January 1990
Agronomy and Soils Departmental Series No. 141
Alabama Agricultural Experiment Station
Lowell T. Frobish, Director
Auburn University
Auburn University, Alabama

Performance of Grain Sorghum Hybrids in Alabama, 1989

TABLE OF CONTENTS

PERFORMANCE OF GRAIN SORGHUM HYBRIDS IN ALABAMA, 1989

D. L. Thurlow and W. C. Johnson[1]

INTRODUCTION

Grain sorghum performance tests are conducted annually throughout Alabama by the Alabama Agricultural Experiment Station. These tests give a comparison of hybrid performance under the conditions at a particular location. The locations used represent major soil and climatic areas of the State. The performance of hybrids varies with location. Therefore, this report should be carefully studied before a hybrid is selected.

EXPERIMENTAL PROCEDURES

Cultural practices were uniform for all hybrids within a given test. The experimental design for all tests was a randomized complete block with four replications. Test plots were two 36-inch rows, 20 or 30 feet in length. The target plant population was 60,000 plants per acre, with a seeding rate 25 percent higher to ensure a good stand. Test cultural practices are listed in table 1.

Grain yields were obtained by harvesting the whole test plot with a plot combine, and adjusting harvested grain weight and moisture to a standard 14 percent moisture and 56 pounds per bushel.

Lodging is given as the percentage of plants broken or leaning at an angle of more than 45 degrees. The seedheads of lodged plants were not included in the yields reported.

Time (days) to mid-bloom is one measure of relative maturity. This is taken as days from planting to the date when approximately one-half of the heads in the plot are in bloom.

---

[1]Associate Professor and Professor of Agronomy and Soils.

The preliminary grain sorghum hybrid tests, tables 5 and 9, are used to evaluate new hybrids and experimental lines. These test entries in 1989 were included in the regular test at the two locations.

Bird damage was heavy and relatively uniform in 1988 at the following locations: Sand Mountain Substation, Crossville; Prattville Experiment Field, Prattville; and Gulf Coast Substation, Fairhope. Damage in 1989 was heavy at Prattville Experiment Field, Prattville, and E.V. Smith Research Center, Shorter. The test at Prattville Field was discarded because of the bird problem. There was considerable damage at the Tennessee Valley Substation, Belle Mina, on a few of the early varieties, table 5. Damage was light at the following locations in 1989: Upper Coastal Plain Substation, Winfield; Monroeville Experiment Field, Monroeville; and Wiregrass Substation, Headland. Bird damage can be a problem in small fields. In selecting a hybrid, consideration should be given to bird populations; if damage is anticipated, bird-resistant hybrids should be used. Bird-resistant grain sorghum hybrids are sometimes difficult to market and may have lower feed value than the non-bird-resistant hybrids.

Two-year and 3-year average yields were severely reduced at the Wiregrass Substation, Headland, by a severe infestation of green-bugs in 1987 as the grain of most hybrids was maturing.

VARIETY COMPARISONS

The performance of hybrids varies among years and locations. Small yield differences among hybrids may be the result of slight environmental or cultural differences rather than differences in yield potential among hybrids. To aid in determining real differences, a statistical analysis of variance was performed on the data from each location. The L.S.D. (least significant difference) at the 5 percent level is reported to help determine real

differences between hybrid yields for each location. If the yield difference is greater than the L.S.D. value between two hybrids at a given location, the two hybrids are considered to be significantly different in yield. The C.V. (coefficient of variation) is a measure of test variability. An increase in its value indicates a decrease in the precision of the test data.

The list of acceptable hybrids is based on 3-year-average grain yield and lodging data. The list is divided into three regions, north, central, and south. Since all acceptable hybrids are not equal in performance, a review of the data from several years at the test location similar to your situation is the most reliable method for selecting a hybrid best suited for your farming needs.

Anthracnose has become a major factor in grain sorghum production in Alabama, and there were sporadic outbreaks of this disease during the 1987 growing season, but none were observed in 1988 or 1989. In years prior to 1987, however, grain sorghum in many northeast and west-central Alabama counties was devastated by anthracnose. Some fields yielded 50 to 75 percent less grain than expected. Feed quality of much of the harvested grain from diseased fields was also poor. Resistant grain sorghum hybrids have been the best defense against anthracnose. Of available adapted grain sorghum hybrids, Funk's G-1711 and Pioneer Brand 8333 have the best resistance to this disease. Other hybrids with some anthracnose resistance are DeKalb DK-64 and Pioneer Brand 8222. Good management plus use of disease-resistant grain sorghum hybrids are necessary to reduce losses to anthracnose.

There was not a second or ratoon crop of sorghum in 1989 at any location.

Plant height of grain sorghum hybrids is reported as regional averages (central, northern, southern) and a single location of Fairhope, table 14.

The rainfall during June and July was good at all locations, resulting in good yields in 1989 except where bird damage was a problem, table 2.

ACKNOWLEDGMENTS

The performance trials were conducted in cooperation with the following substation and experiment field superintendents and their staffs whose quality work makes this report a reliable source of information for farmers in their areas.

Northern Alabama

Tenessee Valley Substation, Belle Mina - W. B. Webster, H. E. Burgess

Sand Mountain Substation, Crossville - J. T. Eason, M. E. Ruf

Upper Coastal Plain Substation, Winfield - W.A. Griffey

Central Alabama

Black Belt Substation, Marion Junction - J. L. Holliman, M.D. Pegues

Prattville Experiment Field, Prattville - D. P. Moore

E. V. Smith Research Center, Shorter - R. R. Duffield

Southern Alabama

Monroeville Experiment Field, Monroeville - J. R. Akridge

Wiregrass Substation, Headland - H. W. Ivey, L. Wells, B. Gamble

Gulf Coast Substation, Fairhope - E. L. Carden, N. R. McDaniel

Appreciation is also expressed to Mien-Huei Tzeng and Sally Bagwell, Research Data Analysis, for the computation, summarization, and analysis of the data in this report.

