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1979 Grain Sorghum Performance Trials

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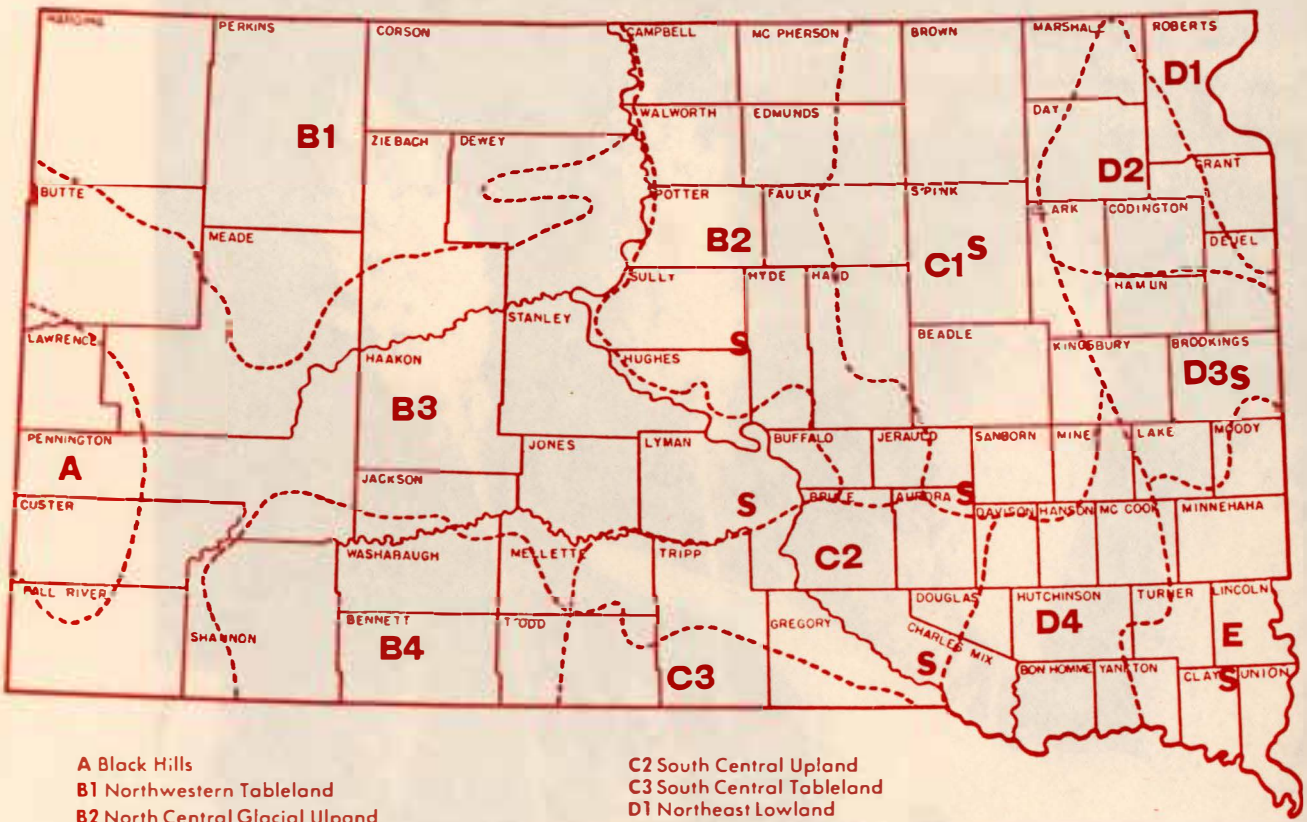
Listing of Tables

CROP ADAPTATION AREAS OF
SOUTH DAKOTA

S - Indicates Site of 1979 Grain Sorghum Trial



A Black Hills
B1 Northwestern Tableland
B2 North Central Glacial Upland
B3 Pierre Plain
B4 Southwestern Tableland
C1 Northern James Valley
C2 South Central Upland
C3 South Central Tableland
D1 Northeast Lowland
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1979 Grain Sorghum Performance Trials

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The relative performance of grain sorghum cultivars grown under similar environmental conditions is evaluated in this report for the 1979 crop season. Performance records of all entries harvested in 1979 and available two through 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 1979 Trials

For adequate performance evaluation, all entries must be grown under similar environmental conditions. Crop adaptation areas in which the trials are conducted are based upon soil type, elevation, temperature, rainfall and other physical differences. The exact location of each trial, dates of seeding and harvest are included in Table 1. Soil classification and data from soil samples taken, cultural practices and fertilizer applications are shown in Table 2.

