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**ARIZONA**  
**GRAIN SORGHUM,**  
**FORAGE SORGHUM,**  
**AND**  
**SUDANGRASS**  
**PERFORMANCE TESTS**  
  
**1968**

by

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ARIZONA GRAIN SORGHUM, FORAGE SORGHUM,

AND SUDANGRASS PERFORMANCE TESTS

1968

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The following commercial companies expressed an active interest in retailing their products to Arizona Farmers and made seed available for testing.

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Division of Anderson, Clayton & Company  
(Formerly Paymaster)

Advance Seed & Grain Company  
Division of Ferry-Morse Seed Company

Asgrow Seed Company

DeKalb Agricultural Association, Inc.

Excel Sorghum Company

Frontier Hybrids, Inc.

Funks Bros. Seed Co. of Texas, Inc.  
(Formerly Lindsey)

McNair Seed Company

NC+ Hybrids

Northrup King & Company

Pfister Associated Growers, Inc. (P-A-G)<sup>1/</sup>

Pioneer Sorghum Company

Rudy-Patrick Seed Division  
W. R. Grace & Company

Security Seed Company

Taylor-Evans Seed Company

1/ Abbreviations used in this publication

## INTRODUCTION

There were 239,000 acres of sorghums of all kinds planted in Arizona in 1968. This was just a little less than 20% of the total cultivated acreage in the state and was 15,000 acres less than 1967, an all-time record year of sorghum acreage. State average yields of grain and forage sorghums were down slightly from 1967 as shown in Table 1, but Arizona still ranked first in the nation in average state yields for both grain and forage. This is a tribute to the Arizona Grower for his good management and use of improved cultural methods, fertilizers, and seed. A wide variation in Arizona agricultural environments, caused by a range in altitude from sea level to as high as sorghum will grow and produce (over 6000 feet), makes grower recommendations an interesting challenge.

Table 1

Arizona Crop Acreages and Yields<sup>1/</sup>  
of Various Sorghum Products in 1968<sup>1/</sup>

Crop	1968 Acreages	1968 Yields	1967 Yields	1962 to 1966 Yields
Grain Sorghum	231,000	79.0 bu/acre	81.0 bu/acre	72.9 bu/acre
Forage Sorghum	4,000	18.0 tons/acre	20.5 tons/acre	18.0 tons/acre

Sorghum research was conducted at six locations in Arizona in 1968. These sites were selected for their environmental differences which are due primarily to altitude. All sorghum test results in this report were obtained under irrigated conditions.

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<sup>1/</sup> Figures obtained from official USDA acreage releases.

Various meteorological data concerning these locations are given in Table 2. Evaluation at these locations of sorghum products sold in Arizona is done to guide the Arizona grower in selecting something better suited to his particular area. Formal crop recommendations are given in a Crop Recommendation Bulletin published periodically by The University of Arizona Experiment Station. The purpose of this report is to give more detailed information on particular items.

Table 2

Average Meteorological Data for Sites of 1968 Experiments

Location	Elevation in Feet Above Sea Level	Averages Dates of <u>Killing Frosts</u>		Average Length of Growing Season (Days)
		Last	First	
Yuma Valley Exp. Farm	150	Feb. 20	Nov. 26	280
Mesa Exp. Farm	1100	Feb. 25	Nov. 25	273
Marana Exp. Farm <sup>1/</sup>	2000	Mar. 1	Nov. 15	260
Safford Exp. Farm	2900	Apr. 9	Nov. 2	207
Snowflake	5600	May 24	Oct. 3	132

<sup>1/</sup> Data estimated from nearby weather stations.

## GRAIN SORGHUM

The following experiments were conducted to evaluate various grain sorghums available to Arizona growers. Apparently only hybrid grain sorghums are being grown.

It was not possible to fully evaluate all 121 hybrids under all of the different environments in the state. Observational data were obtained at four locations (Yuma, Mesa, Marana, and Snowflake) which gives us a good idea of the general range of adaptation of each entry in respect to maturity. Yield data were obtained on all entries at one central location (Marana). Only selected hybrids were evaluated under various environments at other locations in Arizona.

Most yields are shown as percentages of RS 610, a common check hybrid, which is now or has been generally grown throughout the state. The reason for presenting data in this manner is that yields may be relative among entries from location to location. One grower may produce an average yield twice that of another grower due to land and management differences, but if the yield potential of a new hybrid is 10 per cent more than a known standard, this may be found by either grower. Many growers may be acquainted with the performance of RS 610 on his own particular farm. Where statistical analyses have been made, all entries under the same line or lines should be considered not different at the five per cent level of probability. Generally, with no other information available, a later maturing entry, weather and seasonal plans permitting, should be considered for highest yield potential.

The 121 different hybrids were divided by maturity into three groups --- early, midseason, and late, and tested by groups at Marana. These results are presented in Tables 3, 4, and 5. Three-year average yields of selected hybrids are presented in Table 6.

Bird damage to grain sorghum fields is a problem confronting many Arizona growers in specific areas. Much progress has been made in breeding for bird tolerance and maintaining high yield potential. Yield tests at Marana and Yuma (Tables 7 and 8) compare most bird-tolerant entries with some non-bird-tolerant entries. An average of the two locations is given in Table 9. No bird control measures were taken at either location. Bird damage to the experimental plots is given in the tables of data and expressed in estimated per cent of the grain damaged or eaten. The yields of each individual entry have been corrected for this damage so that the final rankings by yield are as near as possible to that expected with no bird damage. The birds doing most of the damage were English Sparrows, Whitewing and Morning Doves.

Table 10 presents data from a yield test near Willcox, Arizona in one of the top grain sorghum production areas of Arizona.

Tables 11 and 12 present data on some released public hybrids and some experimental hybrids grown at Marana and Yuma.

Table 13 presents general observational data on all grain sorghums evaluated in 1968 under four different environments.

In 1968 most plots used were two beds (single row per bed) each 30 feet long. The seeding rate was approximately at 12 pounds of seed per acre, such that the expected plant population was from 130,000 to 140,000 plants per acre. Nitrogen was the main fertilizer needed and used. It was applied at a rate considered favorable for optimum crop growth at each test location. This rate varied from 100 to 200 pounds of available "N."

