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1972 Grain Sorghum Performance Trials

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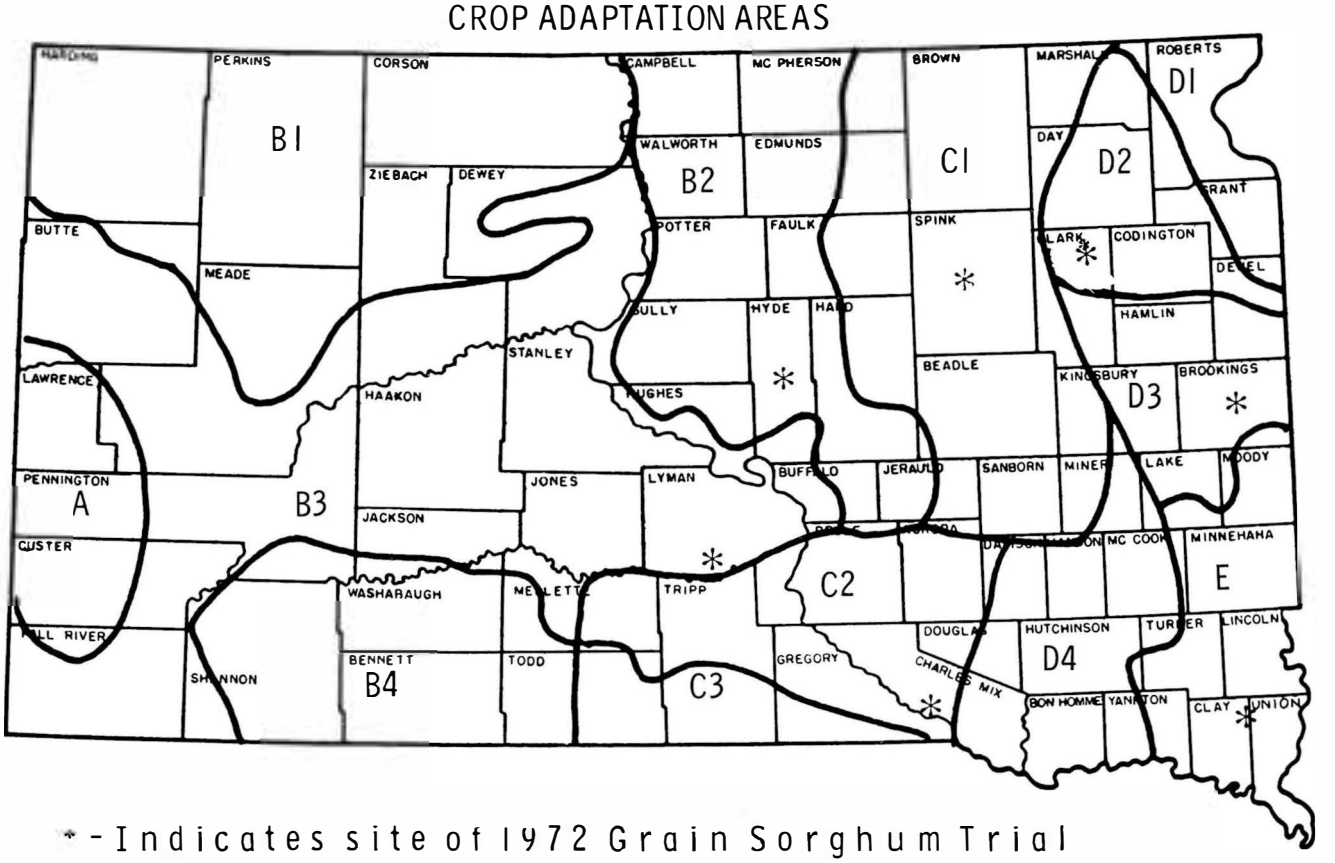
Plant Science Department
Agricultural Experiment Station
South Dakota State University, Brookings

Listing of Tables

CROP ADAPTATION AREAS



* - Indicates site of 1972 Grain Sorghum Trial

1972 Grain Sorghum Performance Trials

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The relative performance of grain sorghum hybrids grown under similar environmental conditions are evaluated in this report for the 1972 season. Performance records of the hybrids harvested in 1972 and available two-, three-, four-, and five-year averages are presented. The trials reported were under the supervision of the Crop Performance Testing Activity, Agricultural Experiment Station, South Dakota State University, Brookings.

Location of the 1972 Trials

To adequately evaluate performance ability of the various entries they 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 the trials and dates of seeding and harvesting are included in Table 1. Data from soil samples taken at the various sites at time of seeding and the fertilizer applied are in Table 2.

