

EVALUATION  
OF  
CORN  
HYBRIDS  
IN  
ALABAMA,  
1996

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# EVALUATION OF CORN HYBRIDS IN ALABAMA, 1996

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## INTRODUCTION

Selected varieties of corn hybrids are evaluated annually by the Alabama Agricultural Experiment Station as a service to producers and industry. These tests are spread throughout the state in an attempt to determine effects of different climatic factors and soil types on yield. There are several types of tests in the program. The Preliminary Hybrid Tests are conducted at one location in each of the northern, central and southern regions of the State. These tests include experimental and newly released hybrids. If a hybrid is outstanding in the preliminary test it is entered in the Regular Corn Hybrid Test in the following year.

The Regular Corn Hybrid Test is conducted at three locations in the northern region, three locations in the central region and four locations in the southern region. Early yellow corn hybrids are tested at one location in each region. A white corn hybrid test is conducted at Crossville in northern Alabama. In addition, one regular corn hybrid test is irrigated at Headland in southern Alabama. Locations and cultural practices for all tests are shown in Table 1.

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<sup>1</sup>Research Assistant and Professor of Agronomy and Soils.

## PROCEDURE

All tests are laid out in a randomized complete block design with four replicate plots for each variety at each location. Rows were 30 to 36 inches apart, depending on location. Two-row plots are used, and both rows are harvested. Plots are 20 to 30 feet long, depending on location. The target plant population for the tests is 20,000 plants per acre with a seeding rate of 23,000 seeds per acre. The irrigated tests at Headland are seeded at a rate to achieve 30,000 plants per acre, but are thinned to 25,000 plants per acre.

Grain yields are adjusted to 15.5 percent moisture and converted to bushels (56 lb) per acre. Stalks broken or leaning more than 45 degrees are considered lodged. The mid-silk data show the number of days from planting until approximately half the plants in the plots are showing silks. The Regular Corn Hybrid tests also are examined for disease incidence at selected locations each year. When virus or other disease symptoms indicate crop damage, disease ratings are compiled and published in this report. However, in 1996, no incidence of diseases were noted therefore no disease ratings were taken.

## INTERPRETATION OF DATA

In replicated experiments such as those reported here, yields from each of the four replicate plots of a particular variety at a given location will be slightly different, because of inherent differences in productivity among those plots. These

differences in yield among replicate plots are known as random variation. Given this situation it is clearly necessary to have a method to determine whether differences among hybrids are "true" or "real" differences, or whether they are due to random variation. To do this a statistical analysis is conducted to determine a "least significant difference" (LSD) by comparing the differences among varieties with random variation. If the difference in yield between two hybrids is larger than the LSD, then the difference is probably real, but if the difference is less than the LSD, it may not be real. If the difference between two hybrids is less than, but close to the LSD, then there is still a chance that it is real, but if it is considerably smaller than the LSD, then it is probably not real and mainly due to random variation.

With this in mind **it is very important to study differences in hybrid yields in relation to the LSD** which is provided at the bottom of the table for each of the current year yield columns at each location. Clearly, LSD's vary from one location to another. This is because random variation varies among locations and from year to year. The coefficient of variation (CV) is a reflection of random variation, and is reported below the LSD values in the tables. If the CV is low a precise or reliable test is indicated. Ideally, the CV should be below 10 percent, but CV's of 10 to 20 percent are acceptable. Values for the CV above 20 percent indicate a rather unreliable test, which may have been

caused by factors such as disease variation among replicates, etc.

In comparing yield potential of two hybrids it is important to consider a wide range of results. **Do not focus on results from only one year at one location.** Two- and three-year average yields are provided by location and region. These are more useful guides than yields from only one year. However, other factors may deserve consideration. For example, the differences between the highest and the lowest yield of a hybrid across several locations may be an indication of the stability of its yield under variable conditions, or what is the "risk level" of the variety.

Differences in yield of hybrids among locations will be a result of the combined effects of differences among locations in soil, weather (mainly rainfall), planting date, weed control, and other factors. To assist in estimating which factors most likely had the greatest effect on yield differences among locations, planting dates and cultural practices (Table 1), rainfall records (Table 17) and soil types (Table 18) are provided. This information also serves as a guide for assessing conditions to which results may be extrapolated.

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TABLE 1. LOCATIONS AND CULTURAL PRACTICES FOR THE 1996 CORN HYBRID TESTS

