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J.J. Bonnemann
South Dakota State University

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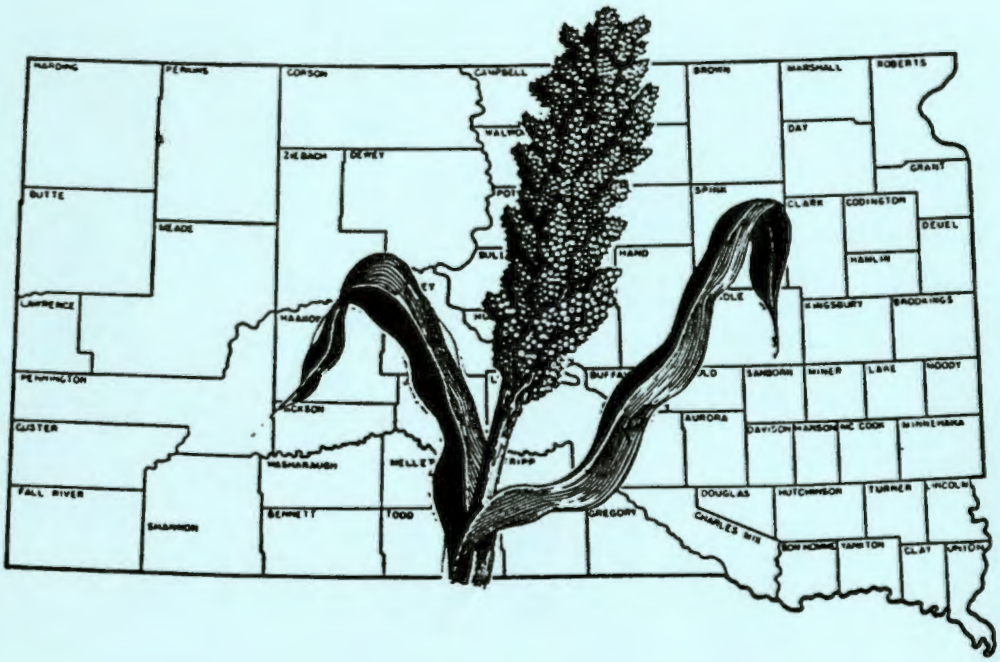

1989
SOUTH DAKOTA
GRAIN SORGHUM PERFORMANCE TRIALS

PLANT SCIENCE DEPARTMENT
AGRICULTURAL EXPERIMENT STATION
SOUTH DAKOTA STATE UNIVERSITY

1989
South Dakota
Grain Sorghum Peformance Trials

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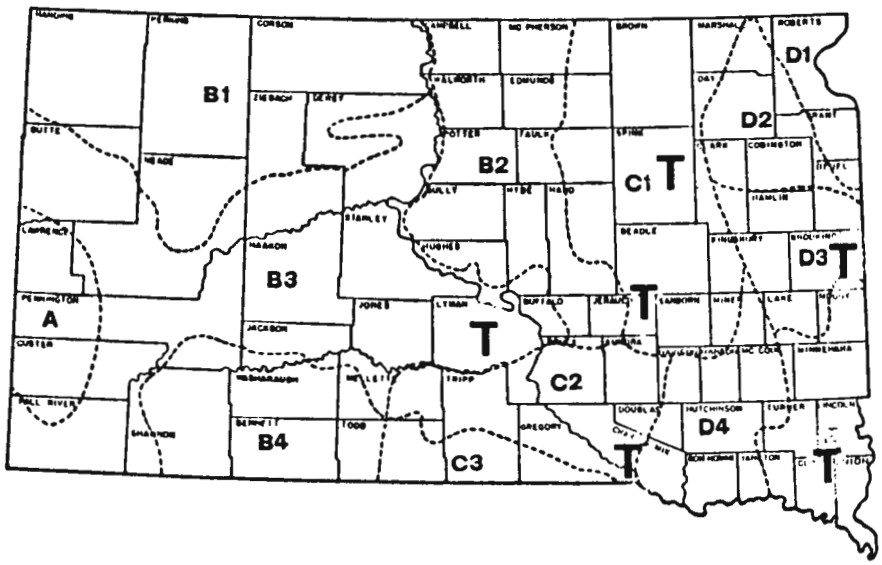