Weather and Climatic Conditions

Climatic data for the 1972 grain sorghum year, May-October, are based on Monthly Climatological Data and from reports of the substation personnel at Garden City and Presho (see Table 3). Weather information from the immediate Geddes site is not available so data from the nearest reporting station, Armour, are given. Precipitation amounts were equal to or above record totals for May. Seeding was delayed at several locations until early June. At those locations where seeding was done at the normal times, the crop progressed at nearly normal rates and excellent yields were harvested. When seeding was delayed the yields were down and quality was very poor, as at Brookings.

The excessive precipitation early in the season and below normal temperature throughout the entire season at many locations created several serious problems. Greenbug infestations were very serious in the major production areas necessitating widespread spraying for control. Heading and pollination were 10-14 days later than normal. The crops that were already late in filling and maturing escaped a

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Table 1. THE LOCATION OF TRIALS AND DATES OF SEEDING AND HARVESTING OF GRAIN SORGHUM PERFORMANCE TRIALS, SOUTH DAKOTA, 1972

County	Location and post office	Date Seeded	Date Harvested	Row Spacing
				Inches
Brookings	Agronomy Farm, Brookings	June 7	October 9	30
Charles Mix	William Fijala Farm, Geddes	May 19	October 3	40
Clark	West Prairie Coteau Farm, Garden City	June 3	October 5	36
Clay	Southeast Experiment Farm, Beresford	May 22	October 4	30
Hyde	Central Substation, Highmore	May 23	October 2	36
Lyman	South Dentral Research Farm, Presho	May 22	October 3	36
Spink	Redfield Development Farm, Redfield	June 2	October 10	21

killing frost until mid-October. The mid-October freeze was accompanied by snow. The harvest was further delayed by heavy snow and rainfall into late November. Much of the grain sorghum harvested, while mature, was high in moisture as foggy or overcast days were common until late November and inhibited natural drying.

The trials were seeded from May 19 through June 7. Soil moisture at seeding was not limited; often it was excessive and kept soil temperatures lower than desired for rapid germination and growth. Seed beds were generally in good condition at seeding. The lateness of seeding, lower than normal temperatures throughout most of the season and delayed heading found grain moisture quite high in some trials at time of normal first fall frost.

Hybrid Entry Procedure

Grain sorghums offered for sale in South Dakota or being produced for distribution in 1973 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 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 grain sorghum hybrids developed by State and Federal Experiment Stations and entered by the South Dakota Agricultural Experiment Station.

TABLE 2. SOIL CLASSIFICATION, LABORATORY ANALYSIS OF SOIL SAMPLES TAKEN PRIOR TO SEEDING AND FERTILIZER APPLIED FOR THE 1972 CROP YEAR

		Laboratory analysis				Fertilizer applied			
County and area	Soil classification	Org. mat. %	P lbs/A	K lbs/A	pH	Method	N lbs/A	P lbs/A	K lbs/A
Brookings, D3	Vienna L	3.5	16	197	6.9	disced in	20	18	20
Charles Mix, C2	Highmore SiCl	3.3	16	682	7.4	disced in	75	0	0
Clark, D2	Forman SiCl	3.6	21	281	6.6	plowed down	60	18	0
Clay, E	Egan SiCl	3.3	30	533	7.0	plowed down	150	20	25
Hyde, B2	Java L	2.2	89	547	6.0	disced in	42	21	0
Lyman, B3	Promise C	3.2	35	682	7.5	disced in	40	15	0
Spink, C1	Boetia SiCl	3.6	65	682	7.0	disced in	120	20	0

