0.0002	<.0001	<.0001	0.0263	<.0001	<.0001	0.0250	<.0001	<.0001	<.0001	0.0735

[†] Sorghum Type: FS = Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid, GS = Grain Sorghum

[§]Maturity Group: E = Early, M = Medium, L = Late, PS = Photoperiod Sensitive

Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Table 13A. New Mexico 2017 Dryland Forage Sorghum Performance Test - Agricultural Science Center at Clovis

Investigators: A. Mesbah, A. Scott, and B. Niece

Test Description

Location:	Management Practices:	Growing Conditions:																																																																																																																														
County/Area: Curry Longitude: -103.22 Latitude: 34.60 Elevation: 4435 ft. Soil Name: Olton Soil Texture: clay loam Soil Depth: >60 in.	Previous Crop: fallow Planting Date: 20-Jun Harvest Date: 25-Oct <u>Production Inputs</u> <table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Rate</th> <th style="text-align: center; border-bottom: 1px solid black;">Date</th> </tr> </thead> <tbody> <tr> <td colspan="3">Fertilizer:</td> </tr> <tr> <td>Nitrogen</td> <td>46 lb/a</td> <td>carryover</td> </tr> <tr> <td>Nitrogen</td> <td>30 lb/ac</td> <td>18-Apr</td> </tr> <tr> <td>P₂O₅</td> <td>20 lb/ac</td> <td>18-Apr</td> </tr> <tr> <td>S</td> <td>4.4 lb/ac</td> <td>18-Apr</td> </tr> <tr> <td>Zn</td> <td>1 qt/ac</td> <td>18-Apr</td> </tr> <tr> <td>Nitrogen</td> <td>45 lb/ac</td> <td>at plant</td> </tr> <tr> <td>S</td> <td>8 lb/ac</td> <td>at plant</td> </tr> <tr> <td colspan="3">Herbicides:</td> </tr> <tr> <td>Glyphosate</td> <td>48 oz/ac</td> <td>30-Apr</td> </tr> <tr> <td>Detonate</td> <td>8 oz/ac</td> <td>30-Apr</td> </tr> <tr> <td>Sharpen</td> <td>1.5 oz/ac</td> <td>19-Jun</td> </tr> <tr> <td>Atrazine</td> <td>1.5 pt/ac</td> <td>19-Jun</td> </tr> <tr> <td>Glyphosate</td> <td>48 oz/ac</td> <td>19-Jun</td> </tr> <tr> <td colspan="3">Insecticides:</td> </tr> <tr> <td>Sivanto</td> <td>7 oz/ac</td> <td>30-Aug</td> </tr> <tr> <td>Dimilin</td> <td>2 oz/ac</td> <td>at plant</td> </tr> </tbody> </table>		Rate	Date	Fertilizer:			Nitrogen	46 lb/a	carryover	Nitrogen	30 lb/ac	18-Apr	P ₂ O ₅	20 lb/ac	18-Apr	S	4.4 lb/ac	18-Apr	Zn	1 qt/ac	18-Apr	Nitrogen	45 lb/ac	at plant	S	8 lb/ac	at plant	Herbicides:			Glyphosate	48 oz/ac	30-Apr	Detonate	8 oz/ac	30-Apr	Sharpen	1.5 oz/ac	19-Jun	Atrazine	1.5 pt/ac	19-Jun	Glyphosate	48 oz/ac	19-Jun	Insecticides:			Sivanto	7 oz/ac	30-Aug	Dimilin	2 oz/ac	at plant	<table style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 60%;"></th> <th style="text-align: center; border-bottom: 1px solid black;">Average Temp. °F</th> <th style="text-align: center; border-bottom: 1px solid black;">Precip. in.</th> <th style="text-align: center; border-bottom: 1px solid black;">Irrigation in.</th> </tr> </thead> <tbody> <tr><td>January</td><td style="text-align: center;">36.5</td><td></td><td></td></tr> <tr><td>February</td><td style="text-align: center;">45.8</td><td></td><td></td></tr> <tr><td>March</td><td style="text-align: center;">51.7</td><td></td><td></td></tr> <tr><td>April</td><td style="text-align: center;">55.5</td><td></td><td></td></tr> <tr><td>May</td><td style="text-align: center;">61.4</td><td></td><td></td></tr> <tr><td>June 20-30</td><td style="text-align: center;">74.1</td><td style="text-align: center;">0.74</td><td style="text-align: center;">1.0</td></tr> <tr><td>July</td><td style="text-align: center;">77.0</td><td style="text-align: center;">2.18</td><td></td></tr> <tr><td>August</td><td style="text-align: center;">71.0</td><td style="text-align: center;">7.87</td><td></td></tr> <tr><td>September</td><td style="text-align: center;">67.0</td><td style="text-align: center;">4.13</td><td></td></tr> <tr><td>October 1-25</td><td style="text-align: center;">56.5</td><td style="text-align: center;">2.04</td><td></td></tr> <tr><td>November</td><td style="text-align: center;">50.0</td><td></td><td></td></tr> <tr><td>December</td><td style="text-align: center;">38.0</td><td></td><td></td></tr> <tr><td colspan="2">Seasonal Precipitation:</td><td style="text-align: center;">17.0 in.</td><td></td></tr> <tr><td colspan="2">Total Irrigation:</td><td style="text-align: center;">1.0 in.</td><td></td></tr> <tr><td colspan="2">Date of Last Spring Frost:</td><td style="text-align: center;">1-May</td><td></td></tr> <tr><td colspan="2">Date of First Fall Frost:</td><td style="text-align: center;">10-Oct</td><td></td></tr> <tr><td colspan="2">Frost Free Period:</td><td style="text-align: center;">162 days</td><td></td></tr> </tbody> </table>		Average Temp. °F	Precip. in.	Irrigation in.	January	36.5			February	45.8			March	51.7			April	55.5			May	61.4			June 20-30	74.1	0.74	1.0	July	77.0	2.18		August	71.0	7.87		September	67.0	4.13		October 1-25	56.5	2.04		November	50.0			December	38.0			Seasonal Precipitation:		17.0 in.		Total Irrigation:		1.0 in.		Date of Last Spring Frost:		1-May		Date of First Fall Frost:		10-Oct		Frost Free Period:		162 days	
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Table 13B. New Mexico 2017 Dryland Forage Sorghum Performance Test - Agricultural Science Center at Clovis