Table 1. Locations and Cultural Practices for the 1989 Grain Sorghum Hybrid Tests

Location	Planting date	Nitrogen[1] rate	Plant population	Harvest date	Herbicides	Insecticides
Tennessee Valley Substation (Belle Mina)	May 3	85	60,000	September 19	Atrazine[2]	None
Sand Mountain Substation (Crossville)	May 12	120	60,000	September 12	Atrazine	Furadan
Upper Coastal Plain Substation (Winfield)	May 2	80	60,000	September 12	None	None
E. V. Smith Research Center (Shorter)	April 19	95	60,000	August 9	Atrazine & Dual	None
Black Belt Substation (Marion Junction)	May 3	40	60,000	September 8	Atrazine	Lorsban
Prattville Experiment Field (Prattville)	April 20	120	60,000	Not Harvested	Atrazine	Nudrin
Monroeville Experiment Field (Monroeville)	April 24	120	60,000	August 24	Atrazine	None
Wiregrass Substation (Headland)	April 18	100	60,000	July 31	Atrazine	None
Gulf Coast Substation (Fairhope)	April 14	150	60,000	August 3	Atrazine	Lorsban Sevin Lanate

[1]Pounds per acre N. Lime, phosphorus, potassium, zinc, and sulfur were applied according to recommendation based on soil test.

[2]All Atrazine was applied broadcast when the sorghum was approximately 4 inches high.

Table 2. Growing Season Rainfall, 1989

Test Location	Monthly rainfall							7 months total
	Mar.	Apr.	May	June	July	Aug.	Sept.	
	inches							
Belle Mina	5.6	3.2	3.9	13.5	5.1	2.8	3.8	37.9
Crossville	5.8	3.3	3.4	8.3	9.1	1.8	8.9	40.6
Winfield	5.0	3.8	4.5	8.3	7.3	3.3	5.7	37.9
Shorter	9.5	7.0	3.5	14.4	9.0	1.9	5.8	51.1
Prattville	7.1	6.0	3.2	10.7	8.1	1.0	2.0	38.1
Marion Junction	7.3	5.5	1.9	9.3	5.7	1.3	1.5	32.5
Monroeville	7.0	8.2	3.6	13.4	7.3	1.7	4.5	45.7
Fairhope	4.3	2.9	7.0	18.5	8.9	2.2	0.8	44.6
Headland	5.2	3.0	5.6	11.6	7.2	1.9	5.1	39.6

TABLE 3. YIELD AND LODGING AVERAGES FOR NORTHERN ALABAMA[1/] 1987-89

BRAND-HYBRID	YIELD PER ACRE BU.	LODGED STALKS PCT.
NEW NK SAVANNA 5 *	99	0.6
SUMMIT HT 126 DR	94	2.9
CARGILL 6670	94	1.8
NEW NK 2660	93	2.2
AGRATECH GK 802G	92	2.6
CARGILL DR 1125	91	2.4
HYPERFORMER 1225 DR	90	1.9
HYPERFORMER WING	89	1.4
CARGILL 5572	89	0.9
FUNK'S RA 787	86	2.5
FUNK'S G 522A	86	2.5
FUNK'S G 522 DR	86	2.1
DEKALB DK-64	85	1.3
CARGILL R 1090	84	3.8
FUNK'S G-1711	84	1.0
PIONEER 8333	83	0.5
FFR 321	81	3.1
AGRATECH GK 712G	80	4.6
HYPERFORMER 1330 DR	80	3.8
FUNK'S G-1602	80	0.8
PENN PENNGRAIN DP	77	3.0
HYPERFORMER HONCHO	76	2.0
CARGILL 4462	75	2.4

[1/] BELLE MINA, CROSSVILLE, AND WINFIELD. WINFIELD DATA FOR 1987 NOT INCLUDED DUE TO POOR STAND.

* BIRD-RESISTANT HYBRID.