TABLE 3. TEMPERATURE AND PRECIPITATION DATA FOR THE 1972 GRAIN SORGHUM GROWING SEASON IN SOUTH DAKOTA

		Temperature, degrees F.			Precipitation, inches		
Location	Month	Mean Av.	Departure from normal	Av. Departure	Month total	Departure from normal	Total Departure
Armour*	May	60.2	-0.3		7.08	4.28	
	June	68.7	-1.8		5.01	1.08	
	July	72.0	-5.6		4.64	2.57	
	Aug.	72.3	-3.3		2.91	0.02	
	Sept.	62.3	-3.2		0.73	-1.21	
	Oct.	47.6	-5.3	-3.2	1.67	0.44	7.18
	Last freeze April 25				22.04		
Brookings* 2 NE	May	57.5	-0.1		9.27	6.48	
	June	64.7	-2.4		2.61	-1.34	
	July	67.2	-6.0		5.75	3.60	
	Aug.	67.7	-3.5		1.75	-1.22	
	Sept.	56.6	-4.7		2.02	-0.01	
	Oct.	42.4	-7.1	-3.9	1.87	0.65	8.16
	Last freeze May 7				23.27		
Centerville* 6 SE	May	59.6			7.54		
	June	69.0			2.46		
	July	69.3			5.35		
	Aug.	71.6			2.06		
	Sept.	60.0			2.19		
	Oct.	47.0			1.58		
	Last freeze April 15				21.18		
Garden City	May	55.3			6.99		
	June	63.8			1.16		
	July	64.7			5.08		
	Aug.	65.0			1.56		
	Sept.	55.1			0.32		
	Oct.	41.1			1.63		
	Last freeze May 5				16.74		
Highmore* 1 W	May	59.2	2.0		5.93	3.60	
	June	68.0	1.2		1.96	-1.58	
	July	70.6	-3.9		4.65	2.67	
	Aug.	72.4	-0.4		1.03	-1.01	
	Sept.	63.5	-0.9		T	-1.31	
	Oct.	46.8	-3.2	-0.9	1.83	0.68	3.05
	Last freeze May 7				15.40		
Redfield* 6E	May	59.6			10.24		
	June	66.8			1.17		
	July	70.0			5.03		
	Aug.	72.1			0.06		
	Sept.	M			0.09		
	Oct.	42.3			0.50		
	Last freeze May 7				17.09		
Presho 11 S	May	59.2	0.3		3.15	0.77	
	June	66.6	-2.1		3.23	0.12	
	July	71.9	-4.9		2.00	0.34	
	Aug.	72.4	-2.6		0.89	-1.19	
	Sept.	64.2	-0.3		0.11	-1.34	
	Oct.	46.7	-4.7	-2.4	0.97	-0.01	-1.31
	Last freeze May 4				10.35		

*Based upon reports of Monthly Climatological Data, NOAA, EDS, Office of State Climatologist, SDSU, Brookings, South Dakota 57006.

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 cone-planters mounted above flexi-planter units. A herbicide was banded over the row at time of seeding. The various row spacings used are found in Table 1. The plots were two rows wide, plot lengths dependent upon the area available at the various locations.

The harvested grain was taken from two, 10-foot sections of each row in each individual plot. The heads were bagged as harvested, tagged and tied, returned to Brookings to driers and remained there for several weeks. Yields were calculated on the basis of pounds per acre. Depending upon location, either three or four replications were harvested for yield determination and one replication was left for observational purposes.

Moisture determinations made at the time of normal first-frost dates are generally more reliable and informative than determinations made at harvest time. Generally, these figures and test weight of the harvested grain indicate more realistically the maturity of the grain. Moisture percentages given for 1972 may not be as true an indication as in some years as the damp, foggy fall season caused much of the mature grain to take on moisture again after the crop had once matured and begun to dry down.

Moisture samples were taken at all locations during the period of September 25-27. 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. Upon returning to the main station the samples were threshed, cleaned and moisture percentages determined with an electronic moisture meter. The upper limit of the meter is 35 percent. Material above this level is indicated as 35.+ in the tables and normally would indicate hybrids of late maturity for this area.

The continued cool temperatures in some areas slowed growth and most trial entries were found to have quite high moisture at time of sampling. The high moisture remained even after the crop was physiologically mature and made drying of nearly all grain harvested a major consideration as facilities and fuel for drying were extended beyond capacities or expectations.

Measurements of Performance

Variations in 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.

Duncan's Multiple Range Test (5% level) was used to determine whether significant differences occurred. The line drawn between any two entry means in the 1972 yield data indicates that there is no difference between the entries above that line at the 5% level of probability.

Discussion of Results

Grain sorghums are grown extensively in south central South Dakota and in varying amounts elsewhere around the state where it is too hot and dry for corn production.

In 1972, moisture was recorded at near record amounts at all sites in May and June precipitation was quite adequate. The north-central area of the state experienced a drought in July and August while the rest of the state received generous quantities of precipitation. Temperatures averaged below normal at all sites for nearly every month of the season. The low temperatures coupled with either excessive moisture or near-drouth conditions delayed growth, heading and maturation at many of the trial locations.

For all the drawbacks of excessive precipitation and low temperatures, the trials at most sites were not greatly delayed in growth and excellent yields were obtained in the major production areas. The performance trials were hand harvested and returned to the main station for drying, thus permitting achievement of the fine results shown. Large farm-type operations were not as fortunate. The first killing frost of the year was accompanied by snow and ice and subsequent snow, freezing rain or fog did not make conditions favorable for harvest. Many fields were standing waiting for direct combining or grain windrowed for drying was on the ground when these adverse conditions occurred.

Stalk breakage was quite variable from one site to another. In areas where seeding was timely the plants matured at a normal rate and lodging was severe in some entries. At other locations the stalks remained green until harvest and lodging did not express itself.