Weather and Climatic Conditions

Climatic data (Table 3) for the 1979 grain sorghum year, May-October, are based upon U.S. Monthly Climatological Data. Weather information from the Geddes and Letcher sites is not available so 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 in May occurred primarily in the early and late portions of the month. The trials were seeded either the third week in May or early June. Germination was good at all sites. Rainfall amounts were very high at the Harrold and Letcher sites following seeding and weeds became a problem. It stayed so wet during the early part of the crop year that these fields were not accessible for cultivation. Rainfall was also above normal during July and early August. Low daytime temperatures and many foggy mornings resulted from these conditions and the sorghum did not grow very rapidly, especially at Harrold, Letcher and Redfield. Temperatures warmed in late August and September but the growth of the grain sorghum was slow and heading so late that yields were greatly reduced and the quality poor at Harrold and Redfield. September was below normal for precipitation and well above for temperature. These conditions came too late at some sites for a crop requiring warm temperatures. Despite the cool, wet season at Centerville the yield and quality were excellent.

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, Marvin Barnes and Oscar Thompson; and Station personnel A. C. Dittman, B. E. Lawrensen, Herb Lund, Lucian Edler and Kevin Kirby.

Table 1. Location of Trials, Dates of Seeding and Harvesting of Grain Sorghum Performance Trials, South Dakota, 1979

County	Location and Post Office	Row Spacing	Dates Seeded	Dates Harvested
Aurora	Oscar Thompson Farm, Letcher	36"	June 4	Sept. 26
Brookings	Plant Science Farm, Brookings	36"	June 2	Sept. 28
Charles Mix	William Fijala Farm, Geddes	40"	May 23	Sept. 26
Clay	Southeast Experiment Farm, Beresford	36"	May 24	Sept. 24
Sully	Marvin Barnes, Harrold	38"	June 6	Oct. 1
Lyman	Harlan Halverson Farm, Kennebec	36"	June 1	Oct. 1
Spink	James Valley Research Farm, Redfield	36"	May 21	Oct. 3

A killing frost did not occur until early October. The favorable fall weather permitted many of the later maturing varieties to develop and produce good yields of decent quality.

Lodging was not a serious problem at most sites. Two very early check varieties, SD 104 and SD 106, lodged badly at Geddes but no other serious lodging was recorded. Most trials were harvest, in 1979, before a killing freeze had affected the stalks. Only the uppermost leaves had a light nip when the plots were harvested. Bird damage was light at all sites but Brookings. Damage varied at Brookings with estimates ranging from a trace to 35% (Table 10). Grain quality, test weight and varietal response were affected by the stage of growth at the onset of hot weather or extended periods of cooler temperatures.

Hybrid Entry Procedure

Only grain sorghum offered for sale in South Dakota or being produced for distribution in 1980 were eligible for entry. A closed-pedigree hybrid was entered by the permanent name and number under which it was sold by the parent company. All entries maintained a minimum laboratory germination of 80% as required by the 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.

Table 2. Soil sample analysis and cultural practices of 1979 Grain Sorghum Sites

County and crop adaptation areas	Soil Classification	Laboratory analysis Org. mat. %	P lb/A	K lb/A	pH	Field Preparations Methods	Fert. N	Fert. P	Fert. K
Sully B2	G1-Hn-JV SiL	2.2	38	960	7.2	Disced from stubble			
Lyman, B3	Pierre clay	2.3	13	999	7.9	Chisled from stubble			
Aurora, C1	Hou.Pros. SiL	2.4	22	690	7.0	Disced from stubble			
Spink, C1(irr.)	Beotia SiCl	2.3	38	810	7.6	Disced(2)-corn grnd.	80	40	0
Chas. Mix, C2	Highmore SiCl	2.9	17	999	6.8	Plowed and disced	100	0	0
Clay, E	Egan SiCl	3.0	88	950	6.3	Plowed and disced	80	40	20

