1985

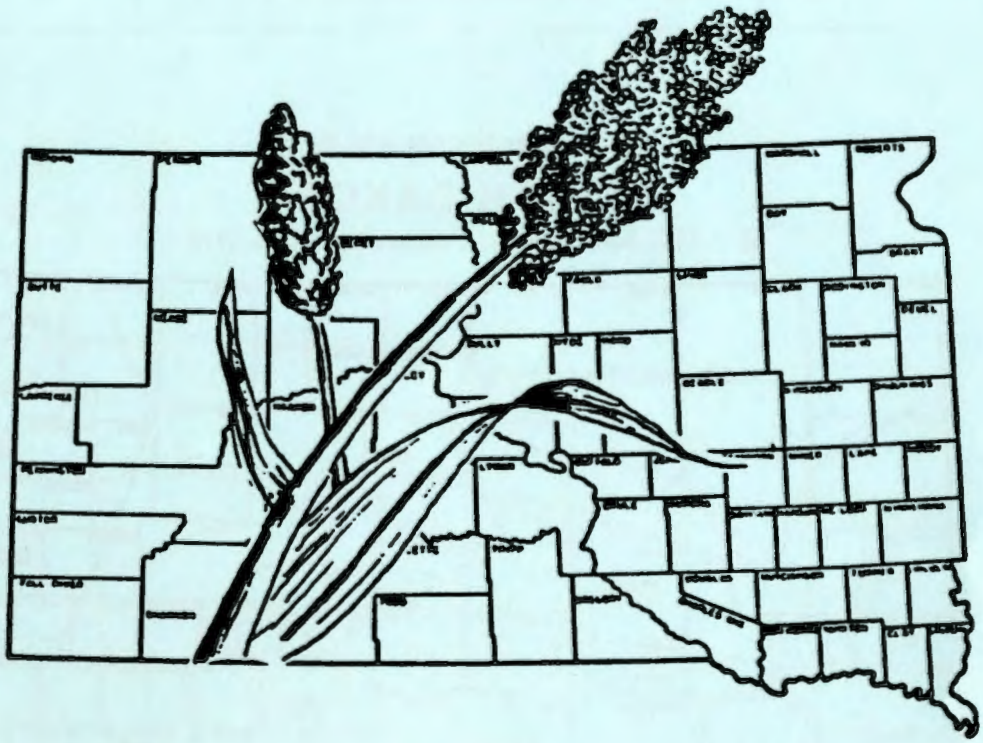
# 1985 Grain Sorghum Performance Trials

J.J. Bonnemann
*South Dakota State University*

Plant Science Pamphlet #94
December 1985

# 1985

# GRAIN SORGHUM PERFORMANCE TRIALS



PLANT SCIENCE DEPARTMENT
AGRICULTURAL EXPERIMENT STATION
SOUTH DAKOTA STATE UNIVERSITY
Brookings, South Dakota 57007-1096

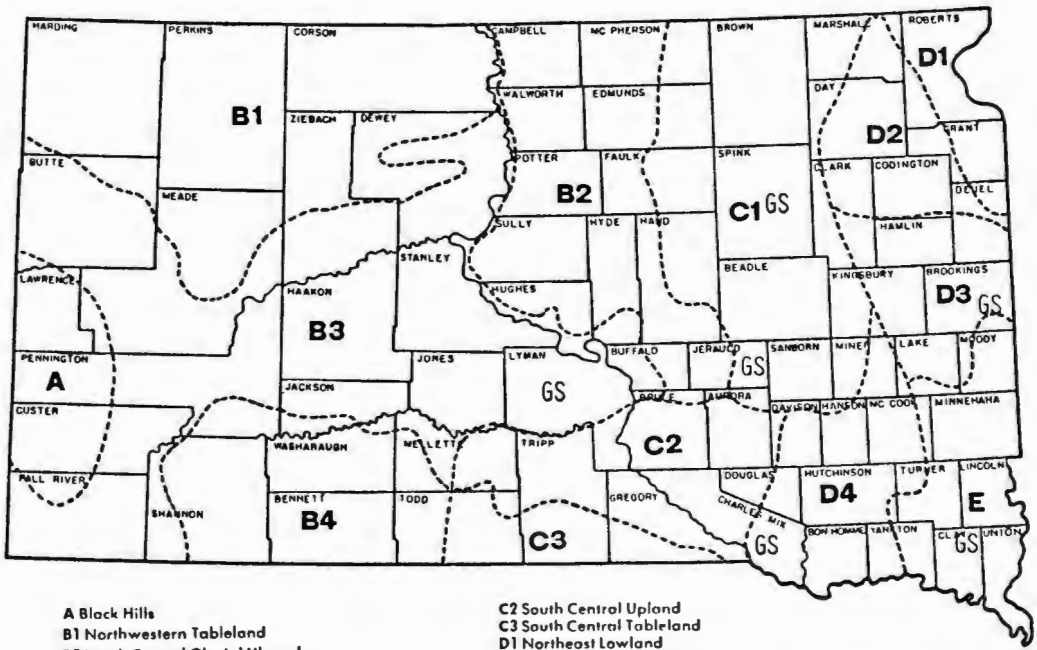
## Listing of Tables



CROP ADAPTATION AREAS OF

# SOUTH DAKOTA

GS - 1985 Grain Sorghum Performance Trial Site




A Black Hills
B1 Northwestern Tableland
B2 North Central Glacial Ulpand
B3 Pierre Plain
B4 Southwestern Tableland
C1 Northern James Valley
C2 South Central Upland
C3 South Central Tableland
D1 Northeast Lowland
D2 Northern Prairie Coteau
D3 Central Prairie Coteau
D4 Southern James Flatland
E Southeast Prairie Upland

# 1985 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 1985 crop season. Performance records of all entries harvested in 1985 and the available two- through four-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 1985 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. 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 1985 grain sorghum year (Table 3) are based upon U.S. Monthly Climatoligical Data. Data is not available from the Geddes site so the Pickstown data is presented. 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 were wet in the eastern third of South Dakota during most of the growing period. Field work began early, was interupted by frequent showers in late May, and ended by mid-June. Good moisture was available for germination. Stands were reduced at Kennebec and Redfield where the cool, saturated soil in early June retarded growth. Growth was generally behind and uneven until mid-summer at most sites, especially parts of the state where standing water became a problem. Growing degree days were above normal during the early part of the growing season, favoring rapid germination of early seeded crops. Cool, cloudy conditions prevailed over much of the state from mid-August through the remainder of the growing season, delaying maturity of all standing crops. September averaged 12-15 degrees below normal across the entire state. Maturation was furthur hindered by a killing frost in the lower 20's on September 24-26 causing growth to halt in many fields. Early October fog, overcast skies and drizzle hindered drydown so harvest was very spotty and delayed; some farm fields are still unharvested because of immaturity or deep snow.

The assistance of the following individuals is appreciated: Dwayne Beck, Burton Lawrensen, Herb Lund, Lucian Edler, and Kevin Kirby; and farmer- cooperators John Biddle, James Eagle, and Harlan Halverson.

Table 1. Location of Trials, and Dates of Seeding and Harvesting of Grain Sorghum Performance Trials, South Dakota, 1985.

| County | Location and Post Office | Row Spacing | Dates when Seeded | Harvested |
|---|---|---|---|---|
| Brookings | Plant Science Farm, Brookings | 30" | May 27 | October 4 |
| Charles Mix | John Biddle Farm, Geddes | 30" | May 10 | October 2 |
| Clay | Southeast Experiment Farm, Beresford | 36" | May 9 | October 3 |
| Jerauld | James Eagle Farm, Wessington Springs | 36" | May 22 | October 1 |
| Lyman | Harlan Halverson Farm, Kennebec | 36" | June 5 | October 1 |
| Spink | James Valley Research Farm, Redfield | 30" | May 20 | October 8 |

Yields were good in the Beresford and Geddes trial but were quite variable to nil in the remaining trials. Warm, friable field conditions favored early seeding of all crops in 1985. The cool, cloudy conditions delayed crop growth throughout the season so that heading did not begin until after mid-August at the northern sites. Medium to late maturing hybrids were affected most by the cool weather from mid-August to frost. Some late entries still had pollen-shedding anthers present on September 24 and little or no grain was in the harvested heads.

Periods of excessively high temperatures occurred at several sites but did not appear to seriously affect pollination. Generally the opposite was true in the northern portion of the state where cooler than normal temperatures delayed heading and pollination of adapted hybrids until mid to late August.