Location	Planting date	Nitrogen rate*	Plant population	Date harvested	Herbicides used
<b>NORTHERN ALABAMA</b>					
Tennessee Valley Substation (Belle Mina)....	April 3	150	20,000	September 6	Atrazine/Dual
<b>Sand Mountain Substation (Crossville)</b>					
Early corn test.....	April 9	158	20,000	September 11	Atrazine/Dual
Regular test.....	April 12	155	20,000	September 19	Atrazine/Dual
Preliminary test.....	April 12	155	20,000	September 19	Atrazine/Dual
White corn test.....	April 12	155	20,000	September 20	Atrazine/Dual
Upper Coastal Plain Substation (Winfield)...	May 3	120	20,000	September 24	Atrazine/Dual/ Broadstrike
<b>CENTRAL ALABAMA</b>					
<b>E.V. Smith Research Center (Shorter)</b>					
Early corn test.....	April 8	120	20,000	August 27	Atrazine/Dual
Plant Breeding Unit (Tallassee).....	April 4	140	20,000	August 27	Atrazine/Lasso
Prattville Experiment Field (Prattville)....	March 15	120	20,000	August 14	Atrazine
Black Belt Substation (Marion Junction).....	April 9	125	20,000	September 6	Atrazine/Dual
Lower Coastal Plain Substation (Camden).....	April 18	120	20,000	August 23	None applied
<b>SOUTHERN ALABAMA</b>					
<b>Brewton Experiment Field (Brewton).....</b>					
April 5	120	20,000	August 23	Atrazine/Dual	
<b>Monroeville Experiment Field (Monroeville)..</b>					
March 15	140	20,000	August 22	Atrazine/Dual	
<b>Wiregrass Substation (Headland)</b>					
Regular test (unirrigated).....	April 4	160	20,000	August 28	Atrazine
Regular test (irrigated).....	April 4	220	25,000	August 28	Atrazine
<b>Gulf Coast Substation (Fairhope)</b>					
Early corn test.....	March 4	160	20,000	August 12	Atrazine/Dual
Regular test.....	March 21	150	20,000	August 13	Atrazine/Dual
Preliminary test.....	March 21	150	20,000	August 12	Atrazine/Dual

\*Pounds per acre N. Lime, phosphorus, potassium, zinc, and sulfur were applied according to soil test recommendations.

TABLE 2. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN FOR NORTHERN ALABAMA\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1994-96	1995-96	1994-96	1995-96
	Bu.	Bu.	Pct.	Pct.
Terra TR 1185 .....	114	97	4.1	5.7
Pioneer 3156 .....	113	94	4.1	5.3
Pioneer 3163 * .....	112	93	3.8	5.2
Pioneer 3167 * .....	112	97	2.5	3.5
Pioneer 3154 .....	111	94	4.4	6.2
Terra TR702E .....	110	99	2.7	4.0
AgraTech 787 * .....	110	90	2.3	3.2
Terra TR 1167 .....	108	93	2.1	2.8
Hy Performer HS9843 .....	107	100	1.6	2.2
Pioneer 3223 .....	-	100	-	3.3
Hy Performer HY 9899V .....	-	99	-	5.5
Dekalb DK 683 .....	-	95	-	2.8
Northrup King N8020 .....	-	92	-	3.0
Funk's DG 5516 .....	-	85	-	3.0
Dekalb DK 706 .....	-	85	-	6.2
Hy Performer HY 9919V .....	-	85	-	3.5
AgraTech 737 .....	-	83	-	6.2

\* Standard hybrids for comparison.

\*\* Belle Mina, Crossville, and Winfield.

TABLE 3. 1996 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN NORTHERN ALABAMA

Brand Name-Hybrid	Belle Mina	Crossville	Winfield	1996 Regional Averages.					
				Yield	Lodged	Test	Mid-**	Husk*	Harvest
				Per Acre	Stalks	Weight	Silk	Cover	Moisture
	Bu.	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.
Terra TR702E .....	79	165	109	117	2.3	57.4	6-25	2	20.3
Pioneer 3223 .....	48	160	135	114	2.0	58.2	6-25	2	19.7
Pioneer 3167 * .....	56	156	121	111	2.0	57.7	6-26	2	22.1
Hy Performer HS9843 .....	77	143	111	110	1.7	58.1	6-23	2	19.5
Hy Performer HY 9899V .....	72	153	105	110	5.0	56.8	6-25	2	21.8
Terra TR 1185 .....	63	151	111	108	4.3	57.1	6-26	2	21.7
Terra TR 1167 .....	72	132	117	107	2.3	57.9	6-24	2	19.7
Pioneer 3163 * .....	62	140	115	106	3.0	57.5	6-25	3	19.5
Dekalb DK 683 .....	57	149	110	105	2.3	57.3	6-26	2	20.3
Pioneer 3156 .....	63	149	103	105	5.7	57.5	6-25	2	20.8
Northrup King N8020 .....	70	136	97	101	1.7	57.5	6-25	2	19.5
Funk's DG 5670 .....	66	140	97	101	6.0	57.0	6-25	2	21.5
Pioneer 3154 .....	65	144	88	99	3.0	57.6	6-23	2	20.8
Dekalb DK 706 .....	60	131	107	99	3.3	58.1	6-23	2	21.3
Dekalb DK 687 .....	57	149	89	99	1.7	57.3	6-25	2	21.0
AgraTech 787 * .....	68	151	76	98	3.0	57.8	6-25	2	20.6
Pioneer 3260 .....	51	140	99	96	2.3	58.3	6-25	3	20.8
Hy Performer HY 9919V .....	57	140	79	92	3.3	55.3	6-24	3	20.9
AgraTech 737 .....	45	141	89	92	4.7	56.6	6-24	2	19.2
Funk's DG 5516 .....	59	116	83	86	2.3	57.1	6-24	2	19.9
Test Average .....	62.1	144.2	101.9						
L.S.D. (.05) .....	17.1	18.5	27.2						
C.V. (%) .....	19.4	9.1	18.9						

\* Standard hybrids for comparison.

\*\* 1= Excellent; 5= Very Poor.