Table 3. Temperature and Precipitation Data for the 1979 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	56.3	-3.4		-	3.09	+0.21	
	June	68.9	-0.2		8	3.25	-1.02	
C2	July	74.2	-1.4		10	4.31	+1.62	
	August	72.0	-2.1		9	0.94	-1.99	
	Sept.	67.3	+4.0		9	1.98	-0.29	
	Oct.	44.5	-7.8	-1.8	-	1.50	+0.04	-1.43
	First freeze 10/13 - 25°					16.07		
Brookings	May	50.8	-5.4		-	3.61	+0.41	
2 NE	June	63.9	-1.8		1	3.64	-0.94	
	July	69.8	-1.3		1	2.88	+0.04	
D3	August	65.5	-4.1		1	3.85	+0.99	
	Sept.	61.0	+2.0		1	1.04	-1.20	
	Oct.	44.5	+0.3	-1.7	-	3.44	+1.97	+1.27
	First freeze 10/13 - 18°					18.46		
Centerville	May	50.8	-5.4		-	4.01	+0.53	
6 SE	June	67.0	-3.2		2	2.69	-2.01	
	July	72.1	-3.2		7	1.56	-1.55	
E	August	69.0	-4.9		3	5.11	+2.07	
	Sept.	63.6	-0.1		1	1.88	-0.80	
	Oct.	47.8	-5.4	-3.8	-	3.30	+1.65	-0.11
	First freeze 10/4 - 30°					18.55		
Harrold	May	51.7	b	b	1	1.81	b	
12 SW	June	65.9			4	2.33		
	July	72.9			11	3.38		
B2	August	70.1			7	3.02		
	Sept.	64.3			8	T		
	Oct.	48.4			-	1.43		
	First freeze 9/14 - 26°					11.97		
Kennebec	May	56.3	-1.8		2	1.87	-0.82	
	June	69.8	+2.3		5	1.92	-1.61	
B3	July	75.6	+0.4		14	5.71	+3.66	
	August	73.1	-0.8		10	3.44	+1.10	
	Sept.	69.9	+7.1		16	0.39	-1.13	
	Oct.	52.7	+1.5	+1.4	1	1.96	+0.93	+2.13
	First freeze 10/4 - 26°					15.29		
Redfield	May	52.9	b	b	1	1.67	b	
6 E	June	65.5			2	2.57		
	July	72.8			8	3.92		
C1 (irr.)	August	68.1			1	3.47		
	Sept.	63.6			4	0		
	Oct.	45.4			-	1.59		
	First freeze 10/4 - 24°					13.22		

a - Based upon reports of Monthly Climatolical Data, National Climatic Center, Ashville, NC.

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

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

Greenbugs were present at some sites even though a granular insecticide was applied for greenbug control. Insects were noticed especially at Geddes and Brookings. The trials were so infested at Brookings they were sprayed with a recommended insecticide in late July.

The trials at Redfield were irrigated twice by the gravity method; on July 24 and August 17.

Moisture determinations made at time of normal date of killing frost are generally more reliable and informative than determinations made at harvest. Generally moisture and test weight of the grain realistically indicate relative maturity. Grain samples for moisture determinations were taken from all observation plots at all locations during the period of September 17 to 24. Ten to twelve heads, or 400-500 grams, 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 limits of the meter are 35% and material above this level, reported at 35.+ in the tables, would generally indicate lines of late maturity for this area.

The entries in many of the trials were high in kernel moisture when sampled so a normal season of cooler fall daytime temperatures and earlier killing frosts would have more seriously affected good yield, quality and test weight. Because of the very nice, mild weather of 1979, entries in many trials reached physiological maturity and quality was good to excellent.

The harvested grain was taken from a 10-foot section of each row for 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 are reported in pounds per acre (multiply by 1.121 for kg/ha) with three or four replications harvested for yield and one left for observational purposes.

Measurements of Performance

Variations in factors such as soil fertility, slope or stand may cause varieties of equal 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 1979 and other agronomic data are reported in Tables 4 through 14. Separate tables with two-to five-year averages are reported in Tables 7, 9, 11 and 13.

Bird damage from sparrows when sorghum was in the milk stage of maturity was a problem at the Brookings site, as noted in column 7 of Table 10. The trials located within larger fields of farmer-cooperator were not as subject to the concentrated picking as a smaller area and losses incurred were slight, if any.

Discussion of Results

Trials in the north central area of the state were most affected by the heavy precipitation and cooler temperatures of June and early July. Low yields and poor quality at these locations resulted from slow growth and weed competition. Weeds also affected the trial at Letcher though not as seriously. Wet fields prevented cultivation at the proper time and the over-the-row herbicide application was of little help in combating weeds between the row. Late seeding, wet field conditions, weeds and below normal temperatures were least favorable at Harrold and Redfield.

Despite the cool, wet conditions throughout the earlier portions of the growing season, the warmer-than-normal dry September benefited yields and quality at most of the other sites. The exception is Brookings where the grain did not fill out by harvest. All entries at Brookings had over 35% moisture on September 24, normally after a good freeze.

Table 4. 1979 Grain Sorghum Performance Trial, Area B2, Marvin Barnes Farm, Harrold, Sully County, South Dakota