## Hybrid Entry Procedure

Only grain sorghums offered for sale in South Dakota or being produced for 1986 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, 1985 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 | 2.6 | 15 | 990 | 7.7 | Sweeps in spring | wht. stub. | | |
| Chas. Mix, C2 | Highmore SiCl | 2.3 | 30 | 840 | 6.6 | Disced | soybeans | | |
| Jerauld,Cl(dry) | Hou-Pros SiCl | 2.9 | 44 | 1310 | 6.7 | Disced, barley stub | 0 | 0 | 0 |
| Spink,Cl(irr.) | Beotia SiCl | 2.7 | 48 | 1010 | 7.1 | Field cult,ridged | 240 | 55 | 0 |
| Brookings, D3 | Lamour SiL | 3.0 | 44 | 320 | 6.9 | Chiseled, sudan stub. | 40 | 30 | 0 |
| Clay, E | Egan SiL | 3.0 | 30 | 620 | 7.1 | Plowed, sm grain | 160 | 60 | 40 |

Table 3. Temperature and Precipitation Data for the 1985 Grain Sorghum Performance Trials, South Dakota.

| Location | Type of Data | Months of May | June | July | August | Sept. | Total |
|---|---|---|---|---|---|---|---|
| Brookings | Precip. (inches) | 3.57 | 0.82 | 1.49 | 3.92 | 5.03 | 14.83 |
| 2 NE | Temp. (mean) | 59.5 | 61.2 | 68.3 | 63.3 | 56.5 | |
| | Mean departure | +3.5 | -4.4 | -2.4 | -5.3 | -1.5 | |
| | Days 90 F. + | -- | 03 | 03 | 01 | -- | |
| | First freeze | | Sept. 24 | | | | |
| Centerville | Precip. (inches) | 5.53 | 4.42 | 0.54 | 5.05 | 3.22 | 18.76 |
| 6 SE | Temp. (mean) | 63.5 | 66.3 | 71.3 | 66.1 | 58.8 | |
| | Mean departure | +3.2 | -3.9 | -3.6 | -6.7 | 4.1 | |
| | Days 90 F. + | 01 | 04 | 05 | 02 | 01 | |
| | First freeze | | Sept. 24 | | | | |
| Kennebec | Precip. (inches) | 1.83 | 3.20 | 3.55 | 2.30 | 2.76 | 13.64 |
| | Temp. (mean) | 65.1 | 65.8 | 77.1 | 70.6 | 62.1 | |
| | Mean departure | +6.2 | -3.3 | -1.3 | -3.8 | -1.6 | |
| | Days 90 F. + | 07 | 06 | 19 | 09 | 06 | |
| | First freeze | | Sept. 25 | | | | |
| Pickstown | Precip. (inches) | 1.34 | 1.99 | 2.02 | 5.81 | 2.65 | 13.81 |
| | Temp. (mean) | 63.7 | 66.1 | 75.3 | 70.1 | 60.1 | |
| | Mean departure | +3.5 | -4.1 | -1.0 | -4.5 | -4.0 | |
| | Days 90 F. + | 01 | 07 | 15 | 03 | 02 | |
| | First freeze | | Sept. 26 | | | | |
| Redfield | Precip. (inches) | 2.47 | 2.20 | 5.20 | 4.03 | 4.83 | 18.73 |
| 6 E | Temp. (mean) | 62.1 | 62.6 | 72.0 | 65.3 | 56.5 | |
| | Mean departure | +4.9 | -4.2 | -1.1 | -6.2 | -4.2 | |
| | Days 90 F. + | 02 | 03 | 10 | 02 | -- | |
| | First freeze | | Sept. 24 | | | | |
| Wess. Sprngs | Precip. (inches) | 2.83 | 3.48 | 2.01 | 2.42 | 4.43 | 15.17 |
| | Temp. (mean) | 64.5 | 64.9 | 75.3 | 68.3 | 54.0 | |
| | Days 90 F. + | 01 | 04 | 13 | 03 | -- | |
| | First freeze | | Sept. 24 | | | | |

## 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 spacings used are 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 irrigated by the gravity method with approximately 2 inches of water each time the tensiometer reached 50 cb at the 18-inch depth.

Moisture determinations were made on September 23-24 just prior to normal first-frost dates. This is 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 caught in the bad weather of the later fall so harvesting is done as soon as possible after the first frost. Harvest was completed by October 8. Harvested grain was cut from a 15-20 foot section of each 2-row plot. Heads were bagged at harvest, tagged and tied, and returned to Brookings for drying and threshing. Yields are reported in pounds per acre (x 1.121 for kg/ha) with three or four replications harvested for yield purposes and one left for observational purposes.

## Discussion of Results

Yields were quite variable from site to site and within trials. Hundred-weight yields topped the 60's and 70's at Beresford and Geddes, respectively, and started at just over 35 at Brookings and Kennebec. The poorest yields were in the Brookings, Kennebec, and Redfield trials. The lateness of heading generally favored the shorter season entries. Moisture was above 35% when sampled in many entries in all trials; the meter topping out at 35.0%.

Quality of many entries was seriously affected by the killing frost as test weights were poor for many entries in some trials. The very late maturity entries suffered 10-12 pound reductions in test weight.

The seed moisture recorded was obtained within 24-48 hours before the first hard frost was recorded. Quality was apparently affected, the cool temperatures during September and wet, cool conditions in October not favoring kernel fill or drydown. The harvested grain required supplemental drying in most instances.

Lodging was not a serious problem at any of the locations. Bird damage was a problem at Brookings and on some entries at Beresford. Trials located within larger fields of cooperators suffered little damage. 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 1985 and other agronomic data are reported in Tables 4 through 9. A listing of all entries is presented in Table 10.

TABLE 4. 1985 GRAIN SORGHUM PERFORMANCE TRIALS, AREA E, SOUTHEAST EXPERIMENT FARM, BERESFORD, CLAY COUNTY, SOUTH DAKOTA.