TABLE 4. CROSSVILLE GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
NEW NK SAVANNA 5 *	119	102	104	7/22	0.0	0.0
HYPERFORMER WING	101	82	91	7/25	8.8	0.0
HYPERFORMER 1225 DR	106	82	90	7/23	4.3	0.0
CARGILL 5572	110	88	89	7/24	3.8	0.0
AGRATECH GK 802G	109	85	88	7/23	5.0	0.0
NEW NK 2660	102	81	87	7/23	6.3	0.0
SUMMIT HT 126 DR	100	79	87	7/23	6.3	0.0
CARGILL DR 1125	115	83	86	7/23	0.5	0.0
CARGILL 6670	114	84	85	7/24	2.5	0.0
CARGILL R 1090	103	82	83	7/21	3.8	0.0
FUNK'S G 522A	102	85	83	7/23	6.3	0.0
FUNK'S G 522 DR	93	76	81	7/23	11.3	0.0
FUNK'S G-1711	100	77	79	7/24	7.5	0.0
PIONEER 8333	97	74	79	7/22	4.3	0.0
FFR 321	101	82	78	7/24	3.8	0.0
HYPERFORMER 1330 DR	106	75	78	7/24	7.5	0.0
AGRATECH GK 712G	91	75	78	7/22	5.0	0.0
FUNK'S RA 787	96	72	76	7/24	8.8	0.0
PENN PENNGRAIN DR	87	67	75	7/25	10.0	0.0
HYPERFORMER HONCHO	92	74	73	7/22	12.5	0.0
CARGILL 4462	87	65	72	7/21	10.0	0.0
DEKALB DK-64	95	61	71	7/24	15.0	0.0
FUNK'S G-1602	96	55	65	7/25	0.5	0.0
PIONEER 8222	108	84	-	7/23	2.5	0.0
CAPEHART CONTENDER	107	82	-	7/23	0.0	0.0
AFC 861	113	81	-	7/23	3.8	0.0
CAPEHART CHALLENGER	101	78	-	7/23	13.0	0.0
FUNK'S HW 7380	101	73	-	7/23	6.3	0.0
CAPEHART CHAMPION	104	70	-	7/24	7.5	0.0
HYPERFORMER CHEROKEE	96	66	-	7/24	7.5	0.0
DEKALB X-732	110	62	-	7/26	12.5	0.0
AFC 402	108	-	-	7/24	2.5	0.0
TRIUMPH TWO 70-D	107	-	-	7/22	6.3	0.0
NEW NK KS 780	106	-	-	7/24	8.0	0.0
DEKALB DK 66	103	-	-	7/27	16.3	0.0
TRIUMPH TWO 80-D	93	-	-	7/25	10.0	0.0
NEW NK KS 737	91	-	-	7/21	12.5	0.0
PIONEER 8230	87	-	-	7/22	7.5	0.0
TEST MEAN	101					
L.S.D. (.05)	16.4					
C.V. (%)	11.5					

* BIRD-RESISTANT HYBRID.

TABLE 5. BELLE MINA GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
CARGILL 6670	120	111	101	-	13.8	0.0
SUMMIT HT 126 DR	134	106	101	-	8.8	0.0
NEW NK 2660	123	110	97	-	12.5	0.0
AGRATECH GK 802G	117	98	96	-	8.8	0.0
DEKALB DK-64	130	104	95	-	8.8	0.0
CARGILL DR 1125	116	102	94	-	13.8	0.0
FUNK'S RA 787	112	98	93	-	18.8	0.0
NEW NK SAVANNA 5 *	76	79	92	-	8.8	0.0
FUNK'S G 522 DR	125	93	90	-	7.5	0.0
FUNK'S G-1602	105	81	90	-	6.3	0.0
HYPERFORMER 1225 DR	116	93	90	-	16.3	0.0
HYPERFORMER WING	104	92	89	-	18.8	1.3
CARGILL 5572	113	100	88	-	11.3	0.0
FUNK'S G 522A	119	89	87	-	11.3	0.0
CARGILL R 1090	104	83	86	-	26.3	0.0
PIONEER 8333	92	83	85	-	22.5	0.0
AGRATECH GK 712G	84	82	84	-	10.0	0.0
FUNK'S G-1711	101	88	84	-	11.3	0.0
PENN PENNGRAIN DR	86	76	82	-	18.8	0.0
FFR 321	120	94	80	-	8.8	0.0
HYPERFORMER HONCHO	90	81	77	-	6.3	0.0
HYPERFORMER 1330 DR	85	76	70	-	20.0	0.0
CARGILL 4462	54	54	65	-	67.5	0.0
CAPEHART CHALLENGER	119	107	-	-	16.3	0.0
FUNK'S HW 7380	115	100	-	-	11.3	0.0
DEKALB X-732	108	100	-	-	12.5	0.0
PIONEER 8222	103	94	-	-	16.3	0.0
AFC 861	111	93	-	-	18.8	0.0
CAPEHART CONTENDER	114	92	-	-	10.0	0.0
CAPEHART CHAMPION	90	82	-	-	23.8	0.0
HYPERFORMER CHEROKEE	78	67	-	-	6.3	0.0
NEW NK KS 786	134	-	-	-	10.0	0.0
CARGILL X 15277	132	-	-	-	11.3	0.0
TRIUMPH TWO 80-D	129	-	-	-	17.5	0.0
TRIUMPH TWO 70-D	126	-	-	-	7.5	0.0
NEW NK KS 780	124	-	-	-	8.8	0.0
TORO BRAND OPTIMA	116	-	-	-	16.3	0.0
TORO BRAND OLE'	115	-	-	-	7.5	0.0
DEKALB DK 66	105	-	-	-	18.8	0.0
AFC 402	102	-	-	-	10.0	1.3
CARGILL 847	101	-	-	-	6.3	0.0
PIONEER 8230	97	-	-	-	10.0	0.0
DEKALB DK 41Y	96	-	-	-	3.8	0.0
NEW NK KS 737	87	-	-	-	38.8	0.0
AGRATECH 805GW	70	-	-	-	20.0	0.0
AFC 401	67	-	-	-	22.5	0.0
TRIUMPH 65-G	63	-	-	-	35.0	0.0
TEST MEAN	105					
L.S.D. (.05)	24.2					
C.V. (%)	16.5					

* BIRD-RESISTANT HYBRID.