The yield and quantity of the grain in most performance trials was good. This is an exception to some of the larger operations in the major production area. If the crop was in early a good crop was possible, but much seeding was delayed until entire fields could be seeded as a unit and seeding was then delayed into early June. Fields that were set back throughout the year received an apparent benefit when late maturing fields were not hurt by killing frost until mid-October. Unfortunately, the killing temperatures were accompanied by precipitation as rain, snow or fog and created serious harvest problems that caused many hours of concern and increased harvest expenses.

TABLE 4. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA D3, AGRONOMY FARM, BROOKINGS

Brand and Variety	Yield lb/A	Test Wt. lb/B	Height Inches	Percent Moisture 9/28/72	Date Headed
SD 70106	3705	50	43	35.+	8/13
Northrup-King 121	3625	51	45	35.+	8/14
Pioneer X 5568	3590	48	42	35.+	8/14
RS 506	3580	48	51	35.+	8/16
SD 104	3560	52	39	35.+	8/12
NK Mini-Milo 54 BR	3515	51	40	35.+	8/10
ACCO R920	3330	46	46	35.+	8/15
Pioneer 894	3240	49	37	35.+	8/14
SD 690156	3200	51	38	35.+	8/11
Western WS 201	3030	47	49	35.+	8/17
Western WS 102	2915	47	46	35.+	8/15
SD 25702	2800	44	43	35.+	8/18
Northrup-King 180	2725	41	49	35.+	8/19
SD 451	2710	47	54	35.+	8/15
ACCO R1010	2625	45	58	35.+	8/16
Pioneer 878	2375	44	45	35.+	8/18
SD 503	2240	43	61	35.+	8/17
DeKalb B-36	2090	43	49	35.+	8/17
Frontier GX700	2060	47	52	35.+	8/16
Curry's 515	1995	45	52	35.+	8/15
Frontier 389	1755	42	53	35.+	8/21
DeKalb X-1355	1595	40	37	35.+	8/18
Frontier GX410	1580	38	40	35.+	8/22
DeKalb A-26	1320	41	41	35.+	8/19
Frontier Super 400A	1265	38	48	35.+	8/22
RS 610	1125	38	51	35.+	8/22
ACCO R1019	810	30	44	35.+	8/22
Coop SG-22	595	38	42	35.+	8/24
Mean	2460				

C.V. = 10.4%

TABLE 5. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA E, SOUTHEAST EXPERIMENT FARM, BERESFORD

Brand and Variety	Yield lb/A	Test wt. lb/B	Height, inches	Percent moisture 9/26/72
Northrup-King 265	8335	59	60	22.6
Pioneer 866	8280	58	57	24.2
Frontier 400C	8075	58	59	27.6
NB 635	7975	60	52	34.6
NB 634	7740	60	56	34.1
RS 506	7505	57	61	21.1
Northrup-King 233	7480	59	55	22.2
ACCO R 1019	7415	58	51	30.5
ACCO R 1029	7375	58	52	25.0
Frontier Super 400A	7375	57	53	23.6
Northrup-King 180	7370	58	51	25.9
RS 610	7355	58	57	25.4
Northrup-King 222	7300	58	46	24.7
DeKalb C-42Y	7290	60	61	35.+
SD 25702	7150	57	49	23.8
SD 503	7030	57	64	23.1
DeKalb C-42C	7010	59	58	34.0
DeKalb C-42A	7000	58	52	32.3
ACCO R 1010	6975	60	65	19.0
Frontier 389	6810	59	53	22.8
Western WS 206	6720	58	52	24.0
SD 451	6675	56	62	20.6
Pride P-800Y	6590	58	45	25.6
Curry's 530	6540	59	50	22.6
Pioneer 883	6425	54	48	21.2
Pride P-550BR	6115	57	55	19.3
Mean	7225			

C.V. = 6.3%

TABLE 6. TWO-, THREE-, FOUR-, AND FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM HYBRIDS ENTERED AT BROOKINGS, 1968-72

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R920				4100
ACCO R1010				3745
ACCO R1019				2540
DeKalb B-36				3530
Frontier 389				3155
NK Mini-Milo 54BR			4165	3885
Pioneer 878				3405
Pioneer 894	4280	4320	4555	3845
RS 506			4965	4725
RS 610	3770	3605	3850	3210
SD 104				3955
SD 451	4060	4410	4290	3765
SD 503	4190	4295	3975	3620
SD 25702				3775
Western WS 102				4000

TABLE 7. TWO-, THREE-, FOUR-, AND FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM HYBRIDS ENTERED AT THE SOUTHEAST FARM, BERESFORD, 1968-1972