| BRAND | VARIETY | PLANTS 50 PCT MC-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | ONE-YEAR | | | | | |
| FUNK'S | G-251 | 7-17 | 38 ( 97) | 18.0 | . | 57 | 4617 | ( 5170) |
| PIONEER BRAND | 8855 | 7-20 | 43 (109) | 25.0 | . | 59 | 6008 | ( 6730) |
| P-A-G | 2250 | 7-22 | 41 (104) | 22.0 | . | 57 | 5247 | ( 5880) |
| WESTERN | WS-203 | 7-23 | 47 (119) | 23.0 | . | 58 | 6194 | ( 6940) |
| SEEDTEC | 8502 | 7-23 | 44 (112) | 24.0 | . | 59 | 5410 | ( 6060) |
| WARNER | W-545T | 7-23 | 39 ( 99) | 25.0 | . | 58 | 5061 | ( 5670) |
| WARNER | W-523T | 7-23 | 44 (112) | 24.0 | . | 58 | 6354 | ( 7120) |
| MC CURDY | M410 | 7-23 | 46 (117) | 24.0 | . | 57 | 6188 | ( 6930) |
| PAYMASTER | 930 | 7-24 | 43 (109) | 30.0 | . | 58 | 5992 | ( 6710) |
| SEEDTEC | 8503 | 7-24 | 43 (109) | 21.0 | . | 57 | 5065 | ( 5670) |
| PIONEER BRAND | 8790 | 7-25 | 42 (107) | 21.0 | . | 59 | 4830 | ( 5410) |
| SEEDTEC | 8501 | 7-25 | 47 (119) | 23.0 | . | 57 | 5953 | ( 6670) |
| ASGROW | CORRADO E | 7-26 | 45 (114) | 22.0 | . | 58 | 5440 | ( 6090) |
| WARNER | W-501T | 7-26 | 38 ( 97) | 24.0 | . | 57 | 5277 | ( 5910) |
| MC CURDY | M450 | 7-26 | 46 (117) | 28.0 | . | 59 | 5481 | ( 6140) |
| PIONEER BRAND | 8680 | 7-27 | 42 (107) | 29.0 | . | 59 | 5694 | ( 6380) |
| SIGCO | 50YG | 7-27 | 47 (119) | 31.0 | . | 57 | 5940 | ( 6650) |
| FUNK'S | G-421 | 7-27 | 43 (109) | 28.0 | . | 56 | 4880 | ( 5460) |
| WARNER | W-551A | 7-28 | 48 (122) | 22.0 | . | 56 | 5016 | ( 5620) |
| DEKALB | X-55J | 7-29 | 48 (122) | 33.0 | . | 59 | 6303 | ( 7060) |
| CARGILL | 30 | 7-29 | 43 (109) | 32.0 | . | 56 | 5201 | ( 5820) |
| WARNER | W-560T | 7-29 | 42 (107) | 24.0 | . | 58 | 5589 | ( 6260) |
| DEKALB | DK-39Y | 8- 1 | 46 (117) | 33.0 | . | 55 | 4521 | ( 5060) |
| PAYMASTER | 1022 | 8- 1 | 46 (117) | 33.0 | . | 58 | 5971 | ( 6690) |
| CARGILL | 40 | 8- 1 | 45 (114) | 32.0 | . | 58 | 5769 | ( 6460) |
| CENEX | 31DT | 8- 2 | 48 (122) | 33.0 | . | 58 | 5867 | ( 6570) |
| ASGROW | MESA | 8- 3 | 44 (112) | 30.0 | . | 59 | 5652 | ( 6330) |
| WESTERN | WS-212 | 8- 3 | 48 (122) | 32.0 | . | 57 | 6033 | ( 6760) |
| FUNKS | HW5383 | 8- 4 | 41 (104) | 30.0 | . | 56 | 5170 | ( 5790) |
| ASGROW | CORRAL | 8- 6 | 50 (127) | 30.0 | . | 56 | 5291 | ( 5920) |
| P-A-G | 2285 | 8- 6 | 46 (117) | 33.0 | . | 56 | 5171 | ( 5790) |
| CENEX | 23DT | 8- 6 | 46 (117) | 33.0 | . | 56 | 4695 | ( 5260) |
| MC CURDY | M637 | 8- 7 | 39 ( 99) | 33.0 | . | 53 | 4486 | ( 5020) |
| ENTRY AVERAGES | | 7-28 | 44 | 27.8 | 0 | 57 | 5465 | |
| LSD (.05) | | | | | | | 939 | |
| CV - % | | | | | | | 10.6 | |
| | | | TWO-YEAR | | | | | |
| PIONEER BRAND | 8790 | 7-30 | 42 (107) | 26.0 | 10 | 59 | 5033 | ( 5640) |
| ASGROW | CORRADO E | 7-31 | 45 (114) | 27.0 | 88 | 55 | 5477 | ( 6130) |
| PIONEER BRAND | 8680 | 8- 1 | 43 (109) | 31.0 | 15 | 59 | 5232 | ( 5860) |
| SIGCO | 50YG | 8- 1 | 46 (117) | 32.0 | 40 | 56 | 5911 | ( 6620) |
| CARGILL | 30 | 8- 3 | 45 (114) | 32.0 | 95 | 52 | 5044 | ( 5650) |
| ASGROW | CORRAL | 8- 5 | 52 (132) | 31.0 | 88 | 54 | 4381 | ( 4910) |
| CARGILL | 40 | 8- 5 | 46 (117) | 33.0 | 25 | 58 | 5785 | ( 6480) |
| ASGROW | MESA | 8- 6 | 44 (112) | 32.0 | 13 | 58 | 5691 | ( 6370) |
| ENTRY AVERAGES | | 8-2 | 45 | 30.5 | 0 | 56 | 5319 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 9.6 | |
| | | | THREE-YEAR | | | | | |
| PIONEER BRAND | 8790 | 7-31 | 43 (109) | 26.0 | 10 | 59 | 5115 | ( 5730) |
| ASGROW | CORRADO E | 8- 1 | 47 (119) | 25.0 | 88 | 57 | 5489 | ( 6150) |
| PIONEER BRAND | 8680 | 8- 2 | 43 (109) | 29.0 | 15 | 59 | 5564 | ( 6230) |
| SIGCO | 50YG | 8- 2 | 47 (119) | 30.0 | 40 | 58 | 6078 | ( 6810) |
| ASGROW | CORRAL | 8- 5 | 53 (135) | 28.0 | 88 | 56 | 4759 | ( 5330) |
| CARGILL | 30 | 8- 5 | 47 (119) | 30.0 | 95 | 54 | 5150 | ( 5770) |
| CARGILL | 40 | 8- 5 | 47 (119) | 31.0 | 25 | 58 | 5935 | ( 6650) |
| ENTRY AVERAGES | | 8-2 | 47 | 28.6 | 0 | 57 | 5441 | |
| LSD (.05) | | | | | | | 395 | |
| CV - % | | | | | | | 8.2 | |

TABLE 4. (CONTINUED), BERESFORD, SD

| BRAND | VARIETY | PLANTS 50 PCT MO-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | FOUR-YEAR | | | | | |
| ASGROW | CORADO E | 8- 2 | 48 (122) | 25.0 | 88 | 58 | 5534 | ( 6200) |
| CARGILL | 30 | 8- 5 | 50 (127) | 31.0 | 95 | 55 | 5292 | ( 5930) |
| ASGROW | CORRAL | 8- 6 | 55 (140) | 30.0 | 88 | 57 | 4973 | ( 5570) |
| CARGILL | 40 | 8- 6 | 48 (122) | 32.0 | 25 | 58 | 5703 | ( 6390) |
| ENTRY AVERAGES | | 8-4 | 50 | 29.2 | 0 | 57 | 5375 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 10.7 | |

TABLE 5. 1985 GRAIN SORGHUM PERFORMANCE TRIAL, AREA C1(DRYLAND), JAMES EAGLE FARM, WESSINGTON SPRINGS, JERAULD COUNTY, SOUTH DAKOTA.

| BRAND | VARIETY | PLANTS 50 PCT MC-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | ONE-YEAR | | | | | |
| ASGROW | CCRADO E | | 47 (119) | 33.0 | . | 51 | 3468 | ( 3880) |
| ASGROW | CORRAL | | 52 (132) | 33.0 | . | 48 | 3331 | ( 3730) |
| DEKALB | DK-28 | | 41 (104) | 33.0 | . | 54 | 4337 | ( 4860) |
| DEKALB | DK-39Y | | 44 (112) | 33.0 | . | 46 | 2913 | ( 3260) |
| DEKALB | X-550 | | 52 (132) | 33.0 | . | 53 | 4657 | ( 5210) |
| PAYMASTER | 930 | | 44 (112) | 33.0 | . | 52 | 3512 | ( 4380) |
| PAYMASTER | 1022 | | 47 (119) | 33.0 | . | 48 | 3533 | ( 3960) |
| P-A-G | 2250 | | 41 (104) | 33.0 | . | 55 | 4276 | ( 4790) |
| P-A-G | 3339 | | 47 (119) | 33.0 | . | 47 | 2834 | ( 3170) |
| P-A-G | 2285 | | 48 (122) | 33.0 | . | 43 | 2898 | ( 3250) |
| PIONEER BRAND | 8790 | | 41 (104) | 32.0 | . | 55 | 4507 | ( 5050) |
| PIONEER BRAND | 8680 | | 41 (104) | 33.0 | . | 53 | 3573 | ( 4000) |
| PIONEER BRAND | 8855 | | 43 (109) | 33.0 | . | 55 | 4340 | ( 4860) |
| SIGCO | 50YG | | 47 (119) | 33.0 | . | 52 | 4512 | ( 5050) |
| SIGCO | 48YG | | 38 ( 97) | 33.0 | . | 53 | 4138 | ( 4630) |
| SIGCO | 46YG | | 46 (117) | 33.0 | . | 52 | 4124 | ( 4620) |
| CARGILL | 30 | | 46 (117) | 33.0 | . | 49 | 3359 | ( 3760) |
| CARGILL | 22 | | 41 (104) | 33.0 | . | 51 | 4049 | ( 4530) |
| CARGILL | 40 | | 47 (119) | 33.0 | . | 42 | 2486 | ( 2780) |
| WESTERN | WS-203 | | 47 (119) | 33.0 | . | 51 | 4398 | ( 4920) |
| WESTERN | WS-212 | | 50 (127) | 33.0 | . | 47 | 3446 | ( 3860) |
| SEEDTEC | 8501 | | 47 (119) | 33.0 | . | 45 | 3276 | ( 3670) |
| SEEDTEC | 8502 | | 41 (104) | 32.0 | . | 54 | 4147 | ( 4640) |
| SEEDTEC | 8503 | | 45 (114) | 33.0 | . | 54 | 4965 | ( 5560) |
| WARNER | W-545T | | 38 ( 97) | 33.0 | . | 52 | 4121 | ( 4610) |
| WARNER | W-501T | | 38 ( 97) | 33.0 | . | 51 | 3583 | ( 4010) |
| WARNER | W-523T | | 45 (114) | 33.0 | . | 52 | 3748 | ( 4200) |
| WARNER | W-551A | | 47 (119) | 33.0 | . | 52 | 4820 | ( 5400) |
| WARNER | W-560T | | 45 (114) | 33.0 | . | 48 | 4013 | ( 4490) |
| FUNK'S | G-251 | | 39 ( 99) | 33.0 | . | 57 | 4383 | ( 4910) |
| FUNKS | HW5883 | | 41 (104) | 33.0 | . | 45 | 2840 | ( 3180) |
| FUNK'S | G-421 | | 40 (102) | 33.0 | . | 46 | 3119 | ( 3490) |
| CENEX | 228T | | 48 (122) | 33.0 | . | 47 | 3826 | ( 4280) |
| CENEX | 310T | | 50 (127) | 33.0 | . | 47 | 3073 | ( 3440) |
| CENEX | 226T | | 39 ( 99) | 33.0 | . | 52 | 3920 | ( 4390) |
| HOEGEMEYER | 606 | | 45 (114) | 33.0 | . | 55 | 4403 | ( 4930) |
| HOEGEMEYER | GT620 | | 44 (112) | 33.0 | . | 48 | 3682 | ( 4120) |
| ENTRY AVERAGES | | | 44 | 33.+ | | 50 | 3811 | |
| LSD (.05) | | | | | | | 975 | |
| CV - % | | | | | | | 15.8 | |
| | | | TWO-YEAR | | | | | |
| ASGROW | OCRADO E | | 47 (119) | 25.0 | 45 | 54 | 3976 | ( 4450) |
| ASGROW | CORRAL | | 52 (132) | 30.0 | 55 | 53 | 3786 | ( 4240) |
| DEKALB | DK-28 | | 41 (104) | 25.0 | 50 | 56 | 4422 | ( 4950) |
| DEKALB | DK-39Y | | 43 (109) | 27.0 | 11 | 51 | 3255 | ( 3640) |
| P-A-G | 2250 | | 43 (109) | 24.0 | 15 | 56 | 3876 | ( 4340) |
| PIONEER BRAND | 8790 | | 42 (107) | 25.0 | 7 | 57 | 4428 | ( 4960) |
| PIONEER BRAND | 8680 | | 42 (107) | 27.0 | 13 | 56 | 4007 | ( 4490) |
| PIONEER BRAND | 8855 | | 45 (114) | 23.0 | 20 | 57 | 4376 | ( 4900) |
| SIGCO | 50YG | | 48 (122) | 26.0 | 35 | 55 | 4488 | ( 5030) |
| SIGCO | 48YG | | 43 (109) | 25.0 | 27 | 55 | 3833 | ( 4290) |
| CARGILL | 30 | | 45 (114) | 27.0 | 21 | 53 | 3863 | ( 4330) |
| CARGILL | 22 | | 42 (107) | 24.0 | 28 | 55 | 4210 | ( 4710) |
| CARGILL | 40 | | 47 (119) | 28.0 | 48 | 50 | 3264 | ( 3650) |
| WESTERN | WS-212 | | 51 (130) | 24.0 | 38 | 53 | 4263 | ( 4770) |
| WARNER | W-545T | | 40 (102) | 26.0 | 11 | 54 | 4190 | ( 4690) |
| CENEX | 228T | | 48 (122) | 27.0 | 23 | 53 | 4166 | ( 4670) |
| ENTRY AVERAGES | | | 45 | 25.7 | 27 | 54 | 4025 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 12.3 | |