TABLE 6. WINFIELD GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1986&88-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
FFR 321	97	98	85	-	0.0	0.5
HYPERFORMER 1330 DR	86	102	83	-	0.0	1.5
CARGILL 5572	85	98	83	-	0.0	0.8
NEW NK 2660	91	98	82	-	0.0	0.3
SUMMIT HT 126 DR	88	94	82	-	0.0	0.8
PIONEER 8222	92	94	81	-	0.0	0.3
FUNK'S RA 787	94	93	80	-	0.0	0.5
NEW NK SAVANNA 5 *	70	95	80	-	0.0	1.0
HYPERFORMER 1225 DR	88	91	79	-	0.0	0.0
AGRATECH GK 802G	84	90	78	-	0.0	0.5
FUNK'S G-1711	85	93	78	-	0.0	0.3
FUNK'S G 522 DR	85	87	77	-	0.0	1.5
FUNK'S G 522A	93	95	76	-	0.0	0.0
DEKALB DK-64	86	93	75	-	0.0	0.5
PIONEER 8333	89	85	74	-	0.0	0.3
CARGILL 4462	67	90	73	-	0.0	0.3
HYPERFORMER HONCHO	78	83	71	-	0.0	1.3
AGRATECH GK 712G	75	76	68	-	0.0	1.0
CARGILL R 1090	61	82	68	-	0.0	0.3
PENN PENNGRAIN DR	48	64	59	-	0.0	0.3
AFC 861	86	104	-	-	0.0	0.3
CAPEHART CHALLENGER	96	103	-	-	0.0	0.0
CARGILL 6670	81	100	-	-	0.0	0.0
CAPEHART CHAMPION	82	100	-	-	0.0	0.5
CAPEHART CONTENDER	90	98	-	-	0.0	0.0
FUNK'S HW 7380	93	98	-	-	0.0	0.0
DEKALB X-732	96	95	-	-	0.0	0.0
CARGILL DR 1125	84	94	-	-	0.0	0.3
HYPERFORMER CHEROKEE	70	83	-	-	0.0	0.0
HYPERFORMER WING	73	83	-	-	0.0	0.0
FUNK'S G-1602	68	78	-	-	0.0	0.8
DEKALB DK 66	108	-	-	-	0.0	0.3
AFC 402	94	-	-	-	0.0	0.0
TRIUMPH TWO 80-D	89	-	-	-	0.0	0.3
NEW NK KS 780	86	-	-	-	0.0	0.8
TRIUMPH TWO 70-D	85	-	-	-	0.0	0.5
NEW NK KS 737	82	-	-	-	0.0	0.3
PIONEER 8230	78	-	-	-	0.0	0.3
TEST MEAN	84					
L.S.D. (.05)	16.2					
C.V. (%)	13.8					

* BIRD-RESISTANT HYBRID.

TABLE 7. YIELD AND LODGING AVERAGES FOR CENTRAL ALABAMA, 1986-87&89 [1/]

BRAND-HYBRID	YIELD PER ACRE BU.	LODGED STALKS PCT.
NEW NK SAVANNA 5 *	60	0.2
FUNK'S G-1711	54	0.0
FUNK'S RA 787	53	0.2
HYPERFORMER 1330 DR	53	0.9
SUMMIT HT 126 DR	52	0.0
NEW NK 2660	51	0.0
FUNK'S G 522A	50	0.0
CARGILL 5572	50	0.0
DEKALB DK-64	50	0.5
PENN PENNGRAIN DR	49	0.0
FUNK'S G 522 DR	49	0.0
FFR 321	49	0.9
AGRATECH GK 712G	48	0.0
HYPERFORMER 1225 DR	48	0.1
AGRATECH GK 802G	47	0.1
PIONEER 8333	47	0.8
HYPERFORMER HONCHO	46	0.0
CARGILL R 1090	46	0.5
CARGILL 4462	44	0.5

[1/] SHORTER AND MARION JUNCTION. PRATTVILLE DATA NOT INCLUDED DUE TO HEAVY BIRD DAMAGE.

* BIRD-RESISTANT HYBRID.

TABLE 8. MARION JUNCTION GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1987&89 2-YR. AV.	1986-87&89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
HYPERFORMER 1330 DR	102	73	72	7/7	0.0	0.0
FUNK'S G-1711	111	70	71	7/8	0.0	0.0
CARGILL 5572	106	69	70	7/8	0.0	0.0
FUNK'S RA 787	98	67	70	7/9	0.0	0.0
SUMMIT HT 126 DR	108	73	69	7/6	0.0	0.0
NEW NK SAVANNA 5 *	108	72	69	7/8	0.0	0.0
DEKALB DK-64	91	66	69	7/8	0.0	0.0
FFR 321	106	70	68	7/7	0.0	0.0
PENN PENNGRAIN DR	91	66	68	7/9	0.0	0.0
NEW NK 2660	105	70	68	7/7	0.0	0.0
FUNK'S G 522 DR	92	64	67	7/8	2.5	0.0
FUNK'S G 522A	94	67	66	7/6	0.0	0.0
AGRATECH GK 802G	93	61	63	7/8	0.0	0.0
HYPERFORMER 1225 DR	104	69	63	7/8	0.0	0.0
CARGILL R 1090	86	61	62	7/5	0.0	0.0
AGRATECH GK 712G	83	56	59	7/5	1.3	0.0
PIONEER 8333	85	56	57	7/6	0.0	0.0
HYPERFORMER HONCHO	78	54	56	7/5	2.5	0.0
CARGILL 4462	74	51	53	7/5	0.0	0.0
CARGILL 6670	109	74	-	7/8	0.0	0.0
FUNK'S G-1602	102	71	-	7/8	0.0	0.0
HYPERFORMER WING	103	67	-	7/8	0.0	0.0
CARGILL DR 1125	97	66	-	7/7	0.0	0.0
TRIUMPH TWO 80-D	110	-	-	7/7	0.0	0.0
DEKALB X-732	109	-	-	7/10	0.0	0.0
AFC 861	109	-	-	7/7	0.0	0.0
CAPEHART CHALLENGER	105	-	-	7/7	0.0	0.0
CAPEHART CONTENDER	103	-	-	7/7	0.0	0.0
PIONEER 8222	102	-	-	7/6	0.0	0.0
HYPERFORMER CHEROKEE	100	-	-	7/8	0.0	0.0
NEW NK KS 780	100	-	-	7/8	0.0	0.0
CAPEHART CHAMPION	100	-	-	7/7	0.0	0.0
AFC 402	99	-	-	7/8	0.0	0.0
TRIUMPH TWO 70-D	98	-	-	7/7	0.0	0.0
DEKALB DK 66	96	-	-	7/12	2.5	0.0
NEW NK KS 737	92	-	-	7/6	2.5	0.0
FUNK'S HW 7380	88	-	-	7/9	0.0	0.0
PIONEER 8230	76	-	-	7/6	0.0	0.0
TEST MEAN	98					
L.S.D. (.05)	15.4					
C.V. (%)	11.3					

