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1977 Grain Sorghum Performance Trials

J.J. Bonnemann
South Dakota State University

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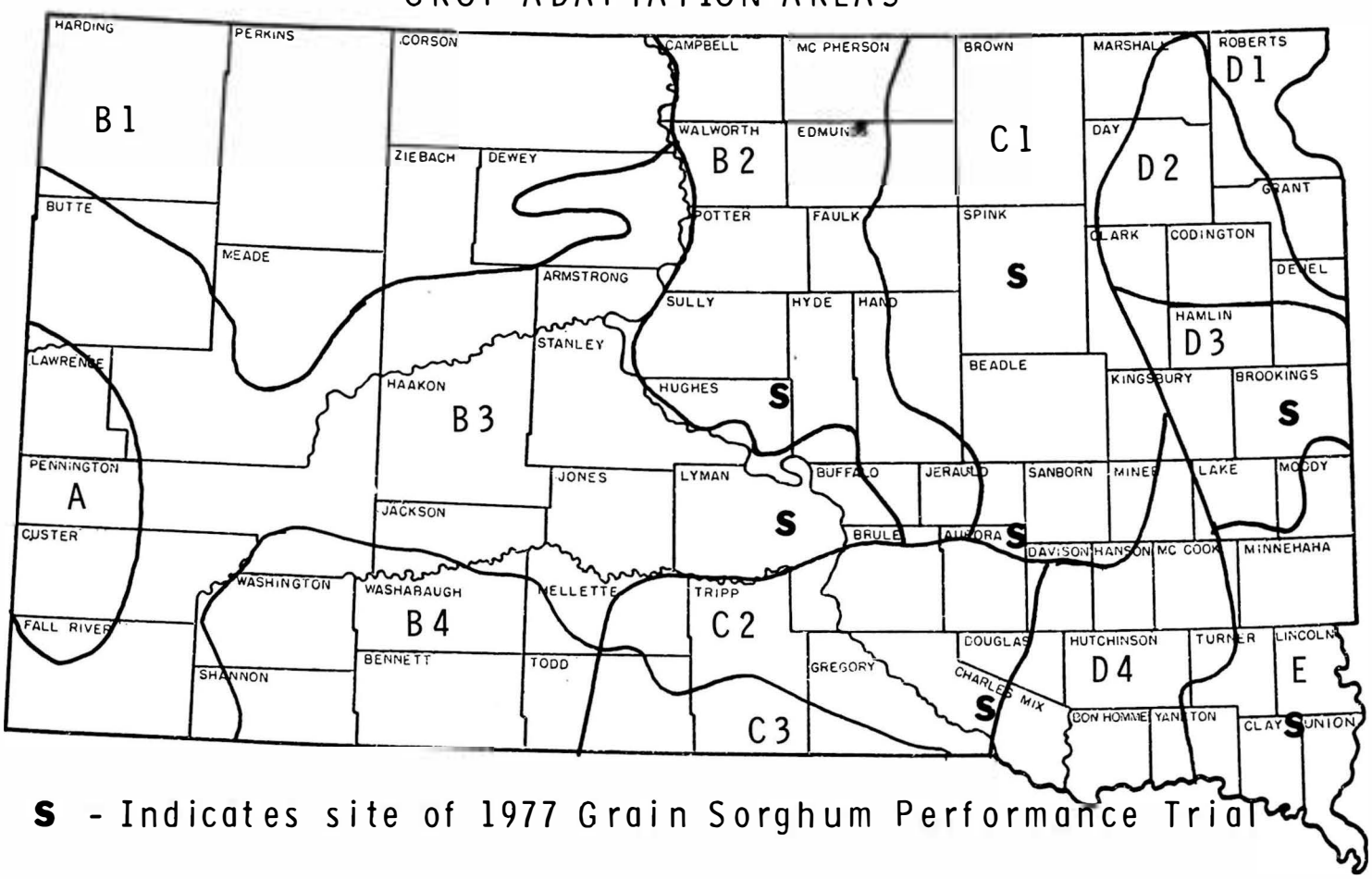
CROP ADAPTATION AREAS



S - Indicates site of 1977 Grain Sorghum Performance Trial

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J. J. Bonnemann, Assistant Professor

Plant Science Department
Agricultural Experiment Station
South Dakota State University
Brookings, South Dakota 57007

The relative performance of grain sorghum hybrids grown under similar environmental conditions is evaluated in this report for the 1977 season. Performance records of the hybrids harvested in 1977 and available two-, three-, four-, and five-year averages are presented. The trials were conducted under the Plant Science Department program in Crop Performance Testing, Agricultural Experiment Station, South Dakota State University.