Brand & Variety	Yield, lbs/A 1979	1977-79	1978-79	Test Wt. lb/B	Height, inches	Percent moisture, 9/18/79
ACCO R 920	2065	2255	2560	55	42	35.+
Cenex 221	1800			52	44	33.7
Northrup King NK 121A	1615	1995	2200	47	38	34.1
Cenex 333	1610		1870	50	40	35.+
Northrup King X3217	1600			49	40	32.7
Western WS-201	1580		2295	51	45	35.+
DeKalb A-28+	1570	1995	2175	55	40	31.8
Growers GSA1100	1510			48	45	35.+
Western WS-103	1505			50	39	35.+
Warner W-655T	1495			50	42	35.+
Northrup King X3207	1475			46	38	33.7
DeKalb A-25a+	1330	1260	2105	51	36	35.+
Frontier 385R	1330			47	39	35.+
YW GBT 503	1320			48	35	35.+
Disco 182	1275			44	42	35.+
YW GBT 505	1260			45	37	35.+
Disco 184	1250			49	40	35.+
Cenex 228T	1240			47	39	35.+
Disco 186R	1225			44	38	35.+
Cenex 320T	1190			46	37	35.+
Warner W-664T	1180			48	41	35.+
Trojan M518G	1120			47	36	35.+
Frontier 395R	1115			49	41	35.+
Warner W-636T	1105			46	34	35.+
SDAES SD 104	1080	1380	1520	51	37	35.+
SDAES SD 106	1020	1595	1565	51	38	31.2
Warner W-601T	1015			41	42	35.+
Cenex 224T	995			43	35	35.+
Warner W-545T	985			45	36	35.+
Growers GSA1060	910		1870	44	40	35.+
Warner W-564T	910			45	39	35.+
Northrup King Brand 1580	755	1820	1970	48	39	35.+
Means	1295			48	39	35.+
LSD (.05)	450		CV - % = 21.4			

Table 5. 1979 Grain Sorghum Performance Trial, Area B3, Harlon Halverson Farm, Kennebec, Lyman County, South Dakota

Brand & Variety	Yield, lbs/A 1979	1977-79	1978-79	Test Wt. lb/B	Height, inches	Percent moisture, 9/18/79
Warner W-636T	4845			58	44	35.+
Western WS-103	4620			57	49	35.+
Disco 184	4520			60	48	35.+
Warner W-664T	4450			58	47	35.+
Growers GSA1060	4450		3225	56	45	35.+
Western WS-206	4350		3220	57	45	33.8
DeKalb A-25a+	4340	3415	3155	56	40	34.9
Cenex 320T	4290			56	42	35.+
Cenex 333	4220	3795	3155	55	44	35.+
Cenex 322T	4195	3455	3100	52	49	35.+
YW GBT505	4175			56	42	35.+
Western WS-201	4165		3235	54	52	29.5
DeKalb A-28+	4040	3365	2895	58	43	35.+
Cenex 310T	4015			59	47	35.+
ACCO R 920	3970	3355	3125	57	45	35.+
ACCO R 1014	3960	3675	3035	58	43	35.+
Disco 182	3880			57	47	35.+
YW GBT606	3870			56	47	35.+
Northrup King NK 180	3850	3790	2985	57	47	35.+
Cenex 300T	3840	3735	3050	56	47	35.+
Cenex 228T	3825			57	42	35.+
Cenex 221	3820	3085	3070	56	50	30.0
Disco 186R	3685			57	45	35.+
Frontier 385R	3680			58	42	35.+
Frontier 395R	3680		3030	54	46	35.+
SDAES SD 106	3670	2855	2685	57	41	35.+
Pride P158GB	3645		2795	55	43	35.+
Trojan M548G	3595			55	44	35.+
Warner W-655T	3585			55	47	35.+
Northrup King Brand 1580	3575	3375	2775	58	44	35.+
Trojan M518G	3535			54	42	35.+
ACCO R 980	3505		2765	57	42	35.+
Warner W-545T	3490			55	42	35.+
Warner W-601T	3400			52	48	35.+
SDAES SD 104	3320	2455	2330	59	42	35.+
DeKalb B-38+	3285		2675	57	44	35.+
Warner W-564T	3160			59	43	35.+
Growers GSA1100	3095			54	51	35.+
Cargill 20	2920			55	40	35.+
Means	3860			56	45	35.+
LSD (.05)	905		CV - % = 14.4			

Table 6. 1979 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, 9/19/79
Asgrow Dorado E	4810	58	48	35.+
Warner W-655T	4495	60	49	35.+
Cenex 228T	4185	59	45	35.+
Asgrow Corral	4135	56	51	35.+
Northrup King NK 180	4110	56	50	34.9
Frontier 395R	4100	57	48	35.+
Trojan M518G	3985	59	41	34.3
Warner W-601T	3955	54	50	35.+
Northrup King Brand 2030	3905	57	46	35.+
DeKalb B-38+	3755	60	46	35.+
Disco 196R	3735	58	54	33.7
ACCO R 920	3715	56	47	--
Frontier 4000R	3695	56	49	35.+
YW GBT606	3690	56	51	35.+
Northrup King Brand 2018	3650	56	48	31.6
Disco 198R	3600	60	47	35.+
Warner W-664T	3540	59	47	35.+
Cenex 322T	3535	57	51	35.+
Pride P158GB	3480	57	44	29.1
Western WS-103	3480	58	48	33.1
Cenex 333	3480	54	48	35.0
Cenex 300T	3385	56	51	35.+
Warner W-545T	3380	59	41	32.2
Disco 200R	3340	58	46	35.+
Cenex 310T	3340	57	49	35.+
DeKalb A-28+	3260	58	47	29.9
Disco 194R	3255	58	50	35.+
Asgrow Bug-Off E	3235	59	49	34.0
Pride P508GB	3165	56	47	31.9
ACCO R 1014	3090	56	45	35.0
Disco 186R	3085	58	44	35.+
YW GBT505	3075	57	41	35.+
SDAES SD 106	3020	55	45	32.8
Warner W-564T	3020	58	45	35.+
ACCO R 980	2990	61	43	32.0
DeKalb A-25a+	2975	56	41	32.6
Trojan M548G	2545	58	47	35.+
SDAES SD 104	2445	57	42	24.2
Cargill 20	2440	54	39	33.6
Means	3490	57	47	35.+
LSD (.05)	920	CV - % = 16.3		

