



***Evaluation of***

***Corn Hybrids***

***in Alabama***

**1994**



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*Information contained herein is available to all without regardless of race, color, sex, or national origin.*

# EVALUATION OF CORN HYBRIDS IN ALABAMA, 1994

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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.

## 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

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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 1994, 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 the "risk level" of the variety is.

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 1994 Corn Hybrid Tests

Location	Planting date	Nitrogen rate*	Plant population	Date harvested	Herbicides used
<u>Northern Alabama</u>					
Tennessee Valley Substation (Belle Mina).....	April 11	150	20,000	September 9	Atrazine/Dual
Sand Mountain Substation (Crossville)					
Early corn test.....	April 11	155	20,000	September 9	Atrazine/Dual
Regular test.....	April 14	150	20,000	September 13	Atrazine/Dual
Preliminary test.....	April 14	150	20,000	September 14	Atrazine/Dual
White corn test.....	April 14	150	20,000	September 15	Atrazine/Dual
Upper Coastal Plain Substation (Winfield)....	April 19	120	20,000	August 26	Atrazine
<u>Central Alabama</u>					
E.V. Smith Research Center (Shorter)					
Early corn test.....	March 18	120	20,000	August 16	Atrazine/Lasso
Plant Breeding Unit (Tallassee).....	April 1	140	20,000	August 25	Atrazine/Lasso
Prattville Experiment Field (Prattville)....	March 31	120	20,000	August 29	Atrazine/Dual
Black Belt Substation (Marion Junction).....	April 5	160	20,000	August 30	Atrazine/Dual
Lower Coastal Plain Substation (Camden).....	April 11	120	20,000	August 25	Atrazine/Dual
<u>Southern Alabama</u>					
Brewton Experiment Field (Brewton).....					
March 7	March 7	140	20,000	August 23	Atrazine/Dual
Monroeville Experiment Field (Monroeville)...					
March 8	March 8	120	20,000	August 25	Atrazine/Dual
Wiregrass Substation (Headland)					
Regular test (unirrigated).....	March 22	120	20,000	August 19	Atrazine
Regular test (irrigated).....	March 22	200	25,000	August 19	Atrazine
Gulf Coast Substation (Fairhope)					
Early corn test.....	March 7	150	20,000	August 5	Dual
Regular test.....	March 17	150	20,000	August 8	Dual
Preliminary test.....	March 17	150	20,000	August 9	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\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr. 1992-94	2-yr. 1993-94	3-yr. 1992-94	2-yr. 1993-94
	Bu.	Bu.	Pct.	Pct.
Pioneer 3085.....	143	136	4.0	2.3
Dekalb DK 743.....	139	127	2.9	1.7
Pioneer 3154.....	139	138	2.4	2.0
Zeneca 8105.....	137	129	0.9	0.4
Pioneer 3140.....	137	136	1.6	1.3
Dyna-Gro 5509.....	136	127	1.2	0.9
Pioneer 3165.....	134	125	0.8	0.6
Dekalb DK 689.....	134	125	1.8	0.9
Terra TR 1167.....	128	121	0.9	0.6
Deltapine G-4666.....	127	118	1.7	0.8
Zimmerman Z27.....	123	115	2.4	0.8
Pioneer 3167.....	-	132	-	0.8
Hy Performer HS 9773.....	-	130	-	1.5
Dyna-Gro 5510.....	-	124	-	0.3

\* Belle Mina, Crossville, and Winfield.

Table 3. 1994 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Northern Alabama