Location of the 1977 Trials

For adequate performance evaluation, the various entries must be grown under similar environmental conditions. Crop adaptation areas in which the trials are conducted are based upon soil type, elevations, temperature, rainfall and other physical differences. A new B2 location was established with a farmer-cooperator near Harrold in 1977. The exact location of the trials and dates of seeding and harvesting are included in Table 1. Data from soil samples taken at the various sites at seeding time and cultural practices are shown in Table 2.

Climatic data (Table 3) for the 1977 grain sorghum year, May-September, are based upon U.S. Monthly Climatological Data. Weather information from the Geddes and Letcher sites is not available so the data from a station between the sites, Armour, is included for reference. The temperatures from this station are very indicative of the season for both sites and the precipitation data suggest rainfall patterns during the year, though not the actual amounts for either site.

Rainfall was quite limited in most areas during May except in the south-central part of the state. Soil moisture was adequate for germination and stands were generally good. Temperatures were high during June and July and precipitation was generally adequate until mid-July. Some stress occurred in late July and early August. Nearly half the days in July had recorded temperatures of 90° F. or higher.

Most of August and September were characterized by normal or better precipitation and below normal temperatures. The fields at Harrold and Letcher suffered most from weather stresses. Some entries produced only a few heads at Harrold and variability was high. Maturity was set back at Brookings in mid-June when a severe hail and rain storm passed over the plot site and battered the small plots. The lower temperatures and adequate moisture of late summer and fall also delayed maturity.

The first frost did not occur over much of the grain sorghum production area of the state until early October. Lodging occurred at only the Harrold and Letcher sites where stresses were greatest during the growing season. All of the research plots of grain sorghum were harvested before the occurrence of any frost induced lodging injury.

The assistance of the following individuals is acknowledged: G. W. Erion and Q. S. Kingsley of the Plant Science Department; farmer-cooperators William Fijala, Harlan Halverson, Orville Hobart and Oscar Thompson; and Station personnel Joe Giles, Burt Lawrensen, Herb Lund, Lucian Edler, Robert Morris and Mike Volek.

Table 1. Location of Trials and Dates of Seeding and Harvesting of Grain Sorghum Performance Trials, South Dakota, 1977

County	Location and Post Office	Row Spacing	Dates Seeded	Dates Harvested
Aurora	Oscar Thompson Farm, Letcher	36"	May 19	Sept. 27
Brookings	Plant Science Farm, Brookings	36"	May 31	Sept. 16
Charles Mix	William Fijala Farm, Geddes	40"	May 13	Sept. 28
Clay	Southeast Experiment Farm, Beresford	36"	May 24	Sept. 26
Hughes	Orville Hobart Farm, Harrold	38"	June 1	Sept. 20
Lyman	Harlan Halverson Farm, Kennebec	40"	June 1	Oct. 4
Spink	James Valley Research Farm, Redfield	36"	May 25	Oct. 3

The stage of growth at the time of hot, dry weather or extended periods of cooler temperatures had varying effects on grain quality, test weights and varietal response.

Hybrid Entry Procedure

Grain sorghum offered for sale in South Dakota or being produced for distribution in 1978 was eligible for entry. A closed-pedigree hybrid was entered by the permanent name and number under which it was sold by the parent company only. All entries maintained minimum laboratory germination of 80% as required by South Dakota Certification Standards. A nominal fee was charged for each entry in each area, except for grain sorghum entries developed by State and Federal Experiment Stations and entered by the South Dakota Agricultural Experiment Station.

Experimental Procedure

Each trial consisted of four or five replications. Plots of individual entries were randomly located within each replication. All trials were seeded two rows at a time, with 31-cell cone-planters mounted above flexi-planter units. A recommended herbicide for control of grassy weeds and an insecticide for green bug control were banded over the row at seeding time. The various row spacings used are indicated in Table 1. The plots were two rows wide; plot lengths dependent upon area available at a location.

The harvested grain was taken from two 10-foot sections of each row, 20 running feet, in each individual plot. The heads were bagged at harvest, tagged and tied, and returned to Brookings for drying and threshing. Yields were calculated on the basis of pounds per acre (multiply by 1.121 for kg/ha). Depending upon location, either three or four replications were harvested for yield determinations and one replication left for observational purposes.