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R 1010			6040	6495
ACCO R 1019			6125	6505
ACCO R 1029		6420	6125	6470
DeKalb C-42A		6240	5925	6170
Frontier Super 400A				6580
Frontier 400C				6675
Northrup-King 222	6145	6235	6030	6715
Northrup-King 233				6870
Northrup-King 265	6725	6870	6760	7105
Pioneer 866	6705	6590	6335	6915
Pioneer 883				6105
RS 506			6080	6710
RS 610	6385	6355	5930	6580
SD 451	5445	5520	5280	5810
SD 503	5995	6070	5985	6425
SD 25702				6735
Western WS 206				6130

TABLE 8. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA B3, SOUTH CENTRAL RESEARCH FARM, PRESHO

Brand and Variety	Yield lb/A	Test wt. lb/B	Height, inches	Percent moisture 9/26/72	Lodging, percent	Date headed
Pride P-550BR	4860	57	45	19.1	7	7/31
RS 506	4810	57	45	19.7	45	7/31
Frontier Super 400A	4705	55	42	30.5	0	8/8
Western WS201	4705	57	43	19.7	20	7/31
ACCO R 1010	4655	59	47	17.0	12	8/2
Pioneer 878	4645	57	40	20.9	0	8/7
SD 25702	4640	56	40	19.6	20	8/2
DeKalb C-42A	4595	58	39	27.6	2	8/8
SD 503	4585	57	51	19.7	5	7/31
DeKalb A-26	4570	56	38	23.6	3	8/1
Pride P-500A	4570	57	43	20.3	40	7/30
Northrup-King 180	4560	57	44	23.5	5	8/4
Northrup-King 121	4560	58	44	17.6	8	7/31
ACCO R 920	4445	56	44	17.0	30	7/28
DeKalb B-36	4410	58	42	20.9	3	8/1
ACCO R 1019	4395	59	42	29.2	30	8/8
Early Oro	4395	57	42	29.0	2	8/6
Warner W-601	4330	57	40	20.6	4	8/7
Frontier 400C	4295	57	44	25.9	2	8/8
ACCO X-7250	4290	58	37	21.8	6	8/4
Pioneer 894	4255	58	37	16.1	4	7/29
DeKalb X-1355	4240	57	33	21.1	3	8/2
NK Mini-Milo 54BR	4230	57	39	15.9	3	7/25
Western WS100	4230	54	47	16.8	35	7/31
RS 610	4230	55	42	24.5	8	8/10
NB 635	4185	58	42	31.2	25	8/10
Pride P-200	4170	56	41	17.6	15	7/22
Warner W-55	4145	50	36	19.2	0	8/10
Pioneer 883	4145	54	37	30.1	5	8/8
P-A-G 3849	4135	57	41	16.5	15	7/30
Western WS 206	4130	55	39	19.5	2	8/8
Pioneer 866	4125	56	44	28.7	5	8/8
Frontier GX410	4110	56	37	23.8	2	8/8
Coop SG-22	4040	57	34	32.6	10	8/14
Warner W-501	4030	55	47	16.5	60	7/26
Frontier GX700	3955	57	43	18.9	15	7/31
NB 634	3935	59	43	35.+	2	8/13
SD 451	3925	55	45	17.1	45	7/30
Coop SG-21	3680	58	36	32.4	15	8/12
Warner W-600	3580	48	37	15.8	10	8/4
Mean	4315					

C.V. = 12.1%

TABLE 9. TWO-, THREE-, FOUR, AND FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM HYBRIDS ENTERED AT PRESHO, 1968-1972

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R 920	3235	4035	3190	3370
ACCO R 1010			3430	3630
ACCO R 1019			3220	3515
ACCO X-7250				3135
DeKalb B-36			3215	3400
DeKalb C-42A				3630
Frontier Super 400A			3550	3785
Frontier 400C				3430
Frontier GX 410				3120
Northrup-King 121				3560
Northrup-King 180				3480
Northrup-King Mini-Milo 54BR			3265	3275
P-A-G 3849				3055
Pioneer 866				3250
Pioneer 878				3565
Pioneer 883	3535	3275	3350	3315
Pioneer 894	3340	3060	3205	3330
Pride P-200			2785	3080
Pride P-500A			3325	3550
Pride P-550BR			3625	3790
RS 506			3565	3645
RS 610	3325	3115	3330	3450
SD 451	3005	2760	2830	2965
SD 503	3455	3185	3340	3560
SD 25702				3850
Western WS 206				3325