Results

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Type	Maturity [§] Group	Brown Midrib	Moisture			CP	NDF	NDFD 48hr	Ash	TDN	NE _i Mcal/lb	Milk/Ton lb/t	Milk/Acre lb/a
					Dry Forage t/a	Green Forage t/a	at Harvest %								
Dyna-Gro Seed	705F	FS	ME	Conv	5.8	18.6	68.6	8.4	49.5	62.1	6.1	61.5	0.629	2864	16774
NuTech Seed, LLC	FS300	FS	ML	Conv	5.6	17.5	68.1	8.4	52.2	61.6	5.5	62.3	0.638	2916	16344
NuTech Seed, LLC	PrimeCut	SxS	PS	Conv	5.6	23.1	75.8	7.9	59.3	62.5	6.7	57.1	0.580	2549	14180
Dyna-Gro Seed	F74FS23 BMR	FS	M	BMR	5.3	18.2	71.1	8.4	51.2	68.8	6.5	62.7	0.642	3005	16017
Alta Seeds	AF7401	FS	L	BMR	5.2	17.8	70.5	9.1	47.3	71.3	6.8	66.2	0.681	3270	17160
Blue River Hybrids	Blackhawk	SxS	ML	BMR	5.0	15.9	68.7	7.9	55.5	64.4	5.7	61.8	0.633	2906	14489
Blue River Hybrids	Seahawk	SxS	ML	BMR	4.9	12.6	61.0	7.6	54.8	60.0	5.5	60.5	0.618	2775	13617
NuTech Seed, LLC	FSB310	FS	ML	BMR	4.8	16.8	71.4	9.7	48.7	68.6	6.9	64.4	0.662	3126	14924
Alta Seeds	XF7103	FS	E	BMR	4.6	11.0	58.4	8.7	42.3	68.5	5.7	66.3	0.682	3256	14982
Dyna-Gro Seed	F76FS77 BMR	FS	ML	BMR	4.5	16.3	72.1	8.2	52.1	71.9	6.9	65.2	0.670	3207	14568
Alta Seeds	XF7302	FS	M	BMR	4.3	15.7	72.6	9.0	52.9	70.1	7.4	64.6	0.664	3153	13501
Dyna-Gro Seed	Fullgraze BMR	SxS	M	BMR	4.1	15.5	73.1	8.3	53.4	69.8	5.9	60.4	0.617	2848	11786
Blue River Hybrids	Pelican	SxS	ML	BMR	4.1	11.9	64.9	8.8	51.1	66.2	6.3	62.6	0.642	2978	12303
Blue River Hybrids	Nighthawk	SxS	L	BMR	4.0	12.5	68.2	9.2	52.9	68.5	7.0	63.4	0.650	3049	12140
Dyna-Gro Seed	Dual Forage SCA	GS	ML	Conv	3.9	10.2	60.3	8.2	46.7	64.7	5.6	65.7	0.676	3186	12596
Alta Seeds	XF7303	FS	M	BMR	3.8	13.4	71.2	8.6	51.9	67.8	7.2	64.4	0.661	3117	12009
	Trial Mean				4.7	15.4	68.5	8.5	51.4	66.7	6.4	63.1	0.646	3013	14212
	LSD				1.1	3.5	3.1	1.0	5.0	4.6	1.3	2.5	0.027	192	3736
	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				13.8	13.5	2.7	7.2	5.9	4.1	11.9	2.3	2.5	3.8	15.8
	F Test				0.0056	<.0001	<.0001	0.0263	<.0001	<.0001	0.0250	<.0001	<.0001	<.0001	0.0735