1989 GRAIN SORGHUM PERFORMANCE TRIALS

J. J. Bonnemann, Assistant Professor

Plant Science Department
Agricultural Experiment Station
South Dakota State University
Brookings, SD 57007-1096

The relative performance of grain sorghum cultivars grown under similar environmental conditions is evaluated in this report for the 1989 crop season. Performance records of all entries harvested in 1989 and the available two- and three-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 1989 Trials

For adequate performance evaluation, all entries must be grown under similar environmental conditions. Crop adaptation areas in which trials are conducted are based upon soil type, elevation, temperature, rainfall, and other physical differences. The exact location of each trial, row spacing, and dates of seeding and harvesting are included in Table 1. The Area D3 trial was moved from Brookings to Aurora in 1987. The Area C2 trial was seeded twice and abandoned because of residual herbicide in the soil, a carryover from a 1987 application to soybeans. Soil classification and data from soil samples taken, cultural practices, and fertilizer applications are shown in Table 2.

Weather and Climatic Conditions

Climatic data for the 1989 grain sorghum year (Table 3) are based upon U.S. Monthly Climatological Data(NOAA). Precipitation quantities vary from the actual trial sites to the recording stations but temperatures are similar over a much wider area and considered applicable to the trial area.

Field conditions varied in the various portions of South Dakota during much of the growing period. Field work began early and ended late, depending upon the moisture available. Moisture was limited for germination at Kennebec and Wessington Springs, Kennebec being the poorest. Only 0.8" precipitation fell at the Kennebec cooperator's farm from from May until mid-July. At the other sites early growth was good where ample soil moisture and above-normal temperatures occurred. Precipitation was limited over much of the state throughout the crop year and only because timely rains occurred did the crop do so well. Only the Brookings station recorded above normal precipitation for the growing season. Hot temperatures accompanied by strong, drying winds affected the pollination of some entries, especially at Kennebec and Wessington Springs. Temperatures averaged about normal during most of the growing season. An early frost occurred on September 12 and 13, catching some of the later entries before they were physiologically mature. October was warm and dry, permitting rapid, early

The assistance of the following individuals is appreciated: Dwayne Beck, Burton Lawrensen, Dale Sorenson, Delbert Robbins, Lucian Edler, and Kevin Kirby; farmer-cooperators John Biddle, James Eagle, and Harlan Halverson; and Phil Haskett of the Computing Center.

Table 1. Location of Trials, and Dates of Seeding and Harvesting of Grain Sorghum Performance Trials, South Dakota, 1989

County	Location and Post Office	Row Spacing	Dates when Seeded	Harvested
Brookings	Plant Science Farm, Aurora	30"	May 25	Oct. 5
Charles Mix	John Biddle Farm, Geddes	30"	June 6	abandoned
Clay	Southeast Experiment Farm, Beresford	30"	May 10	Sept. 29
Jerauld	James Eagle Farm, Wessington Springs	30"	May 24	Oct. 3
Lyman	Harlan Halverson Farm, Kennebec	30"	June 1	Oct. 3
Spink	James Valley Research Farm, Redfield	30"	May 16	Oct. 4

harvest. Stalk lodging was not a serious problem this crop year. Nearly 80% of the farmers' fields was harvested by mid-October.

Yields were poor to excellent for the climatic conditions that prevailed. Warm, friable field conditions favored timely seeding of all trials. Temperatures were above normal in July and part of August. The hot, drying winds affected pollination and flowering and variability was a problem, especially at Kennebec and Wessington Springs. Below normal precipitation in August and September hampered kernel fill but the season was advanced enough so that adapted hybrids were physiologically mature by the first nip of frost. The first widespread frosts occurred September 12 and 13.

Periods of excessively high temperatures occurred at several sites but did not appear to seriously affect pollination, except at Kennebec. Generally heading was later in the northern portion of the state where cooler temperatures are more common. Heading was completed by August 15.

Hybrid Entry Procedure

Only grain sorghums offered for sale in South Dakota or being produced for 1989 distribution were eligible for entry. A closed-pedigree hybrid was entered by the name and number under which it was sold by the participating company. All entries maintained a minimum laboratory germination of 80% as required by South Dakota Certification Standards. A nominal fee was charged for each entry in each trial. Proprietary entries included are the choice of the participating companies.