TABLE 10. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA C1, IRRIGATED, REDFIELD DEVELOPMENT FARM, REDFIELD

Brand and Variety	Yield lb/A	Test wt. lb/B	Height, inches	Percent moisture 9/25/72	Date headed
Northrup-King 180	5580	58	49	33.5	8/15
RS 506	5440	57	56	28.8	8/15
Pioneer X5568	5400	50	43	30.5	8/4
Warner W-600	5290	58	50	32.8	8/10
Pride P-500A	5135	58	49	30.7	8/9
Early Oro	5000	57	57	35.+	8/25
ACCO R 920	4995	58	46	26.3	8/8
Western WS 201	4910	58	48	32.4	8/6
Warner W-601	4900	58	52	33.7	8/16
DeKalb X-1355	4690	56	41	33.8	8/7
Pioneer 883	4650	53	46	35.+	8/18
SD 25702	4630	58	44	35.+	8/16
Pioneer 894	4605	59	41	33.3	8/6
Warner W-501	4590	57	51	21.8	8/7
SD 503	4580	57	57	35.+	8/15
Northrup-King 233	4540	57	56	34.6	8/18
Pride P-550BR	4530	59	47	31.8	8/8
ACCO R 1010	4510	59	55	33.1	8/12
DeKalb B-36	4465	56	51	35.+	8/18
SD 451	4435	55	55	28.8	8/6
Pioneer 866	4415	55	52	35.+	8/21
DeKalb A-26	4400	56	38	35.+	8/11
Western WS 206	4295	57	52	35.+	8/18
Warner W-55	4285	53	42	35.+	8/20
Shoo Bird	4195	54	44	35.+	8/21
ACCO R 1019	4120	56	46	35.+	8/25
P-A-G 3849	4070	57	45	28.0	8/3
Frontier Super 400A	3925	52	49	35.+	8/21
RS 610	3635	55	49	35.+	8/20
Pioneer 878	3485	57	43	34.8	8/16
NB 634	3175	53	56	35.+	8/24
NB 635	2860	52	53	35.+	8/27
Mean	4490				

C.V. = 13.4%

TABLE 11. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA B2, CENTRAL SUBSTATION, HIGHMORE

Brand and Variety	Yield lb/A	Test wt. lb/B	Height, inches	Percent moisture 9/25/72	Lodging percent	Date headed
DeKalb B-36	5695	57	44	24.2	2	7/27
Pioneer 866	5560	58	46	24.2	30	8/1
ACCO R 920	5430	56	44	21.7	10	7/20
DeKalb X-1355	5395	57	37	23.1	0	7/25
Frontier 400C	5350	57	48	26.3	3	8/1
Frontier GX266	5345	54	45	31.6	30	8/1
Western WS 201	5335	57	44	16.7	10	7/23
Frontier Super 400A	5240	56	44	27.3	5	8/2
Pioneer 883	5225	57	41	28.2	5	7/30
NB 634	5190	58	46	32.2	0	8/8
DeKalb A-26	5175	56	39	29.6	0	7/27
Warner W-601	5135	57	44	20.4	0	8/1
Northrup-King 180	5110	57	43	23.2	10	7/29
Warner W-55	5110	56	43	25.3	0	8/1
Pioneer 894	5105	58	41	16.2	15	7/23
P-A-G 3849	5090	58	42	14.6	2	7/22
RS 610	5090	56	46	25.3	10	8/1
SD 451	5055	56	48	19.9	25	7/25
Warner W-501	5030	55	46	17.2	15	7/21
SD 503	4995	57	50	23.1	15	7/26
Frontier GX 410	4965	55	39	22.2	0	7/30
Pioneer 878	4935	57	39	22.3	10	7/26
Western WS100	4915	55	48	19.1	10	7/23
Frontier 389	4855	57	42	26.3	0	8/3
Warner W-600	4830	57	42	20.9	0	8/1
NB 635	4810	57	43	35.+	15	8/19
Northrup-King 121	4705	57	42	18.3	0	7/23
ACCO R 1010	4540	58	50	18.6	15	7/23
RS 506	4450	57	45	17.8	45	7/25
SD 690156	4270	57	38	20.7	6	7/18
SD 104	4215	58	39	16.8	10	7/20
SD 70106	4130	56	43	18.1	15	7/20
Northrup-King Milo 54BR	2925	58	37	22.2	2	7/8
SD 25702	2475	55	43	24.3	7	8/1
Mean	4875					

C.V. = 10.1%

TABLE 12. TWO-, THREE-, FOUR-, FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM ENTERED AT REDFIELD, 1968-72

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R 1010			6105	5630
ACCO R 1019			5430	5005
DeKalb B-36			5730	5415
Northrup-King 233				5785
P-A-G 3849				4400
Pioneer 866			6295	5790
Pioneer 878				5140
Pioneer 883	6560	6555	6015	5635
Pioneer 894	5775	5555	5505	5340
RS 506			6785	6530
RS 610	4270	4230	5805	5245
SD 451	4405	4845	4865	5085
SD 503	4655	4530	4755	5675
SD 25702				5830