TABLE 5. (CONTINUED), WESSINGTON SPRINGS, SD

| BRAND | VARIETY | PLANTS 50 PCT MG-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | THREE-YEAR | | | | | |
| ASGROW | CORADO E | | 46 (117) | 28.0 | 45 | 55 | 3727 | ( 4170) |
| ASGROW | CORRAL | | 50 (127) | 31.0 | 55 | 54 | 3639 | ( 4070) |
| DEKALB | DK-28 | | 40 (102) | 27.0 | 50 | 57 | 4228 | ( 4730) |
| DEKALB | DK-39Y | | 42 (107) | 29.0 | 11 | 53 | 3140 | ( 3520) |
| P-A-G | 2250 | | 42 (107) | 27.0 | 15 | 56 | 3591 | ( 4020) |
| SIGCO | 50YG | | 47 (119) | 28.0 | 35 | 56 | 4213 | ( 4720) |
| CARGILL | 30 | | 46 (117) | 29.0 | 21 | 55 | 3708 | ( 4150) |
| CARGILL | 22 | | 42 (107) | 26.0 | 28 | 56 | 3805 | ( 4260) |
| CARGILL | 40 | | 45 (114) | 30.0 | 48 | 53 | 3311 | ( 3710) |
| WESTERN | WS-212 | | 49 (124) | 27.0 | 38 | 54 | 4049 | ( 4530) |
| CENEX | 228T | | 47 (119) | 29.0 | 23 | 55 | 3907 | ( 4380) |
| ENTRY AVERAGES | | | 45 | 28.2 | 33 | 55 | 3756 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 10.9 | |

TABLE 6. 1985 GRAIN SORGHUM PERFORMANCE TRIAL, AREA C2, JOHN BIDDLE FARM, GEDDES, CHARLES MIX COUNTY, SOUTH DAKOTA.

| BRAND | VARIETY | PLANTS 50 PCT MG-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | ONE-YEAR | | | | | |
| ASGROW | CORADO E | | 38 ( 97) | 21.0 | . | 59 | 6325 | ( 7080) |
| ASGROW | CORRAL | | 43 (109) | 27.0 | . | 58 | 6557 | ( 7340) |
| ASGROW | MESA | | 42 (107) | 26.0 | . | 59 | 6360 | ( 7120) |
| DEKALB | DK-28 | | 38 ( 97) | 20.0 | . | 59 | 4686 | ( 5250) |
| DEKALB | DK-39Y | | 42 (107) | 33.0 | . | 58 | 5415 | ( 6060) |
| DEKALB | X-55C | | 46 (117) | 28.0 | . | 58 | 6109 | ( 6840) |
| DEKALB | X-538 | | 43 (109) | 22.0 | . | 59 | 5589 | ( 6260) |
| NORTHRUP KING | NK BRAND 2030 | | 40 (102) | 22.0 | . | 58 | 5099 | ( 5710) |
| NORTHRUP KING | NK BRAND 2244 | | 43 (109) | 25.0 | . | 58 | 6467 | ( 7240) |
| PAYMASTER | 930 | | 39 ( 99) | 32.0 | . | 58 | 5073 | ( 5680) |
| PAYMASTER | 1022 | | 42 (107) | 26.0 | . | 57 | 6199 | ( 6940) |
| P-A-G | 2250 | | 39 ( 99) | 18.0 | . | 57 | 4520 | ( 5060) |
| P-A-G | 3339 | | 42 (107) | 31.0 | . | 58 | 5386 | ( 6030) |
| P-A-G | 2285 | | 43 (109) | 33.0 | . | 56 | 5667 | ( 6350) |
| PIONEER BRAND | 8790 | | 38 ( 97) | 20.0 | . | 58 | 4295 | ( 4810) |
| PIONEER BRAND | 8680 | | 42 (107) | 22.0 | . | 59 | 5518 | ( 6180) |
| PIONEER BRAND | 8855 | | 40 (102) | 18.0 | . | 58 | 4221 | ( 4730) |
| SIGCO | 50YG | | 43 (109) | 22.0 | . | 59 | 6204 | ( 6950) |
| SIGCO | 48YG | | 36 ( 91) | 22.0 | . | 60 | 5835 | ( 6530) |
| SIGCO | 46YG | | 42 (107) | 19.0 | . | 57 | 6570 | ( 7360) |
| CARGILL | 30 | | 41 (104) | 22.0 | . | 57 | 5596 | ( 6270) |
| CARGILL | 22 | | 39 ( 99) | 23.0 | . | 59 | 5363 | ( 6010) |
| CARGILL | 40 | | 42 (107) | 31.0 | . | 56 | 5466 | ( 6120) |
| WESTERN | WS-203 | | 43 (109) | 22.0 | . | 59 | 5938 | ( 6650) |
| WESTERN | WS-212 | | 46 (117) | 26.0 | . | 57 | 6068 | ( 6790) |
| SEEDTEC | 8501 | | 44 (112) | 22.0 | . | 56 | 6160 | ( 6900) |
| SEEDTEC | 8502 | | 43 (109) | 29.0 | . | 59 | 5634 | ( 6310) |
| SEEDTEC | 8503 | | 41 (104) | 27.0 | . | 58 | 7063 | ( 7910) |
| WARNER | W-545T | | 41 (104) | 31.0 | . | 59 | 5607 | ( 6280) |
| WARNER | W-501T | | 38 ( 97) | 24.0 | . | 59 | 5590 | ( 6260) |
| WARNER | W-523T | | 40 (102) | 21.0 | . | 58 | 4700 | ( 5260) |
| WARNER | W-551A | | 42 (107) | 24.0 | . | 57 | 6601 | ( 7390) |
| WARNER | W-560T | | 41 (104) | 26.0 | . | 57 | 6184 | ( 6920) |
| FUNK'S | G-25L | | 38 ( 97) | 18.0 | . | 58 | 4044 | ( 4530) |
| FUNKS | HW5883 | | 41 (104) | 26.0 | . | 58 | 5650 | ( 6330) |
| FUNK'S | G-42L | | 38 ( 97) | 27.0 | . | 56 | 5137 | ( 5750) |
| CENEX | 310T | | 45 (114) | 30.0 | . | 58 | 6485 | ( 7260) |
| CENEX | 230T | | 43 (109) | 27.0 | . | 58 | 6260 | ( 7010) |
| CENEX | 226T | | 40 (102) | 24.0 | . | 60 | 5850 | ( 6550) |
| MC CURDY | M410 | | 44 (112) | 31.0 | . | 57 | 6724 | ( 7530) |
| MC CURDY | M450 | | 43 (109) | 23.0 | . | 59 | 6127 | ( 6860) |
| MC CURDY | M51 YG | | 43 (109) | 33.0 | . | 52 | 3544 | ( 3970) |
| KELTGEN | KG 57T | | 39 ( 99) | 20.0 | . | 59 | 5372 | ( 6020) |
| KELTGEN | KG 63T | | 47 (119) | 22.0 | . | 58 | 6528 | ( 7310) |
| ENTRY AVERAGES | | | 42 | 26.3 | | 58 | 5677 | |
| LSD (.05) | | | | | | | 977 | |
| CV - % | | | | | | | 10.6 | |