[†] Sorghum Type: FS = Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid, HPM = Hybrid Pearl Millet, GS = Grain Sorghum

[§] Maturity Group: E = Early, M = Medium, L = Late, PS = Photoperiod Sensitive

Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Table 14B. New Mexico 2017 Irrigated Forage Sorghum Performance Test - Agricultural Science Center at Los Lunas

Results

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Type	Maturity [§] Group	Brown Midrib	Dry Forage	65% Adj	Moisture	Lodging	Plant Height
						Green Forage	at Harvest		
					t/a	t/a	%	%	in
Chromatin, Inc.	SP 1880	FS	L	Conv	13.4	38.2	70.7	0	164
Chromatin, Inc.	SS 405	FS	L	Conv	11.6	33.2	66.2	7	138
Chromatin, Inc.	SP 1615	FS	L	Conv	10.0	28.5	76.3	0	157
Dyna-Gro Seed	Fullgraze BMR	SxS	M	BMR	9.8	28.0	68.7	17	119
Chromatin, Inc.	SP 2876	FS	ME	BMR	7.7	22.1	72.4	5	110
Chromatin, Inc.	SP 2774	FS	ME	BMR	7.3	20.9	74.2	13	123
Alta Seeds	AF7401	FS	L	BMR	6.4	18.4	74.3	0	71
Browning Seed	Silage Master	FS	ML	Conv	6.3	18.1	74.9	72	124
Chromatin, Inc.	SP 4555	SxS		BMR	5.9	16.9	71.8	68	108
Chromatin, Inc.	SP 2880	FS	M	BMR	5.7	16.2	74.3	92	109
Dyna-Gro Seed	F76FS77 BMR	FS	ML	BMR	5.6	16.0	65.2	0	58
Dyna-Gro Seed	705F	FS	ME	Conv	5.3	15.2	74.4	5	82
Chromatin, Inc.	SPX56216	FS	ML	Conv	5.1	14.6	73.3	17	113
Dyna-Gro Seed	F74FS23 BMR	FS	M	BMR	5.0	14.2	79.9	83	108
Alta Seeds	XF7302	FS	M	BMR	4.9	13.9	74.9	0	63
Dyna-Gro Seed	Dual Forage SCA	GS	ML	Conv	4.7	13.5	76.2	0	67
Chromatin, Inc.	NK 300	FS	ME	Conv	4.6	13.1	58.2	45	72
Chromatin, Inc.	SP 3902 BD	FS-BD	ML	BMR	4.5	13.0	72.3	0	77
Chromatin, Inc.	Millex 32	HPM	N/A	Conv	4.4	12.4	71.9	2	101
Alta Seeds	XF7303	FS	M	BMR	3.4	9.8	72.8	0	61
Alta Seeds	XF7103	FS	E	BMR	2.2	6.3	71.0	82	63
	Trial Mean				6.4	18.2	72.1	24.1	99.4
	LSD				1.4	4.1	3.1	27.1	5.6
	LSD P >				0.05	0.05	0.05	0.05	0.05
	CV				13.5	13.5	2.6	68.1	3.4
	F Test				<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

[†] Sorghum Type: FS=Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid, HPM = Hybrid Pearl Millet

[§]Maturity Group: E = Early, M = Medium, L = Late, PS = Photoperiod Sensitive

Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Table 14C. New Mexico 2017 Irrigated Forage Sorghum Performance Test - Agricultural Science Center at Los Lunas