Table 3. Agronomic Data From a Single Harvest Grain Sorghum Production Trial of Early Maturing Hybrids at Marana, Arizona, 1968. <sup>1/</sup>

Entry	Yield <sup>2/</sup> in Lbs/Acre	Yield in Per Cent RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lbs/Bu	% Lodging	% Bird Damage
Northrup-King 133	5460	104	64	48	6	47.5	0	4
RS 610	5244	100	68	51	8	52.6	0	10
Frontier Grassy Grain I	5156	98	61	50	10	49.5	0	0
DeKalb C-45	5125	98	66	42	4	51.5	0	1
Acco Pawnee	5111	97	62	51	8	56.1	9	3
Excel 202	5051	96	66	60	6	52.1	18	19
Frontier 400 c	5039	96	68	51	8	53.2	0	13
Northrup-King 210A	4995	95	68	51	6	51.3	0	18
DeKalb C-44c	4706	90	72	49	6	49.9	.5	31
Frontier Super 400c	4695	90	68	50	4	54.1	0	3
Acco R-102	4683	89	69	48	6	51.3	0	0
Funks 511	4677	89	61	51	8	52.9	3	0
DeKalb C-44 b	4640	88	68	48	8	54.0	5	16
Security Experimental	4596	88	81	45	3	53.4	0	1
Acco BL-101	4514	86	60	50	8	51.8	0	0
Funks 744	4366	83	70	49	8	54.0	0	4
DeKalb C-48 a	4351	83	73	46	4	53.0	0	11
Pioneer 883	4311	82	69	44	6	51.9	0	1
P-A-G 304	4302	82	62	40	8	52.0	0	1
NB 505	4223	81	64	47	8	54.3	0	3
Frontier 338 a	4209	80	65	50	8	53.4	0	1
Advance 22	4187	80	64	57	9	52.3	6	22
Acco R-920	4182	80	61	43	8	54.1	0	.5
Advance 54	4149	79	68	42	4	54.3	0	6
Funks G-401	4085	78	69	40	3	52.3	0	1
Taylor-Evans 44c	4080	78	62	49	8	54.2	0	5
P-A-G 353	4031	77	66	43	6	52.4	0	1
Taylor-Evans 44	4016	77	64	52	7	48.1	45	3
Advance 19	3861	74	59	49	8	52.4	1	14

<sup>1/</sup> Planted dry May 4, 1968, irrigated May 7, 1968. Harvested Oct. 17 & 22, 1968.

<sup>2/</sup> Plots = 2 rows (40 inches) x 30 feet. Four replications.



Table 4. Agronomic Data From a Single Harvest Grain Sorghum Production Trial of Mid-Season Maturing Commercial Entries at Marana, Arizona. 1968<sup>1/</sup>

Entry	Yield in $\frac{2}{}$ Lb/Acre	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lb/Bu
Asgrow Double TX	6806	124	80	58	8	56.4
Northrup-King Savanna	6458	117	77	49	4	55.2
Asgrow Bravis	6376	116	78	51	4	55.0
DeKalb E-55	6164	112	77	47	4	55.5
Taylor-Evans Grainmaster A	6126	111	67	48	7	55.1
Northrup-King 280	6120	111	78	54	8	55.6
Acco R-1093	6017	109	76	47	4	56.1
Pioneer 366	6011	109	68	53	8	56.3
Asgrow Flare	5952	108	69	52	9	54.2
RS 626	5930	108	68	48	5	56.0
Excel 505	5930	108	69	50	6	55.5
Asgrow Rico	5908	107	77	50	6	55.3
Excel 404	5903	107	68	47	6	54.1
P-A-G 429	5875	107	68	48	6	56.1
Northrup-King 265	5848	106	68	52	8	55.7
Northrup-King 270	5788	105	83	46	6	55.4
Taylor-Evans Bird-A-Boo	5777	105	76	44	4	56.1
Horizon 67	5739	104	82	46	6	56.4
Asgrow Red Raider A	5728	104	79	43	5	56.1
Horizon 75	5723	104	66	49	8	54.0
McNair 652	5674	103	80	59	8	57.2
Asgrow Tasco	5668	103	75	52	8	56.2
Northrup-King 275	5663	103	78	53	6	55.1
Excel 707A	5652	103	78	52	6	56.3
Advance 14	5619	102	68	48	8	55.8
Horizon 80	5603	102	80	49	6	55.9
Acco R-109	5598	102	82	44	5	53.1
Excel 707	5592	102	79	46	5	56.8

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<sup>1/</sup> Planted dry; May 3 & 4, 1968, irrigated May 7, 1968.

<sup>2/</sup> Plot = 2 rows (40 inches) X 30 feet. Four replications.

Table 4. Continued

Entry	Yield in Lb/Acre	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lb/Bu
	2 - 14					
Advance Amak R-12	5573	101	78	51	7	55.8
Horizon Exp. A45	5570	101	78	43	6	55.4
Asgrow Ranger B	5549	101	78	50	8	56.9
DeKalb E-57	5527	101	74	51	6	53.4
RS 610	5498	100	68	51	9	55.5
Taylor-Evans Mucho	5494	100	67	46	6	54.8
Advance 55	5478	100	72	49	7	56.0
Northrup-King 222 A	5467	99	81	48	6	56.5
RS 608	5456	99	68	50	8	55.0
Security Experimental	5445	99	84	51	6	58.5
Acco S-77	5440	99	83	44	5	52.4
Advance Amak R-10	5374	98	68	50	7	53.6
Pioneer 846	5320	97	71	48	8	56.3
Horizon 64	5314	97	79	39	3	56.2
Taylor-Evans 66	5271	96	78	44	6	56.1
Advance 61 W	5260	96	68	49	6	55.2
P-A-G 515	5220	95	80	54	8	56.3
Excel 606	5216	95	79	42	4	57.4
Horizon 61	5167	94	74	42	4	55.8
Advance Exp. (67-02-E)	5154	94	86	55	8	56.1
Acco R-1060	5124	93	77	50	6	55.0
P-A-G 475	5108	93	80	48	5	56.5
Acco R-1080	5037	92	78	44	4	53.4
P-A-G 430	4955	90	67	49	8	55.9
Excel 707 B	4944	90	74	41	4	56.4
Advance Exp. (67-19-E)	4901	89	76	42	4	56.1
Advance Exp. (67-08-E)	4861	88	87	56	8	56.8
Excel E-655	4803	87	85	40	6	56.8
Advance Exp. (67-24-E)	4765	87	76	47	6	55.8
Advance Exp. (67-17-E)	4693	85	86	53	6	56.1
Acco Ute	4639	84	69	45	6	51.8
RS 633	4541	83	74	46	6	57.0
Acco R-1050	4046	74	72	42	4	53.9

Table 5. Yield and other Agronomic Data From a Single Harvest Grain Sorghum Production Trial of Late Maturing Hybrids at Marana, Arizona, 1968<sup>1/</sup>