County and crop adaptation area	Soil classification	Laboratory analysis Org. mat. %	P lbs/A	K lbs/A	pH	Field preparations Method	lb/A N-P-K
Hughes, B2	Raber-Cavo SiL	2.5	25	990	6.9	Chisled from stubble	
Lyman, B3	Pierre clay	3.0	9	1000	7.7	Chisled from stubble	
Aurora, C1	Hou. Prosper SiL	2.3	14	550	7.0	Disced and harrowed	
Spink, C1 (irr.)	Beotia SiCl	2.1	49	890	7.2	Fall plow,disc & harrow	80-40-0
Charles Mix, C2	Highmore SiCl	3.0	12	910	7.3	Plow, disc & harrow	
Brookings, D3	Lismore SiL	3.1	44	410	6.6	Plow, disc & harrow	
Clay, E	Egan SiCl	3.0	76	1000	6.4	Plow, disc & harrow	70-35-0

Table 3. Temperature and Precipitation Data for the 1977 Grain Sorghum Growing Season in South Dakota

		Temperature, degrees F				Precipitation, inches		
District	Month	Mean Av.	Departure from normal	Av. departure	Days 90°+	Month total	Departure from normal	Total departure
Armour[a]	May	65.3	5.6		--	3.46	0.58	
	June	73.2	4.1		10	3.70	-0.57	
C2	July	77.6	2.1		16	2.06	-0.63	
	Aug.	70.9	-3.2		5	3.84	1.19	
	Sept.	63.0	-0.3	+1.7	2	3.73	1.26	+1.73
	First freeze		10/9 - 27°			16.79		
Brookings	May	64.8	9.9		1	1.48	-1.58	
2 NE	June	66.8	1.1		2	7.31	2.73	
	July	72.0	0.9		8	1.74	-1.10	
D3	Aug.	63.3	-6.3		--	5.03	2.17	
	Sept.	58.5	-0.5	+1.0	--	3.70	-1.46	+0.76
	First freeze		10/3 - 29°			19.26		
Centerville	May	65.9	5.2		--	3.22	-0.26	
6 SE	June	69.7	-0.5		4	3.46	-1.24	
	July	75.2	-0.1		11	3.86	0.75	
E	Aug.	67.2	-6.7		2	2.60	-0.44	
	Sept.	62.8	-0.9	-0.6	1	4.00	1.32	+0.13
	First freeze		10/6 - 27°			17.14		
Harrold	May	63.6	b		--	1.26	b	b
12 SW	June	69.3			10	3.89		
	July	74.4			15	3.93		
B2	Aug.	66.3			3	3.35		
	Sept.	61.9			2	1.83		
	First freeze		10/2 - 29°			14.26		
Kennebec	May	66.9	8.8		--	2.95	0.26	
	June	72.7	5.2		11	4.16	0.63	
B3	July	77.6	2.7		17	2.97	0.92	
	Aug.	71.0	-2.9		7	1.92	-0.42	
	Sept.	65.8	3.0	+3.3	5	1.70	0.18	+1.57
	First freeze		10/2 - 30°			13.70		
Redfield	May	65.7	b		--	1.78	b	b
6 E	June	68.5			3	3.46		
	July	75.2			14	0.34		
C1 - irr.	Aug.	M			M	M		
	Sept.	61.6			2	4.39		
	First freeze		10/2 - 28°			9.97		

a - based upon reports of Monthly Climatological Data, National Weather Service, Ashville, NC.

b - Departures are figures from 30 years data. This station has not been in operation for that period of time.

Moisture determinations made at time of normal date of killing frost are generally more reliable and informative than determinations made at harvest time. Generally, these figures and test weight of the grain indicate realistically the relative maturity of the grain. Grain moisture samples were taken from all available observation plots at all locations during the period of September 19 to 23. Ten to twelve heads, adequate for a 400-500 gram grain sample, were cut from each entry, placed in a polyethylene bag, tagged and sealed tightly. The samples were threshed and cleaned,

and moisture percentages determined with an electronic moisture meter. The upper limit of the meter is 35%. Any material above this level is indicated as 35.+ in the tables and would normally indicate hybrids of late maturity for that area.

Moisture percentages for 1977 were somewhat high because the cooler temperatures had not permitted the varieties to dry down. The maturity of the trial at Brookings was delayed enough so that all samples had moisture in excess of 35% when sampled on September 23. The data are not reported in the tables as no valid data was available. Most entries were physiologically mature as the test weights shown in most tables are very good. Poor test weights are noted only at Brookings where setbacks mentioned earlier delayed normal maturing of the grain sorghum crop.