TABLE 4. WHITE CORN HYBRID TEST, NORTHERN ALABAMA\*\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996			
	3-yr.	2-yr.	1996	3-yr.	2-yr.	1996	Midsilk	Test	Husk***	Harvest
	1994-96	1995-96		1994-96	1995-96		Mo./Da.	Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Zimmerman Z64W .....	132	107	113	1.3	1.5	1.0	6-27	58.7	2	17.2
Hy Performer HB 947005W ....	131	108	113	0.3	0.5	0	6-26	59.3	2	17.1
Zimmerman Z62W .....	127	107	131	0.7	0.5	1.0	6-25	59.2	2	16.4
Hy Performer HS 175W .....	122	99	111	2.0	1.5	1.0	6-27	58.5	2	17.7
Hy Performer HY 9796W .....	-	102	114	-	1.0	1.0	6-25	59.5	2	18.2
Pioneer 3163 * .....	-	-	153	-	-	1.0	6-27	57.5	3	16.7
Pioneer 3167 * .....	-	-	141	-	-	0	6-27	59.8	2	17.9
AgraTech 787 * .....	-	-	136	-	-	1.0	6-28	58.0	2	16.4
Zimmerman Z72W .....	-	-	115	-	-	0	6-27	60.2	2	17.0
Dyna-Gro 8122W .....	-	-	98	-	-	2.0	6-24	58.4	2	17.5
Test Average .....			122.3							
L.S.D. (.05) .....			37.1							
C.V. (%) .....			20.9							

\* Yellow Corn Check Hybrid.

\*\* 1= Excellent; 5= Very Poor.

\*\*\* Crossville.

TABLE 5. EARLY CORN HYBRID TEST, NORTHERN ALABAMA\*\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996			
	3-Yr.	2-Yr.	1996	3-Yr.	2-Yr.	1996	Midsilk	Test	Husk**	Harvest
	1994-96	1995-96		1994-96	1995-96		Mo./Da.	Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3245 * .....	144	126	137	0.3	0.5	1.0	6-23	59.0	2	17.3
Funk's DG 5510A .....	-	143	169	-	0.5	1.0	6-22	56.2	2	18.7
AgraTech 787 * .....	-	130	146	-	1.0	1.0	6-26	57.2	2	19.0
Zimmerman Z29 .....	-	121	128	-	0	0	6-25	57.1	2	18.1
Zimmerman Z41 .....	-	120	128	-	0	0	6-22	58.7	2	17.3
Dekalb DK 668 .....	-	119	124	-	1.0	1.0	6-24	56.8	2	18.1
Dekalb DK 626 .....	-	-	145	-	-	1.0	6-22	58.2	2	17.0
Zimmerman Z37 .....	-	-	142	-	-	0	6-24	56.9	2	19.1
Pioneer 3310 .....	-	-	139	-	-	1.0	6-20	59.6	2	17.7
Dekalb DK 642 .....	-	-	113	-	-	0	6-23	56.8	2	18.5
Test Average .....			137.2							
L.S.D. (.05) .....			16.8							
C.V. (%) .....			8.5							

\* Standard Mid to Late Season Hybrids.

\*\* 1= Excellent; 5= Very Poor.

\*\*\* Crossville.

REPORT OF PRELIMINARY TESTS  
TABLE 6. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY TEST  
AT CROSSVILLE IN NORTHERN ALABAMA, 1996

Brand Name-Hybrid	Av. Yield	Lodged	Husk**	Midsilk	Test	Harvest
	Per Acre	Stalks	Cover		Weight	Moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Pioneer 3245 *	170	0	2	6-26	60.0	16.3
HyPerformer AP 9707	155	2.0	2	6-26	57.6	15.9
Northrup King N7931	151	0	2	6-21	59.7	16.5
Pioneer 3163 *	151	0	3	6-26	57.6	16.1
Pioneer 3167 *	150	0	2	6-27	58.9	17.5
AgraTech X5760	145	1.0	3	6-27	57.8	16.6
Terra E 1176	144	0	2	6-23	59.4	16.1
AgraTech X5710	143	0	2	6-24	57.5	16.3
Northrup King N6800	139	0	2	6-21	58.7	16.2
CIBA 7088X	137	0	2	6-27	56.7	18.0
Mycogen 7250CB	133	0	2	6-20	58.1	16.2
AgraTech X5770	132	1.0	2	6-26	58.2	16.4
AgraTech X4720	128	1.0	2	6-27	57.2	17.2
CIBA 4394	121	0	2	6-21	57.8	15.3
Test Average	142.7					
L.S.D. (.05)	18.6					
C.V. (%)	9.1					

\* Standard Hybrids for Comparison.  
\*\* 1= Excellent; 5= Very Poor.

TABLE 7. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW  
CORN FOR CENTRAL ALABAMA\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	Bu.	Bu.	Pct.	Pct.
Terra TR702E	108	95	0.8	1.3
Pioneer 3163 *	103	90	5.5	7.8
Terra TR 1185	102	84	6.7	9.0
Pioneer 3167 *	93	95	2.7	3.0
Terra TR 1167	89	91	2.7	3.0
Pioneer 3154	80	81	10.2	13.5
Dekalb DK 683	-	69	-	3.3
Northrup King N8020	-	67	-	4.3
Pioneer 3223	-	66	-	7.5

\* Standard hybrids for comparison.  
\*\* Prattville 1994, 1995 & 1996 3yr Averages.  
\*\* Camden 1993, 1994 & 1996 3yr Averages.