Table 2. Soil Sample Analysis and Cultural Practices, 1989 Grain Sorghum Sites

County and crop adaptation areas	Soil Classification	Lab analysis Org. mat. %	P lbs/A	K lbs/A	pH	Field preparations Methods	pounds/A N	P	K
Lyman, B3	Pierre Cl	3.5	12	775	7.5	Sweeps in spring	34	18	0
Jerauld,Cl(dry)	Hou-Pros SiCl	2.7	15	410	6.5	Plowed, corn	34	18	0
Spink,Cl(irr.)	Beotia SiCl	2.9	30	430	6.7	No-till, wht. stub.	34	18	0
Brookings, D3	Lamour SiL	3.1	14	165	5.6	Chiseled, chickpeas	34	18	0
Clay, E	Egan SiL	3.0	14	245	7.6	Plowed, soybeans	160	60	40

Table 3. Temperature and Precipitation Data for the 1989 Grain Sorghum Performance Trials, South Dakota

Location	Type of Data	Months of May	June	July	August	Sept.	Total
Brookings	Precip. (inches)	0.78	4.02	6.04	1.52	2.36	14.72
2 NE	Temp. (mean)	54.6	63.4	72.4	68.3	57.4	
	Mean departure	-1.4	-2.2	+1.7	-0.3	-1.3	
	Days 90 F. +	00	01	05	01	00	
First frost 9/13 - 31 degrees							
Centerville	Precip. (inches)	1.19	3.20	3.79	1.97	1.61	11.76
6 SE	Temp. (mean)	59.3	67.3	76.4	71.7	61.0	
	Mean departure	-1.0	-2.9	+1.5	-1.1	-3.1	
	Days 90 F. +	02	03	13	04	00	
First frost 9/13 - 33 degrees							
Kennebec	Precip. (inches)	0.63	0.71	2.46	0.89	3.41	8.10
	Temp. (mean)	59.9	68.6	79.2	75.8	64.6	
	Mean departure	+1.0	-0.5	+3.4	+1.4	-0.5	
	Days 90 F. +	00	12	20	17	05	
First frost 9/12 - 31 degrees							
Redfield	Precip. (inches)	1.13	2.04	1.44	1.35	2.87	8.83
6 E	Temp. (mean)	57.5	65.0	75.8	72.5	59.8	
	Mean departure	+0.3	-1.8	+2.7	+1.0	+0.9	
	Days 90 F. +	00	04	16	13	01	
First frost 9/12 - 30 degrees							
Wess. Sprngs	Precip. (inches)	1.07	2.53	3.94	1.23	2.33	11.10
	Temp. (mean)	60.6	69.8	78.1	75.1	64.5	
	Days 90 F. +	00	09	17	13	03	
First frost 9/23 - 29 degrees							

Experimental Procedure

Each trial consisted of four replications of two-row plots. Each plot was randomly located within each replication. All trials were seeded with 31-cell cone seeders mounted above maxi-merge units. A herbicide recommended for grassy weed control was banded over each row at seeding time. The row spacing used (30") is indicated in Table 1 and plot lengths were dependent upon the area available at each site. Seeding rates were adequate, under normal conditions, to achieve an average of 2 and 3 plants per foot of row in the central and eastern portions of the state, respectively. The trial at Redfield was seeded into standing 6-inch tall no-tilled spring wheat stubble.

Moisture determinations were made September 12-13 when the first temperatures near freezing were recorded. This was more informative as to maturity than determinations made at harvest. Moisture and test weight of the grain realistically indicate relative maturity. Grain samples for moisture determinations were 10-12 heads, 400-500 grams, cut from each entry, placed in a polyethylene bag, tagged, and sealed. The samples were threshed, cleaned, and moisture percentages determined with an electronic moisture meter. The upper limits of the meter are 35% and the data in the tables showing 33.0% could be that or considerably higher. Data above 30.0% would generally indicate lines of later maturity for the area.

Delayed harvest can contribute to higher levels of lodging or be can caught in the bad weather of the later fall so harvesting is usually done as soon as possible after the first frost. Plot harvest was completed by October 5. The trials were harvested by small-plot combine in 1989 as all plots were mature enough to shell out readily. The harvested samples were returned to Brookings for drying and processing. Yields are reported in pounds per acre (x 1.12 for kg/ha) with three or four replications harvested for yield purposes and one left for observation.