Table 7. Two-, Three-, Four-, and Five-Year Average Yields of Grain Sorghum Hybrids Entered at Letcher, South Dakota, 1975-1979.

Brand & Variety	Average Yields, pounds per acre			
	1975-79	1976-79	1977-79	1978-79
ACCO R 920	2215	2230	2540	2920
ACCO R 980				2620
ACCO R 1014	2665	2500	2840	2830
Asgrow Bug-Off E				2830
Asgrow Corral				3805
Cenex 300T		2780	3265	3050
Cenex 322T			3080	3065
Cenex 333		2630	2785	2960
DeKalb A-25a+	2690	2645	3020	2970
DeKalb A-28+			3195	3020
DeKalb B-38+		3055	3550	3605
Pride P158GB				3340
Pride P508GB			3295	3225
SDAES SD 104			1780	2100
SDAES SD 106	1725	1745	2000	2480
Warner W-601T		2890	3370	3370

Table 8. 1979 Grain Sorghum Performance Trials, Area E, Southeast Experiment Farm, Centerville, Clay County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/20/79	Date Headed
Disco 198R	7355	60	53	29.5	8/4
Frontier 395R	7350	61	49	29.6	8/2
YW GBT606	6975	59	48	29.5	8/1
Cenex 310T	6970	59	48	28.9	8/1
Disco 202R	6830	57	54	35.+	8/7
Asgrow Corral	6780	61	50	31.9	8/3
Disco 194R	6735	61	49	28.9	7/30
Warner W-564T	6680	60	45	28.5	7/31
Western WS-220	6640	58	51	35.+	8/7
Asgrow Bug-Off E	6605	58	49	29.6	8/1
Disco 200R	6550	59	49	29.7	8/2
DeKalb C-42a+	6530	58	49	32.2	8/3
Northrup King Brand 2030	6520	56	44	28.0	7/29
Trojan M550G	6445	58	52	30.8	8/1
Frontier 4000R	6420	57	49	29.4	8/2
YW GBT 607	6410	56	55	31.1	8/2
Disco 196R	6380	58	53	31.9	8/2
ACCO R 1014	6345	56	45	28.4	7/27
Warner W-601T	6315	58	51	28.5	7/31
Cenex 333	6315	58	47	27.7	7/31
Growers GSA 1060	6280	58	46	21.0	7/27
Cargill 30	6275	59	47	30.9	7/30
Growers GSA1100	6270	58	55	31.5	8/3
ACCO GR 1028	6220	58	46	31.1	8/2
Asgrow Dorado E	6165	56	46	25.3	7/26
Cenex 322T	6125	59	50	30.1	8/4
Warner W-545T	6075	57	39	27.3	7/27
Cenex 228T	6060	61	44	28.6	7/31
Warner W-636T	5960	56	39	26.6	8/1
ACCO GR 1018	5930	60	43	30.0	8/1
DeKalb B-38+	5915	62	48	26.7	7/24
P-A-G 4433	5910	58	46	31.0	8/1
Northrup King Brand 2018	5825	55	46	25.9	7/26
Cenex 320T	5760	57	42	27.4	8/1
Western WS-215	5670	57	45	32.0	8/6
Trojan M548G	5615	58	45	25.5	7/30
ACCO X-6353	5575	58	40	33.4	8/7
ACCO X-6355	5280	57	44	35.+	8/8
Pride P808GB	5225	58	50	26.2	7/27
SDAES SD 106	5125	56	41	16.7	7/19
P-A-G 354	5105	57	41	21.3	7/28
Cargill 20	4755	55	39	20.3	7/27
SDAES SD 104	3695	58	41	19.4	7/18
Means	6140	58	47	28.7	8/2
LSD (.05)	865			CV - % = 8.7	

Table 9. Two-, Three-, Four-, and Five-Year Average Yields of Grain Sorghum Hybrids Entered at Centerville, South Dakota, 1975-1979.