Brand name-hybrid	Belle Mina	Crossville	Winfield	1994 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.
AgraTech 787.....	158	179	113	150	0.5	55.6	6-26	2	18.2
Pioneer 3156.....	131	189	128	149	1.5	55.7	6-25	2	20.3
Pioneer 3163.....	156	164	125	148	1.0	53.6	6-24	3	18.2
Terra TR 1185.....	140	176	123	146	1.0	54.0	6-26	2	20.2
Zeneca 8105.....	153	155	127	145	0.5	55.3	6-25	2	21.1
Pioneer 3154.....	139	180	114	144	1.0	53.6	6-25	2	20.5
Pioneer 3085.....	154	167	111	144	3.0	53.9	6-28	2	21.0
Zimmerman Z29.....	146	169	116	143	1.5	54.8	6-26	2	18.3
Asgrow RX 897.....	145	159	122	142	0.5	55.2	6-25	2	18.2
Dekalb DK 743.....	133	180	113	142	1.0	54.4	6-24	2	20.5
Pioneer 3167.....	141	176	106	141	0.5	53.8	6-12	2	19.8
Pioneer 3140.....	141	161	115	139	0	55.5	6-11	2	19.9
Dekalb DK 689.....	138	177	101	139	0.5	54.4	6-27	2	19.7
Dyna-Gro 5510.....	127	159	129	138	0.3	55.0	6-23	2	19.3
Hy Performer HS 9773.....	135	163	115	138	1.7	53.8	6-24	3	18.8
Terra TR 1167.....	131	165	113	136	0.5	54.9	6-25	2	18.0
AgraTech 810.....	132	168	106	135	0.7	54.3	6-26	2	18.6
Dyna-Gro 5509.....	137	157	109	134	0.5	54.6	6-23	2	18.9
Pioneer 3165.....	134	177	85	132	0.5	54.0	6-29	2	19.6
Terra TR702E.....	136	172	89	132	0	54.1	6-26	2	20.1
Deltapine G-4666.....	140	169	84	131	0.5	55.7	6-25	2	20.3
Asgrow RX 899.....	132	153	104	130	2.0	55.4	6-26	2	18.6
Hy Performer HS 9944.....	133	163	75	124	1.0	54.0	6-27	2	19.6
Zimmerman Z27.....	128	138	102	122	0.5	55.1	6-27	3	18.4
Hy Performer HS9843.....	124	151	90	121	0.3	55.3	6-25	2	18.2
Asgrow RX 919.....	124	173	64	120	0.3	55.3	6-27	2	18.3
Northrup King N7989.....	131	136	86	117	0.7	55.9	6-25	3	18.2
Test Average.....	137.6	165.6	106.0						
L.S.D. (.05).....	17.2	23.1	26.0						
C.V. (%).....	8.9	9.9	17.4						

\* 1= Excellent; 5= Very Poor.

Table 4. White Corn Hybrid Test, Northern Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994			
	3-yr.	2-yr.	1994	3-yr.	2-yr.	1994	Midsilk	Test	Husk***	Harvest
	1992-94	1993-94		1992-94	1993-94		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3165 **	153	136	172	0.3	0.5	1.0	6-29	55.9	2	16.5
Zimmerman Z63W	152	128	176	2.7	3.5	2.0	6-27	58.1	2	16.6
Dekalb DK 689 **	145	121	155	1.0	1.0	0	6-28	56.0	3	16.1
Hy Performer HS 175W	142	124	166	2.3	3.0	3.0	6-28	56.1	2	16.5
Zimmerman Z16W	141	123	169	2.0	3.0	1.0	6-26	57.1	2	16.9
Hy Performer HS165W	136	115	146	1.0	1.0	0	6-27	56.6	2	16.1
Pioneer 3281W	133	116	155	0.7	0.5	0	6-27	57.6	2	15.9
Zimmerman Z64W	-	141	184	-	1.5	1.0	6-28	55.7	2	16.5
Terra TR563E	-	119	153	-	0	0	6-27	58.3	2	16.3
Hy Performer HB 9755W	-	115	148	-	1.5	0	6-26	56.7	2	16.4
Zimmerman Z27 **	-	110	150	-	0.5	0	6-27	56.0	3	15.6
Hy Performer HB 947005W	-	-	179	-	-	0	6-28	55.9	2	16.9
Zimmerman Z62W	-	-	166	-	-	1.0	6-27	56.5	2	16.0
Terra TR564E	-	-	148	-	-	0	6-26	57.4	2	15.5
Terra TR615E	-	-	132	-	-	0	6-26	55.5	3	16.0
Terra TR616E	-	-	82	-	-	1.0	6-27	56.7	3	15.5
Test Average			154.9							
L.S.D. (.05)			14.9							
C.V. (%)			6.7							

\* Crossville.  
 \*\* Yellow Corn Check Hybrid.  
 \*\*\* 1= Excellent; 5= Very Poor.