Discussion of Results

Yields were quite variable from site to site and within trials. Hundred-weight yields topped the 70's at Redfield, the 60's at Aurora and Centerville, the 40's at Wessington Springs and the 20's at Kennebec. Moisture averages ranged from 25 to 31% across all trial sites; some later maturity entries were over 33%. The quality and test weight of some entries was very good as those entries reached physiological maturity several weeks before a hard freeze. Test weight averages varied from 52 to 60 pounds per bushel across all trials.

The seed moisture recorded was obtained when the first frost-nipping temperatures occurred. Few entries were above the 35% moisture level, the maximum the electronic moisture meter reads with any accuracy. Very little farm-harvested grain required supplemental drying following harvest in 1989.

Lodging was not a serious problem at any of the locations. Bird damage had been a problem at Brookings so the trial was moved to the Aurora unit. No bird damage was apparent. Trials located within larger fields of cooperators suffered little damage. Though not a serious problem in 1989, yield, quality, and test weight were affected by the stage of growth when temperature or moisture effects occurred.

Measurement 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 of 1989 and other agronomic data are reported in Table 4 through Table 8. A listing of all entries is presented in Table 9.

Table 4. Grain Sorghum Performance Trials, Area B3, H. Halverson Farm, Kennebec, Lyman County, South Dakota

Company/ Brand	Hybrid/ Variety	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
		1989				
AgriPro	AP910G	40 (102)	33.0	.	54	1433 (1600)
AgriPro	AP925G	42 (107)	31.0	.	54	2210 (2470)
AgriPro	AP940G	44 (112)	33.0	.	45	1355 (1520)
Asgrow	Madera	36 (91)	33.0	.	51	1768 (1980)
Asgrow	Seneca	36 (91)	33.0	.	51	871 (980)
Cargill	X41030	38 (97)	32.0	.	50	1950 (2180)
Cargill	X41218	38 (97)	33.0	.	47	1868 (2090)
Cargill	577	40 (102)	29.0	.	53	1980 (2220)
Cargill	630	39 (99)	33.0	.	48	1580 (1770)
ContiSeed	Bandit	37 (94)	33.0	.	54	1848 (2070)
ContiSeed	Hasty	40 (102)	33.0	.	50	1768 (1980)
ContiSeed	Honcho	42 (107)	33.0	.	53	1563 (1750)
Dahlgren	DG-27B	41 (104)	33.0	.	52	1983 (2220)
Dahlgren	DG-33B	39 (99)	33.0	.	52	2015 (2260)
DeKalb	DK-18	38 (97)	29.0	.	54	2493 (2790)
DeKalb	DK-28	38 (97)	31.0	.	54	2214 (2480)
DeKalb	X-828	38 (97)	25.0	.	51	2119 (2370)
Garst	R5681	42 (107)	33.0	.	50	1692 (1890)
Garst	5715	38 (97)	29.0	.	54	1567 (1750)
McCurdy	M410	44 (112)	33.0	.	51	2116 (2370)
McCurdy	M550	43 (109)	33.0	.	49	689 (770)
McCurdy	M689	36 (91)	33.0	.	47	534 (600)
Northrup King	NK X8701	39 (99)	29.0	.	55	1403 (1570)
Northrup King	NK X8710	40 (102)	33.0	.	52	1720 (1930)
Northrup King	NK X8803	39 (99)	33.0	.	48	2088 (2340)
Northrup King	NK X8817	35 (89)	33.0	.	44	354 (400)
Pioneer Brand	8790	40 (102)	33.0	.	54	2717 (3040)
Pioneer Brand	8855	39 (99)	30.0	.	53	1938 (2170)
Pioneer Brand	8877	38 (97)	33.0	.	51	2318 (2600)
Pioneer Brand	894	34 (86)	25.0	.	57	2316 (2590)
Sigco	1061	38 (97)	33.0	.	52	1578 (1770)
Sigco	1070	41 (104)	33.0	.	51	1736 (1940)
Warner	W-545T	38 (97)	33.0	.	51	1433 (1600)
Warner	WX88103	38 (97)	33.0	.	54	2091 (2340)
Warner	WX89018	36 (91)	33.0	.	46	237 (270)
Warner	WX89030	36 (91)	33.0	.	51	1784 (2000)
Entry Averages		39	31.9	.	52	1703
LSD (.05)						0579
CV - %						17.1