Entry <sup>2/</sup>	Yield <sup>3/</sup> in Lbs/Acre	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lbs/Bu
Excel Bird-Go	6932	124	83	57	4	50.5
DeKalb Br-62	6893	123	86	64	6	49.6
Funks Br-79	6817	122	83	58	4	51.4
Frontier 414	6469	116	82	58	6	52.5
Asgrow Double T	6468	116	83	56	8	52.7
DeKalb Br-64	6382	114	85	64	7	49.7
Funks Br-75	6333	113	76	51	4	51.1
DeKalb F-64	6295	113	84	64	8	52.9
Georgia 615	6278	112	83	56	5	50.3
Arkansas 614	6109	109	76	51	4	50.1
Taylor-Evans 77	6104	109	83	54	8	52.1
Northrup-King 310	6000	107	80	54	7	52.6
Frontier 409	5951	106	84	47	2	50.3
NC <sup>+</sup> T-700	5946	106	85	55	6	53.4
Advance 41	5941	106	83	58	9	52.4
Northrup-King 310A	5935	106	77	54	8	52.3
DeKalb F-63	5897	105	77	55	7	52.0
RS 671	5870	105	78	54	6	51.8
McNair 546	5842	104	83	48	4	48.2
Asgrow Jumbo C	5799	104	78	51	6	53.1
DeKalb F-61	5772	103	84	54	4	51.6
Funks 788A	5750	103	84	54	7	51.4
Security 8	5734	103	67	50	7	51.0
Acco R-2020	5674	101	83	53	6	54.4
Taylor-Evans 88	5625	101	82	56	7	51.3
RS 610	5594	100	68	54	9	51.8
Pioneer 820	5576	100	83	56	6	53.5
Pioneer 828	5527	99	81	65	10	52.5
Frontier 413	5510	98	86	56	6	53.6
DeKalb F-65	5461	98	81	50	6	51.8
P-A-G 665	5385	96	84	56	7	52.5
Funks 765W	5037	90	88	56	8	53.6
Nc <sup>+</sup> 63X	5009	90	79	48	4	53.1

<sup>1/</sup> Planted dry May 4, 1968, irrigated May 7, 1968. Harvested November 12 & 19, 1968.

<sup>2/</sup> No bird damage or lodging observed in any entries.

<sup>3/</sup> Plots=2 rows (30 inches) x 30 Feet. Four replications.

Table 6. Average Yield Data for Three Years of Some Hybrid Grain Sorghums. Marana, Arizona.

1966 - 1967 - 1968

Entry	Yields in Pounds Per Acre			1966-1968	Rankings by Yield			
	1966	1967	1968	Average	1966	1967	1968	1966-1968
Excel Bird-Go	6316	6893	6932	6714	2	1	1	1
Georgia 615	6055	6616	6278	6316	6	3	5	2
Frontier 409	6316	6485	5951	6251	3	6	8	3
Northrup-King Savanna	5924	6229	6458	6204	7	13	3	4
Pioneer 846	6534	6501	5320	6118	1	5	23	5
Arkansas 614	5554	6338	6109	6000	10	9	6	6
Asgrow Rico	6077	5989	5908	5991	5	17	9	7
Advance 14	6229	6027	5619	5958	4	16	14	8
Advance Amak R-12	5532	6545	5573	5883	11	4	15	9
Excel 404	5009	6338	5903	5750	19	8	10	10
Acco Pawnee	5881	6240	5111	5744	8	12	27	11
Advance Amak R-10	5423	6267	5374	5688	15	10	22	12
RS 610	5218	6381	5445	5681	18	7	20	13
P-A-G 515	5488	6094	5220	5601	13	15	24	14
Asgrow Red Raider A	5292	5701	5728	5574	16	21	12	15
DeKalb E-57	5532	5614	5527	5558	12	26	16	16
Frontier 400 c	4857	6730	5039	5542	21	2	26	17
Excel 202	5227	6251	5051	5510	17	11	25	18
DeKalb F-64	4443	5679	6295	5472	26	22	4	19
Asgrow Double T	4312	5636	6468	5472	27	25	2	20
Northrup-King 133	4922	5859	5460	5414	20	19	19	21
DeKalb C-44	5445	6098	4640	5394	14	14	28	22
Pioneer 820	4508	5924	5576	5336	25	18	13	23
DeKalb F-63	4160	5668	5897	5242	28	23	11	24
Funks 744	5663	5657	4366	5229	9	24	30	25
Frontier 413	4596	5418	5510	5175	24	28	17	26
P-A-G 660	4095	5799	5385	5093	29	20	21	27
DeKalb F-65	4617	5146	5461	5075	23	30	18	28
Northrup-King 310	3223	5505	6000	4909	30	27	7	29
Acco Ute	4813	5162	4639	4871	22	29	29	30

Tbble 7. Agronomic Data From a Single Harvest Grain Sorghum Production Trial of Bird Tolerant Hybrids at Marana, Arizona. 1968<sup>1/</sup>

Entry <sup>2/</sup>	Yield in Lb/Acre <sup>3/</sup>	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lb/Bu
DeKalb Br-62	7182	114	84	64	6	52.3
Funks Br-75	7138	113	73	52	3	52.3
Arkansas 614	6801	108	74	49	2	55.2
DeKalb Br-60	6600	105	83	57	8	52.8
Asgrow Bravis	6594	105	74	51	4	51.9
Excel Bird-Go	6431	102	82	56	4	53.3
Frontier 409	6387	101	83	47	4	52.2
Georgia 615	6306	100	82	56	3	53.9
RS 610	6300	100	66	54	8	52.1
Northrup-King Savanna	6224	99	74	48	4	55.0
DeKalb Br-64	6180	98	86	63	8	55.4
Funks Br-79	5968	95	81	57	4	52.7
Taylor-Evans Bird-A-Boo	5848	93	74	45	2	52.2
Acco R-1093	5810	92	74	47	2	50.7
McNair 546	5510	87	82	47	3	50.9
Sagrain	4634	74	91	60	7	49.9

<sup>1/</sup> Planted dry May 2, 1968, irrigated May 7, 1968. Harvested October 4-12, 1968.

<sup>2/</sup> No Lodging observed in any entries.

<sup>3/</sup> Plots = 2 rows (40 inches) x 30 feet. Four replications.