Table 5. Early Corn Hybrid Test, Northern Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994			
	3-Yr.	2-Yr.	1994	3-Yr.	2-Yr.	1994	Midsilk	Test	Husk**	Harvest
	1992-94	1993-94		1992-94	1993-94		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3165 ***	146	134	181	0.7	1.0	0	6-30	56.5	2	18.7
Dekalb DK 689 ***	144	136	175	1.3	1.5	0	6-29	56.1	3	17.7
Zimmerman Z27 ***	135	128	167	0.7	0.5	0	6-29	56.2	3	16.6
Pioneer 3245	128	131	180	0.7	1.0	0	6-27	57.6	3	17.3
Deltapine 4581	126	122	167	0.3	0.5	0	6-28	56.4	3	17.0
Pioneer 3394	115	114	146	1.0	1.0	0	6-25	54.9	3	16.6
Deltapine 4450	-	100	143	-	1.5	0	6-24	56.1	2	16.6
Zimmerman Z21	-	-	176	-	-	0	6-29	56.1	3	17.4
Northrup King N7989	-	-	165	-	-	0	6-28	56.2	3	17.2
Deltapine 4393	-	-	129	-	-	0	6-21	55.0	3	16.1
Test Average			162.8							
L.S.D. (.05)			14.1							
C.V. (%)			6.0							

\* Crossville.  
 \*\* 1= Excellent; 5= Very Poor.  
 \*\*\* Standard Mid to Late Season Hybrids.



Report of Preliminary Tests  
 Table 6. Characteristics of Corn Hybrids Tested One Year in Preliminary  
 Test at Crossville in Northern Alabama, 1994

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 X1183F.....	196	0	3	6-28	55.7	16.1
Dyna-Gro 5625.....	186	1.0	2	7-1	53.5	18.3
Dekalb DK 683.....	182	1.0	3	6-27	55.5	16.0
Dekalb DK 706.....	180	0	2	6-26	56.1	16.6
Pioneer 3165 **.....	173	0	3	6-28	55.9	17.1
Pioneer X1183C.....	172	1.0	2	6-27	55.3	16.2
Northrup King N8656.....	172	0	2	6-26	56.6	16.7
Hy Performer HY 9899V.....	170	1.0	2	6-26	56.7	16.8
Mycogen 8240.....	168	0	2	6-26	58.3	16.0
Hy Performer HB 847002.....	165	1.0	3	6-29	55.2	16.6
Dekalb DK 689 **.....	165	0	3	6-27	55.7	16.2
Asgrow RX 907.....	161	0	3	6-26	56.9	16.5
Hy Performer HB 846001.....	161	1.0	2	6-24	55.4	15.9
AgraTech 737.....	161	0	3	6-22	54.5	16.4
Northrup King N8020.....	158	0	2	6-24	56.4	15.8
Dekalb DK 668.....	158	0	2	6-26	55.6	16.0
Dekalb DK 714.....	155	0	3	6-23	58.0	16.4
Dyna-Gro 5516.....	154	0	2	6-26	56.3	15.9
Hy Performer HY 9919.....	153	0	2	6-23	54.9	16.8
Zimmerman Z27 **.....	150	0	2	6-28	55.7	15.9
ICI N8206.....	144	0	3	6-26	57.8	16.3
ICI 8281.....	130	0	2	6-26	55.6	16.5
Test Average.....	164.2					
L.S.D. (.05).....	18.9					
C.V. (%).....	8.2					

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

Table 7. Two- and Three-Year Yield and Lodging Averages for Yellow  
 Corn for Central Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1992-94	1993-94	1992-94	1993-94
	Bu.	Bu.	Pct.	Pct.
Pioneer 3085.....	100	93	2.0	2.0
Terra TR 1167.....	93	78	0.7	1.0
Pioneer 3165.....	92	81	1.5	2.2
Pioneer 3146.....	90	78	1.0	1.3
Pioneer 3154.....	88	82	3.8	4.2
Dyna-Gro 5509.....	87	77	0.7	1.0
Dekalb DK 689.....	86	76	1.7	2.2
Deltapine G-4666.....	81	68	0.8	1.3
Pioneer 3140.....	80	73	2.3	3.2
Pioneer 3167.....	-	89	-	1.3
Zimmerman Z27.....	-	77	-	1.8
Zeneca 8105.....	-	77	-	1.0
Dyna-Gro 5510.....	-	72	-	0.8

\* Prattville and Camden.