Table 4. (continued), Kennebec, SD

Company/ Brand	Hybrid/ Variety	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
		1988-1989				
AgriPro	AP910G	41 (104)	26.0	0	55	2180 (2440)
AgriPro	AP925G	42 (107)	25.0	0	56	2973 (3330)
Asgrow	Madera	35 (89)	29.0	0	56	2456 (2750)
Asgrow	Seneca	34 (86)	28.0	0	57	2065 (2310)
Cargill	577	41 (104)	26.0	0	55	2668 (2990)
Cargill	630	37 (94)	29.0	0	54	2514 (2820)
ContiSeed	Bandir	37 (94)	29.0	0	57	2574 (2880)
ContiSeed	Hasty	39 (99)	28.0	0	53	2295 (2570)
ContiSeed	Honcho	38 (97)	29.0	0	57	2573 (2880)
Dahlgren	DG-27B	40 (102)	27.0	0	54	2495 (2790)
Dahlgren	DG-33B	39 (99)	28.0	0	54	2545 (2850)
DeKalb	DK-18	38 (97)	26.0	0	55	2768 (3100)
DeKalb	DK-28	39 (99)	27.0	0	55	2431 (2720)
DeKalb	X-828	38 (97)	24.0	0	54	2320 (2600)
Garst	R5681	40 (102)	29.0	0	54	2499 (2800)
Garst	5715	38 (97)	26.0	0	55	2245 (2510)
McCurdy	M410	42 (107)	26.0	0	53	2652 (2970)
Pioneer Brand	8790	38 (97)	26.0	0	56	3092 (3460)
Pioneer Brand	8855	37 (94)	26.0	0	56	2356 (2640)
Pioneer Brand	894	35 (89)	23.0	0	57	2712 (3040)
Sigco	1061	38 (97)	26.0	0	54	2322 (2600)
Sigco	1070	39 (99)	28.0	0	54	2245 (2510)
Warner	W-545T	36 (91)	26.0	0	54	2243 (2510)
Warner	WX88103	35 (89)	25.0	0	55	2324 (2600)
Entry Averages		38	26.8	0	55	2481
LSD (.05)						109
CV - %						14.7
		1987-1989				
AgriPro	AP910G	41 (104)	25.0	1	56	3194 (3580)
DeKalb	DK-28	38 (97)	25.0	1	57	3309 (3710)
Garst	5715	40 (102)	24.0	1	56	3458 (3870)
McCurdy	M410	41 (104)	25.0	1	54	3574 (4000)
Pioneer Brand	8855	37 (94)	25.0	1	57	3136 (3510)
Sigco	1070	40 (102)	28.0	1	54	3272 (3660)
Warner	W-545T	36 (91)	27.0	1	55	3109 (3480)
Entry Averages		39	26.8	1	55	3293
LSD (.05)						131
CV - %						9.7

Table 5. Grain Sorghum Performance Trials, Area C1(dry), James Eagle Farm, Wessington Springs, Jerauld County, South Dakota