Table 8. Agronomic Data From a Single Harvest Grain Sorghum Production Trial of Bird Tolerant Hybrids at Yuma, Arizona. 1968<sup>1/</sup>

Entry	Yield in Lb/Acre <sup>2/</sup>	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	% Lodging at Harvest
Frontier 409	5824	134	68	38	1	1
DeKalb Br-62	5585	128	76	62	7	0
Arkansas 614	5422	124	65	46	1	2
Georgia 615	5366	123	71	54	1	1
Northrup-King Savanna	5290	121	62	48	3	1
Funks Br-75	5064	116	65	48	2	2
DeKalb Br-60	4970	114	71	56	6	0
Acco R-1093	4907	112	71	48	3	1
DeKalb Br-64	4888	112	75	67	7	1
McNair 546	4674	107	75	48	2	2
Taylor-Evans Bird-A-Boo	4606	106	71	46	1	1
Excel Bird-Go	4498	103	77	53	4	2
Funks Br-79	4486	103	71	53	2	2
Asgrow Bravis	4426	101	74	49	2	2
RS 610	4354	100	60	49	5	0
Sagrain	3286	75	80	62	5	0

<sup>1/</sup> Planted in moisture May 13, 1968. Harvested September 21, 1968.

<sup>2/</sup> Plots = 2 rows (40 inches) x 26 feet. Four replications.

Table 8. (Continued)

Entry	Seed Color at Maturity <sup>3/</sup>	Head Type at Maturity <sup>4/</sup>	% Bird Damage at Harvest	Foliar Spray Damage Rating <sup>5/</sup>	Test Wt. in Lb/Bu
Frontier 409	DRB	L	0	2.2	51.1
DeKalb Br-62	RB	MC	1	2.7	51.0
Arkansas 614	DRB	L	3	2.7	52.7
Georgia 615	DRB	L	0	3	55.5
Northrup-King Savanna	RB	L	0	2.2	53.4
Funks Br-75	DRB	L	0	1	53.5
DeKalb Br-60	RB	BC	0	4	50.8
Acco R-1093	DRB	L	0	1	54.1
DeKalb Br-64	RB	BM	0	4	54.8
McNair 546	DRB	L	0	2.7	52.0
Taylor-Evans Bird-A-Boo	RB	L	1	3	54.1
Excel Bird-Go	RB	L	0	3	54.4
Funks Br-79	LRB	L	2	3.8	54.1
Asgrow Bravis	LRB	L	0	3	53.3
RS 610	LRB	MC	8	1.8	53.9
Sagrain	RB	MC	0	4	51.2

3/ Seed Color: DRB = Dark Reddish Brown; RB = Reddish Brown; LRB = Light Reddish Brown

4/ Head Type at Maturity: L = Loose; BC = Broad Compact; MC = Medium Compact;  
BM = Broad Moderately Compact

5/ Foliar Spray Damage Rating: 0 = No Damage; 1 = Slight Damage; 2 = Moderate Damage; 3 = Heavy  
Damage; 4 = Severe Damage. The foliar damage was caused by chemical sprays which drifted onto  
the plots from neighboring cotton fields.

Table 9. Bird Tolerant Grain Sorghum Yield Comparison For Two Locations in Arizona. 1968<sup>1/</sup>

Entry	Yield In Lbs/Acre (Yuma)	Yield In Lbs/Acre (Marana)	Ave. Yield In Lbs/Acre For Both Locations	Comments
DeKalb Br-62	5585	7182	6384	Good At Both Locations
Arkansas 614	5422	6801	6112	Good At Both Locations
Frontier 409	5824	6387	6106	Good At Both Locations
Funks Br-75	5064	7138	6101	Good At Both Locations
Georgia 615	5366	6306	5836	
DeKalb Br-60	4970	6600	5785	
Northrup-King Savanna	5290	6224	5757	
DeKalb Br-64	4888	6180	5534	
Asgrow Bravis	4426	6594	5510	Good At Marana
Excel Bird-Go	4498	6431	5464	
Acco R-1093	4907	5810	5358	Good At Yuma
RS 610	4354	6300	5327	
Funks Br-79	4486	5968	5227	
Taylor-Evans Bird-A-Boo	4606	5848	5227	
McNair 546	4674	5510	5092	
Sagrain	3286	4634	3960	

<sup>1/</sup> Locations: Yuma and Marana, Arizona.



Table 10. Agronomic Data From a Single Harvest Grain Sorghum Production Trial at Willcox, Arizona, 1968<sup>1/</sup>

Entry	Yield <sup>2/</sup> in Lbs/Acre	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lbs/Bu
DeKalb Br-64	8544	181	96	59	8	48.9
DeKalb F-64	8335	177	95	57	7	55.0
DeKalb F-61	8321	177	96	48	7	54.1
NC <sup>+</sup> T 700	8307	176	93	56	8	55.8
Asgrow Double T	8104	172	92	50	9	56.0
Pioneer 828	8097	172	92	56	10	55.4
Taylor-Evans 77	8070	171	92	54	8	55.6
DeKalb Br-67	7916	168	95	61	9	48.9
P-A-G 665	7846	166	93	53	10	55.4
Taylor-Evans 88	7742	164	90	53	10	53.5
Funks 788	7623	162	91	52	10	52.5
Pioneer 820	7609	161	93	51	6	55.1
Frontier 409	7602	161	88	46	4	55.2
DeKalb F-65	7519	160	89	48	9	55.5
RS 671	7490	159	87	48	8	55.3
Funks Br-79	7372	156	91	53	6	51.4
McNair 546	7316	155	90	46	6	49.5
Horizon 67	7050	150	84	46	9	52.2
Northrup-King 310	6583	140	84	52	10	55.6
Advance 94	6478	137	86	53	11	54.5
Frontier 413	6443	137	93	51	6	55.8
DeKalb F-63	6199	132	85	52	10	53.5
Northrup-King 310-A	6122	130	84	49	10	54.3
Taylor-Evans Bird-A-Boo	5982	127	78	42	3	51.8
DeKalb E-57	5822	124	80	49	6	56.4
Northrup-King Savanna	5585	118	76	40	2	50.7
Funks Br-75	5522	117	79	42	3	50.0
Security 8	5403	115	70	40	2	53.7
Northrup-King 265	5103	108	72	43	6	55.6
RS 610	4712	100	70	43	5	52.6

<sup>1/</sup> Grown on the Eldred William's Farm. Planted in moisture May 10, 1968. Harvested October 24-25, 1968.

<sup>2/</sup> Plots = 2 rows (36 inches) x 26 feet, 4 replications. All entries under the same line or lines should be considered not different at the five per cent level of probability.