TABLE 8. 1996 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN CENTRAL ALABAMA

Brand Name-Hybrid	Prattville	Camden	1996 Regional Averages					
			Yield	Lodged	Test	Mid-	Husk*	*Harvest
			Per Acre	Stalks	Weight	Silk	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.
Terra TR 1167	143	80	112	6.0	56.6	6-5	1	18.1
Terra TR702E	136	82	109	2.5	56.0	6-7	1	19.4
Hy Performer HS9843	143	73	108	4.5	56.7	6-6	2	18.8
Pioneer 3167 *	139	75	107	5.5	55.4	6-6	1	19.6
Pioneer 3163 *	135	75	105	14.5	55.8	6-5	2	18.2
Pioneer 3223	136	69	102	15.0	55.3	6-6	2	18.1
Dekalb DK 683	119	83	101	6.5	55.4	6-6	1	17.2
AgraTech 757	136	65	100	3.0	56.8	6-7	2	18.0
AgraTech 888	135	63	99	6.0	58.1	6-6	1	18.8
Pioneer 3260	120	70	95	5.5	56.8	6-7	2	17.6
Hy Performer HY 9919V	126	63	95	7.0	53.6	6-6	2	16.4
Hy Performer HY 9899V	142	48	95	19.0	54.5	6-6	2	17.7
Funk's DG 5670	136	52	94	19.0	54.4	6-7	2	17.6
Northrup King N8020	130	57	93	8.5	55.2	6-6	2	18.0
Pioneer 3154	127	53	90	25.5	55.9	6-5	2	17.6
Terra TR 1185	127	51	89	17.5	55.1	6-6	2	17.9
Test Average	133.0	66.0						
L.S.D. (.05)				12.4				
C.V. (%)	6.5	20.6						

\* Standard hybrids for comparison.  
 \*\* 1= Excellent; 5= Very Poor.

TABLE 9. EARLY CORN HYBRID TEST, CENTRAL ALABAMA\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996		
	3-Yr.	2-Yr.	1996	3-Yr.	2-Yr.	1996	Midsilk	Test	Harvest
	1994-96	1995-96	1996	1994-96	1995-96	1996	Mo./Da.	Lb./Bu.	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.			Pct.
Pioneer 3394	97	84	97	0	0	0	6-17	59.3	12.3
Pioneer 3245 *	93	78	92	0.3	0	0	6-18	60.7	12.4
AgraTech 787 *	-	80	95	-	2.0	0	6-21	59.6	14.4
Funk's DG 5510A.	-	77	87	-	0.5	1.0	6-18	55.3	17.5
Zimmerman Z37	-	-	103	-	-	0	6-21	58.3	18.6
Dekalb DK 626	-	-	101	-	-	0	6-17	56.7	10.6
Dekalb DK 668	-	-	99	-	-	0	6-19	58.5	14.8
Zimmerman Z41	-	-	99	-	-	1.0	6-17	57.5	12.5
Zimmerman Z29	-	-	90	-	-	0	6-21	59.6	15.1
Dekalb DK 642	-	-	89	-	-	0	6-17	58.1	11.5
Pioneer 3563	-	-	87	-	-	1.0	6-17	56.0	12.8
Test Average			94.2						
L.S.D. (.05)			14.7						
C.V. (%)			10.8						

\* Standard Mid to Late Season Hybrids.  
 \*\* Shorter.

REPORT OF PRELIMINARY TESTS  
 TABLE 10. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY TEST  
 AT TALLASSEE IN CENTRAL ALABAMA, 1996

Brand Name-Hybrid	Av. Yield	Lodged	Husk**	Midsilk	Test	Harvest
	Per Acre	Stalks	Cover		Weight	Moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Pioneer 3163 *	248	0	2	6-16	57.3	19.4
Pioneer 3245 *	233	1.0	2	6-16	59.9	19.2
Pioneer 3167 *	227	1.0	3	6-19	58.9	21.7
HyPerformer AP 9707	222	1.0	3	6-17	57.3	19.1
Terra E 1176	222	1.0	2	6-15	57.9	20.4
CIBA 7088X	209	1.0	3	6-19	54.7	25.1
CIBA 4394	206	0	2	6-11	57.6	16.4
Northrup King N7931	192	0	3	6-13	58.4	20.6
Mycogen 7250CB	185	1.0	2	6-13	56.4	19.0
AgraTech X4720	178	1.0	2	6-19	55.6	21.2
Test Average	211.9					
L.S.D. (.05)	24.5					
C.V. (%)	8.0					

\* Standard Hybrids for Comparison.  
 \*\* 1= Excellent; 5= Very Poor.