* BIRD-RESISTANT HYBRID.

TABLE 9. SHORTER GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
NEW NK SAVANNA 5 *	39	52	59	6/30	11.3	0.0
FUNK'S G 522A	25	42	46	6/25	38.8	0.0
PIONEER 8333	19	43	46	6/28	26.3	0.0
SUMMIT HT 126 DR	27	41	46	6/26	38.8	0.0
CARGILL 6670	30	41	46	6/28	36.3	0.0
AGRATECH GK 712G	16	39	45	6/30	41.3	0.0
HYPERFORMER 1225 DR	26	43	45	6/28	48.8	0.0
FUNK'S G-1711	18	38	44	7/3	53.8	0.0
HYPERFORMER WING	30	39	44	6/28	33.8	0.0
FUNK'S RA 787	23	36	43	7/3	40.0	0.0
FUNK'S G-1602	22	34	42	7/1	37.5	0.0
HYPERFORMER HONCHO	26	39	42	6/26	43.8	0.0
CARGILL DR 1125	28	38	41	6/29	18.8	0.0
PENN PENNGRAIN DR	18	36	41	6/28	35.0	0.0
FFR 321	24	38	40	6/29	46.3	0.0
CARGILL 5572	25	37	40	6/29	43.8	0.0
HYPERFORMER 1330 DR	21	32	40	6/28	58.8	1.3
FUNK'S G 522 DR	17	33	39	6/30	43.8	0.0
CARGILL R 1090	19	36	39	6/30	47.5	0.0
NEW NK 2660	24	31	38	6/29	40.0	0.0
CARGILL 4462	19	30	37	6/26	56.3	0.0
AGRATECH GK 802G	22	32	37	6/29	31.3	0.0
DEKALB DK-64	18	28	30	7/1	56.3	0.0
DEKALB X-732	27	50	-	7/5	47.5	0.0
PIONEER 8222	33	48	-	6/26	33.8	0.0
HYPERFORMER CHEROKEE	33	45	-	6/29	35.0	0.0
FUNK'S HW 7380	26	44	-	7/1	27.5	0.0
CAPEHART CONTENDER	24	43	-	6/29	43.8	0.0
CAPEHART CHALLENGER	24	39	-	6/30	42.5	0.0
AFC 861	26	39	-	7/1	45.0	0.0
CAPEHART CHAMPION	23	26	-	7/2	58.8	0.0
TRIUMPH TWO 80-D	34	-	-	6/29	47.5	0.0
TORO BRAND OPTIMA	26	-	-	6/30	42.5	0.0
NEW NK KS 786	25	-	-	7/2	41.3	0.0
CARGILL X 15277	25	-	-	7/1	33.8	0.0
PIONEER 8230	25	-	-	6/24	31.3	0.0
TRIUMPH 65-G	24	-	-	6/26	36.3	0.0
NEW NK KS 780	24	-	-	7/2	50.0	0.0
TORO BRAND OLE'	23	-	-	6/29	38.8	0.0
AFC 402	23	-	-	6/29	36.3	0.0
CARGILL 847	20	-	-	7/4	47.5	0.0
TRIUMPH TWO 70-D	20	-	-	6/27	45.0	0.0
DEKALB DK 41Y	19	-	-	6/28	20.0	0.0
AGRATECH 805GW	18	-	-	6/28	18.8	0.0
DEKALB DK 66	16	-	-	7/9	75.0	0.0
AFC 401	15	-	-	6/27	27.5	0.0
NEW NK KS 737	15	-	-	6/26	62.5	0.0
TEST MEAN	24					
L.S.D. (.05)	9.8					
C.V. (%)	29.8					

* BIRD-RESISTANT HYBRID.

TABLE 10. YIELD AND LODGING AVERAGES FOR SOUTHERN ALABAMA[1/], 1987-89

BRAND-HYBRID	YIELD PER ACRE BU.	LODGED STALKS PCT.
FUNK'S G 522 DR	67	0.1
SUMMIT HT 126 DR	67	0.1
NEW NK 2660	66	0.0
NEW NK SAVANNA 5 *	66	1.3
CARGILL R 1090	65	0.6
CARGILL 6670	65	1.2
FFR 321	65	4.5
CARGILL 5572	64	0.0
CARGILL DR 1125	64	0.1
FUNK'S G-1602	64	0.1
PENN PENNGRAIN DR	64	0.1
AGRATECH GK 802G	64	0.4
PIONEER 8333	64	1.8
FUNK'S RA 787	63	2.1
CARGILL 4462	63	2.9
HYPERFORMER WING	63	2.4
DEKALB DK-64	63	7.5
FUNK'S G-1711	63	1.0
FUNK'S G 522A	63	0.6
HYPERFORMER 1225 DR	62	0.1
AGRATECH GK 712G	61	2.6
HYPERFORMER HONCHO	61	0.0
HYPERFORMER 1330 DR	58	7.1

[1/] HEADLAND, MONROEVILLE, AND FAIRHOPE.
* BIRD-RESISTANT HYBRID.