TABLE 13. TWO-, THREE-, FOUR-, and FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM ENTERED AT HIGHMORE, 1968-1972

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R 920		3775	3820	4030
ACCO R 1010			3560	3655
DeKalb B-36			4060	4390
Frontier Super 400A				4095
Frontier 400C				4125
Frontier GX 410				4185
Northrup-King 121				3725
Northrup-King 180				4160
P-A-G 3849				3895
Pioneer 866				4640
Pioneer 878				3890
Pioneer 883				4260
Pioneer 894	4015	3775	3665	3895
RS 506			3225	3370
RS 610		3690	3755	4020
SD 104				3085
SD 451	3635	3485	3230	3565
SD 503	4190	3955	3795	3940
SD 25702				2770

TABLE 14. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA C2, WILLIAM FIJALA FARM, GEDDES

Brand and Variety	Yield lb/A	Test wt. B/A	Height, inches	Percent moisture 9/26/72	Lodging percent
ACCO X-7275	8590	58	45	26.7	5
Frontier 400C	7195	58	48	35.+	2
Frontier GX 266	7135	58	48	26.4	3
SD 25702	7085	58	43	23.9	20
Pioneer 866	6960	59	48	26.8	6
Northrup-King 180	6945	58	49	29.1	30
Early Oro	6945	59	48	25.2	2
NB 635	6900	60	44	30.4	25
Northrup-King 233	6630	60	44	30.5	5
Northrup-King 222	6550	59	40	24.6	5
Curry's 515	6415	59	48	18.5	10
ACCO R 1019	6410	59	46	28.5	15
DeKalb C-42A	6170	59	43	31.9	2
SD 451	6160	57	46	17.8	45
ACCO R 1010	6120	60	50	19.3	30
Curry's 530	5980	60	46	23.6	15
RS 506	5960	58	51	23.1	45
Western WS 206	5920	58	48	22.1	35
Pioneer 883	5865	57	44	21.7	5
Pioneer 8674	5840	59	42	34.1	0
NB 634	5825	59	45	33.0	2
Frontier Super 400A	5765	57	47	26.5	15
Pride P-800Y	5760	58	44	35.+	2
DeKalb B-36	5555	59	43	31.2	3
Pride P-500a	5545	57	45	19.2	40
DeKalb X-1355	5500	57	44	24.1	0
Pride P-550BR	5445	59	48	18.1	7
ACCO X-7250	5440	60	43	23.5	10
SD 503	5425	58	50	21.1	5
RS 610	5380	57	45	35.+	7
Frontier GX700	5375	60	48	17.2	7
Western WS201	5360	57	47	20.2	20
DeKalb C-42C	5295	59	47	35.+	2
DeKalb C-42Y	4910	59	44	34.1	3
DeKalb A-26	4845	57	41	24.2	3
Oro	4805	58	43	35.+	15
Mean	6055				

C.V. = 17.1%

TABLE 15. TWO-, THREE-, FOUR-, AND FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM HYBRIDS ENTERED AT GEDDES, 1968-72

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
ACCO R 1010			3640	4275
ACCO R 1019			3715	4425
ACCO X7250				3890
ACCO X7275				6260
DeKalb B-36			3365	3940
DeKalb C-42A		3815	3440	4005
Frontier Super 400A			3885	4500
Frontier 400C		4160	4090	4805
Northrup-King 180				4925
Northrup-King 222	3740	3925	3630	4475
Northrup-King 233				4985
Pioneer 866		4640	4380	5280
Pioneer 883			3610	4025
Pride P-550BR			3445	3885
RS 506			3840	4390
RS 610	3710	3840	3460	3915
SD 451				4320
SD 503	3340	3565	3175	3570
SD 25702				4485
Western WS 206				3970

TABLE 16. 1972 GRAIN SORGHUM PERFORMANCE TRIAL, AREA D2, WEST PRAIRIE COTEAU RESEARCH FARM, GARDEN CITY

Brand and Variety	Yield lb/A	Test wt. lb/B	Height, inches	Percent moisture 9/25/72	Date headed
RS 506	5105	55	54	35.+	8/12
Pioneer 894	4175	54	37	35.+	8/13
Coop SG-10	4095	54	49	35.+	8/15
Western WS 102	4085	55	44	35.+	8/9
SD 70106	3970	54	42	35.+	8/3
SD 104	3950	56	39	35.+	8/1
SD 690156	3725	56	40	35.+	7/31
SD 503	3710	54	48	35.+	8/14
SD 451	3340	54	58	35.+	8/11
DeKalb X-1355	3125	49	39	35.+	8/12
DeKalb A-26	2645	50	40	35.+	8/13
DeKalb B-36	2555	54	42	35.+	8/15
Coop SG-21	2155	47	44	35.+	8/17
Mean	3585				