Table 8. 1994 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Central Alabama

Brand name-hybrid	Prattville	Camden	1994 Regional Averages					
			Yield per acre	Lodged stalks	Test weight	Mid-silk	Husk* cover	Harvest moisture
			Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.
Pioneer 3085.....	143	141	142	2.0	57.3	6-16	2	17.0
Pioneer 3167.....	133	138	136	0	58.1	6-15	2	16.6
Pioneer 3165.....	143	128	135	0	57.3	6-16	3	16.6
Terra TR702E.....	135	130	132	0	57.3	6-15	2	15.9
Terra TR 1185.....	138	125	132	1.0	56.5	6-15	2	15.8
Pioneer 3163.....	131	119	125	1.5	57.3	6-14	2	15.2
Zimmerman Z27.....	125	123	124	0	56.3	6-15	2	14.2
Pioneer 3146.....	132	116	124	0.5	59.1	6-15	2	15.8
Zeneca 8105.....	116	127	121	0	61.1	6-15	2	17.3
Pioneer 3154.....	121	121	121	1.0	56.0	6-14	2	15.9
Dekalb DK 689.....	130	111	121	0.5	56.8	6-15	2	16.1
Pioneer 3156.....	123	112	118	1.0	58.1	6-15	1	15.0
Terra TR 1167.....	130	104	117	0	58.3	6-15	1	14.2
Dyna-Gro 5509.....	113	117	115	0	56.9	6-15	2	15.0
Pioneer 3140.....	103	120	112	0	55.8	6-14	2	16.0
Dyna-Gro 5510.....	108	112	110	0.5	59.0	6-15	3	14.6
Deltapine G-4666.....	111	108	109	0.5	58.8	6-15	2	15.1
Test Average.....	125.5	120.7						
L.S.D. (.05).....	20.3	20.8						
C.V. (%).....	11.4	12.1						

\* 1= Excellent; 5= Very Poor.

Table 9. Early Corn Hybrid Test, Central Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994		
	3-Yr. 1992-94	2-Yr. 1993-94	1994	3-Yr. 1992-94	2-Yr. 1993-94	1994	Midsilk	Test weight	Harvest moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo./Da.	Lb./Bu.	Pct.
Dekalb DK 689 **.....	130	106	150	2.3	3.5	0	6-9	-	10.4
Pioneer 3165 **.....	121	96	144	2.7	4.0	0	6-9	-	9.4
Pioneer 3245.....	118	91	124	1.7	2.5	1.0	6-9	-	9.6
Zimmerman Z27 **.....	116	90	127	1.7	2.5	0	6-9	-	8.8
Deltapine 4581.....	113	94	134	1.0	1.5	0	6-9	-	8.8
Pioneer 3394.....	108	80	121	1.7	2.5	0	6-7	-	9.1
Deltapine 4450.....	-	81	130	-	2.0	2.0	6-9	-	8.3
Deltapine 4393.....	-	-	104	-	-	1.0	6-7	-	8.3
Test Average.....			129.1						
L.S.D. (.05).....			13.1						
C.V. (%).....			6.9						

\* Shorter.

\*\* Standard Mid to Late Season Hybrids.