TABLE 11. MONROEVILLE GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
DEKALB DK-64	108	93	87	6/28	0.0	6.3
NEW NK SAVANNA 5 *	102	91	86	6/23	0.0	1.0
HYPERFORMER 1330 DR	102	89	85	6/28	0.0	41.3
CARGILL 6670	103	91	85	6/30	0.0	0.5
FUNK'S G 522 DR	105	93	84	6/27	0.0	0.0
CARGILL R 1090	96	88	83	6/27	0.0	0.0
FUNK'S RA 787	104	86	83	6/30	0.0	7.5
FFR 321	104	89	82	6/26	0.0	0.0
HYPERFORMER WING	95	85	81	6/28	0.0	3.0
SUMMIT HT 126 DR	95	83	80	6/26	0.0	0.0
NEW NK 2660	92	83	79	6/28	0.0	0.0
FUNK'S G-1711	101	85	79	6/29	0.0	7.5
CARGILL DR 1125	95	82	78	6/27	0.0	0.5
CARGILL 5572	102	86	77	6/28	0.0	0.0
PIONEER 8333	82	79	77	6/26	0.0	0.0
PENN PENNGRAIN DR	89	77	76	6/27	0.0	0.0
AGRATECH GK 712G	89	77	75	6/23	0.0	0.0
CARGILL 4462	84	79	74	6/22	0.0	10.0
AGRATECH GK 802G	82	76	74	6/27	0.0	1.0
FUNK'S G-1602	99	77	73	6/26	0.0	0.0
HYPERFORMER HONCHO	84	75	72	6/22	0.0	0.0
HYPERFORMER 1225 DR	82	75	72	6/27	0.0	0.0
FUNK'S G 522A	85	73	70	6/25	0.0	0.0
PIONEER 8222	100	90	-	6/26	0.0	0.0
AFC 861	103	89	-	6/28	0.0	5.0
HYPERFORMER CHEROKEE	104	84	-	6/27	0.0	0.0
CAPEHART CHAMPION	92	82	-	6/29	0.0	40.5
CAPEHART CHALLENGER	93	81	-	6/28	0.0	5.0
CAPEHART CONTENDER	91	80	-	6/27	0.0	0.5
FUNK'S HW 7380	96	79	-	6/30	0.0	0.5
DEKALB X-732	102	78	-	7/2	0.0	0.0
TRIUMPH TWO 80-D	106	-	-	6/29	0.0	3.8
AFC 402	97	-	-	6/29	0.0	5.0
NEW NK KS 780	96	-	-	6/29	0.0	0.0
DEKALB DK 66	95	-	-	7/1	0.0	8.8
PIONEER 8230	93	-	-	6/26	0.0	12.5
TRIUMPH TWO 70-D	85	-	-	6/27	0.0	0.0
NEW NK KS 737	82	-	-	6/21	0.0	20.0
TEST MEAN	95					
L.S.D. (.05)	16.4					
C.V. (%)	12.3					

* BIRD-RESISTANT HYBRID.

TABLE 12. FAIRHOPE GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MO./DAY	PCT.	PCT.
CARGILL 4462	98	79	80	6/14	0.0	10.0
SUMMIT HT 126 DR	115	88	78	6/16	0.0	0.0
FUNK'S G 522 DR	113	95	78	6/16	0.0	0.0
FUNK'S G 522A	107	89	78	6/15	0.0	5.0
NEW NK 2660	110	91	77	6/17	0.0	0.0
PENN PENNGRAIN DR	104	84	77	6/17	0.0	0.0
AGRATECH GK 802G	113	85	76	6/17	0.0	0.0
CARGILL R 1090	103	84	76	6/15	0.0	0.0
HYPERFORMER HONCHO	96	85	74	6/14	0.0	0.0
PIONEER 8333	94	75	72	6/14	0.0	16.3
HYPERFORMER 1225 DR	107	90	72	6/18	0.0	0.0
CARGILL DR 1125	117	87	72	6/16	0.0	0.0
CARGILL 5572	109	85	71	6/18	0.0	0.0
FUNK'S G-1602	101	82	71	6/16	0.0	0.0
FUNK'S G-1711	111	84	70	6/20	0.0	1.3
FFR 321	99	88	70	6/16	0.0	10.0
AGRATECH GK 712G	77	71	67	6/13	0.0	10.0
HYPERFORMER WING	107	81	66	6/19	0.0	7.5
FUNK'S RA 787	104	84	65	6/18	0.0	5.0
CARGILL 6670	103	81	65	6/19	0.0	10.0
NEW NK SAVANNA 5 *	102	67	62	6/14	0.0	7.5
HYPERFORMER 1330 DR	92	68	55	6/18	0.0	5.0
DEKALB DK-64	98	66	53	6/17	0.0	8.8
HYPERFORMER CHEROKEE	117	90	-	6/15	0.0	1.3
PIONEER 8222	112	88	-	6/17	0.0	0.0
CAPEHART CONTENDER	104	85	-	6/18	0.0	0.0
CAPEHART CHALLENGER	111	83	-	6/18	0.0	0.0
AFC 861	101	74	-	6/17	0.0	2.5
DEKALB X-732	102	71	-	6/20	0.0	0.0
FUNK'S HW 7380	100	67	-	6/18	0.0	0.0
CAPEHART CHAMPION	84	58	-	6/18	0.0	37.5
TRIUMPH TWO 80-D	116	-	-	6/18	0.0	0.0
TRIUMPH TWO 70-D	109	-	-	6/16	0.0	0.0
NEW NK KS 780	102	-	-	6/17	0.0	0.0
AFC 402	100	-	-	6/19	0.0	6.3
PIONEER 8230	91	-	-	6/15	0.0	11.3
DEKALB DK 66	78	-	-	6/21	0.0	41.3
NEW NK KS 737	73	-	-	6/12	0.0	36.3
TEST MEAN	102					
L.S.D. (.05)	18.2					
C.V. (%)	12.7					