Brand & Variety	Average Yield, pounds per acre			
	1975-79	1976-79	1977-79	1978-79
ACCO R 1014	4210	4700	5355	4985
ACCO GR 1018			5095	4635
ACCO GR 1028			5265	4780
Asgrow Corral				5425
Cenex 322T				4675
Cenex 333				4995
DeKalb B-38+		4480	5095	4650
DeKalb C-42a+	4925	5310	5890	5320
Growers GSA1060				4965
SDAES SD 104			3760	3265
SDAES SD 106	3215	3555	4265	3845
Western WS-215				4400

Table 10. 1979 Grain Sorghum Performance Trial, Area D3, Plant Science Farm, Brookings, Brookings County, South Dakota

Brand & Variety	Yield, lb/A	Test Wt. lb/B	Height, inches	Percent Moisture, 9/24/79	Date Headed	Bird Damage %
Growers GSA1060	5610	55	50	35.+	8/7	0
Northrup King NK121A	5375	56	44	35.+	8/4	0
SDAES SD 104	5035	59	43	35.+	7/30	0
Cenex 333	5005	55	51	35.+	8/10	11
Western WS-103	4945	57	50	35.+	8/6	13
Northrup King X3217	4930	56	44	35.+	7/30	16
Western WS-201	4895	55	58	35.+	8/4	2
Northrup King X3207	4875	57	44	35.+	8/5	12
Cenex 228T	4825	54	44	35.+	8/10	4
Northrup King Brand 1580	4820	56	46	35.+	8/8	6
Northrup King NK 180	4800	56	50	35.+	8/7	0
Warner W-564T	4750	55	45	35.+	8/10	1
ACCO R 1014	4735	55	47	35.+	8/9	5
Warner W-545T	4675	57	39	35.+	8/7	2
Disco 194R	4490	54	48	35.+	8/9	4
YW GBT 503	4485	52	38	35.+	8/7	1
DeKalb A-28+	4410	59	45	35.+	8/6	20
Frontier 4000R	4405	54	50	35.+	8/10	8
DeKalb A-25a+	4375	54	43	35.+	8/5	T
ACCO R 980	4310	57	43	35.+	8/9	0
Warner W-636T	4275	51	44	35.+	8/11	0
Cenex 320T	4225	54	44	35.+	8/11	1
SDAES SD 106	4180	57	49	35.+	7/31	0
Trojan M518G	4080	56	40	35.+	8/8	2
Disco 198R	3975	40	48	35.+	8/13	2
Disco 200R	3935	53	48	35.+	8/11	2
ACCO R 920	3880	57	50	35.+	8/5	1
Cenex 322T	3880	50	48	35.+	8/13	6
Disco 186R	3855	57	46	35.+	8/10	10
Cenex 310T	3820	52	53	35.+	8/11	8
YW GBT 505	3815	51	41	35.+	8/11	1
Frontier 395R	3775	54	49	35.+	8/14	8
Cargill 20	3695	55	41	35.+	8/7	1
Trojan M548G	3400	55	47	35.+	8/8	8
Disco 196R	3385	55	55	35.+	8/10	18
Warner W-601T	3225	54	49	35.+	8/10	35
Growers GSA1100	3200	56	54	35.+	8/11	28
Means	4335	55	47	35.+	8/8	
LSD (.05)	750		CV - % = 10.7			

Table 11. Two-, Three-, and Four-Year Average Yields of Grain Sorghum Hybrids Entered at Brookings, South Dakota 1976-1979.

Brand & Variety	Average Yields, pounds per acre		
	1976-79	1977-79	1978-79
ACCO R 920	3870	3820	3755
ACCO R 980			4200
ACCO R 1014	3955	3770	4605
DeKalb A-25a+			4370
DeKalb A-28+		3895	4210
Growers GSA1060			5425
Northrup King NK121A			5585
Northrup King NK180	4770	4495	4960
Northrup King Brand 1580		3975	4935
SDAES SD 104		4055	4730
SDAES SD 106	3420	3555	3445
Western WS-201			4405