Company/ Brand	Hybrid/ Variety	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
		1989				
AgriPro	AP910G	41 (104)	24.0	.	54	3893 (4360)
AgriPro	AP925G	39 (99)	20.0	.	52	3300 (3700)
AgriPro	AP940G	42 (107)	30.0	.	58	4073 (4560)
Asgrow	Madera	42 (107)	33.0	.	58	4982 (5580)
Asgrow	Seneca	36 (91)	33.0	.	57	2896 (3240)
Cargill	1022	44 (112)	33.0	.	56	6175 (6910)
Cargill	577	44 (112)	29.0	.	55	3360 (3760)
ContiSeed	Bandit	40 (102)	32.0	.	59	2399 (2690)
ContiSeed	Hasty	41 (104)	26.0	.	58	2937 (3290)
ContiSeed	Honcho	39 (99)	28.0	.	58	2545 (2850)
Dahlgren	DG-27B	40 (102)	22.0	.	53	3359 (3760)
Dahlgren	DG-33B	44 (112)	26.0	.	58	4076 (4560)
DeKalb	DK-18	45 (114)	22.0	.	56	3332 (3730)
DeKalb	DK-28	36 (91)	25.0	.	57	2907 (3260)
DeKalb	DK-37	46 (117)	33.0	.	59	3158 (3540)
DeKalb	X-828	42 (107)	26.0	.	58	4102 (4590)
Garst	R5681	37 (94)	28.0	.	53	2971 (3330)
Garst	5517	49 (124)	33.0	.	58	6204 (6950)
Garst	5715	41 (104)	30.0	.	57	2619 (2930)
Pioneer Brand	8855	38 (97)	21.0	.	58	1611 (1800)
Pioneer Brand	8877	41 (104)	29.0	.	59	4008 (4490)
Pioneer Brand	894	38 (97)	21.0	.	55	2416 (2710)
Sigco	1061	36 (91)	25.0	.	56	1355 (1520)
Sicgo	1070	44 (112)	28.0	.	59	3971 (4450)
Warner	W-545T	39 (99)	23.0	.	56	2941 (3290)
Warner	WX88103	36 (91)	27.0	.	54	1293 (1450)
Warner	WX89018	41 (104)	33.0	.	52	3843 (4300)
Warner	WX89030	40 (102)	27.0	.	55	3581 (4010)
Entry Averages		41	27.4	.	56	3368
LSD (.05)						N.S.
CV - %						48.1
		1988-1989				
Asgrow	Madera	38 (97)	28.0	0	57	4097 (4590)
Asgrow	Seneca	36 (91)	29.0	0	59	3134 (3510)
Cargill	1022	41 (104)	27.0	0	58	5246 (5870)
Cargill	577	42 (107)	22.0	0	58	3662 (4100)
ContiSeed	Bandit	37 (94)	24.0	0	59	2822 (3160)
ContiSeed	Hasty	39 (99)	20.0	0	58	3056 (3420)
ContiSeed	Honcho	37 (94)	23.0	0	58	2225 (2490)
Dahlgren	DG-27B	38 (97)	21.0	0	55	3302 (3700)
Dahlgren	DG-33B	38 (97)	20.0	0	58	3938 (4410)
DeKalb	DK-18	41 (104)	18.0	0	57	3523 (3950)
DeKalb	DK-28	36 (91)	20.0	0	58	3054 (3420)
DeKalb	X-828	40 (102)	20.0	0	58	3859 (4320)
Pioneer Brand	8855	37 (94)	21.0	0	58	2577 (2890)
Pioneer Brand	894	35 (89)	17.0	0	57	2639 (2960)
Sigco	1061	36 (91)	19.0	0	57	2416 (2710)
Sigco	1070	39 (99)	22.0	0	59	3890 (4360)
Entry Averages		38	21.9	.	58	3340
LSD (.05)						N.S.
CV - %						22.6

Table 5. (continued)

Company/ Brand	Hybrid/ Variety	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
		1987-1989				
Cargill	1022	41 (104)	25.0	1	59	5207 (5830)
DeKalb	DK-28	36 (91)	18.0	1	58	3198 (3580)
Pioneer Brand	8855	37 (94)	19.0	1	58	3255 (3640)
Sigco	1070	40 (102)	20.0	1	59	3908 (4380)
Entry Averages		39	20.5	1	58	3892
LSD (.05)						N.S.
CV - %						24.7

Table 6. Grain Sorghum Performance Trials, Area E, Southeast Experiment Farm, Beresford, Clay County, South Dakota

Company/ Brand	Hybrid/ Variety	Headed 50 Pct Mo-Day	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
			1989				
Dahlgren	DG-27B	7-21	43 (109)	28.0	.	57	5750 (6440)
Warner	W-545T	7-22	37 (94)	26.0	.	60	5403 (6050)
Warner	WX88103	7-23	38 (97)	19.0	.	60	6248 (7000)
Dahlgren	DG-33B	7-25	43 (109)	26.0	.	59	6693 (7490)
Warner	WX89030	7-29	37 (94)	24.0	.	61	5946 (6660)
Warner	WX89018	7-30	44 (112)	32.0	.	61	6835 (7650)
Entry Averages		7-25	40	25.8	1	60	6145
LSD (.05)							.N.S.
CV - %							8.6
			1988-1989				
Dahlgren	DG-27B	7-20	42 (107)	21.0	0	59	5352 (5990)
Dahlgren	DG-33B	7-22	41 (104)	21.0	0	60	5992 (6710)
Entry Averages		7-21	41	21.0	.	59	5672
LSD (.05)							427
CV - %							5.3