TABLE 11. BLACK BELT CORN HYBRID/VIRUS TEST\*\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996			
	3-yr.	2-yr.	1996	3-yr.	2-yr.	1996	Midsilk	Test	Husk**	Harvest
	1994-96	1995-96		1994-96	1995-96		Mo.-Da.	Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Dekalb DK 743	121	114	153	0	0	0	6-12	56.9	1	20.4
Hy Performer HY 9919V	120	115	148	0.7	1.0	1.0	6-15	54.8	1	19.6
Pioneer 3163 *	118	115	163	0.3	0.5	0	6-15	56.7	3	20.3
Hy Performer HY 9899V	117	117	148	1.0	1.5	2.0	6-17	56.4	1	19.3
Mycogen 8460	116	113	149	1.0	1.5	3.0	6-17	55.7	2	19.3
Dekalb DK 683	116	107	149	0.3	0.5	1.0	6-17	55.9	1	19.9
Pioneer 3154	110	100	125	1.0	1.5	3.0	6-12	56.4	2	19.3
Funk's G-4666	108	114	150	0	0	0	6-15	57.9	1	19.5
Funk's DG 5670	-	111	135	-	0.5	1.0	6-16	56.7	1	19.9
Pioneer 3167 *	-	-	158	-	-	1.0	6-17	58.5	1	21.2
Funk's G-4581	-	-	154	-	-	0	6-17	57.8	1	19.7
Cargill X9513	-	-	143	-	-	1.0	6-17	56.8	1	19.1
Cargill 8328	-	-	130	-	-	2.0	6-14	56.8	1	19.4
Test Average			146.3							
L.S.D. (.05)			19.1							
C.V. (%)			9.1							

\* Standard hybrids for comparison.  
 \*\* 1= Excellent; 5= Very Poor.  
 \*\*\* Marion Junction.

TABLE 12. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN FOR SOUTHERN ALABAMA\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1994-96	1995-96	1994-96	1995-96
	Bu.	Bu.	Pct.	Pct.
Pioneer 3163 *	126	116	5.7	7.8
Hy Performer HS9843	126	122	4.3	6.3
Cargill 8527A	125	116	4.7	6.8
Hy Performer HS 9944	123	117	5.1	7.0
AgraTech 888	123	114	4.6	6.3
Terra TR702E	122	111	3.6	5.0
Funk's G-4666	121	113	3.6	5.0
Northrup King N8811	121	113	6.0	8.6
Terra TR 1185	118	108	7.9	10.8
Pioneer 3167 *	115	106	6.4	9.0
Mycogen 9220	108	96	5.6	7.5
Pioneer 3223	-	123	-	5.4
Dekalb DK 683	-	119	-	5.6
Terra TR 1180	-	115	-	6.0
Hy Performer HY 9899V	-	111	-	10.0
Dekalb DK 706	-	111	-	7.3
Funk's DG 5516	-	107	-	3.9
Hy Performer HY 9919V	-	105	-	5.0

\* Standard hybrids for comparison.

\*\* Fairhope, Brewton, Monroeville, and Headland.

TABLE 13. 1996 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN SOUTHERN ALABAMA

Brand Name-Hybrid	Fairhope	Brewton	Monroeville	Headland	1996 Regional Averages.						
					Yield	Lodged	Test	Mid-**	Husk*	Harvest	
					Per Acre	Stalks	Weight	Silk	Cover	Moisture	
	Bu.	Bu.	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.	
Pioneer 3223	157	186	103	102	137	0.5	57.8	6-11	3	16.0	
Pioneer 3163 *	172	186	96	92	137	1.3	55.8	6-10	4	15.5	
NC+ 7665	162	184	96	98	135	0.5	56.4	6-14	2	16.2	
Hy Performer HS 9944	166	174	117	80	134	1.0	56.4	6-13	2	16.7	
Hy Performer HS9843	151	165	127	90	133	0.3	56.1	6-11	2	15.2	
Cargill 8527A	163	164	116	85	132	0.3	56.7	6-12	2	16.2	
Funk's G-4714	169	176	94	82	130	1.5	57.5	6-13	2	16.8	
Cargill X9513	169	172	94	84	130	0.3	56.8	6-12	2	16.2	
Dekalb DK 687	159	152	120	83	129	0.5	57.0	6-12	2	16.1	
Dekalb DK 683	168	167	77	98	128	0.8	57.4	6-11	2	15.5	
Terra TR 1180	160	174	87	88	127	0.5	55.9	6-10	2	16.0	
NC+ 6959	150	169	98	89	126	1.3	55.9	6-12	2	15.1	
Northrup King N8811	171	160	93	79	126	1.5	58.3	6-11	2	17.0	
NC+ 7117	154	150	118	81	125	0.8	57.2	6-14	3	16.2	
Pioneer 3260	166	158	80	97	125	1.5	57.7	6-11	3	16.1	
Terra TR702E	160	167	96	75	125	1.0	56.4	6-13	3	16.1	
AgraTech 888	159	165	83	86	123	0.5	56.6	6-11	2	16.3	
Funk's DG 5670	149	152	101	88	122	4.3	55.5	6-12	3	16.6	
Funk's G-4666	152	151	100	85	122	0.5	57.2	6-11	2	16.4	
Hy Performer HY 9899V	145	155	104	84	122	3.3	55.6	6-11	3	16.8	
Dekalb DK 706	157	158	89	81	121	0.5	56.8	6-11	3	16.7	
Funk's G-4581	153	158	97	75	121	0.8	56.8	6-12	3	14.4	
Pioneer 3167 *	152	154	92	85	121	2.0	57.5	6-13	2	17.6	
Hy Performer HY 9919V	162	167	72	77	119	1.3	53.5	6-11	3	15.7	
Funk's DG 5516	147	159	85	73	116	1.0	55.7	6-11	2	15.6	
Terra TR 1185	160	146	69	89	116	5.8	54.8	6-12	3	16.3	
Mycogen 9220	151	135	46	70	101	1.8	55.8	6-12	2	16.2	
Test Average	158.5	163.0	94.3	84.9							
L.S.D. (.05)	14.2	17.6	31.1	23.5							
C.V. (%)	6.3	7.7	23.4	19.6							

\* Standard hybrids for comparison.