* BIRD-RESISTANT HYBRID.

TABLE 13. HEADLAND GRAIN SORGHUM HYBRID TRIAL, 1989

BRAND-HYBRID	1989 YIELD	1988-89 2-YR. AV.	1987-89 3-YR. AV.	1989 MID-BLOOM	1989 BIRD DAMAGE	1989 LODGED STALKS
	BU.	BU.	BU.	MD./DAY	PCT.	PCT.
NEW NK SAVANNA 5 *	70	67	51	6/17	0.0	0.0
DEKALB DK-64	82	68	49	6/20	0.0	0.0
FUNK'S G-1602	70	65	47	6/21	0.0	0.0
CARGILL 6670	70	61	45	6/21	0.0	0.0
CARGILL 5572	68	62	44	6/17	0.0	0.0
HYPERFORMER WING	69	60	43	6/17	0.0	0.0
CARGILL DR 1125	64	60	43	6/18	0.0	0.0
HYPERFORMER 1225 DR	67	59	42	6/20	0.0	0.0
FFR 321	69	60	42	6/20	10.0	0.0
FUNK'S RA 787	61	59	42	6/17	7.5	0.0
AGRATECH GK 712G	60	57	42	6/20	5.0	0.0
PIONEER 8333	62	57	42	6/20	0.0	0.0
SUMMIT HT 126 DR	58	58	42	6/21	10.0	0.0
AGRATECH GK 802G	66	58	41	6/20	0.0	0.0
NEW NK 2660	64	57	41	6/20	0.0	0.0
FUNK'S G 522A	60	54	40	6/20	0.0	0.0
FUNK'S G-1711	69	54	39	6/17	0.0	0.0
PENN PENNGRAIN DR	58	54	39	6/17	0.0	0.0
FUNK'S G 522 DR	52	52	39	6/17	0.0	0.0
CARGILL R 1090	49	51	37	6/17	0.0	0.0
HYPERFORMER HONCHO	60	51	36	6/15	0.0	0.0
CARGILL 4462	45	50	35	6/15	10.0	0.0
HYPERFORMER 1330 DR	44	48	35	6/20	5.0	0.0
DEKALB X-732	84	65	-	6/25	0.0	0.0
AFC 861	77	63	-	6/20	12.5	0.0
PIONEER 8222	80	62	-	6/17	0.0	0.0
HYPERFORMER CHEROKEE	75	62	-	6/20	0.0	0.0
CAPEHART CHALLENGER	74	62	-	6/21	10.0	0.0
FUNK'S HW 7380	70	55	-	6/18	0.0	0.0
CAPEHART CONTENDER	62	55	-	6/20	0.0	0.0
CAPEHART CHAMPION	37	46	-	6/20	0.0	0.0
TRIUMPH TWO 80-D	73	-	-	6/17	0.0	0.0
TRIUMPH TWO 70-D	66	-	-	6/20	0.0	0.0
NEW NK KS 780	64	-	-	6/20	0.0	0.0
AFC 402	61	-	-	6/18	5.0	0.0
DEKALB DK 66	61	-	-	6/23	0.0	0.0
PIONEER 8230	56	-	-	6/20	0.0	0.0
NEW NK KS 737	47	-	-	6/17	7.5	0.0
TEST MEAN	64					
L.S.D. (.05)	15.4					
C.V. (%)	17.2					

* BIRD-RESISTANT HYBRID.