Greenbugs were not a problem at sites in the major production area. In spite of a granular insecticide application at seeding for greenbug control, the concentration was so severe an additional spraying was necessary to control greenbugs at Brookings.

The trial at Redfield received only one irrigation, about 3 inches in early July, because of limited flow in the river used as the farm water source.

Measurements of Performance

Variations in soil fertility, slope or stand may cause varieties of equal yield potential to yield differently. Mathematical determinations were made to determine if yield differences were caused by variations in environment or were true varietal differences. Small yield differences have no significance.

Yields for 1977 and other agronomic data are reported in Tables 4 through 12. Two to five year averages are reported in Tables 10, 11 and 13.

Bird damage was a problem with some entries at the Southeast Farm and Brookings sites. Plots included in larger fields of farmer-cooperators were not as susceptible to the concentrated picking of a small area and losses were slight, if any.

Discussion of Results

The trial at Brookings produced good yields for many hybrids, despite the setback from the June hailstorm and below normal temperatures the later part of the crop season. The late hybrids suffered most, as evidenced by reduced yields of poorer quality grain. Some bird damage also affected these yields.

The yields at the Southeast Farm were exceptionally good. Quality was very good and all entries were mature by mid-September. The yields at Redfield were good but would have been higher if additional irrigation water had been available later in the year.

The trials at Letcher, Harrold and Geddes were affected by the high temperatures and limited precipitation in mid-summer and the yields were not too good, especially in an area where grain sorghum is a major crop. The drought made variability quite high at Harrold.

Most entries produced good yields at Kennebec. A very wet spring had replenished the soil mositure and the plants continued to grow through the hot, dry periods of mid-summer without lacking much moisture.

Table 4. 1977 Grain Sorghum Performance Trial, Area D3, Plant Science Farm, Brookings, Brookings County, South Dakota

Brand & Variety	Yield, lb/A 1977	Yield, lb/A 1976-77	Test Wt. lb/B	Height, inches	Date Headed
Northrup-King NK 121	4045	4100	59	46	7/29
ACCO R 920	3950	3985	58	48	7/26
SDAES SD 106	3770	3395	59	43	7/26
Northrup-King NK 180	3560	4580	57	48	7/31
Garnett-Ross CR 26	3415		58	41	7/30
DeKalb A-28+	3265		55	44	7/30
Northrup-King NK X3027	3150		53	42	7/29
SDAES RS 455	2990		58	52	7/22
Pioneer 894	2935		57	39	7/30
SDAES SD 104	2705		59	42	7/22
Pioneer 8901	2600		57	43	7/30
ACCO X-0244	2565		56	41	8/4
Funks G-404	2515	3600	50	43	8/8
Warner W-55	2500	3305	52	43	8/5
Warner W-601T	2380	3405	51	49	8/7
Warner W-501	2375	3170	53	50	8/8
Growers 1210A	2335		51	47	8/8
Funks G-499 GBR	2265		54	41	8/6
Growers 1180	2265		51	48	8/8
Warner W-561T	2140		53	50	8/7
ACCO R 1014	2095	3305	53	46	8/4
Northrup-King NK 1580	2060		55	45	7/30
SDAES RS 506	1975	3225	52	53	7/30
Growers E110	1835		51	48	7/31
Funks G-393	1765	3125	55	45	8/1
SDAES RS 610A	1525		49	45	8/8
Northrup-King NK 129	1310		50	48	8/1
SDAES NB 505	825		54	51	7/31
Mean	2540				
LSD (.05)	62		C.V. - % = 15.1		