Results

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Maturity [§] Brown			CP	NDF	NDFD		Ash	TDN	NE _i	Milk/ Ton	Milk/ Acre	Milk/ Irrigation	
		Type	Group	Midrib			30hr	ADF							
					%	%	%	%	%	Mcal/lb	lb/t	lb/a	lb/ac-inch		
Chromatin, Inc.	SP 1880	FS	L	Conv	6.6	61.2	47.4	37.0	5.0	58.2	0.593	2635	35200	1279	
Chromatin, Inc.	SS 405	FS	L	Conv	6.1	63.3	42.6	39.3	5.1	57.7	0.587	2564	29874	1086	
Chromatin, Inc.	SP 1615	FS	L	Conv	7.6	65.4	48.6	40.8	6.2	59.9	0.612	2771	27669	1005	
Dyna-Gro Seed	Fullgraze BMR	SxS	M	BMR	8.0	59.5	56.5	36.6	5.5	62.3	0.638	2965	28717	1044	
Chromatin, Inc.	SP 2876	FS	ME	BMR	7.3	58.5	62.4	36.1	5.2	64.9	0.666	3173	24580	893	
Chromatin, Inc.	SP 2774	FS	ME	BMR	8.0	56.3	59.1	33.6	5.3	65.0	0.668	3183	23304	847	
Alta Seeds	AF7401	FS	L	BMR	8.9	57.5	57.5	36.9	7.5	66.7	0.687	3333	21495	781	
Browning Seed	Silage Master	FS	ML	Conv	6.4	66.8	44.4	42.7	5.9	58.6	0.597	2649	17279	628	
Chromatin, Inc.	SP 4555	SxS		BMR	7.6	56.0	47.7	34.5	5.9	60.7	0.620	2829	16755	609	
Chromatin, Inc.	SP 2880	FS	M	BMR	6.7	66.5	68.0	43.7	6.9	69.3	0.715	3533	20019	727	
Dyna-Gro Seed	F76FS77 BMR	FS	ML	BMR	8.1	60.9	43.6	38.9	6.8	63.4	0.650	3032	16880	613	
Dyna-Gro Seed	705F	FS	ME	Conv	6.8	63.6	48.3	40.1	5.6	61.5	0.629	2873	15288	556	
Chromatin, Inc.	SPX56216	FS	ML	Conv	9.2	56.4	47.7	35.8	7.1	62.9	0.644	3015	15438	561	
Dyna-Gro Seed	F74FS23 BMR	FS	M	BMR	7.4	59.8	52.4	38.2	6.9	64.5	0.663	3144	15622	568	
Alta Seeds	XF7302	FS	M	BMR	10.3	56.4	55.1	36.9	8.4	67.9	0.700	3422	16664	606	
Dyna-Gro Seed	Dual Forage SCA	GS	ML	Conv	8.5	59.2	56.5	38.1	7.7	68.1	0.702	3436	16215	589	
Chromatin, Inc.	NK 300	FS	ME	Conv	6.8	58.8	47.1	35.9	5.1	61.9	0.633	2899	13398	487	
Chromatin, Inc.	SP 3902 BD	FS-BD	ML	BMR	8.2	51.8	55.2	31.0	5.8	67.4	0.694	3356	15208	553	
Chromatin, Inc.	Millex 32	HPM	N/A	Conv	6.8	63.7	38.0	38.0	4.6	55.4	0.561	2393	10408	378	
Alta Seeds	XF7303	FS	M	BMR	8.1	62.1	54.0	40.9	8.0	66.2	0.682	3288	11217	407	
Alta Seeds	XF7103	FS	E	BMR	7.6	58.9	54.7	37.2	6.9	65.4	0.673	3229	7176	260	
Trial Mean					7.7	60.1	51.7	37.7	6.3	63.2	0.648	3034	18971	689	
LSD					1.9	NS	7.7	NS	1.5	3.5	0.039	273	4709	171	
LSD P >					0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	
CV					14.9	9.3	9.0	11.1	14.2	3.3	3.6	5.4	15.0	15.0	
F Test					0.0089	0.1681	<0.0001	0.1412	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001	<0.0001

[†] Sorghum Type: FS = Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid, HPM = Hybrid Pearl Millet, GS = Grain Sorghum

[§]Maturity Group: E = Early, M = Medium, L = Late, PS = Photoperiod Sensitive

Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Table 15A. New Mexico 2017 Irrigated Forage Sorghum & Sorghum Sudangrass (Single Cut) Performance Test - Agricultural Science Center at Tucumcari

Investigators: L.M. Lauriault, A. Cunningham, J. Box, P.L. Cooksey, S. Jennings, J. Jennings, and A. Williams