Table 12. 1979 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, 9/17/79	Date Headed
Northrup King NK 180	2635	58	48	35.+	8/12
Western WS-103	2450	55	46	35.+	8/15
Northrup King Brand 2018	2340	53	47	35.+	8/13
Trojan M548G	2260	54	47	35.+	8/19
Frontier 385R	2205	55	42	35.+	8/16
Disco 184	2160	52	47	35.+	8/13
Pride P508GB	2145	57	46	35.+	8/13
Growers GSA1060	2090	55	47	35.+	8/14
Western WS-206	2075	52	47	35.+	8/21
Cenex 333	2050	54	48	35.+	8/25
Asgrow Corral	2000	51	48	35.+	8/29
Warner W-564T	1970	53	46	35.+	8/22
Disco 194R	1960	51	48	35.+	8/18
Cenex 310T	1920	53	48	35.+	8/19
DeKalb A-28+	1885	55	43	35.+	8/14
Asgrow Dorado E	1845	54	45	35.+	8/15
YW GBT503	1820	55	38	35.+	8/16
ACCO R 920	1805	55	47	35.+	8/9
ACCO R 980	1780	55	42	35.+	8/17
ACCO R 1014	1730	56	45	35.+	8/17
Trojan M518G	1685	52	43	35.+	8/15
Cenex 228T	1645	54	45	35.+	8/21
DeKalb B-38+	1635	53	44	35.+	8/20
Growers GSA1100	1635	52	48	35.+	8/25
Northrup King Brand 2030	1595	52	42	35.+	8/31
Disco 186R	1555	55	44	35.+	8/20
Cargill 20	1520	52	37	35.+	8/18
Asgrow Bug-Off E	1485	53	46	35.+	8/26
Warner W-545T	1460	52	42	35.+	8/20
Cenex 300T	1455	54	50	35.+	8/23
Disco 198R	1410	51	48	35.+	8/23
Disco 196R	1390	52	49	35.+	8/27
ACCO GR 1018	1300	50	45	35.+	8/23
SDAES SD 106	1250	56	42	35.+	8/5
SDAES SD 104	1245	58	39	35.+	8/3
Frontier 395R	1090	53	43	35.+	9/2
Cenex 322T	1090	52	47	35.+	8/24
ACCO X6353	1085	50	41	35.+	9/1
Means	1755	54	45	35.+	8/19
LSD (.05)	620		CV - % = 21.8		

Table 13. Two-, Three-, Four-, and Five-Year Average Yields of Grain Sorghum Hybrids Entered at Redfield, South Dakota, 1975-1979.

Brand & Variety	Average Yield, pounds per acre			
	1975-79	1976-79	1977-79	1978-79
ACCO R 920	3955	3800	3620	3040
ACCO R 980				2710
ACCO R 1014	4200	3965	3495	2760
ACCO GR 1018			3085	2750
Asgrow Corral				3380
Asgrow Dorado E		4220	3590	3180
Cenex 300T			3275	2680
Cenex 322T			3395	2560
Cenex 333				3155
DeKalb A-28+			3560	3010
DeKalb B-38+				2890
Frontier 385R			3840	3515
Frontier 395R				2715
Growers GSA1060				3065
SDAES SD 104			2430	2325
SDAES SD 106	3025	2895	2745	2320
Western WS-206				3320

Table 14. 1979 Grain Sorghum Performance Trial, Area C2, William Fijala Farm, Geddes, Charles Mix County, South Dakota

Brand & Variety	Yield, lbs/A 1979	1977-79	1978-79	Test Wt. lb/B	Height, inches	Percent moisture, 9/19/79
YW GBT606	5340			57	47	28.6
Cenex 310T	5010			59	46	29.6
Frontier 4000R	4870		5470	59	46	25.0
DeKalb C-42a+	4805	4585	5580	56	41	25.8
DeKalb A-28+	4715	4080	4995	60	41	16.9
DeKalb B-38+	4685	4200	5125	57	43	27.0
Disco 196R	4655			58	48	29.9
Disco 200R	4575			57	44	26.1
Warner W-655T	4520			58	46	30.2
Warner W-545T	4480			57	37	13.5
ACCO GR 1028	4445	3980	4805	56	44	27.8
Northrup King Brand 2030	4420			57	38	27.3
Disco 194R	4405			57	42	24.6
Northrup King Brand 2018	4400			56	42	24.5
Warner W-664T	4350			59	43	21.8
Pride P508GB	4305	3730	4730	57	41	26.2
Asgrow Bug-Off E	4300	4410	5450	57	42	30.9
Asgrow Corral	4285		5715	58	44	27.8
Frontier 395R	4280			57	43	29.2
Disco 198R	4260			59	45	28.8
Warner W-564T	4260			57	41	23.8
Trojan M550G	4245			57	46	26.8
ACCO GR 1018	4220	4035	4915	57	40	26.8
Cenex 320T	4210			56	36	26.8
Pride P808GB	4145	3980	4685	57	44	20.0
Cargill 30	4140			58	42	27.3
Cenex 322T	4120	4025	4915	57	44	30.0
YW GBT 505	4110			55	37	25.5
ACCO X-6353	4070			58	38	31.4
Warner W-363T	4060			54	35	27.2
Cenex 300T	3975	3870	4760	56	43	29.2
Young Oro Recio	3965		4790	56	43	25.5
Asgrow Dorado E	3955	4060	4860	56	42	22.9
Warner W-601T	3880			56	43	27.8
P-A-G 4433	3835			54	42	27.5
Western WS-103	3820			54	45	18.7
Trojan M548G	3805			55	39	22.7
Cenex 228T	3765			58	39	22.4
ACCO X-6355	3735			54	41	35.+
Cenex 333	3595	4300	5135	52	42	27.8
ACCO R 1014	3540	3655	4340	51	40	25.7
Disco 186R	3510			57	40	28.2
Cargill 20	3510			55	35	19.8
P-A-G 354	3295			54	42	18.4
SDAES SD 106	2900	2855	3440	55	39	17.0
SDAES SD 104	2085	2430	3110	57	35	15.5
Means	4125			56	42	25.5
LSD (.05)	845		CV - % = 12.7			