Table 5. 1977 Grain Sorghum Performance Trial, Area C2, William Fijala Farm, Geddes, Charles Mix County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/20/77
Northrup-King NK 1580	2660	60	45	16.9
Cenex 333	2635	55	47	22.9
P-A-G 4432	2625	58	45	24.9
DeKalb C-42a+	2590	59	48	20.5
Pride P808 GB	2560	59	48	21.3
Trojan M 51	2520	60	43	18.5
Pioneer 8790	2510	60	43	20.0
Asgrow Dorado E	2460	61	43	16.8
Growers 1180	2455	60	46	24.4
Trojan M 56G	2440	59	43	26.5
Growers E110	2420	59	45	18.7
Frontier 400R	2400	55	41	19.5
Trojan M 54	2370	60	43	19.5
DeKalb B-38+	2355	58	47	19.2
Growers 1210A	2330	60	47	18.8
ACCO GR 1028 (GBR)	2330	59	45	24.8
Asgrow Bug-Off E	2325	59	48	18.6
Warner 561T	2320	58	50	24.7
Pioneer 8712	2320	60	46	16.8
ACCO R 1014	2290	57	42	23.3
ACCO GR 1018 (GBR)	2285	59	46	22.1
ACCO R 1019	2265	60	44	21.3
DeKalb A-28+	2245	60	42	19.3
Cenex 322	2240	55	43	17.2
DeKalb B-35	2220	58	46	21.5
Northrup-King NK 180	2195	60	49	18.6
Warner W-55	2190	55	42	16.4
Pioneer 8592	2115	60	49	20.6
Northrup-King NK X3207	2095	58	39	16.0
SDAES NB 505	2085	59	46	17.9
Cenex 300T	2085	58	48	21.5
Warner W-601T	2060	60	49	19.2
Frontier 389	2060	60	44	21.6
Northrup-King NK 121	2055	58	43	18.4
Frontier 412R	2045	57	41	24.9
Garnett-Ross CR 26	2030	56	41	17.5
Asgrow Super Red	2015	55	45	18.4
SDAES RS 506	1965	60	50	20.8
Trojan M 55G	1910	60	50	25.3
SDAES RS 610A	1895	58	47	18.2
Pride P508 GB	1740	58	38	16.8
SDAES SD 106	1690	57	40	17.8
Warner W-501	1515	58	45	18.6
SDAES RS 455	1265	59	49	14.9
SDAES SD 104	1070	59	38	21.4
Mean	2185			
LSD (.05)	41	C.V. - % = 11.7		

Table 6. 1977 Grain Sorghum Performance Trial, Area B3, Harlan Halverson Farm, Kennebec, Lyman County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/20/77
Northrup-King NK 180	5405	59	46	24.7
Growers 1180	5190	57	47	30.6
Cenex 300T	5105	57	46	30.7
Cenex 333	5080	57	46	31.6
Growers E110	5075	56	45	30.3
Pride P808 GB	4985	59	48	30.6
ACCO R 1014	4955	55	45	32.0
Trojan M 51	4880	59	41	25.9
Northrup-King NK 1580	4575	60	47	26.8
SDAES RS 610A	4670	58	46	32.9
Warner W-55	4550	55	42	26.8
Frontier 389	4520	58	44	31.9
Trojan M 54	4500	58	44	30.5
Growers 1210A	4440	57	45	33.0
Pioneer 8901	4415	53	40	20.0
Northrup-King NK 121	4410	57	45	19.3
Disco 180	4400	57	43	25.1
SDAES NB 505	4370	59	45	23.7
ACCO X-0244	4325	60	42	30.5
DeKalb A-28+	4310	58	43	25.6
Pioneer 894	4230	57	38	21.5
Pride P508 GB	4210	54	41	23.7
Northrup-King X3207	4210	55	38	24.1
Cenex 322	4165	55	42	27.2
Pioneer 8790	4090	58	41	25.4
Frontier 400R	4025	57	39	31.3
DeKalb A-25a	3940	57	34	26.6
ACCO R 920	3805	59	46	17.9
SDAES RS 455	3640	58	46	19.7
Warner W-501	3505	58	47	19.4
SDAES SD 106	3195	55	38	24.2
Cenex 221	3115	56	45	17.8
SDAES RS 506	3035	57	48	30.9
SDAES SD 104	2705	58	40	25.8
Mean	4305			
LSD (.05)	75	C.V. - % = 10.8		

Table 7. 1977 Grain Sorghum Performance Trial, Area B2, Orville Hobart Farm, Harrold, Hughes County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/14/77	Stalk Lodging, %
ACCO R 920	2145	57	36	21.1	5
Pioneer 8901	2085	53	30	35.+	3
DeKalb A-25a	2030	54	27	24.2	5
SDAES RS 455	1760	57	43	15.3	2
DeKalb A-28+	1630	55	31	28.0	5
Northrup-King NK 121	1590	56	33	35.+	10
SDAES RS 506	1585	56	36	25.5	27
Trojan M 51	1530	52	30	24.7	42
SDAES SD 106	1515	56	34	20.0	8
Northrup-King NK 1580	1515	56	30	30.1	20
Pioneer 894	1495	57	28	26.6	0
Cenex 300T	1480	55	33	35.+	0
SDAES NB 505	1450	58	30	21.1	3
Warner W-55	1370	56	27	25.0	0
Funks G-251	1355	57	28	35.+	0
Trojan M 54	1355	58	31	28.9	3
Cenex 221	1350	55	30	15.4	0
Growers E110	1305	57	33	28.7	9
SDAES R610A	1230	57	29	31.8	0
Warner W-561T	1155	55	30	32.5	0
Northrup-King NK 180	1140	56	31	29.4	4
SDAES SD 104	1095	57	32	35.+	0
Funks G-393	995	55	28	29.3	0
Growers 1180	965	54	28	31.9	0
Warner W-601T	590	56	29	21.8	0
Growers 1210A	550	54	29	34.4	0
Funks G-404	370	56	26	35.+	0
Mean	1360				
LSD (.05)	69		C.V. - % = 31.3		