Table 7. Grain Sorghum Performance Trials, Area C1(no-till), James Valley Research Center, Redfield, Spink County, South Dakota

Company/ Brand	Hybrid/ Variety	Headed 50 Pct Mo-Day	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
			1989				
DeKalb	DK-18	7-24	43 (109)	24.0	.	59	6340 (7100)
Cargill	577	7-28	40 (102)	24.0	.	59	7012 (7850)
ContiSeed	Bandit	7-28	38 (97)	25.0	.	59	5373 (6020)
ContiSeed	Honcho	7-29	41 (104)	30.0	.	60	5859 (6560)
Sigco	1061	7-29	37 (94)	25.0	.	58	4898 (5480)
Warner	W-545T	7-29	36 (91)	25.0	.	57	5416 (6060)
Cargill	X41030	7-30	38 (97)	28.0	.	56	6017 (6740)
ContiSeed	Hasty	7-30	43 (109)	26.0	.	59	6405 (7170)
Dahlgren	DG-27B	7-30	41 (104)	28.0	.	58	6699 (7500)
Asgrow	Madera	7-31	40 (102)	30.0	.	60	6932 (7760)
ContiSeed	Pronto	7-31	44 (112)	33.0	.	59	6408 (7180)
Dahlgren	DG-33B	7-31	39 (99)	30.0	.	58	6058 (6780)
DeKalb	DK-37	7-31	43 (109)	33.0	.	55	6638 (7430)
Asgrow	Seneca	8- 1	38 (97)	28.0	.	56	6180 (6920)
Csrgill	1022	8- 1	42 (107)	33.0	.	59	7146 (8000)
Warner	WX88103	8- 1	36 (91)	24.0	.	58	5473 (6130)
Warner	WX89030	8- 1	39 (99)	28.0	.	58	5549 (6210)
Warner	WX89018	8- 3	42 (107)	33.0	.	58	6195 (6940)
Entry Averages		7-30	40	28.2	.	58	6144
LSD (.05)							861
CV - %							8.6
			1988-1989				
DeKalb	DK-18	7-20	41 (104)	20.0	0	60	5805 (6500)
Cargill	577	7-22	44 (112)	21.0	0	60	6525 (7310)
ContiSeed	Bandit	7-23	39 (99)	21.0	0	61	5800 (6490)
ContiSeed	Hasty	7-23	43 (109)	22.0	0	60	6558 (7340)
Warner	W-545T	7-23	35 (89)	21.0	0	59	5769 (6460)
Dahlgren	DG-27B	7-24	41 (104)	23.0	0	59	6551 (7340)
ContiSeed	Honcho	7-26	43 (109)	23.0	0	61	6080 (6810)
Warner	WX88103	7-27	37 (94)	20.0	0	59	5228 (5850)
Cargill	1022	7-28	42 (107)	28.0	0	61	7016 (7860)
ContiSeed	Pronto	7-29	45 (114)	28.0	0	60	6577 (7360)
Entry Averages		7-23	42	24.5	1	59	6287
LSD (.05)							225
CV - %							7.7
			1987-1989				
DeKalb	DK-18	7-22	41 (104)	22.0	1	59	5917 (6630)
Warner	W-545T	7-24	35 (89)	23.0	1	59	6062 (6790)
Cargill	1022	7-27	43 (109)	28.0	1	61	6933 (7760)
Entry Averages		7-24	40	24.3	1	59	6038
LSD (.05)							N.S.
CV - %							8.7

Table 8. Grain Sorghum Performance Trials, Area D3, Plant Science Farm, Aurora, Brookings County, South Dakota