Test Description

Location:	Management Practices:	Growing Conditions:																																																													
County/Area: Quay Longitude: -103.68 Latitude: 35.20 Elevation: 4086 ft. Soil Name: Canez Soil Texture: Fine sandy loam Soil Depth: >60 in.	Previous Crop: Fallow Planting Date: 1-Jun Harvest Dates: 25-Oct <u>Production Inputs</u> <table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Rate</u></th> <th style="text-align: center;"><u>Date</u></th> </tr> </thead> <tbody> <tr> <td colspan="3">Fertilizer:</td> </tr> <tr> <td style="text-align: center;">Nitrogen</td> <td style="text-align: center;">76 lb/a</td> <td style="text-align: center;">7-Sep</td> </tr> </tbody> </table> Pesticides (herbicides and insecticides): Starane Ultr 0.4 pt/a 24-Jun Detonate 8 oz/a 10-Jul		<u>Rate</u>	<u>Date</u>	Fertilizer:			Nitrogen	76 lb/a	7-Sep	<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th></th> <th style="text-align: center;"><u>Average Temp.</u> °F</th> <th style="text-align: center;"><u>Precip.</u> in.</th> <th style="text-align: center;"><u>Irrigation</u> in.</th> </tr> </thead> <tbody> <tr><td>January</td><td style="text-align: center;">38</td><td style="text-align: center;">1.02</td><td style="text-align: center;">1.00</td></tr> <tr><td>February</td><td style="text-align: center;">48</td><td style="text-align: center;">0.17</td><td style="text-align: center;">1.25</td></tr> <tr><td>March</td><td style="text-align: center;">56</td><td style="text-align: center;">2.16</td><td style="text-align: center;">4.50</td></tr> <tr><td>April</td><td style="text-align: center;">58</td><td style="text-align: center;">2.73</td><td style="text-align: center;">1.50</td></tr> <tr><td>May</td><td style="text-align: center;">64</td><td style="text-align: center;">1.82</td><td style="text-align: center;">3.00</td></tr> <tr><td>June</td><td style="text-align: center;">77</td><td style="text-align: center;">0.98</td><td style="text-align: center;">3.50</td></tr> <tr><td>July</td><td style="text-align: center;">82</td><td style="text-align: center;">1.58</td><td style="text-align: center;">1.00</td></tr> <tr><td>August</td><td style="text-align: center;">75</td><td style="text-align: center;">6.48</td><td style="text-align: center;">0.00</td></tr> <tr><td>September</td><td style="text-align: center;">70</td><td style="text-align: center;">2.65</td><td style="text-align: center;">1.00</td></tr> <tr><td>October</td><td style="text-align: center;">60</td><td style="text-align: center;">3.62</td><td style="text-align: center;">0.00</td></tr> <tr><td>November</td><td></td><td></td><td style="text-align: center;">0.00</td></tr> <tr><td><u>December</u></td><td></td><td></td><td style="text-align: center;"><u>0.00</u></td></tr> </tbody> </table> Seasonal Precipitation 23.2 in. Total Irrigation 16.8 in. Date of Last Spring Frost: 30-Apr Date of First Fall Frost: 10-Oct Frost Free Period: 163 days		<u>Average Temp.</u> °F	<u>Precip.</u> in.	<u>Irrigation</u> in.	January	38	1.02	1.00	February	48	0.17	1.25	March	56	2.16	4.50	April	58	2.73	1.50	May	64	1.82	3.00	June	77	0.98	3.50	July	82	1.58	1.00	August	75	6.48	0.00	September	70	2.65	1.00	October	60	3.62	0.00	November			0.00	<u>December</u>			<u>0.00</u>
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<u>December</u>			<u>0.00</u>																																																												
Test Design: Replications: 4 Plot Length: 20 ft. Rows per Plot: 2 Row Spacing: 30 in. Seeding Rate: 80,000 seeds/ac Strip tilled seedbed																																																															

The irrigation system was non-functional from 8/24 until it was repaired on 9/18, which impacted yield.

Table 15B. New Mexico 2017 Irrigated Forage Sorghum & Sorghum Sudangrass (Single Cut) Performance Test - Agricultural Science Center at Tucumcari