TABLE 6. (CONTINUED), GEDDES, SD

| BRAND | VARIETY | PLANTS SC PCT MC-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | TWO-YEAR | | | | | |
| ASGROW | CORRAL | | 48 (122) | 28.0 | . | 58 | 5517 | ( 6180) |
| DEKALB | DK-28 | | 39 ( 99) | 22.0 | . | 59 | 4093 | ( 4580) |
| DEKALB | DK-39Y | | 43 (109) | 24.0 | . | 58 | 4595 | ( 5150) |
| NORTHRUP KING | NK BRAND 2030 | | 42 (107) | 26.0 | . | 58 | 4482 | ( 5020) |
| NORTHRUP KING | NK BRAND 2244 | | 45 (114) | 27.0 | . | 57 | 5049 | ( 5650) |
| PAYMASTER | 930 | | 44 (112) | 30.0 | . | 58 | 4646 | ( 5200) |
| PAYMASTER | 1022 | | 44 (112) | 28.0 | . | 57 | 5318 | ( 5960) |
| P-A-G | 3339 | | 47 (119) | 30.0 | . | 58 | 4472 | ( 5010) |
| PIONEER BRAND | 8790 | | 41 (104) | 22.0 | . | 57 | 3841 | ( 4300) |
| PIONEER BRAND | 8680 | | 42 (107) | 25.0 | . | 57 | 4848 | ( 5430) |
| SIGCO | 50YG | | 44 (112) | 25.0 | . | 59 | 5326 | ( 5960) |
| SIGCO | 48YG | | 38 ( 97) | 17.0 | . | 59 | 4872 | ( 5460) |
| CARGILL | 30 | | 42 (107) | 18.0 | . | 57 | 5093 | ( 5700) |
| CARGILL | 22 | | 40 (102) | 24.0 | . | 58 | 4396 | ( 4920) |
| CARGILL | 40 | | 45 (114) | 30.0 | . | 58 | 4754 | ( 5320) |
| WARNER | W-545T | | 40 (102) | 29.0 | . | 58 | 4758 | ( 5330) |
| FUNKS | FW5883 | | 41 (104) | 26.0 | . | 58 | 4955 | ( 5550) |
| CENEX | 310T | | 49 (124) | 29.0 | . | 59 | 5664 | ( 6340) |
| CENEX | 230T | | 44 (112) | 19.0 | . | 57 | 4976 | ( 5570) |
| ENTRY AVERAGES | | | 43 | 25.1 | | 58 | 4823 | |
| LSD (.05) | | | | | | | 256 | |
| CV - % | | | | | | | 7.6 | |
| | | | THREE-YEAR | | | | | |
| ASGROW | CORRAL | | 49 (124) | 29.0 | . | 58 | 5099 | ( 5710) |
| DEKALB | DK-28 | | 40 (102) | 24.0 | 5 | 59 | 4032 | ( 4510) |
| DEKALB | DK-39Y | | 43 (109) | 26.0 | . | 58 | 4433 | ( 4960) |
| NORTHRUP KING | NK BRAND 2244 | | 46 (117) | 29.0 | . | 57 | 4988 | ( 5590) |
| P-A-G | 3339 | | 47 (119) | 30.0 | . | 57 | 4360 | ( 4880) |
| PIONEER BRAND | 8790 | | 42 (107) | 24.0 | . | 58 | 3757 | ( 4210) |
| PIONEER BRAND | 8680 | | 42 (107) | 27.0 | . | 57 | 4681 | ( 5240) |
| SIGCO | 50YG | | 45 (114) | 28.0 | . | 59 | 5119 | ( 5730) |
| SIGCO | 48YG | | 39 ( 99) | 22.0 | . | 59 | 4656 | ( 5210) |
| CARGILL | 30 | | 43 (109) | 22.0 | . | 56 | 4489 | ( 5030) |
| CARGILL | 22 | | 42 (107) | 25.0 | . | 58 | 4210 | ( 4710) |
| CARGILL | 40 | | 45 (114) | 30.0 | . | 57 | 4636 | ( 5190) |
| CENEX | 310T | | 49 (124) | 30.0 | . | 58 | 5165 | ( 5780) |
| CENEX | 230T | | 45 (114) | 23.0 | . | 58 | 5027 | ( 5630) |
| ENTRY AVERAGES | | | 44 | 26.3 | | 58 | 4618 | |
| LSD (.05) | | | | | | | 238 | |
| CV - % | | | | | | | 9.1 | |
| | | | FOUR-YEAR | | | | | |
| ASGROW | CORRAL | | 48 (122) | 29.0 | 10 | 58 | 4968 | ( 5560) |
| DEKALB | DK-28 | | 40 (102) | 23.0 | 3 | 59 | 4112 | ( 4600) |
| DEKALB | DK-39Y | | 41 (104) | 27.0 | . | 58 | 4288 | ( 4800) |
| SIGCO | 50YG | | 44 (112) | 28.0 | 12 | 58 | 4971 | ( 5570) |
| SIGCO | 48YG | | 38 ( 97) | 21.0 | 2 | 58 | 4545 | ( 5090) |
| CARGILL | 30 | | 42 (107) | 23.0 | 3 | 57 | 4474 | ( 5010) |
| CARGILL | 22 | | 41 (104) | 24.0 | 2 | 58 | 4198 | ( 4700) |
| CARGILL | 40 | | 44 (112) | 29.0 | 4 | 58 | 4493 | ( 5030) |
| CENEX | 310T | | 48 (122) | 28.0 | 13 | 59 | 5217 | ( 5840) |
| ENTRY AVERAGES | | | 43 | 25.8 | 6 | 58 | 4585 | |
| LSD (.05) | | | | | | | 209 | |
| CV - % | | | | | | | 7.7 | |

TABLE 7. 1985 GRAIN SORGHUM PERFORMANCE TRIAL, AREA D3, PLANT SCIENCE FARM, BROOKINGS, BROOKINGS COUNTY, SOUTH DAKOTA.