Company/ Brand	Hybrid/ Variety	Headed 50 Pct Mo-Day	Plant Height In (cm)	Early Moist %	Stalk Lodgn %	Test Wt. Lb/Bu	Grain Yield Lb/A (Kg/Ha)
			1989				
Contiseed	Bandit	8- 5	45 (114)	29.0	.	56	3638 (4070)
Contiseed	Honcho	8- 5	51 (130)	28.0	.	57	3962 (4440)
Warner	W-545T	8- 5	42 (107)	31.0	.	52	3092 (3460)
Cargill	577	8- 6	50 (127)	29.0	.	52	4035 (4520)
Contiseed	Hasty	8- 6	49 (124)	29.0	.	52	3490 (3910)
Warner	WX88103	8-12	45 (114)	31.0	.	51	3394 (3800)
Warner	WX89030	8-14	46 (117)	30.0	.	51	2945 (3300)
Warner	WX89018	8-15	52 (132)	31.0	.	52	3053 (3420)
Cargill	1022	8-16	51 (130)	33.0	.	50	2546 (2850)
Entry Averages		8- 9	48	30.1	.	52	3350
LSD (.05)							598
CV - %							10.7
			1988-1989				
Contiseed	Hasty	7-29	47 (119)	24.0	.	56	4381 (4910)
Warner	W-545T	7-29	40 (102)	25.0	.	55	3946 (4420)
Cargill	577	7-30	48 (122)	24.0	.	55	4738 (5310)
Contiseed	Bandit	7-30	45 (114)	24.0	.	58	4317 (4830)
Contiseed	Honcho	7-31	49 (124)	24.0	.	58	4491 (5030)
Warner	WX88103	8- 4	42 (107)	28.0	.	54	4329 (4850)
Cargill	1022	8- 8	47 (119)	29.0		55	4273 (4780)
Entry Averages		7-31	45	25.4	.	56	4353
SD (.05)							318
V - %							12.7
			1987-1989				
Cargill	1022	8-6	48 (122)	28.0	1	54	4556 (5100)
Entry Averages		8- 6	48	28.0	1	54	4556
SD (.05)							--
V - -%							--

Table 9. Entries Included in 1989 Trials and Tables where the Results Appear

Company and Brand	Entry	Tables
Agripro Seeds	AP910G	4,5
PO Box 237	AP925G	4,5
Tekamah, NE 68061	AP940G	4,5
"Agripro"		
Asgrow Seed Company	Madera	4,5,7
PO Box 1945	Seneca	4,5,7
Plainview, TX 79072		
"Asgrow"		
Cargill Hybrid Seeds	577	4,5,7,8
PO Box 5645	630	4
Minneapolis, MN 55440	1022	5,7,8
"Cargill"	X41030	4,7
	X41218	4
ContiSeed	Bandit	4,5,7,8
PO Box 1296	Hasty	4,5,7,8
702 3rd St., SW	Honcho	4,5,7,8
Huron, SD 57350	Pronto	7
"ContiSeed"		
Dahlgren Co., Inc.	DG-27B	4,5,6,7
PO Box 609	DG-33B	4,5,6,7
Crookston, MN 56716		
"Dahlgren"		
DeKalb-Pfizer Genetics	DK-18	4,5,7
Rt. 1, Box 225	DK-28	4,5
Glenvil, NE 68941	DK-37	5,7
"DeKalb"	X-828	4,5

Company and Brand	Entry	Tables
Garst Seed Co.	5517	5
PO Box 500	5715	4,5
Slayter, IA 50244	x5681	4,5
"Garst"		
McCurdy Seed Company	M410	4
522 E. Main Street	M550	4
Fremont, IA 52561	M689	4
"McCurdy"		
Northrup King Co.	x8701	4
715 So. 10th St.	x8710	4
Montevideo, MN 56265	X8803	4
"Northrup King"	X8817	4
Pioneer Hi-Bred,Int'l	894	4,5
130 SE Willmar Ave.	8790	4
Willmar, MN 56201	8855	4,5
"Pioneer Brand"	8877	4,5
SeedTec International	WS203	4,5,6,7,8
PO Box 2212	652G	5,9
Hereford, TX 79045	ST3101	4,5,7,8
"SeedTec"	ST3103	6
	ST3308	5,7,9
	ST3258	5,9
Sigco Research, Inc.	1061	4,5,7
PO Box 289	1070	4,
Breckenridge, MN 56520		
"Sigco"		
Geo. Warner Seed Co.	W-545T	4,5,6,7,8
PO Box 1448	Wx88103	4,5,6,7,8
Hereford, TX 79045	Wx89018	4,5,6,7,8
"Warner"	Wx89030	4,5,6,7,8

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