Brand/Company Name	Hybrid/Variety Name	Sorghum [†] Type	Brown Midrib	Moisture			CP	NDF	NDFD			Ash	TDN	NE _l	Milk/Ton	Milk/Acre
				Dry Forage	Green Forage	at Harvest			48hr	Starch						
				t/a	t/a	%	%	%	%	%	%	%	Mcal/lb	lb/t	lb/a	
Chromatin, Inc.	SP1615	FS	Conv	3.4	9.7	71.6	8.7	60.0	68.6	3.5	6.5	60.6	0.533	2272	7713	
Dyna-Gro Seed	705F	FS	Conv	2.7	7.8	66.8	6.2	61.2	64.9	6.2	5.6	58.5	0.520	2160	5928	
Alta Seeds	XF7302	FS	BMR	2.7	7.7	66.1	7.8	56.8	71.9	4.6	6.4	60.8	0.525	2249	6133	
Dyna-Gro Seed	F74FS23 BMR	FS	BMR	2.5	7.1	66.1	6.1	53.9	71.1	8.2	6.2	59.9	0.520	2197	5440	
Alta Seeds	AF7401	FS	BMR	2.4	6.8	68.0	7.9	54.5	72.3	5.3	6.5	60.2	0.518	2202	5215	
Dyna-Gro Seed	F76FS77 BMR	FS	BMR	2.4	6.9	70.1	8.6	57.5	70.7	4.5	6.5	61.0	0.535	2280	5446	
Alta Seeds	XF7303	FS	BMR	1.9	5.3	66.6	8.6	57.0	68.7	4.7	6.7	59.7	0.525	2206	4064	
Dyna-Gro Seed	Fullgraze BMR	SxS	BMR	1.6	4.4	69.8	8.3	59.4	69.3	3.6	6.4	60.1	0.525	2219	3414	
Alta Seeds	XF7103	FS	BMR	1.1	3.2	69.1	8.5	60.2	70.9	0.7	7.2	60.2	0.520	2201	2445	
Dyna-Gro Seed	Dual Forage SCA	GS	Conv	1.0	2.9	64.3	6.8	67.0	64.3	1.4	6.1	58.3	0.520	2141	2164	
Trial Mean				2.2	6.2	67.9	7.8	58.7	69.3	4.3	6.4	59.5	0.524	2213	4796	
LSD P < 0.05				0.9	2.4	2.4	1.2	2.4	2.0	2.1	0.5	NS	NS	NS	1959	
CV				27.2	27.2	2.5	10.6	2.8	2.0	34.4	5.9	2.3	2.6	4.2	28.2	
F Test				0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0006	0.1304	66.2600	0.5073	0.0001	

[†] Sorghum Type: FS=Forage Sorghum, BD = Brachytic Dwarf, SxS = Sorghum-Sudangrass Hybrid, GS = Grain Sorghum
Brown Midrib Trait: BMR = Brown Midrib, Conv = Conventional

Appendix A

Companies and Contact Information for Participants in the Agricultural Science Center Fee-Test Program

New Mexico 2017 Grain Corn Hybrid Performance Test

Company/Brand Name	Hybrid/Variety Name	Relative Maturity
AgVenture - Pinnacle P.O. Box 70 Minden, NE Leif Hansen 308-832-1050	EXP157997AM	99
	EXP163027YHB	102
	EXP167047CYXR	104
Dyna-Gro Seed P.O. Box 38, 103 E. Mill Rd Artesia, NM 88210 Shawn Carter 318-282-9804	D58VC37 RIB	118
	D55VP77 RIB	115
	D58QC72 RIB	118
	D57VP51 RIB	117
	D54VC52 RIB	114
	D52VC63 RIB	112
	D49VC39 RIB	109
	D52SS91 RIB	112
	D54DC94 RIB	114
	D45SS65 RIB	105
	D41SS71 RIB	101
	D44VC36 RIB	104
	D39DC43 RIB	99
DuPont Pioneer 6519 72nd St. Lubbock, TX 79424 Grant Groene 620-229-0465	P9608AM	96
	P9697AM	96
	P9998AM	99
	P0157AM	101
	P0365AM	103
	P0589AM	105
	P0657AM	106
	P0805AM	108
	P0801AM	108
P1306 WHR		
Mycogen Seeds / Dow AgroSciences 2076 Parkridge Dr. Hurst, TX 76054 Adam Owens 817-223-9638	MY97R57	97
	MY00J47	100
	MY01D87	101
	MY02J57	102
	MY04Y97	104
	MY05C67	105

New Mexico 2017 Grain Corn Hybrid Performance Test, Con't.

Company/Brand Name	Hybrid/Variety Name	Relative Maturity
Rob See Co.	IC4570-3110	95
1015 N 205th St	IC4848-3000GT	98
Elkhorn, NE 68022	RC5112-3011A	101
Bob Leisy	IC5203-3120	102
970-396-7100	IC5296-3120	102
Syngenta	G11B63	111
443 W. County Rd	G13N18-3111	113
Sutherland, NE 69165	G14V04-3000GT	114
John Flynn	G15Q98-3000GT	115
308-386-8725	G18D87-3111	118
	G95D32-3110	95
	G96V99-3120	96
	G97N86-3110	97
	G98L17-3000GT	98
	G01D24-3120	101
	G03C84-3120	103
	G05B91-3010	105
	G06Z97-3102	106
Warner Seeds, Inc.	W4409 VT2PRIB	109
120 S. Lawton Ave.	W4622 VT2PRIB	118
Hereford, TX 79045		
Rusty Smallwood		
806-787-0557		