Table 8. 1977 Grain Sorghum Performance Trial, Area C1 (irrigated), James Valley Research Farm, Redfield, Spink County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/14/77	Date Headed
Cenex 322	5070	55	44	30.5	8/1
ACCO R 1014	4965	57	44	35.+	8/1
Northrup-King NK 1580	4930	60	45	33.0	7/29
Growers 1210A	4845	55	49	35.+	8/5
SDAES RS 610A	4830	55	47	35.+	8/3
ACCO R 920	4785	57	47	17.3	7/23
ACCO X-0244	4755	60	43	35.+	7/30
Funks G-393	4685	57	48	33.1	7/30
DeKalb A-28+	4670	58	46	27.5	7/27
Disco 180	4535	56	43	28.5	7/29
Growers E110	4515	60	46	31.3	7/29
Funks G-404	4505	49	39	35.+	8/7
Warner W-561T	4505	58	52	35.+	8/5
Frontier 385A	4500	60	43	30.0	7/25
SDAES RS 506	4475	56	50	27.0	7/25
Cenex 300T	4470	48	52	35.+	8/4
Asgrow Dorado E	4400	57	46	28.7	7/31
Funks G-499 GBR	4350	52	42	35.+	8/7
Pioneer 8901	4260	55	44	24.9	7/24
Pride P808 GB	4255	55	52	35.+	8/6
Northrup-King NK 180	4210	55	45	31.4	8/1
Northrup-King NK X3208	4175	58	46	26.9	8/1
Warner W-601T	4155	55	52	35.+	8/8
Funks G-251	4105	60	40	28.3	7/24
Pride P508 GB	4085	58	42	27.5	7/27
Warner W-55	4050	52	42	29.8	8/1
Northrup-King NK X3207	3980	56	41	27.0	7/25
SDAES NB 505	3915	59	48	27.6	7/26
Growers 1180	3910	53	48	35.+	8/18
ACCO GR 1018 (GBR)	3765	54	46	35.+	8/4
Pioneer 894	3725	59	39	18.2	7/22
SDAES SD 106	3590	57	42	22.3	7/20
ACCO R 1019	3555	53	45	35.+	8/8
Cenex 221	3400	55	48	16.7	7/20
Warner W-501	3225	56	46	17.3	7/20
SDAES RS 455	2765	58	55	16.3	7/16
SDAES RS 104	2645	59	41	18.0	7/20
Mean	4200				
LSD (.05)	110		C.V. - % = 16.1		

Table 9. 1977 Grain Sorghum Performance Trial, Area E, Southeast Experiment Farm, Centerville, Clay County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/19/77	Date Headed
DeKalb C-42a+	7025	59	48	23.6	7/25
P-A-G 4432	6905	59	46	22.0	7/21
Trojan M 56G	6670	60	50	33.9	7/30
ACCO R 1019	6635	60	45	27.5	7/24
DeKalb X-748	6625	59	48	27.8	7/24
Northrup-King NK 1580	6470	61	42	17.4	7/18
Growers 1180	6440	61	47	23.9	7/28
ACCO GR 1028 (GBR)	6235	58	46	30.4	7/24
Growers 1210A	6220	60	49	26.3	7/26
Growers E110	6155	61	44	19.0	7/18
Northrup-King NK 180	6150	60	46	16.5	7/19
ACCO R 1014	6100	57	44	22.1	7/21
DeKalb B-35	6030	59	43	20.6	7/20
ACCO GR 1018 (GBR)	6005	59	47	30.0	7/24
DeKalb B-38+	6000	59	46	21.0	7/19
Pioneer 8790	5955	59	41	17.6	7/19
Trojan M 55G	5890	60	52	27.3	7/25
Pioneer 8592	5810	61	47	23.9	7/22
Warner W-561T	5780	60	49	23.6	7/25
SDAES RS 610A	5690	60	49	32.6	7/24
Asgrow Bug-Off E	5680	56	50	27.0	7/24
Trojan M 54	5665	60	44	19.1	7/19
Pioneer 8712	5650	60	42	20.8	7/18
Northrup-King NK X3207	5615	55	37	15.3	7/17
Warner W-601T	5590	57	53	24.0	7/25
SDAES RS 506	5490	59	54	29.5	7/18
SDAES RS 455	5445	59	50	17.7	7/14
SDAES NB 505	5365	60	45	16.6	7/18
SDAES SD 106	5110	57	39	16.4	7/15
SDAES SD 104	4740	58	38	19.1	7/14
Mean	5970				
LSD (.05)	89		C.V. - % =	8.5	