Table 11. Yield and Other Agronomic Data From a Single Harvest USDA Regional Hybrid Grain Sorghum Production Trial at Marana, Arizona. 1968.<sup>1/</sup>

Entry <sup>2/</sup>	Yield <sup>3/</sup> in Lbs/Acre	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	Test Wt. in Lbs/Bu
68 LH 199	8520	126	66	54	5	52.6
Arkansas 653	7806	116	70	50	3	51.2
65 LH 050	7736	115	66	54	6	53.4
65 LH 088-1	7457	110	66	49	3	52.6
Arkansas 663	7440	110	81	58	6	54.4
RS 633	7004	104	70	47	3	54.1
67 LH 194	6935	103	66	53	7	52.6
NB 643309 <sup>4/</sup>	6865	102	63	52	4	54.2
67 LH 196	6813	101	66	52	6	53.2
67 LH 195	6795	101	66	53	6	54.6
RS 610	6743	100	66	51	5	52.6
67 LH 197	6725	100	65	45	4	52.1
65 LH 074	6621	98	66	52	5	51.5
68 LH 198	6447	96	66	49	4	53.0
RS 671	6308	94	76	48	3	55.3
NB 643781	6255	93	86	46	2	56.7
NB 505 <sup>4/</sup>	6168	91	62	51	8	55.1
NB 639076	6151	91	68	53	2	54.7
NB 664847	6046	90	85	50	4	57.3
63 MH 281	6029	89	69	43	2	54.1
RS 628	5593	83	68	42	1	54.3
64 MH 303	5576	83	78	44	3	56.8
64 NMH 13	5419	80	77	49	4	57.4
64 MH 305	5402	80	80	46	3	55.8
64 MH 302	5279	78	78	42	3	56.4
64 NMH 14	4548	67	77	43	2	56.7
Martin	4495	67	68	47	3	54.3
SD 25228 <sup>4/</sup>	3816	57	62	49	5	52.8
SD 25265 <sup>4/</sup>	3790	56	61	52	4	52.9

1/ Planted Dry; Irrigated May 7, 1968; Harvested October 15, 1968.

2/ No bird damage observed in any entries.

3/ Plots = 1 row (40 inches) x 25 feet. 3 replications.

4/ 5% to 10% lodging. No lodging observed on all other entries.

Table 12. Yield and Other Agronomic Data From a Single Harvest USDA Regional Hybrid Grain Sorghum Production Trial at Yuma, Arizona. 1968<sup>1/</sup>

Entry	Yield in Lb/Acre <sup>2/</sup>	Yield in Per Cent of RS 610	Days to 50% Bloom	Height in Inches	Head Exsertion In Inches	% Lodging at Harvest	Seed Color at Maturity <sup>3/</sup>
AKS 663	6417	154	67	61	6	1	DRB
64 MH 303	6299	151	66	46	1	0	RB
64 MH 302	6199	148	66	42	2	0	RB
64 MH 305	6065	145	67	47	3	0	LRB
63 MH 281	5378	129	60	42	2	0	LRB
RS 671	5278	126	72	46	3	0	RB
RS 628	5043	121	60	39	2	0	LRB
AKS 653	4875	117	61	47	4	0	RB
Martin	4574	109	60	47	4	0	RB
RS 633	4556	109	62	47	4	0	RB
65 LH 050	4490	107	60	50	6	0	LRB
RS 610	4180	100	59	50	6	0	LRB
NB 505 <sup>4/</sup>	3484	83	53	49	7	3	RB
NB 664847	3200	76	77	51	4	0	RB
NB 643781	2982	71	77	45	2	0	RB

<sup>1/</sup> Planted May 13, 1968 in moisture; Harvested September 20, 1968.

<sup>2/</sup> Plots = 1 row (40 inches) x 25 feet. Three replications.

<sup>3/</sup> Seed Color at Maturity: LRB = Light Reddish Brown; RB = Reddish Brown; DRB = Dark Reddish Brown

<sup>4/</sup> NB 505 exhibited about 5% lodging; all other entries had no lodging.

Table 12. (Continued)

Entry	Head Type at Maturity <sup>5/</sup>	% Bird Damage at Harvest	Foliar Spray Damage Rating <sup>6/</sup>	Test Wt. in Lb/Bu
AKS 663	L	2	3	52.8
64 MH 303	BC	5	1.7	56.0
64 MH 302	MC	2	1	55.0
64 MH 305	BC	3	2	55.7
63 MH 281	BC	7	1.7	53.7
RS 671	BC	7	3	53.7
RS 628	MC	5	1	52.4
AKS 653	MC	2	2	51.8
Martin	SC	7	1.3	55.8
RS 633	MC	3	2	55.4
65 LH 050	MC	13	1.3	53.9
RS 610	MC	12	1.5	54.4
NB 505 <sup>4/</sup>	SC	13	3	55.2
NB 664847	MC	6	4	52.2
NB 643781	MC	5	4	50.5

<sup>5/</sup> Head Type at Maturity: MC = Medium Compact; SC = Slender Compact; BC = Broad Compact; L = Loose

<sup>6/</sup> Foliar Spray Damage Rating: 0 = No Damage; 1 = Slight Damage; 2 = Moderate Damage; 3 = Heavy Damage; 4 = Severe Damage. The foliar damage was caused by chemical sprays which drifted on to the plots from neighboring cotton fields.

Table 13. General Adaptation Data of Grain Sorghums Grown at Four Different Locations in Arizona During 1968. 1/ 2/

Entry	Days to 50% Bloom				Heights In Inches				Foliar Spray <sup>3/</sup> Damage
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake	
Acco R-1093	64	62	68	110	40	46	51	43	2
Acco Pawnee	51	55	55	83	49	48	52	62	3
Acco Ute	56	54	66	97	46	41	48	48	4
Acco BL-101	53	51	54	88	39	45	47	50	2
Acco R-920	51	48	54	84	44	41	42	49	3
Acco R-102	60	57	62	106	44	43	51	43	3
Acco R-1080	60	60	70	98	45	42	48	44	2
Acco R-1050	67	61	66	101	43	42	46	42	4
Acco R-109	62	65	69	111	44	46	50	36	1
Acco R-1060	63	63	70	99	48	42	56	43	3
Acco R-2020	67	65	74	104	46	46	55	44	4
Acco S-77	64	66	70	99	44	51	51	42	4
Adv. Exp. (67-02-E)	68	64	72	102	59	46	62	52	4
Adv. Exp. (67-08-E)	68	65	73	110	58	48	64	55	4
Adv. Exp. (67-17-E)	67	68	74	105	57	43	59	42	4
Adv. Exp. (67-19-E)	67	61	71	107	46	56	49	43	4
Adv. Exp. (67-24-E)	67	64	71	103	48	58	54	47	3
Advance Amak R-10	57	56	62	101	48	57	52	43	3
Advance Amak R-12	62	65	71	102	48	48	55	52	3
Advance 14	63	59	64	101	51	53	54	51	1
Advance 19	45	50	53	84	51	45	47	55	2
Advance 22	54	55	59	95	60	48	56	52	4
Advance 54	56	53	61	99	47	41	44	45	0
Advance 55	58	58	68	111	56	44	52	43	3
Advance 61 W	57	57	62	107	60	47	52	46	2
Advance 94	68	66	74	103	53	55	59	55	3
Asgrow Bravis	60	63	70	106	48	48	53	51	3
Asgrow Double T	67	68	75	108	53	53	55	48	4

1/ Location elevations - Yuma 150 Feet; Mesa 1,100 Feet; Marana 2,000 Feet; Snowflake 5,600 Feet.