| BRAND | VARIETY | PLANTS 50 PCT MC-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | ONE-YEAR | | | | | |
| DEKALB | DK-18 | 8- 1 | 44 (112) | 33.0 | . | 51 | 2660 | ( 2980) |
| FUNK'S | G-251 | 8- 1 | 40 (102) | 33.0 | . | 52 | 2503 | ( 2800) |
| DEKALB | DK-28 | 8- 3 | 38 ( 97) | 33.0 | . | 51 | 3569 | ( 4000) |
| PIONEER BRAND | 8855 | 8- 4 | 42 (107) | 33.0 | . | 50 | 2853 | ( 3190) |
| PIONEER BRAND | 8790 | 8- 5 | 44 (112) | 33.0 | . | 51 | 2647 | ( 2960) |
| WESTERN | WS-203 | 8- 5 | 44 (112) | 33.0 | . | 50 | 3217 | ( 3600) |
| SEEDTEC | 8502 | 8- 5 | 42 (107) | 33.0 | . | 50 | 2304 | ( 2580) |
| SEEDTEC | 8503 | 8- 5 | 42 (107) | 33.0 | . | 52 | 3624 | ( 4060) |
| CARGILL | 22 | 8- 7 | 41 (104) | 33.0 | . | 48 | 2255 | ( 2530) |
| WARNER | W-523T | 8- 7 | 42 (107) | 33.0 | . | 49 | 2207 | ( 2470) |
| SIGCO | 48YG | 8- 8 | 35 ( 89) | 33.0 | . | 49 | 3057 | ( 3420) |
| SEEDTEC | 8501 | 8- 8 | 45 (114) | 33.0 | . | 48 | 3598 | ( 4030) |
| WARNER | W-545T | 8- 8 | 37 ( 94) | 33.0 | . | 47 | 2970 | ( 3330) |
| HOEGEMEYER | 606 | 8- 8 | 45 (114) | 33.0 | . | 48 | 2426 | ( 2720) |
| SIGCO | 46YG | 8- 9 | 44 (112) | 33.0 | . | 50 | 3381 | ( 3790) |
| WARNER | W-551A | 8- 9 | 44 (112) | 33.0 | . | 50 | 3146 | ( 3520) |
| WARNER | W-501T | 9-10 | 34 ( 86) | 33.0 | . | 47 | 2223 | ( 2490) |
| PIONEER BRAND | 8680 | 8-12 | 39 ( 99) | 33.0 | . | 48 | 1986 | ( 2220) |
| SIGCO | 50YG | 8-12 | 46 (117) | 33.0 | . | 47 | 2066 | ( 2310) |
| FUNK'S | G-421 | 8-12 | 38 ( 97) | 33.0 | . | 46 | 2063 | ( 2310) |
| CARGILL | 30 | 8-14 | 44 (112) | 33.0 | . | 45 | 1663 | ( 1860) |
| WARNER | W-560T | 8-14 | 43 (109) | 33.0 | . | 48 | 2365 | ( 2650) |
| FUNKS | HW5883 | 8-14 | 39 ( 99) | 33.0 | . | 49 | 2273 | ( 2550) |
| HOEGEMEYER | GT520 | 8-14 | 42 (107) | 33.0 | . | 45 | 1904 | ( 2130) |
| ASGROW | CORRAL | 8-16 | 48 (122) | 33.0 | . | 48 | 1585 | ( 1770) |
| CARGILL | 40 | 8-16 | 44 (112) | 33.0 | . | 42 | 751 | ( 840) |
| ENTRY AVERAGES | | 8-9 | 41 | 33.+ | | 48 | 2511 | |
| LSD (.05) | | | | | | | 670 | |
| CV - % | | | | | | | 16.4 | |
| | | | TWO-YEAR | | | | | |
| DEKALB | DK-18 | 8- 1 | 44 (112) | 26.0 | . | 54 | 3711 | ( 4160) |
| DEKALB | DK-28 | 8- 4 | 38 ( 97) | 27.0 | . | 54 | 3962 | ( 4440) |
| PIONEER BRAND | 8790 | 8- 6 | 44 (112) | 32.0 | . | 54 | 3423 | ( 3830) |
| WARNER | W-545T | 8- 8 | 37 ( 94) | 31.0 | . | 51 | 3501 | ( 3920) |
| SIGCO | 48YG | 8- 9 | 35 ( 89) | 30.0 | . | 52 | 3832 | ( 4290) |
| CARGILL | 22 | 8-11 | 41 (104) | 28.0 | . | 51 | 2563 | ( 2870) |
| PIONEER BRAND | 8680 | 8-13 | 39 ( 99) | 33.0 | . | 51 | 2338 | ( 2620) |
| SIGCO | 50YG | 8-13 | 46 (117) | 32.0 | . | 50 | 2256 | ( 2530) |
| CARGILL | 30 | 8-13 | 44 (112) | 32.0 | . | 46 | 1408 | ( 1580) |
| CARGILL | 40 | 8-15 | 44 (112) | 33.0 | . | 48 | 1284 | ( 1440) |
| ENTRY AVERAGES | | 8-9 | 41 | 30.4 | | 51 | 2827 | |
| LSD (.05) | | | | | | | 546 | |
| CV - % | | | | | | | 18.1 | |
| | | | THREE-YEAR | | | | | |
| DEKALB | DK-18 | 8- 1 | 45 (114) | 28.0 | . | 54 | 3605 | ( 4040) |
| DEKALB | DK-28 | 8- 5 | 40 (102) | 29.0 | . | 53 | 3786 | ( 4240) |
| WARNER | W-545T | 8- 9 | 38 ( 97) | 32.0 | . | 50 | 3457 | ( 3870) |
| CARGILL | 22 | 8-10 | 43 (109) | 30.0 | . | 50 | 2602 | ( 2910) |
| SIGCO | 50YG | 8-12 | 47 (119) | 32.0 | . | 51 | 2638 | ( 2950) |
| CARGILL | 30 | 8-14 | 48 (122) | 32.0 | . | 46 | 1712 | ( 1920) |
| CARGILL | 40 | 8-15 | 46 (117) | 33.0 | . | 45 | 1586 | ( 1780) |
| ENTRY AVERAGES | | 8-9 | 44 | 30.9 | | 50 | 2769 | |
| LSD (.05) | | | | | | | 494 | |
| CV - % | | | | | | | 20.0 | |

TABLE 8. 1985 GRAIN SORGHUM PERFORMANCE TRIAL, AREA B3, HARLAN HALVERSON FARM, KENNEBEC, LYMAN COUNTY, SOUTH DAKOTA.

| BRAND | VARIETY | PLANTS 50 PCT MO-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | GRAIN YIELD (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| **ONE-YEAR** | | | | | | | | |
| DEKALB | DK-28 | | 38 ( 97) | 33.0 | . | 50 | 2534 | ( 2840) |
| DEKALB | DK-18 | | 40 (102) | 33.0 | . | 46 | 2059 | ( 2310) |
| NORTHRUP KING | NK BRAND 1210 | | 38 ( 97) | 33.0 | . | 51 | 2488 | ( 2790) |
| PAYMASTER | 930 | | 40 (102) | 33.0 | . | 45 | 2011 | ( 2250) |
| PAYMASTER | 1C22 | | 43 (109) | 33.0 | . | 41 | 1418 | ( 1590) |
| P-A-G | 2250 | | 39 ( 99) | 33.0 | . | 47 | 2254 | ( 2520) |
| P-A-G | 2285 | | 43 (109) | 33.0 | . | 37 | 1148 | ( 1290) |
| PIONEER BRAND | 894 | | 39 ( 99) | 33.0 | . | 51 | 2404 | ( 2690) |
| PIONEER BRAND | 8790 | | 41 (104) | 33.0 | . | 50 | 2085 | ( 2330) |
| PIONEER BRAND | 8855 | | 42 (107) | 33.0 | . | 47 | 2200 | ( 2460) |
| SIGCO | 50YG | | 44 (112) | 33.0 | . | 43 | 1908 | ( 2140) |
| SIGCO | 48YG | | 38 ( 97) | 33.0 | . | 46 | 2055 | ( 2300) |
| SIGCO | 46YG | | 43 (109) | 33.0 | . | 44 | 2480 | ( 2780) |
| CARGILL | 30 | | 42 (107) | 33.0 | . | 39 | 1638 | ( 1830) |
| CARGILL | 22 | | 39 ( 99) | 33.0 | . | 48 | 2208 | ( 2470) |
| CARGILL | 40 | | 41 (104) | 33.0 | . | 32 | 179 | ( 200) |
| WESTERN | WS-203 | | 42 (107) | 33.0 | . | 43 | 1743 | ( 1950) |
| SEEDTEC | 8501 | | 44 (112) | 33.0 | . | 46 | 2502 | ( 2800) |
| SEEDTEC | 8502 | | 40 (102) | 33.0 | . | 51 | 2163 | ( 2420) |
| SEEDTEC | 8503 | | 40 (102) | 33.0 | . | 47 | 2658 | ( 2980) |
| FUNK'S | G-251 | | 39 ( 99) | 33.0 | . | 50 | 2437 | ( 2730) |
| FUNKS | Hw5883 | | 37 ( 94) | 33.0 | . | 38 | 863 | ( 970) |
| FUNK'S | G-421 | | 39 ( 99) | 33.0 | . | 40 | 1437 | ( 1610) |
| CENEX | 224T | | 39 ( 99) | 33.0 | . | 43 | 2050 | ( 2300) |
| CENEX | 223T | | 45 (114) | 33.0 | . | 45 | 1827 | ( 2050) |
| CENEX | 226T | | 36 ( 91) | 33.0 | . | 48 | 2169 | ( 2430) |
| KELTGEN | KG 57T | | 38 ( 97) | 33.0 | . | 49 | 2379 | ( 2660) |
| KELTGEN | KG 63T | | 44 (112) | 33.0 | . | 32 | 356 | ( 400) |
| ENTRY AVERAGES | | | 41 | 33.+ | | 44 | 1916 | |
| LSD (.05) | | | | | | | 474 | |
| CV - % | | | | | | | 15.8 | |
| **TWO-YEAR** | | | | | | | | |
| DEKALB | DK-28 | | 38 ( 97) | 30.0 | . | 54 | 3178 | ( 3560) |
| DEKALB | DK-18 | | 40 (102) | 30.0 | 10 | 52 | 3293 | ( 3690) |
| NORTHRUP KING | NK BRAND 1210 | | 40 (102) | 31.0 | . | 54 | 3236 | ( 3620) |
| PIONEER BRAND | 894 | | 38 ( 97) | 28.0 | . | 55 | 3359 | ( 3760) |
| PIONEER BRAND | 8790 | | 41 (104) | 30.0 | . | 54 | 2965 | ( 3320) |
| PIONEER BRAND | 8855 | | 42 (107) | 30.0 | . | 53 | 3313 | ( 3710) |
| SIGCO | 50YG | | 45 (114) | 32.0 | . | 49 | 3055 | ( 3420) |
| SIGCO | 48YG | | 39 ( 99) | 32.0 | . | 51 | 3286 | ( 3680) |
| CARGILL | 30 | | 42 (107) | 32.0 | . | 47 | 2230 | ( 2500) |
| CARGILL | 22 | | 40 (102) | 30.0 | . | 53 | 3049 | ( 3410) |
| CARGILL | 40 | | 41 (104) | 33.0 | . | 42 | 1136 | ( 1270) |
| FUNK'S | G-251 | | 38 ( 97) | 29.0 | . | 55 | 3176 | ( 3560) |
| FUNKS | Hw5883 | | 39 ( 99) | 33.0 | . | 47 | 2247 | ( 2520) |
| CENEX | 224T | | 39 ( 99) | 31.0 | . | 50 | 3112 | ( 3480) |
| CENEX | 223T | | 45 (114) | 32.0 | 10 | 51 | 2852 | ( 3190) |
| ENTRY AVERAGES | | | 40 | 30.9 | | 51 | 2899 | |
| LSD (.05) | | | | | | | 265 | |
| CV - % | | | | | | | 11.3 | |
| **THREE-YEAR** | | | | | | | | |
| DEKALB | DK-28 | | 37 ( 94) | 31.0 | . | 56 | 2775 | ( 3110) |
| DEKALB | DK-18 | | 40 (102) | 28.0 | 10 | 54 | 2829 | ( 3170) |
| NORTHRUP KING | NK BRAND 1210 | | 39 ( 99) | 30.0 | . | 56 | 2895 | ( 3240) |
| PIONEER BRAND | 894 | | 37 ( 94) | 28.0 | . | 56 | 2735 | ( 3060) |
| PIONEER BRAND | 8790 | | 39 ( 99) | 29.0 | . | 56 | 2556 | ( 2860) |
| PIONEER BRAND | 8855 | | 40 (102) | 31.0 | . | 55 | 2712 | ( 3040) |
| SIGCO | 50YG | | 42 (107) | 32.0 | . | 52 | 2711 | ( 3040) |
| SIGCO | 48YG | | 37 ( 94) | 33.0 | . | 53 | 2911 | ( 3260) |
| FUNK'S | G-251 | | 37 ( 94) | 29.0 | . | 56 | 2688 | ( 3010) |
| CENEX | 224T | | 37 ( 94) | 32.0 | . | 53 | 2776 | ( 3110) |
| CENEX | 228T | | 43 (109) | 32.0 | 10 | 53 | 2539 | ( 2840) |
| ENTRY AVERAGES | | | 39 | 30.3 | | 54 | 2738 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 10.0 | |