\*\* 1= Excellent; 5= Very Poor.



TABLE 14. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, HEADLAND, ALABAMA, 1994-96\*\*\*

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996			
	3-yr.	2-yr.	1996	3-yr.	2-yr.	1996	Midsilk	Test	Husk**	Harvest
	1994-96	1995-96		1994-96	1995-96			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Hy Performer HS9843....	182	187	183	-	1.0	0	6-11	56.9	2	11.4
Pioneer 3163 *.....	175	176	177	-	2.5	1.0	6-9	57.4	4	11.4
Cargill 8527A .....	173	176	172	-	2.0	1.0	6-13	58.2	3	11.4
Terra TR702E .....	170	179	179	-	2.0	4.0	6-12	57.0	4	11.4
Terra TR 1185 .....	170	182	189	-	2.0	0	6-11	57.0	3	11.4
AgraTech 888 .....	169	170	165	-	1.0	0	6-9	57.9	2	11.4
Hy Performer HS 9944...	168	167	154	-	2.0	2.0	6-11	57.6	3	11.4
Northrup King N8811....	167	160	159	-	1.5	1.0	6-12	59.3	4	11.4
Pioneer 3167 *.....	163	163	145	-	2.5	0	6-10	58.0	3	11.4
Mycogen 9220 .....	155	151	156	-	2.0	1.0	6-11	57.1	3	11.4
Funk's G-4666 .....	150	146	157	-	0	0	6-11	58.3	3	11.4
Pioneer 3223 .....	-	185	183	-	2.0	3.0	6-10	57.8	4	11.4
Hy Performer HY 9899V..	-	185	197	-	1.5	0	6-11	57.0	3	11.4
Funk's DG 5516 .....	-	180	167	-	0.5	0	6-11	56.5	3	11.4
Dekalb DK 706 .....	-	180	175	-	2.5	1.0	6-10	58.0	2	11.4
Dekalb DK 683 .....	-	179	177	-	1.0	2.0	6-11	57.8	3	11.4
Terra TR 1180 .....	-	172	174	-	0.5	0	6-11	58.5	3	11.4
Hy Performer HY 9919V .	-	151	156	-	1.5	0	6-11	56.2	3	11.4
Funk's DG 5670 .....	-	-	190	-	-	1.0	6-9	58.7	3	11.4
NC+ 6959 .....	-	-	180	-	-	0	6-10	57.1	3	11.4
Funk's G-4581 .....	-	-	180	-	-	1.0	6-12	57.2	3	11.4
NC+ 7117 .....	-	-	175	-	-	3.0	6-11	58.9	3	11.4
NC+ 7665 .....	-	-	175	-	-	0	6-13	57.0	2	11.4
Dekalb DK 687 .....	-	-	173	-	-	1.0	6-12	58.6	3	11.4
Funk's G-4714 .....	-	-	169	-	-	1.0	6-11	57.9	2	11.4
Cargill X9513 .....	-	-	158	-	-	0	6-11	58.0	2	11.4
Pioneer 3260 .....	-	-	157	-	-	1.0	6-11	59.2	3	11.4
Test Average .....			171.0							
L.S.D. (.05) .....			22.7							
C.V. (%) .....			9.4							

\* Standard hybrids for comparison.

\*\* 1= Excellent; 5= Very Poor.

\*\*\* The test received approximately 10.0 inches of irrigation water in 8 applications in May, June, and July.

TABLE 15. EARLY CORN HYBRID TEST, SOUTHERN ALABAMA\*\*\*, 1994-96

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1996			
	3-yr.	2-yr.	1996	3-yr.	2-yr.	1996	Midsilk	Test	Husk**	Harvest
	1994-96	1995-96		1994-96	1995-96			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo./Da.	Lb./Bu.	Rating	Pct.
Pioneer 3245 * .....	153	145	129	0.7	0.5	0	6-3	-	3	18.5
Pioneer 3394 .....	144	135	135	0	0	0	5-30	-	3	16.0
AgraTech 787 * .....	-	143	132	-	0	0	6-4	-	3	18.2
Dekalb DK 668 .....	-	135	119	-	0	0	6-2	-	2	17.6
Zimmerman Z29 .....	-	135	136	-	0.5	0	6-3	-	2	17.3
Zimmerman Z41 .....	-	135	141	-	0.5	0	5-31	-	3	16.7
Funk's DG 5510A .....	-	134	139	-	0.5	1.0	6-1	-	4	19.4
Zimmerman Z37 .....	-	-	138	-	-	0	6-2	-	3	19.1
Dekalb DK 642 .....	-	-	126	-	-	0	6-1	-	3	16.4
Dekalb DK 626 .....	-	-	119	-	-	1.0	6-1	-	3	15.7
Pioneer 3563 .....	-	-	113	-	-	0	5-28	-	3	16.1
Test Average .....			129.7							
L.S.D. (.05) .....			19.8							
C.V. (%) .....			10.6							

\* Standard Mid to Late Season Hybrids.

\*\* 1= Excellent; 5= Very Poor.