TABLE 14. PLANT HEIGHT OF GRAIN SORGHUM HYBRIDS BY REGION[1/] OR LOCATION, 1989

BRAND-HYBRID	PLANT HEIGHT BY REGION			
	NORTHERN	CENTRAL	SOUTHERN	FAIRHOPE
	IN.	IN.	IN.	IN.
AFC 401	59	57	-	-
AFC 402	52	57	56	63
AFC 861	52	54	51	61
AGRATECH GK 712G	44	48	45	51
AGRATECH GK 802G	48	50	49	56
AGRATECH 805GW	62	54	-	-
CAPEHART CHALLENGER	50	52	52	64
CAPEHART CHAMPION	60	63	60	66
CAPEHART CONTENDER	49	53	48	57
CARGILL DR 1125	50	51	49	59
CARGILL R 1090	48	50	49	57
CARGILL X 15277	56	51	-	-
CARGILL 4462	51	55	54	58
CARGILL 5572	50	53	51	59
CARGILL 6670	51	55	54	61
CARGILL 847	57	49	-	-
DEKALB DK 41Y	59	51	-	-
DEKALB DK 66	58	63	54	66
DEKALB DK-64	51	55	52	58
DEKALB X-732	52	57	57	61
FFR 321	48	52	48	57
FUNK'S G 522 DR	48	52	49	60
FUNK'S G 522A	47	49	49	56
FUNK'S G-1602	47	52	53	58
FUNK'S G-1711	50	54	53	61
FUNK'S HW 7380	48	50	49	53
FUNK'S RA 787	52	53	54	62
HYPERFORMER CHEROKEE	50	53	51	60
HYPERFORMER HONCHO	45	49	48	51
HYPERFORMER WING	52	54	50	61
HYPERFORMER 1225 DR	50	51	50	58
HYPERFORMER 1330 DR	57	62	60	69
NEW NK KS 737	51	52	50	56
NEW NK KS 780	49	53	51	57
NEW NK KS 786	56	53	-	-
NEW NK SAVANNA 5 *	61	67	62	70
NEW NK 2660	48	52	51	60
PENN PENNGRAIN DR	46	51	48	55
PIONEER 8222	47	48	50	53
PIONEER 8230	49	54	51	57
PIONEER 8333	48	51	49	52
SUMMIT HT 126 DR	49	52	51	58
TORO BRAND OLE'	56	49	-	-
TORO BRAND OPTIMA	59	52	-	-
TRIUMPH TWO 70-D	47	52	50	59
TRIUMPH TWO 80-D	50	55	52	61
TRIUMPH 65-G	57	55	-	-

[1/] NORTHERN REGION (BELLE MINA, WINFIELD, AND CROSSVILLE); CENTRAL REGION (MARION JUNCTION AND SHORTER); SOUTHERN REGION (MONROEVILLE AND HEADLAND).

Sources of Seed for the 1989 Grain Sorghum Tests

Entry designation	Source of seed
AFC brand hybrids	Alabama Farmer's Cooperative P.O. Box 2227 Decatur, AL 35602
AgraTech brand hybrids	AgraTech Seeds, Inc. Rt. 1 Box 76A McCordsville, IN 46055
Capehart brand hybrids	Capehart Seed Service P.O. Box 10 Holland, MO 63853
Cargill brand hybrids	Cargill Hybrid Seeds Box 5645 Minneapolis, MN 55440
DeKalb brand hybrids	DeKalb-Pfizer Genetics 3100 Sycamore Road Dekalb, IL 60115
FFR brand hybrids	Alabama Farmer's Cooperative P.O. Box 2227 Decatur, AL 35602
Funk's brand hybrids	Delta and Pine Land Co. P.O. Box 157 Scott, MS 38772
HyPerformer brand hybrids	Helena Chemical Company 5100 Poplar Avenue Memphis, TN 38137
New Northrup King brand hybrids	The New Northrup King Company Rt. 3 Box 265 LaGrange, NC 28551
Pennington brand hybrids	Pennington Enterprises, Inc. P.O. Box 290 Madison, GA 30650
Pioneer brand hybrids	Pioneer Hi-Bred International, Inc. 1000 West Jefferson Street Tipton, IN 46072

(continued on following page)

Sources of Seed for the 1989 Grain Sorghum Tests (continued)

Entry designation	Source of seed
Summit brand hybrids	Big Crop Seed, Inc. P.O. Box 5866 Lubbock, TX 79417
Toro brand hybrids	Big Crop Seed, Inc. P.O. Box 5866 Lubbock, TX 79417
Triumph brand hybrids	Triumph Seed Company, Inc. P.O. Box 1050 Ralls, TX 79357

ACCEPTABLE HYBRIDS FOR 1990

All acceptable hybrids have been tested for 3 consecutive years in the region listed. All of the acceptable hybrids are not equal in performance. It is suggested that this report be carefully studied before choosing a hybrid. The hybrids are listed in descending order of 3-year-average yield for each region.

NORTHERN ALABAMA

Brand name	Hybrid
New Northrup King	Savanna 5 *
Summit	HT-126DR
Cargill	6670
New Northrup King	2660
AgraTech	GK 802G
Cargill	DR 1125
HyPerformer	1225DR
HyPerformer	Wings
Cargill	5572
Funk's	G-522A
Funk's	G-522DR
Funk's	RA 787
Cargill	R1090 **
Pioneer	8333 **
AgraTech	GK 712G **

CENTRAL ALABAMA

Brand name	Hybrid
New Northrup King	Savanna 5 *
Funk's	G-1711
Funk's	RA 787
HyPerformer	1330DR
Summit	HT-126DR
New Northrup King	2660
Funk's	G-522A
Pennington	Penngrain DR **
Funk's	G-522DR **
AgraTech	GK 712G **
Pioneer	8333 **
Cargill	R1090 **

*Bird-resistant hybrid.
**If the present trend of these varieties continues, they will be dropped.

ACCEPTABLE HYBRIDS FOR 1990

All acceptable hybrids have been tested for 3 consecutive years in the region listed. All of the acceptable hybrids are not equal in performance. It is suggested that this report be carefully studied before choosing a hybrid. The hybrids are listed in descending order of 3-year-average yield for each region.

SOUTHERN ALABAMA

Brand name	Hybrid
Funk's	G-522DR
Summit	HT-126DR
New Northrup King	2660
New Northrup King	Savanna 5 *
Cargill	6670
Cargill	R1090
FFR	321
AgraTech	GK 802G
Pennington	Penngrain DR
Pioneer	8333
Cargill	4462 *
Funk's	G-522A **
Funk's	G-1711 **
AgraTech	GK 712G **

*Bird-resistant hybrid.
**If the present trend of these varieties continues, they will be dropped.