TABLE 8. (CONTINUED), KENNEBEC, SD

| BRAND | VARIETY | PLANTS SC PCT MG-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | FOUR-YEAR | | | | | |
| DEKALB | DK-28 | | 38 ( 97) | 31.0 | . | 53 | 2790 | ( 3120) |
| DEKALB | DK-18 | | 40 (102) | 28.0 | 10 | 54 | 2913 | ( 3260) |
| NORTHRUP KING | NK BRAND 1210 | | 40 (102) | 31.0 | . | 55 | 2794 | ( 3130) |
| SIGCO | 50YG | | 43 (109) | 32.0 | 4 | 51 | 2647 | ( 2960) |
| SIGCO | 48YG | | 38 ( 97) | 33.0 | . | 52 | 2719 | ( 3040) |
| FUNK'S | G-251 | | 37 ( 94) | 28.0 | . | 54 | 2587 | ( 2900) |
| CENEX | 224T | | 38 ( 97) | 32.0 | 5 | 51 | 2661 | ( 2980) |
| CENEX | 228T | | 43 (109) | 32.0 | 10 | 51 | 2252 | ( 2520) |
| ENTRY AVERAGES | | | 40 | 30.9 | | 53 | 2670 | |
| LSD (.05) | | | | | | | N.S. | |
| CV - % | | | | | | | 11.7 | |

TABLE 9. 1985 GRAIN SORGHUM PERFORMANCE TRIAL, AREA C1(IRRIGATED), JAMES VALLEY RESEARCH CENTER, REDFIELD, SPINK COUNTY, SOUTH DAKOTA

| BRAND | VARIETY | PLANTS SC PCT MG-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A | (KG/HA) |
|---|---|---|---|---|---|---|---|---|
| | | | ONE-YEAR | | | | | |
| NORTHRUP KING | NK BRAND 1210 | E- 4 | 45 (114) | 33.0 | . | 55 | 4554 | ( 5100) |
| PIONEER BRAND | 8855 | E- 4 | 45 (114) | 33.0 | . | 57 | 4315 | ( 4830) |
| DEKALB | DK-18 | E- 5 | 46 (117) | 33.0 | . | 55 | 4119 | ( 4610) |
| FUNK'S | G-251 | E- 5 | 39 ( 99) | 33.0 | . | 55 | 3720 | ( 4170) |
| PIONEER BRAND | 8790 | E- 7 | 45 (114) | 33.0 | . | 56 | 4132 | ( 4630) |
| P-A-G | 2250 | E- 9 | 42 (107) | 33.0 | . | 51 | 2950 | ( 3300) |
| SEEDTEC | 8503 | E- 9 | 43 (109) | 33.0 | . | 52 | 4169 | ( 4670) |
| WESTERN | WS-203 | E-10 | 47 (119) | 33.0 | . | 52 | 3130 | ( 3500) |
| WARNER | W-545T | E-10 | 41 (104) | 33.0 | . | 52 | 3775 | ( 4230) |
| CARGILL | 22 | E-11 | 43 (109) | 33.0 | . | 53 | 3379 | ( 3780) |
| WARNER | W-551A | E-12 | 48 (122) | 33.0 | . | 51 | 4005 | ( 4480) |
| SEEDTEC | 8501 | E-13 | 47 (119) | 33.0 | . | 51 | 3625 | ( 4060) |
| DEKALB | DK-38 | E-14 | 53 (135) | 33.0 | . | 49 | 2901 | ( 3250) |
| PAYMASTER | 930 | E-14 | 46 (117) | 33.0 | . | 51 | 2753 | ( 3080) |
| WARNER | W-523T | E-14 | 43 (109) | 33.0 | . | 49 | 2928 | ( 3280) |
| SIGCO | 50YG | E-15 | 50 (127) | 33.0 | . | 52 | 3449 | ( 3860) |
| SEEDTEC | 8502 | E-15 | 42 (107) | 33.0 | . | 49 | 2452 | ( 2750) |
| WARNER | W-501T | E-15 | 38 ( 97) | 33.0 | . | 47 | 2850 | ( 3190) |
| CARGILL | 30 | E-16 | 47 (119) | 33.0 | . | 47 | 2422 | ( 2710) |
| PAYMASTER | 1022 | E-18 | 48 (122) | 33.0 | . | 46 | 2195 | ( 2460) |
| WARNER | W-560T | E-18 | 44 (112) | 33.0 | . | 47 | 2354 | ( 2640) |
| FUNKS | HW5883 | E-19 | 42 (107) | 33.0 | . | 48 | 1818 | ( 2040) |
| FUNK'S | G-421 | E-19 | 42 (107) | 33.0 | . | 47 | 1801 | ( 2020) |
| ASGROW | CORRAL | E-22 | 52 (132) | 33.0 | . | 45 | 1557 | ( 1740) |
| ASGROW | MESA | E-24 | 48 (122) | 33.0 | . | 47 | 1643 | ( 1840) |
| CARGILL | 40 | E-25 | 45 (117) | 33.0 | . | 46 | 787 | ( 880) |
| ENTRY AVERAGES | | E-13 | 45 | 33.+ | | 50 | 2970 | |
| LSD (.05) | | | | | | | 810 | |
| CV - % | | | | | | | 16.7 | |