\*\*\* Fairhope.

REPORT OF PRELIMINARY TESTS  
 TABLE 16. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY TEST  
 AT FAIRHOPE IN SOUTHERN ALABAMA, 1996

Brand Name-Hybrid	Av. Yield	Lodged	Husk**	Midsilk	Test	Harvest
	Per Acre	Stalks	Cover		Weight	Moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Pioneer 3163 *	188	0	3	6-10	-	20.4
CIBA 7088X	183	1.0	2	6-11	-	22.2
Pioneer 3245 *	182	0	3	6-10	-	20.0
Pioneer 3167 *	172	0	3	6-10	-	21.5
HyPerformer AP 9707	170	0	3	6-11	-	19.4
Terra E 1176	169	0	4	6-9	-	20.1
Northrup King N7931	167	0	3	6-6	-	20.6
AgraTech X4720	162	0	3	6-11	-	20.6
Terra E 1226	162	0	3	6-11	-	20.2
Cargill 8328	157	0	3	6-11	-	19.9
Mycogen 7250CB	156	0	4	6-6	-	19.9
CIBA 4394	151	0	3	6-3	-	18.8
Test Average	168.1					
L.S.D. (.05)	14.9					
C.V. (%)	6.1					

\* Standard Hybrids for Comparison.

\*\* 1= Excellent; 5= Very Poor.

TABLE 17. GROWING SEASON RAINFALL, 1994-96

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina.....	1996	7.1	5.5	1.7	3.3	4.3	4.7	8.1	34.7
	1995	3.6	4.8	1.8	2.7	3.0	3.7	7.6	27.2
	1994	8.6	2.5	5.7	7.4	3.9	1.6	4.0	33.4
Crossville.....	1996	8.5	4.2	2.8	2.3	5.6	6.6	6.3	36.3
	1995	4.4	4.2	1.5	3.4	2.5	7.8	4.1	27.9
	1994	8.3	4.3	3.8	7.1	5.9	1.6	6.3	37.3
Winfield.....	1996	4.8	6.4	1.9	3.8	10.4	3.9	7.6	38.8
	1995	6.2	9.2	1.9	1.7	7.8	4.8	2.4	34.0
	1994	7.8	3.1	4.7	9.7	7.8	3.0	3.1	39.2
Tallassee.....	1996	8.7	3.6	3.3	1.8	7.6	5.8	7.5	38.3
	1995	3.7	3.6	1.3	1.8	1.9	2.7	4.4	19.4
	1994	5.6	2.4	1.6	4.9	11.1	4.1	2.3	32.0
Shorter.....	1996	8.6	4.6	4.4	2.4	8.9	6.4	7.4	42.7
	1995	4.6	4.2	1.2	1.8	1.5	1.9	6.3	21.5
	1994	5.8	2.1	2.2	7.2	10.9	1.2	2.1	31.5

Con't

TABLE 17. GROWING SEASON RAINFALL, 1994-96

Con't

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Prattville.....	1996	11.1	3.6	5.1	3.3	8.0	7.3	7.4	45.8
	1995	4.0	4.3	2.0	2.2	1.4	2.3	2.8	19.0
	1994	4.6	3.7	1.5	5.3	7.7	1.9	4.5	29.2
Marion Junction.....	1996	10.3	2.7	2.7	6.4	8.3	3.3	4.4	38.1
	1995	5.9	5.4	1.3	1.4	1.4	5.3	6.4	27.1
	1994	8.2	3.2	1.6	5.8	7.6	1.9	4.0	32.3
Camden.....	1996	12.3	3.8	3.9	4.7	10.3	6.0	3.0	44.0
	1995	4.9	4.2	4.3	1.0	3.6	6.3	1.4	25.7
	1994	5.5	4.2	2.1	4.8	7.5	1.8	3.3	29.2
Monroeville.....	1996	7.8	5.7	2.3	4.1	4.7	5.5	7.2	37.3
	1995	4.2	5.1	4.4	1.0	7.4	10.2	0.8	32.4
	1994	4.2	6.6	7.8	8.6	10.8	2.6	3.0	43.6
Brewton.....	1996	11.1	8.9	1.6	8.0	9.1	12.0	5.4	56.1
	1995	8.3	7.5	8.3	2.9	7.9	10.1	1.9	46.8
	1994	5.5	7.5	4.4	16.6	15.2	3.2	3.5	55.9
Fairhope.....	1996	10.2	11.7	0.5	7.4	6.6	6.0	7.7	50.1
	1995	10.0	6.7	6.0	4.5	8.7	9.6	3.1	48.6
	1994	7.8	4.7	2.9	7.3	10.9	6.5	1.5	41.6
Headland.....	1996	6.9	4.7	2.2	2.9	3.6	13.3	11.6	45.2
	1995	5.2	4.5	2.8	3.8	5.3	5.2	1.7	28.5
	1994	6.5	6.9	0.6	9.4	19.4	3.6	3.5	49.9