Table 10. Two-, Three-, Four-, and Five-Year Average Yields of Grain Sorghum Hybrids Entered at Redfield, SD, 1973-1977

Brand & Variety	Average yield, pounds per acre			
	1973-77	1974-77	1975-77	1976-77
ACCO R 920	4535	4980	4565	4720
ACCO R 1014	4790	5250	5155	5170
ACCO R 1019	4485	4565	4850	4850
Asgrow Dorado E				5265
Funks G-251	4075	4470	3975	4015
Funks G-393	4885	5275	5210	5165
Funks G-404				4860
Northrup-King NK 180			5245	5300
SDAES SD 106	3520	3780	3495	3470
SDAES RS 506	4800	5245	4890	4925
SDAES RS 610A	4960	5070	4990	5325
Warner W-501				3885

Table 11. Two-, Three-, Four-, and Five-Year Average Yields of Grain Sorghum Hybrids Entered at Centerville, SD, 1973-1977

Brand & Variety	Average yields, pounds per acre			
	1973-77	1974-77	1975-77	1976-77
ACCO R 1014	4055	3875	3695	4420
ACCO R 1019	4750	4575	4445	5035
DeKalb B-35		4220	4300	4915
DeKalb B-38+				4310
DeKalb C-42a+	5035	4640	4665	5305
Northrup-King NK 180	4485	4245	4105	4605
SDAES SD 106	3410	3060	2795	3265
SDAES RS 506	4215	3905	3595	4370
SDAES RS 610A	4245	3940	3645	4305
Trojan M 54				4555
Trojan M 55G				4725
Trojan M 56G				4910
Warner W-561T		4190	3925	4670
Warner W-601T			3505	4180

Table 12. 1977 Grain Sorghum Performance Trial, Area C1, Oscar Thompson Farm, Letcher, Aurora County, South Dakota

Brand & Variety	Yield lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/20/77	Stalk Lodging, %
Trojan M 56G	4440	57	40	28.0	0
Trojan M 55G	3745	60	41	20.7	0
Cenex 300T	3690	57	40	21.0	0
Growers 1210A	3575	59	37	27.7	0
DeKalb A-28+	3545	57	35	15.8	5
Pride P808 GB	3455	57	40	20.5	0
DeKalb B-38+	3440	58	38	16.2	0
Pride P508 GB	3430	53	34	16.4	0
Cenex 333	3410	54	37	18.6	0
Warner W-601T	3370	58	40	20.6	0
Warner W-561T	3315	60	39	25.7	6
Cenex 322	3170	53	35	21.3	0
Pioneer 8712	3140	58	39	16.0	2
DeKalb A-25a	3120	52	30	15.6	0
Trojan M 51	3115	57	36	14.5	0
Growers 1180	3035	57	36	29.1	0
Pioneer 8901	2950	48	33	13.2	55
ACCO R 1014	2865	53	36	21.5	2
DeKalb B-35	2865	56	37	22.5	3
Northrup-King NK 121	2795	55	36	16.4	7
Growers E110	2680	55	39	16.8	5
Trojan M 54	2480	58	37	14.2	9
Warner W-55	2470	55	34	17.0	0
ACCO X-0244	2445	58	33	17.4	0
Northrup-King NK MM52	2390	55	32	14.6	0
Asgrow Dorado E	2370	57	37	15.5	12
Garnett-Ross CR 26	2315	55	34	18.2	3
SDAES NB 505	2310	54	37	16.0	9
Pioneer 8790	2305	56	35	16.5	2
ACCO R 920	1780	52	35	14.8	67
SDAES RS 610A	1700	55	37	24.7	25
SDAES RS 455	1660	52	42	16.6	57
Northrup-King NK X3201	1595	58	37	17.0	10
SDAES SD 104	1145	53	35	17.5	50
SDAES SD 106	1045	52	32	15.0	77
SDAES RS 506	725	53	38	18.9	12
Mean	2720				
LSD (.05)	65		C.V. - % = 17.3		

Table 13. Two-, Three-, and Four-Year Average Yields of Grain Sorghum Hybrids at Letcher, SD, 1974-1977.