2/ Planting dates - Yuma June 13; Mesa June 3; Marana May 29; Snowflake May 25.

3/ Yuma only - Foliar Spray Damage Rating: 0 = No Damage; 1 = Slight Damage; 2 = Moderate Damage; 3 = Heavy Damage; 4 = Severe Damage. The foliar damage was caused by chemical sprays which drifted onto the plots from neighboring cotton fields.

Table 13. Continued

Entry	Days to 50% Bloom				Heights In Inches				Foliar Spray Damage
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake	
Asgrow Double TX	61	64	71	111	58	54	54	53	2
Asgrow Flare	60	58	65	112	58	46	53	45	3
Asgrow Jumbo C	88	85	87	92	57	55	51	54	4
Asgrow Ranger B	62	65	69	101	48	48	54	51	2
Asgrow Red Raider A	60	58	70	107	48	44	49	41	2
Asgrow Rico	60	57	69	103	55	51	53	46	2
Asgrow Tasco	60	57	69	99	54	50	55	47	3
DeKalb Br-62	67	71	73	106	68	56	67	46	1
DeKalb Br-64	67	66	75	112	65	62	63	54	2
DeKalb C-44 b	60	53	61	99	50	43	54	48	1
DeKalb C-44 c	62	58	64	108	54	44	51	45	1
DeKalb C-45	58	52	61	106	43	40	46	37	1
DeKalb C-48 a	67	59	67	111	51	46	50	42	1
DeKalb E-55	61	64	68	112	51	47	52	43	2
DeKalb E-57	65	59	69	107	53	52	55	51	1
DeKalb F-61	67	65	75	115	55	51	55	46	3
DeKalb F-63	65	66	72	110	56	52	56	50	3
DeKalb F-64	67	65	72	116	60	58	64	49	4
DeKalb F-65	63	66	74	105	46	45	49	48	4
Excel Bird-Go	65	68	73	121	48	51	59	45	2
Excel 202	57	58	62	88	64	48	58	61	2
Excel 404	60	55	64	105	45	42	47	44	3
Excel 505	63	59	64	112	46	45	49	46	3
Excel 606	60	65	70	116	42	44	46	38	2
Excel 707	64	65	71	109	45	46	49	50	3
Excel 707A	62	63	70	111	45	50	55	45	4
Excel 707B	60	65	68	110	46	44	47	41	2
Excel E-655	68	66	75	109	38	42	44	40	4
Frontier Grassy Grain I	50	49	54	86	46	44	48	52	2
Frontier Super 400 c	57	57	64	110	50	43	49	42	3
Frontier 388 a	51	54	58	98	43	38	46	49	3
Frontier 400 c	60	59	63	103	50	42	52	50	3
Frontier 409	61	60	71	112	49	48	54	44	2
Frontier 413	67	71	77	106	40	52	55	52	4
Frontier 414	65	70	76	108	56	57	57	49	3

Table 13. Continued

Entry	Days to 50% Bloom				Heights In Inches				Foliar Spray Damage
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake	
Funks BR-75	64	62	67	113	48	45	52	49	4
Funks BR-79	64	63	71	110	56	52	56	56	4
Funks G-401	57	56	63	112	41	38	42	38	2
Funks 511	49	48	54	94	50	41	46	55	4
Funks 744	60	57	64	106	53	45	53	47	3
Funks 765W	67	70	75	110	54	54	57	54	3
Funks 788A	67	68	76	112	52	53	58	45	3
Horizon Exp. A45	60	59	69	111	45	46	47	45	2
Horizon 61	67	64	70	115	45	44	48	38	2
Horizon 64	61	57	69	111	40	38	43	36	2
Horizon 67	61	59	70	110	46	46	51	46	2
Horizon 75	54	53	61	112	55	45	49	40	1
Horizon 80	61	62	72	115	50	51	53	40	3
McNair 652	60	61	69	111	57	50	59	50	2
McNair 546	60	63	70	122	50	46	52	40	3
Nc-t63x	64	65	74	106	49	49	50	46	3
Nc-tT 700	69	74	76	110	50	55	59	52	4
Northrup-King Savanna	54	57	68	102	50	48	52	44	4
Northrup-King 133	45	52	57	107	52	44	48	43	4
Northrup-King 210A	61	58	64	109	45	49	49	49	2
Northrup-King 222A	58	60	69	112	51	45	51	43	4
Northrup-King 265	60	57	62	104	53	49	55	50	2
Northrup-King 270	63	63	73	114	50	50	48	40	2
Northrup-King 275	60	61	71	111	55	56	55	48	3
Northrup-King 280	60	63	70	113	52	51	56	49	3
Northrup-King 310	84	84	82	97	60	60	58	56	4
Northrup-King 310A	84	83	85	108	58	58	57	46	3
P-A-G 304	53	52	58	94	44	38	38	39	2
P-A-G 353	54	60	62	95	41	41	41	46	3
P-A-G 429	55	57	63	103	52	44	46	44	2
P-A-G 430	57	56	64	108	51	42	48	42	2
P-A-G 475	64	64	73	110	47	48	52	47	3
P-A-G 515	60	63	71	112	56	51	53	47	4
P-A-G 665	67	69	77	104	54	54	57	54	3

Table 13. Continued

Entry	<u>Days to 50% Bloom</u>				<u>Heights In Inches</u>				Foliar Spray Damage
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake	
Pioneer 820	67	66	74	114	57	53	54	44	2
Pioneer 828	65	69	75	111	64	55	61	53	3
Pioneer 846	62	63	65	119	55	48	50	41	1
Pioneer 866	60	58	64	103	57	51	51	52	2
Pioneer 883	56	61	63	108	47	45	43	41	4
Security Exp.	62	65	71	111	50	47	46	42	1
Security Exp.	67	68	78	107	55	53	52	54	3
Security 8	58	57	64	106	50	46	47	47	3
Taylor-Evans Bird-AOBoo	57	63	70	112	48	45	44	40	3
Taylor-Evans Grainmaster-A	57	59	63	101	48	42	47	51	2
Taylor-Evans Mucho	57	59	65	107	48	43	47	45	4
Taylor-Evans 44	53	54	58	95	54	44	57	52	3
Taylor-Evans 44C	50	53	60	93	48	45	52	48	4
Taylor-Evans 66	58	61	71	110	50	44	45	42	3
Taylor-Evans 77	64	73	76	113	58	51	54	39	4
Taylor-Evans 88	67	68	77	107	56	54	53	51	3
Arkansas 614	57	61	69	104	53	48	52	49	4
Georgia 615	62	64	74	113	50	47	54	52	4
NB 505	55	55	59	96	51	42	50	46	4
RS 608	55	55	63	101	56	45	49	49	4
RS 610	60	59	64	107	50	49	53	47	3
RS 626	58	59	63	108	53	40	45	48	3
RS 633	64	67	69	113	48	43	51	48	3
RS 671	62	64	72	112	52	47	49	49	3



## FORAGE SORGHUM

Production trials of some forage sorghums for silage purpose were conducted at three locations in Arizona in 1968 (Yuma, Mesa and Safford). The yields and other pertinent agronomic information on these forage sorghums are presented in Tables 14, 15, and 16. General adaptation data on many forage sorghum type entries grown under four different environments are presented in Table 17.