TABLE 9. (CONTINUED), REDFIELD, SD

| BRAND | VARIETY | PLANTS 50 PCT MG-DAY | PLANT HEIGHT IN (CM) | EARLY MOIST PCT | STALK LODGN PCT | TEST WT. LB/BU | GRAIN YIELD LB/A (KG/HA) |
|---|---|---|---|---|---|---|---|
| | | | TWO-YEAR | | | | |
| PIONEER BRAND | 8855 | 8- 3 | 45 (114) | 32.0 | 22 | 58 | 4975 ( 5570) |
| FUNK'S | G-251 | 8- 3 | 39 ( 99) | 31.0 | 5 | 57 | 4360 ( 4880) |
| DEKALB | DK-18 | 8- 4 | 47 (119) | 33.0 | 80 | 56 | 4823 ( 5400) |
| NORTHRUP KING | NK BRAND 1210 | 8- 4 | 44 (112) | 32.0 | 10 | 56 | 5007 ( 5610) |
| PIONEER BRAND | 8790 | 8- 6 | 44 (112) | 33.0 | 10 | 57 | 4765 ( 5340) |
| P-A-G | 2250 | 8- 8 | 43 (109) | 33.0 | 8 | 53 | 3911 ( 4380) |
| CARGILL | 22 | 8-10 | 43 (109) | 33.0 | 35 | 54 | 3824 ( 4280) |
| DEKALB | DK-38 | 8-11 | 55 (140) | 33.0 | 87 | 52 | 4062 ( 4550) |
| PAYMASTER | 930 | 8-11 | 48 (122) | 33.0 | 22 | 54 | 3967 ( 4440) |
| SIGCO | 50YG | 8-13 | 50 (127) | 33.0 | 45 | 54 | 4562 ( 5110) |
| CARGILL | 30 | 8-14 | 47 (119) | 33.0 | 43 | 50 | 3609 ( 4040) |
| FUNKS | HW5885 | 8-14 | 42 (107) | 33.0 | 5 | 52 | 3683 ( 4120) |
| PAYMASTER | 1022 | 8-16 | 51 (130) | 33.0 | 40 | 50 | 3600 ( 4030) |
| CARGILL | 40 | 8-20 | 49 (124) | 33.0 | 15 | 48 | 2576 ( 2880) |
| ENTRY AVERAGES | | 8-9 | 46 | 32.7 | 30 | 53 | 4123 |
| LSD (.05) | | | | | | | N.S. |
| CV - % | | | | | | | 15.7 |
| | | | THREE-YEAR | | | | |
| PIONEER BRAND | 8855 | 8- 3 | 44 (112) | 28.0 | 22 | 58 | 5704 ( 6390) |
| DEKALB | DK-18 | 8- 4 | 46 (117) | 28.0 | 80 | 56 | 5400 ( 6050) |
| NORTHRUP KING | NK BRAND 1210 | 8- 4 | 43 (109) | 28.0 | 10 | 57 | 5738 ( 6430) |
| PIONEER BRAND | 8790 | 8- 6 | 44 (112) | 28.0 | 10 | 57 | 5629 ( 6300) |
| P-A-G | 2250 | 8- 8 | 43 (109) | 28.0 | 8 | 54 | 4464 ( 5000) |
| CARGILL | 22 | 8-10 | 43 (109) | 28.0 | 35 | 55 | 5153 ( 5770) |
| DEKALB | DK-38 | 8-11 | 53 (135) | 28.0 | 87 | 53 | 5447 ( 6100) |
| SIGCO | 50YG | 8-13 | 50 (127) | 28.0 | 45 | 55 | 5236 ( 5860) |
| CARGILL | 30 | 8-14 | 48 (122) | 29.0 | 43 | 53 | 4973 ( 5570) |
| CARGILL | 40 | 8-20 | 48 (122) | 29.0 | 15 | 51 | 4262 ( 4770) |
| ENTRY AVERAGES | | 8-9 | 46 | 28.2 | 35 | 55 | 5200 |
| LSD (.05) | | | | | | | N.S. |
| CV - % | | | | | | | 15.8 |
| | | | FOUR-YEAR | | | | |
| DEKALB | DK-18 | 8- 5 | 46 (117) | 29.0 | 80 | 57 | 5407 ( 6050) |
| P-A-G | 2250 | 8-10 | 43 (109) | 29.0 | 8 | 55 | 4386 ( 4910) |
| DEKALB | DK-38 | 8-12 | 53 (135) | 30.0 | 87 | 54 | 5432 ( 6080) |
| CARGILL | 22 | 8-12 | 42 (107) | 29.0 | 35 | 55 | 4855 ( 5440) |
| SIGCO | 50YG | 8-14 | 50 (127) | 30.0 | 45 | 55 | 5059 ( 5670) |
| CARGILL | 30 | 8-16 | 48 (122) | 30.0 | 43 | 53 | 4460 ( 4990) |
| CARGILL | 40 | 8-20 | 48 (122) | 30.0 | 15 | 52 | 4156 ( 4650) |
| ENTRY AVERAGES | | 8-12 | 47 | 29.5 | 44 | 54 | 4822 |
| LSD (.05) | | | | | | | N.S. |
| CV - % | | | | | | | 17.1 |

Table 10. Entries Included in the 1985 Grain Sorghum Trials and Tables Where Results Appear.

| Company and Brand | Entry | Tables |
|---|---|---|
| Asgrow Seed Company | Corral | 4,5,6,7,9 |
| 7000 Portage Road | Dorado E | 4,5,6 |
| Kalamazoo, MI 49001 | Mesa | 4,6,9 |
| "Asgrow" | | |
| Cargill Seeds | 22 | 5,6,7,8,9 |
| PO Box 5645 | 30 | 4,5,6,7,8,9 |
| Minneapolis, MN 55440 | 40 | 4,5,6,7,8,9 |
| "Cargill" | | |
| Cenex | 224 | 8 |
| Box 64089 | 226 | 5,6,8 |
| St. Paul, MN 55164 | 228 | 5,8 |
| "Cenex" | 230 | 4,6 |
| | 310 | 4,5,6 |
| DeKalb-Pfizer Genetics | DK-18 | 8,9 |
| Rt. 1, Box 225 | DK-28 | 5,6,7,8 |
| Glenvil, NB 68941 | DK-38 | 9 |
| "DeKalb" | DK-39Y | 4,5,6 |
| | X-538 | 5,6 |
| | X-550 | 6 |
| Funk Seeds, Int. | G-251 | 4,5,6,7,8,9 |
| 1301 E. 50th | G-421 | 4,5,6,7,8,9 |
| Lubbock, TX 79404 | HW5883 | 4,5,6,7,8,9 |
| "Funk's" | | |
| Hoegemeyer Hybrids | 606 | 5,7 |
| RR 2 | GT620 | 5 |
| Hooper, NE 68031 | | |
| "Hoegemeyer" | | |
| Keltgen Seed Co. | KG 57T | 6,8 |
| Box A | KG 63T | 6,8 |
| Olivia, MN 56277 | | |
| "Keltgen" | | |
| McCurdy Seed Co. | M51 YG | 6 |
| PO Box 66 | M410 | 4,6 |
| Fremont, IA 52561 | M450 | 4,6 |
| "McCurdy" | M687 | 4 |
| Northrup King Co. | NK 1210 | 8,9 |
| 1754 Park Blvd. | NK 2030 | 6 |
| Fargo, ND 58103 | NK 2244 | 6 |
| "Northrup King" | | |
| PAG Seeds | 2250 | 4,5,6,8,9 |
| PO Box 9480 | 2285 | 4,5,6,8 |
| Minneapolis MN 55440 | 3339 | 5,6 |
| "PAG" | | |
| Paymaster Seed | 930 | 4,5,6,8,9 |
| PO Box 9493 | 1022 | 4,5,6,8,9 |
| Minneapolis, MN 55440 | | |
| "Paymaster" | | |
| Pioneer Hi-Bred, Int. | 894 | 8 |
| 7000 Pioneer Parkway | 8680 | 4,5,6,7 |
| Johnston, IA 50131 | 8790 | 4,5,6,7,8,9 |
| "Pioneer" | 8855 | 4,5,6,7,8,9 |
| Sigco Research | 48YG | 5,6,7,8 |
| Box 289 | 48YG | 5,6,7,8 |
| Breckenridge, MN 56520 | 50YG | 4,5,6,7,8,9 |
| "Sigco" | | |
| Warner Seed Co. | W-501T | 4,5,6,7,9 |
| PO Box 1448 | W-523T | 4,5,6,7,9 |
| Hereford, TX 79045 | W-545T | 4,5,6,7,9 |
| "Warner" | W-551T | 4,5,6,7,9 |
| | W-560Y | 4,5,6,7,9 |
| Western SeedTec | WS-203 | 4,5,6,7,8,9 |
| PO Box 1230 | WS-212 | 4,5,6 |
| Huron, SD 57350 | ST8501 | 4,5,6,7,8,9 |
| "Western SeedTec" | ST8502 | 4,5,6,7,8,9 |
| | ST8503 | 4,5,6,7,8,9 |

PC 74

Published in accordance with an Act passed in 1881 by the 14th Legislative Assembly, Dakota Territory, establishing the Dakota Agricultural College and with the Act of re-organization passed in 1887 by the 17th Legislative Assembly, which established the Agricultural Experiment Station at South Dakota State University.