TABLE 18. SOIL TYPES FOR CORN TRIALS, 1996

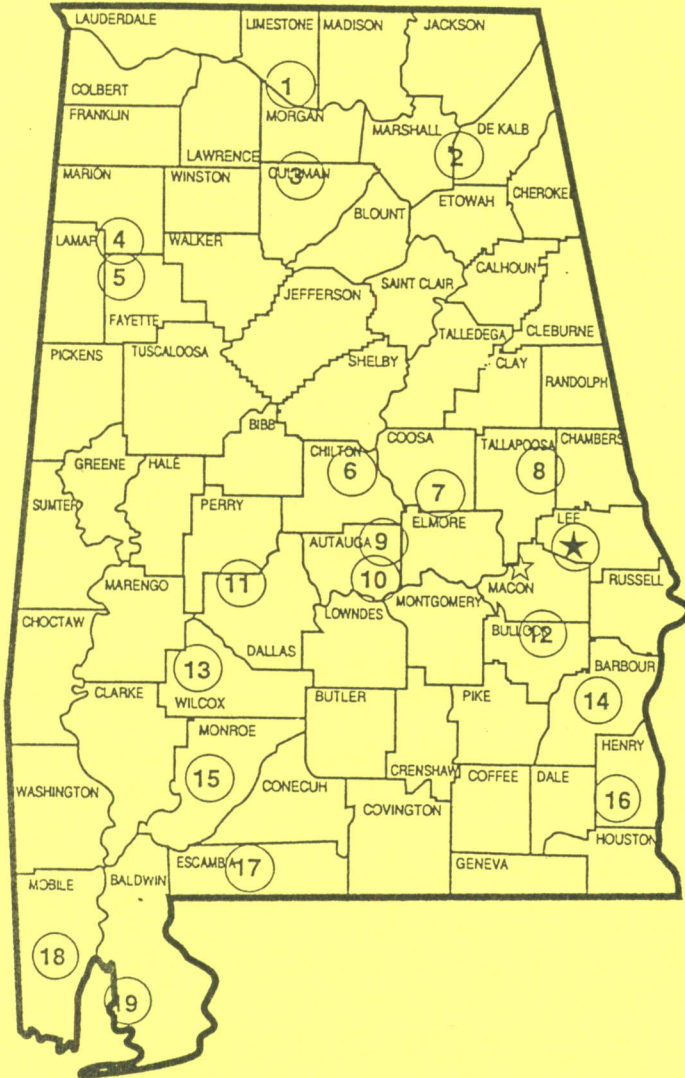
Test location	Soil type
Belle Mina.....	Decatur silt loam
Crossville.....	Wynnvilleville fine sandy loam
Winfield.....	Savannah loam
Tallassee.....	Cahaba loamy sand
Shorter.....	Norfolk sandy loam
Prattville.....	Lucedale fine sandy loam
Marion Junction.....	Vaiden
Camden.....	Forkland fine sandy loam
Monroeville.....	Lucedale loam
Brewton.....	Benndale fine sandy loam
Headland.....	Dothan sandy loam
Fairhope.....	Malbis fine sandy loam

## SOURCES OF 1996 CORN HYBRID TEST SEED

Seed Company	Brand	Seed Company	Brand
AgraTech Seed, Inc. 5559 N. 500 W. McCordsville, IN 46055	AgraTech	NC+ Hybrids 3820 North 56th St. Lincoln, NE 68504	NC+
Cargill Hybrid Seeds Box 5645 Minneapolis, MN 55440	Cargill	Northrup King Co. 410 Woodbridge Dr. Somerville, TN 38068	Northrup King
CIBA Seeds Ciba-Geigy Corp. Greensboro, NC 27419	Funk's G, Ciba	Mycogen Plant Sciences P.O. Box 68 Tulia, TX 79088	Mycogen
DEKALB Genetics Corp. 3100 Sycamore Road DeKalb, IL 60115	Dekalb	Pioneer Hi-Bred Int. 6767 Old Madison Pike Huntsville, AL 35806	Pioneer
Dixie Ag. Supply P.O. Box 534 Athens, AL 35611	Dyna-Gro, Funk's DG	Terra International, Inc. P.O. Box 6000 Sioux City, IA 51102	Terra
Hy Performer Seed Co. One HY Crop Row Memphis, TN 38120	Hy Performer	Zimmerman Hybrids, Inc. 5147 W. Franklin Rd. Evansville, IN 47712	Zimmerman



# Alabama's Agricultural Experiment Station System AUBURN UNIVERSITY



★ Main Agricultural Experiment Station,  
Auburn.

☆ E. V. Smith Research Center,  
Shorter.

1. Tennessee Valley Substation,  
Belle Mina.
2. Sand Mountain Substation,  
Crossville.
3. North Alabama Horticulture Substation,  
Cullman.
4. Upper Coastal Plain Substation,  
Winfield.
5. Forestry Unit, Fayette County.
6. Chilton Area Horticulture Substation,  
Clanton.
7. Forestry Unit, Coosa County.
8. Piedmont Substation,  
Camp Hill.
9. Forestry Unit, Autauga County.
10. Prattville Experiment Field,  
Prattville.
11. Black Belt Substation,  
Marion Junction.
12. The Turnipseed-Ikenberry Place,  
Union Springs.
13. Lower Coastal Plain Substation,  
Camden.
14. Forestry Unit, Barbour County.
15. Monroeville Experiment Field,  
Monroeville.
16. Wiregrass Substation,  
Headland.
17. Brewton Experiment Field,  
Brewton.
18. Ornamental Horticulture Substation,  
Spring Hill.
19. Gulf Coast Substation,  
Fairhope.