Adapted hybrids will produce more dry matter per acre than adapted varieties, thus hybrids are generally recommended. Lodging is a serious problem and seems to vary in degree from one area to another. Some high yielding hybrids and varieties tend to lodge considerably hence they would not be recommended under conditions tending to produce lodging. Lower elevations (higher temperatures) have long growing seasons, tending to produce much growth which consequently tends to lodge. Under these conditions perhaps the selection of earlier maturing sorghums which generally are shorter in height (either hybrid or variety) and the judicious use of fertilizer might help to reduce lodging. It may be necessary to exchange some yield for standing ability in the field.

These results are from test plots with border rows, replicated three times, and seeded at about 12 pounds per acre. Only the center row or rows were harvested for yield at the soft to hard dough stage of development.

Table 14. Agronomic Data From a Single Harvest of Forage Sorghum at Yuma, Arizona. 1968<sup>1/</sup>

Entry	Yield in Tons/Acre at 30% Dry Matter	Yield in Per Cent of Regular Hegari	Production in Lbs/Acre/Day	Days to 50% Bloom	Days to Harvest	Height at Harvest In Inches
Asgrow Titan R	40.39	182	646	95	125	133
DeKalb FS-26	40.15	181	642	95	125	135
Northrup-King 318S	39.63	178	660	92	120	127
Asgrow Beefbuilder T	38.36	175	598	101	130	135
DeKalb FS-15	38.34	173	623	95	123	120
Frontier S-214	36.49	164	593	95	123	114
Taylor-Evans Yieldmaker A	35.60	160	614	89	116	106
Taylor-Evans Milkmaker	35.02	158	539	96	130	140
Advance 1085-F	34.79	157	535	101	130	133
Rudy-Patrick 55F	34.71	156	555	95	125	135
Funks 101F	33.99	153	586	89	116	108
Taylor-Evans Yieldmaker	33.53	151	545	96	123	125
DeKalb FS-22	33.27	150	679	75	98	113
Asgrow Duet	31.23	141	558	88	112	108
Excel Silo-Fill-33	29.02	131	484	91	120	107
Taylor-Evans T.D.N.	27.23	123	454	92	120	103
Funks 261S	27.20	122	442	95	123	96
DeKalb FS-1-A	27.11	122	512	84	106	98
Advance 1071F	25.62	115	576	69	89	109
Regular Hegari	22.21	100	419	84	106	83

<sup>1/</sup> Planted in moisture: June 13, 1968.

<sup>2/</sup> Plots = 3 rows (40 inches) x 10 feet; 3 replications.  
Plot yield from center row.

Table 15. Agronomic Data From a Single Harvest of Forage Sorghum at Mesa, Arizona. 1968<sup>1/</sup>

Entry	Yield in <sup>2/</sup> Tons/Acre at 30% Dry Matter	Yield in Per Cent of Regular Hegari	Production in Lbs/Acre/Day	Days to 50% Bloom	Days to Harvest	Height at Harvest In Inches
Advance 1071	35.19	155	602	84	117	95
Rudy-Patrick 55F	34.77	153	632	76	110	79
Frontier S-214	34.31	151	586	81	117	90
Asgrow Titan R	34.11	150	675	64	101	73
Advance 1085-F	32.66	144	558	82	117	102
Funks 101F	30.60	134	556	76	110	71
DeKalb FS-26	29.96	132	512	84	117	93
Taylor-Evans T.D.N.	29.61	130	478	86	124	80
Northrup-King 318S	23.91	106	441	79	110	78
Regular Hegari	22.75	100	450	66	101	58
Funks 261S	21.61	95	369	79	117	69
DeKalb FS-15	18.58	82	368	64	101	72

<sup>1/</sup> Planted in moisture: April 17, 1968.

<sup>2/</sup> Plots = 3 rows (36 inches) x 17 feet; 3 replications.  
Plot yield from center row.

Table 16. Agronomic Data From a Single Harvest of Forage Sorghum at Safford, Arizona. 1968<sup>1/</sup>

Entry	Yield in <sup>2/</sup> Tons/Acre at 30% Dry Matter	Yield in Per Cent of Regular Hegari	Production in Lbs/Acre/Day	Days to 50% Bloom	Days to Harvest	Height at Harvest In Inches
Asgrow Beefbuilder T	22.84	184	387	104	118	102
Rudy-Patrick 55F	20.89	168	354	97	118	94
DeKalb FS-26	19.17	154	325	104	118	94
Taylor-Evans Yieldmaker A	19.16	154	362	92	106	79
Frontier S-214	19.06	154	323	102	118	91
Taylor-Evans Milkmaker	18.60	150	351	91	106	87
Northrup-King 318S	18.46	149	348	90	106	86
Taylor-Evans T.D.N.	17.99	145	305	105	118	67
Funks 261-S	17.88	144	337	89	106	65
Advance 1085-F	17.63	142	299	105	118	94
Funks 101F	17.24	139	325	90	106	65
Asgrow Titan R	17.23	139	325	88	106	85
DeKalb FS-15	16.51	133	312	92	106	81
DeKalb FS-1A	16.45	133	322	80	102	66
Advance 1071-F	16.03	129	314	83	102	87
DeKalb FS-22	14.40	116	272	93	106	90
Regular Hegari	12.40	100	243	77	102	59
Excel Silo-Fill	12.28	99	208	96	118	70

<sup>1/</sup> Planted dry May 16, 1968. Irrigated May 17, 1968.

<sup>2/</sup> Plots = 3 rows (40 inches) x 15 feet; 3 replications.  
Plot yield from 13 feet of center rows.