New Mexico 2017 Forage Corn Hybrid Performance Test

Company/Brand Name	Hybrid/Variety Name	Relative Maturity
Blue River Hybrids 2326 230th St. Ames, IA 50014 Scott Ausborn 800-370-7979	62G22	110
	66G25	112
	70A47	114
B-H Genetics 5933 FM 1157 Ganado, TX 77962 Travis Janak 361-771-2755	BH 8590VT2P	115
	BH 8732VTTP	117
	BH 8721VT2P	117
	BH 8907VT2P	118
	BH 8636SS	116
	X17015SS	117
	BH 8988W/GT	118
Dyna-Gro Seed P.O. Box 38, 103 E. Mill Rd Artesia, NM 88210 Shawn Carter 318-282-9804	D58QC72 RIB	118
	D58SS65 RIB	118
	D55VP77 RIB	115
	D53VC47 RIB	113
	D54VC52 RIB	114
Golden Acres Genetics 205 Old Hewitt Rd Waco, TX 76712 Chris Sheppard 254-761-9838	G7601	117
	G8738	118
	G6832 STX	116
	G7848 VT2PRO	117
Masters Choice 305 W. Vienna St Anna, IL 62906 Kyle Vosburgh 618-697-7031	MCT6583	115
	MCT6733	117
	MCT6754	117

New Mexico 2017 Forage Corn Hybrid Performance Test, Con't.

Company/Brand Name	Hybrid/Variety Name	Relative Maturity
Syngenta	G13N18-3111	113
443 W. County Rd	G14V04-3000GT	114
Sutherland, NE 69165	G14H66-3010A	114
John Flynn	G15Q98-3000GT	115
308-386-8725	G18D87-3111	118
	G01D24-3120	101
	G07H81-3010A	107
	G07B39-3111A	109
	G11B63-3010A	111
	G13N18-3111	113

New Mexico 2017 Grain Sorghum Hybrid Performance Test

Company/Brand Name	Hybrid/Variety Name	Maturity Group*
Alta Seeds / Advanta Seeds 201 John Carpenter Fwy #660 Irving, TX 75062 Zach Eder 979-332-5138	ADV G1150	ME
	AG 1203	ME
Dyna-Gro Seed P.O. Box 38, 103 E. Mill Rd Artesia, NM 88210 Shawn Carter 318-282-9804	M60GB31	ME
	GX16833	M
	GX17818	ML
	M73GR55	ML
	M74GB17	ML
	M60GB88	ME
	GX16535	ME
742C	ME	
Sorghum Partners / Chromatin, Inc. 1301 E. 50th St Lubbock, TX 79404 Rick Kochenower 806-746-5118	SP 25C10	E
	SP 31A15	E
	SP 34A19	ME
	SP 33S40	ME
	SP 68M57	M
	CHR0039	E
	CHR0163	E
	SP 73B12	ML
	SP 7715	ML
	CHR0029	ML
CHR2042		
NuTech Seed, LLC 2321 N. Loop Dr. Suite 120 Ames, IA 50010 Steve Sick 402-661-4700	GS 636	M
	GS 663	M
	GS 693	ML
	GS 725	ML

*E=early, ME=medium early, ML=medium late, L=late or PS=photoperiod sensitive

**New Mexico 2017 Forage Sorghum/SxS Hybrid Performance Test
(Single Cut)**

Company/Brand Name	Hybrid/Variety Name	Forage Type	Maturity Group*	Brown Midrib
Alta Seeds / Advanta Seeds 201 John Carpenter Fwy #660 Irving, TX 75062 Zach Eder 979-332-5138	AF7401	FS	L	Y
	XF7302	FS	M	Y
	XF7303	FS	M	Y
	XF7103	FS	E	Y
Blue River Hybrids 2326 230th St. Ames, IA 50014 Scott Ausborn 800-370-7979	Blackhawk	SxS	ML	Y
	Nighthawk	SxS	L	Y
	Seahawk	SxS	ML	Y
	Pelicon	SxS	ML	Y
Browning Seed, Inc. 3101 S. I-27 Plainview, TX 79072 Rodney Smith 806-293-5271	Silage Master	FS	ML	N
Dyna-Gro Seed P.O. Box 38, 103 E. Mill Rd Artesia, NM 88210 Shawn Carter 318-282-9804	Fullgraze BMR	SxS	M	Y
	705F	FS	ME	N
	F74FS23 BMR	FS	M	Y
	F76FS77 BMR	FS	ML	Y
	Dual Forage SCA	GS	ML	N
NuTech Seed, LLC 2321 N. Loop Dr. Suite 120 Ames, IA 50010 Steve Sick 402-661-4700	FS300	FS	ML	N
	FSB310	FS	ML	Y
	PrimeCut	SxS	PS	N