Table 15. Entries Submitted for the 1979 Grain Sorghum Performance Trials and Tables Where the Results Appear

Company & Brand	Variety	Tables
Asgrow Seed Co. Box 1059-Clive Br. Des Moines, IA 50053 "Asgrow"	Dorado	6,8,12,13,14
	Bug-OffE	6,7,8,12,14
	Corral	6,7,8,9,12,13,14
DeKalb Ag Research,Inc. Rt. 1, Box 225 Glenvil, NE 68941 "DeKalb"	A-25a+	4,5,6,7,10,11
	A-28+	4,5,6,7,10,11,12,13,14
	B-38+	5,6,7,8,9,12,13,14
	C-42a+	8,9,14
Disco Seeds "Frontier" PO Box 640 Mitchell, SD 57301 "Disco"	385R	4,5,12,13
	395R	4,5,6,8,10,12,14
	4000R	6,8,10,14
	182	4,5
	184	4,5,12
	186R	4,5,6,10,12,14
	194R	6,8,10,12,14
	196R	6,8,10,12,14
	198R	6,8,10,12,14
	200R	6,8,10,14
	202R	8
Northrup King Co. PO Box 959 Minneapolis, MN 55440 "NK"	121A	4,10,11
	180	5,6,10,11,12
	1580	4,5,10,11
	2018	6,8,12,14
	2030	6,8,12,14
	X3207	4,10
	X3217	4,10
ACCO Seeds Box 1630 Plainview, TX 79072 "ACCO"	R 920	4,5,6,7,10,11,12,13
	R 980	5,6,7,10,11,12,13
	R 1014	5,6,7,8,9,10,11,12,13,14
	GR 1018	8,9,12,13,14
	GR 1028	8,9,14
	X-6353	8,12,14
	X-6355	8,14
Pride Company, Inc. PO Box 8 Glen Haven, WI 53810 "Pride"	P158GB	5,6,7
	P508GB	6,7,12,14
	P808GB	8,14
King's Western Seeds 205 Wyoming Ave. SW Huron, SD 57350 "Western"	WS-103	4,5,6,8,10,12,14
	WS-201	4,5,10,11
	WS-206	5,12,13
	WS-215	8,9
	WS-220	8
Geo. Warner Seed Co. Box 1448 Hereford, TX 79045 "Warner"	W-545T	4,5,6,8,10,12,14
	W-564T	4,5,6,8,10,12,14
	W-601T	4,5,6,7,8,10,14
	W-636T	4,5,8,10,14
	W-655T	4,5,6,14
	W-664T	4,5,6,14
Pfizer Genetics, Inc. PO Box 166 Olivia, MN 56277 "Trojan"	M518G	4,5,6,10,12
	M548G	5,6,8,10,12,14
	M550G	8,14
Cenex Seeds PO Box 964 Sioux Falls, SD 57101 "Cenex"	221	4,5
	224T	4
	228T	4,5,6,8,10,12,14
	300T	5,6,7,12,13,14
	310T	5,6,8,10,12,14
	320T	4,5,8
	322T	5,6,7,8,9,10,12,13,14
	333	4,5,6,7,8,9,10,12,13,14
Growers Seed Assn. PO Box 1656 "Growers" Lubbock, TX 79408	GSA1060	4,5,8,9,10,11,12,13
	GSA1100	4,5,8,10,12
Cargill, Inc. PO Box 9300, Dept. 16 Minneapolis, MN 55440 "Cargill"	20	5,6,8,10,12,14
	30	8,14

Table 15. 1979 Grain Sorghum Entries (cont)

Company & Brand	Variety	Tables
P-A-G Seeds PO Box 9480, Dept. 16 Minneapolis, MN 55440 "P-A-G"	354 4453	8,14 8,14
R. C. Young Co. 624 27th St. Lubbock, TX 79404	Oro Recio	14
YW Hybrids Box 185 Grand Junction, IA "YW"	GBT 503 GBT 505 GBT 606 GBT 607	4,12,14 4,5,6,10,14 5,6,8,14 8
Agr. Expt. Sta. South Dakota State U. "SDAES"	SD 104 SD 106	4,5,6,7,8,9,10,11,12,13,14 4,5,6,7,8,9,10,11,12,13,14

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