Table 17. General Adaptation Data of Forage Sorghums Grown at Four Different Locations in Arizona  
 During 1968. <sup>1/ 2/</sup>

Entry	Days to 50% Bloom				Heights In Inches				Per Cent Lodging	Foliar Spray Damage Rating <sup>3/</sup>
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake		
Acco Aztec	91	68	89	95	124	92	120	96	10	2
Acco FS 401-R	90	89	89	100	110	87	99	73	10	2
Acco FS 402-R	89	88	89	105	95	86	90	54	5	2
Acco FS 403-R	68	66	76	111	103	92	94	100	0	2
Advance 1071-F	67	70	73	117	110	90	107	94	5	2
Advance 1085-F	97	99	96	106	120	95	138	95	5	4
Asgrow Beefbuilder T	96	104	96	108	130	97	138	94	10	3
Asgrow Dairy D	70	76	77	128	102	80	100	90	2	3
Asgrow Duet	88	82	81	95	112	88	100	72	5	4
Asgrow Robusto	90	79	83	90	80	63	66	59	0	4
Asgrow Titan R	95	89	88	97	115	103	116	73	10	3
DeKalb FS-1A	84	70	79	103	110	85	88	62	15	1
DeKalb FS-15	92	85	97	96	118	93	120	86	60	1
DeKalb FS-22	74	74	82	129	114	95	117	91	10	1
DeKalb FS-26	91	95	96	110	135	98	135	87	10	1
Excel Silo Fill-22	90	96	92	99	110	98	110	72	10	2
Frontier S-214	90	100	94	112	124	90	120	82	10	2
Funks 101F	88	93	91	97	105	79	95	71	10	2
Funks 261S	89	95	94	106	110	80	83	63	10	3
Northrup-King 318S	91	94	93	100	130	93	113	73	15	2
Rudy-Patrick Sumax	68	71	72	112	135	74	102	86	20	1
Rudy-Patrick 55F	96	97	92	94	140	104	130	95	25	2
Taylor-Evans Goldmaker	69	70	78	113	100	68	106	93	30	3
Taylor-Evans Milkmaker	99	89	95	97	115	108	130	89	25	3
Taylor-Evans Silomaker	92	91	88	97	118	91	102	91	10	1
Taylor-Evans T.D.N.	92	94	94	113	105	80	90	78	5	1
Taylor-Evans Yieldmaker	95	95	94	99	120	100	120	87	60	3

1/ Location elevations - Yuma 150 Feet; Mesa 1,100 Feet; Marana 2,000 Feet; Snowflake 5,600 Feet.

2/ Planting dates - Yuma June 13; Mesa June 3; Marana May 29; Snowflake May 25.

3/ Yuma only - Foliar Spray Damage Rating: 0 = No. Damage; 1 = Slight Damage; 2 = Moderate Damage; 3 = Heavy Damage; 4 = Severe Damage. The Foliar damage was caused by chemical sprays which drifted onto the plots from neighboring cotton fields.

Table 17. Continued

Entry	<u>Days to 50% Bloom</u>				<u>Heights In Inches</u>				Per Cent Lodging	Foliar Spray Damage Rating
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake		
Taylor-Evans Yieldmaker A	88	93	90	97	120	98	100	82	30	3
Garnett-Ross 1	70	71	77	130	115	93	100	102	10	2
Garnett-Ross 40B	74	73	79	131	115	43	100	89	30	2
Regular Hegari	83	71	72	103	79	53	71	60	10	1

## SUDANGRASS

A test of numerous sudangrass varieties and hybrids at Mesa for adaptation and performance data was inadvertently lost after a couple of cuttings. No data were evolved for the season for this publication.

Table 18 does give some general adaptation data of various sudangrass types under four different environments -- Yuma, Mesa, Marana, and Snowflake.

Table 18. General Adaptation Data of Sudangrass and Sudangrass Type Hybrids Grown at Four Locations in Arizona During 1968.<sup>1/</sup> <sup>2/</sup>

Entry	Days to 50% Bloom				Heights In Inches				Per Cent Lodging <sup>3/</sup>	Foliar Spray <sup>3/</sup> Damage Rating <sup>4/</sup>
	Yuma	Mesa	Marana	Snowflake	Yuma	Mesa	Marana	Snowflake		
Advance 1038-G	57	59	67	85	115	73	115	111	5	2
Advance 1041-GS	68	66	69	112	120	101	135	111	10	4
Asgrow Grazer N	67	60	70	95	112	91	120	114	15	4
DeKalb Sx-5	62	60	69	103	112	107	130	103	25	2
DeKalb Sx-6	68	70	71	111	125	106	135	120	15	2
DeKalb Sx-11	67	57	71	98	115	101	130	113	30	1
DeKalb Sx-12	69	68	75	116	135	93	135	120	25	1
DeKalb Sx-14	69	66	75	110	120	102	150	128	35	2
DeKalb Sx-16	68	65	74	106	128	90	120	122	35	0
Excel Chow-Maker	67	64	72	109	110	106	110	110	60	2
Frontier Hi-dan 35	61	61	69	91	96	92	85	118	25	4
Frontier Hi-dan 39a	61	58	68	92	105	91	100	117	20	4
Funks 77F	67	60	69	97	118	95	130	119	15	3
Funks G-78F	75	70	74	114	120	101	140	117	15	4
Horizon SP-110	61	57	70	88	122	99	130	118	15	3
NC+Nu Su 2	60	59	69	100	133	98	110	120	40	4
Northrup-King Trudan 2	67	60	67	89	120	98	90	114	10	4
Pioneer 985	67	59	70	97	120	93	110	110	5	3
Rudy-Patrick Su 4	60	57	68	96	124	92	107	106	10	3
Security Exp.	71	68	73	112	112	93	100	123	60	3
Sudan 23	68	66	71	81	120	90	95	110	90	1
Sweet Sudan	64	55	67	113	72	80	70	72	95	1
Taylor-Evans Grazemaster	69	67	76	114	120	108	130	118	40	2
Taylor-Evans Haygrazer	69	68	74	112	128	96	135	120	30	3
Wheeler	54	49	57	74	85	76	75	75	95	2

<sup>1/</sup> Location elevations - Yuma 150 Feet; Mesa 1,100 Feet; Marana 2,600 Feet; Snowflake 5,600 Feet.

<sup>2/</sup> Planting dates - Yuma June 13; Mesa June 3; Marana May 29; Snowflake May 25.

<sup>3/</sup> Per cent Lodging and Foliar Spray Damage Rating for Yuma only.

<sup>4/</sup> Foliar Spray Damage Rating: 0 = No Damage; 1 = Slight Damage; 2 = Moderate Damage; 3 = Heavy Damage; 4 = Severe Damage. The Foliar damage was caused by chemical sprays which drifted onto the plots from neighboring fields.