*E=early, ME=medium early, ML=medium late, L=late or
PS=photoperiod sensitive

**New Mexico 2017 Forage Sorghum/SxS Hybrid Performance Test (Single Cut),
Con't.**

Company/Brand Name	Hybrid/Variety Name	Forage Type	Maturity Group*	Brown Midrib
Sorghum Partners / Chromatin, Inc.	SPX56216	FS	ML	N
1301 E. 50th St	NK 300	FS	ME	N
Lubbock, TX 79404	SS 405	FS	L	N
Rick Kochenower	SP 1615	FS	L	N
806-746-5118	SP 2774	FS	ME	Y
	SP 2876	FS	ME	Y
	SP 3902 BD	FS	ML	Y
	SP 4555	SxS		Y
	SP 2880	FS	M	Y
	SP 1880	FS	L	N
	Millex 32	HPM	N/A	N

*E=early, ME=medium early, ML=medium late, L=late or PS=photoperiod sensitive

New Mexico 2017 Forage Sorghum/SxS Hybrid Performance Test (Multi Cut)

Company/Brand Name	Hybrid/Variety Name	Forage Type	Maturity Group*	Brown Midrib
Alta Seeds / Advanta Seeds 201 John Carpenter Fwy #660 Irving, TX 75062 Zach Eder 979-332-5138	AS6402	SxS	L	Y
	AS6401	SxS	L	Y
	XS6505	SxS	PS	Y
Blue River Hybrids 2326 230th St. Ames, IA 50014 Scott Ausborn 800-370-7979	Blackhawk	SxS	ML	Y
	Nighthawk	SxS	L	Y
	Seahawk	SxS	ML	Y
	Pelicon	SxS	ML	Y
Dyna-Gro Seed P.O. Box 38, 103 E. Mill Rd Artesia, NM 88210 Shawn Carter 318-282-9804	Danny Boy BMR	SxS	M	Y
	Fullgraze BMR	SxS	M	Y

*E=early, ME=medium early, ML=medium late, L=late or PS=photoperiod sensitive

Appendix B
Glossary of Terms

ADF (Acid Detergent Fiber): ADF consists primarily of cellulose, lignin and acid detergent fiber crude protein. In the past ADF was used as a predictor of indigestibility of forages, however in recent years, research has indicated that ADF is not as strongly correlated with decreased digestibility as once thought.

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

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. This fraction consists of non-protein nitrogen as well.

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

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.

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.

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 nutritive value. Milk/ton is calculated from the Milk2006 Excel spreadsheet <http://www.uwex.edu/ces/forage/pubs/milk2006.xls>. This index uses forage analyses (CP, NDF, NDFD 48hr, Starch and non-fiber carbohydrate) to estimate energy content, and DMI and NDFD 48hr to predict milk/ton.

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

NDF (Neutral Detergent Fiber): NDF is an estimate of 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 associated with feed intake.

NDFD 48hr (Neutral Detergent Fiber Digestibility - 48hr): NDFD 48hr is a measure of 48 hr digestibility of the NDF component. The NDFD 48 hr procedure employs a 48-hour *in vitro* fermentation. NDFD 48hr is expressed as a percent of NDF.

NE_L (Net Energy for Lactation): NE_L is the energy value of feeds for lactating cows.

N Removal: N Removal is the total amount of nitrogen, in pounds per acre that is removed from the field at harvest. $N \text{ Removal} = \text{dry forage (t/a)} \times 2000 \times N (\%); \text{ where } N (\%) = CP (\%) / 6.25.$

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

Population: Population 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.

RFV (Relative Feed Value): RFV is an index that estimates the overall 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 dry matter intake, which is an estimate of the amount of forage an animal will eat in a given time period. 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 RVF to be considered 'dairy quality' hay.

RFQ (Relative Forage Quality): RFQ is similar to RFV in that it is an estimate of overall quality of a forage, but it differs in the way it is calculated. It takes total digestible nutrients (TDN) into account rather than DDM calculated from ADF values. This TDN, combined with dry matter intake (DMI), is derived from *in vitro* estimates of digestible fiber. The RFQ value is considered an improved method over RFV and is becoming the new 'standard' in forage quality testing.

Silk Date: Silk Date is the date when 50% of ears have silks fully emerged.

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

TDN (Total Digestible Nutrients): TDN represents the sum of digestible crude protein, digestible carbohydrates, digestible nitrogen-free extract and digestible fat. TDN is highly correlated with the energy content of the feed and is used in calculations of net energy values.

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