C.V. = 13.2%

TABLE 17. TWO-, THREE-, FOUR-, AND FIVE-YEAR AVERAGE YIELDS OF GRAIN SORGHUM HYBRIDS ENTERED AT GARDEN CITY, 1968-1972

Brand and Variety	Average yield, pounds per acre			
	1968-72	1969-72	1970-72	1971-72
DeKalb B-36				3005
Pioneer 894	3680	3780	3550	4205
RS 506			3795	4860
SD 104				3650
SD 451	3350	3430	3045	3655
SD 503	3405	3505	3165	3925
Western WS 102				4125

TABLE 18. ENTRIES SUBMITTED FOR THE 1972 GRAIN SORGHUM PERFORMANCE TRIALS AND TABLES WHERE RESULTS APPEAR

Company & Brand	Variety	Tables
ACCO Seed Co.	R 920	4,5,8,9,10,11,13
Box 1630	R-1010	4,5,6,7,8,9,10,11,12,13,14,15
Plainview, TX	R 1019	4,5,6,7,8,9,10,12,14,15
"ACCO"	R 1029	5,7
	X-7250	8,9,14,15
DeKalb Ag Research	X-7275	14,15
Box 8		
Dekalb Ag Research	C-42A	4,7,8,9,14,15
Box 8	C-42G	5,14
Glenvil, NB	C-42Y	5,14
	B-36	4,6,8,9,10,11,12,13,14,15,16,17
	A-26	4,8,10,11,14,16
	X-1355	4,8,10,11,14,16
Frontier Hybrids	Super 400A	4,5,7,8,9,11,11,13,14,15
Inc., Box 42	400 C	5,7,8,9,11,13,14,15
Hutchinson, KS	389	4,5,6,11
"Frontier"	GX266	11,14
	GX410	4,8,9,11,13
	GX700	4,8,14
Northrup King	NK 121	4,8,9,11,13
1500 Jackson St. NE	NK 180	4,5,8,9,10,11,13,14,15
Minneapolis, MN	NK 222	5,7,14,15
	NK 233	4,7,10,12,14,15
	NK 265	5,7
	NK MM 54BR	4,6,8,9,11
Pioneer Seed Co.	866	5,7,8,9,10,11,12,13,14,15
1206 Mulberry St.	878	4,6,8,9,10,11,12,13
Des Moines, IA	883	4,7,8,9,10,11,12,13,14,15
"Pioneer"	894	4,6,8,9,10,11,12,13,16,17
	8674	14
	X5568	14
Agr. Exp. Sta.	RS 506	4,5,6,7,8,9,10,11,12,13,14,15,16,17
Plant Science Dept.	RS 610	4,5,6,7,8,9,10,11,12,13,14,15
SDSU	NB 634	4,8,10,11,14
Brookings, S.D.	NB 635	5,8,10,11,14
	SD 451	4,5,6,7,8,9,10,11,12,13,14,15,16,17
Curry Seed Co.	515	4,14
Elk Point, S.D.	530	5,14
"Curry's"		
Farmland Industries	SG-10	16
Box 7305	SG-21	8,16
Kansas City, MO	SG-22	4,8
"Coop"		
Niagara Chemical,FMC	Early Oro	8,10,14
7301 Pacific St.	Oro	14
Omaha, NB	Shoo Bird	10
Pride, Co., Inc.	P-200	8,9
Glen Haven, WI	P-500A	8,9,10,14
"Pride"	P-550BR	5,8,9,10,14,15
	P-800&	5,14
PAG Seeds, Bx 2813		
Northstar Station	3849	8,9,10,11,12,13
Minneapolis, MN		
G. Warner Seed Co.	W-55	8,10,11
Box 1448	W-501	8,10,11
Hereford, TX	W-600	8,10,11
"Warner"	W-601	8,10,11
King's Western Seed	WS 206	4,7,8,9,10,14,15
Co.	WS 201	4,8,10,11,14
Wessington, S.D.	WS 102	4,6,16,17
"Western"	WS 100	8,11
	SD 104	4,6,11,13,16,17
	SD 503	4,5,6,7,8,9,10,11,12,13,14,15 16,17
	SD X690156	4,11,16
	SD 25702	4,5,6,7,8,9,10,11,12,13,14,15
	SD 70106	4,11,16