Brand & Variety	Average yield, pounds per acre		
	1974-77	1975-77	1976-77
ACCO R 920	1550	1745	1540
ACCO R 1014		2555	2170
Cenex 300T			2510
Cenex 333			2300
DeKalb A-25A		2505	2320
DeKalb B-35			2250
DeKalb B-38+			2510
Northrup-King NK 121			2030
Northrup-King NK MM52			1775
SDAES SD 106	1150	1220	1010
SDAES RS 506	1415	1505	1080
Trojan M 51			2245
Trojan M 54			1985
Trojan M 55G			2570
Warner W-55			1995
Warner W-601T			2410

3,200 printed at estimated costs of 23 cents each—2-78—1321A—fjs

Table 14. Entries Submitted for the 1977 Grain Sorghum Performance Trials and Tables Where Results Appear

Company & Brand	Variety	Tables	Company & Brand	Variety	Tables
ACCO Seed	R 920	4,6,7,8,10,12,13	Northrup-King & Co.	NK MM52	12,13
PO Box 1630	R 1014	4,5,6,8,9,10,11,12,13	PO Box 959	NK 121	4,5,6,7,12,13
Plainview, TX 79072	GR 1018	5,8,9	Minneapolis, MN 55440	NK 129	4
"ACCO"	R 1019	5,8,9,10,11	"NK"	NK 180	4,5,6,7,8,9,10,11
	GR 1029	5,9		1580	4,5,6,7,8,9
	X-0244	4,6,8,12		X3201	12
				X3207	4,5,6,8,9
Asgrow Seed Co.	Bug-Off E	5,9		X3208	8
PO Box 1059	Dorado E	5,8,10,12			
Des Moines, IA 50053	Super Red		P-A-G Seeds	4432	5,9
			PO Box 9480		
Cenex Seeds	221	6,7,8	Minneapolis, MN 55440		
Box 964	300T	5,6,7,8,12,13			
Sioux Falls, SD 57101	322	5,6,8,12	Pfizer Genetics, Inc.	M 51	5,6,7,12,13
"Cenex"	333	5,6,12,13	Box 166	M 54	5,6,7,9,11,12,13
			Olivia, MN 56277	M 55G	5,9,10,11,12,13
DeKalb AgResearch, Inc.	A-25a	6,7,12,13	"Trojan"	M 56G	5,9,11,12
Rt. 1, Box 225	A-28+	4,5,6,7,8,12			
Glenvil, NE 68941	B-35	5,9,12	Pioneer HiBred, Int'l	894	4,6,7,8
"DeKalb"	B-38+	5,9,11,12,13	1206 Mulberry St.	8901	4,6,7,8,12
	C-42a+	5,9,11	Des Moines, IA 50308	8790	5,6,9,12
	X-748	9	"Pioneer"	8612	5,9,12
				8592	5,9
Disco Seeds	385A	8			
Box 640	389	5,6	Pride Company, Inc.	P508 GB	5,6,8,12
Mitchell, SD 56301	400R	5,6	Glen Haven, WI 53810	P808 GB	5,6,8,12
"Frontier"	412R	5			
	Disco 180	6,8	Agricultural	SD 104	4,5,6,7,8,9,12
			Experiment	SD 106	4,5,6,7,8,9,10,11,12,13
Funk Seeds, Int'l	G-251	7,8,10	Station	RS 455	4,5,6,7,8,9,12
719 26th St.	G-393	4,7,8,10	S. Dak. State Univ.	NB 505	4,5,6,7,8,9,12
Lubbock, TX 79404	G-404	4,7,8,10	Brookings, SD 57007	RS 506	4,5,6,7,8,9,10,11,12,13
"Funks"	G-499GBR	4,8	"SDAES"	RS 610A	4,5,6,7,8,9,10,11,12
Garnett-Ross, Inc.	CR 26	4,5,13	Geo. Warner Seed Co.	2-55	4,5,6,7,8,12,13
6024 Southport Drive			Box 1448	W-501	4,5,6,8,10
Bethesda, MD 20014			Hereford, TX 79045	W-561T	4,5,7,8,9,11,12
			"Warner"	W-601T	4,5,7,8,9,11,12
Growers Seed Assn.	E 110	4,5,6,7,8,9,12			
PO Box 1656	1180	4,5,6,7,8,9,12			
Lubbock, TX 79408	1210A	4,5,6,7,8,9,12			
"Growers"					