Report of Preliminary Tests  
 Table 10. Characteristics of Corn Hybrids Tested One Year in Preliminary  
 Test at Tallassee in Central Alabama, 1994

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 X1183F.....	175	0	4	6-12	56.2	19.9
Pioneer X1183C.....	166	0	3	6-11	56.2	19.3
Northrup King N8656.	159	0	2	6-12	55.5	20.7
Pioneer 3165 **.....	159	1.0	3	6-14	54.1	22.3
Mycogen 9220.....	154	0	2	6-12	54.5	22.2
Mycogen 8240.....	147	0	3	6-10	59.7	19.6
Zimmerman Z27 **....	146	2.0	3	6-12	57.1	18.6
Dekalb DK 689 **....	145	1.0	2	6-13	54.0	22.0
Dyna-Gro 5516.....	142	0	2	6-12	56.6	19.5
ICI 8281.....	139	0	2	6-12	55.9	18.9
Northrup King N8020.	138	0	3	6-11	56.1	19.5
Dyna-Gro 5625.....	133	1.0	1	6-17	51.2	22.6
ICI N8206.....	133	0	3	6-11	56.9	21.2
Test Average.....	148.8					
L.S.D. (.05).....	10.8					
C.V. (%).....	5.1					

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

Table 11. Black Belt Corn Hybrid/Virus Test, 1992-94

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994			
	3-yr.	2-yr.	1994	3-yr.	2-yr.	1994	Midsilk	Test	Husk**	Harvest
	1992-94	1993-94		1992-94	1993-94		Mo.-Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Dekalb DK 743.....	108	87	135	3.7	2.0	0	6-13	59.4	2	19.3
Pioneer 3165.....	106	84	128	5.3	2.0	0	6-15	58.1	1	18.2
Pioneer 3154.....	104	87	131	5.3	2.0	0	6-13	57.9	1	16.8
Mycogen 9220.....	99	78	117	3.7	2.0	0	6-14	57.3	1	17.7
Dekalb DK 689.....	97	76	112	4.3	2.0	0	6-14	57.9	1	18.8
Pioneer 3156.....	-	83	124	-	2.0	0	6-12	58.3	2	15.7
Deltapine 8695.....	-	81	126	-	2.5	0	6-13	57.6	2	17.8
Zimmerman Z27.....	-	78	122	-	1.5	0	6-16	57.8	2	14.3
Cargill 8936.....	-	76	120	-	2.0	0	6-13	56.6	2	18.7
Deltapine G-4666.....	-	67	97	-	1.5	0	6-13	59.7	1	17.2
Pioneer X1183C.....	-	-	149	-	-	0	6-13	58.0	2	15.5
Dekalb DK 683.....	-	-	133	-	-	0	6-13	59.0	1	17.1
Hy Performer HY 9919..	-	-	131	-	-	0	6-11	57.4	1	19.0
Northrup King N8656...	-	-	125	-	-	0	6-14	57.4	2	16.1
Pioneer 3163.....	-	-	125	-	-	0	6-12	56.7	2	16.7
Pioneer X1183F.....	-	-	124	-	-	0	6-13	58.1	2	16.2
Mycogen 4920X.....	-	-	123	-	-	0	6-15	57.2	1	17.3
Cargill 8527A.....	-	-	119	-	-	0	6-13	58.9	2	16.0
Vigoro V1184.....	-	-	119	-	-	0	6-13	58.9	2	13.9
Hy Performer HY 9899V.	-	-	118	-	-	0	6-12	57.2	2	18.3
Vigoro V1204.....	-	-	117	-	-	0	6-11	55.9	2	19.0
Test Average.....			123.6							
L.S.D. (.05).....			16.3							
C.V. (%).....			9.3							

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



Table 12. Two- and Three-Year Yield and Lodging Averages for Yellow Corn for Southern Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1992-94	1993-94	1992-94	1993-94
	Bu.	Bu.	Pct.	Pct.
AgraTech 888.....	114	118	3.7	2.3
Mycogen 9220.....	112	119	7.3	2.2
Deltapine DP 5750.....	111	116	3.0	1.8
Deltapine G-4666.....	111	115	2.6	1.3
Hy Performer HS-9911.....	110	112	2.6	1.1
Dekalb DK 689.....	109	112	4.7	2.4
Cargill 9027.....	108	112	4.8	2.5
Dyna-Gro 5509.....	107	111	1.9	0.4
Zeneca 8105.....	106	114	2.4	1.2
Pioneer 3165.....	106	110	4.5	3.7
Dekalb DK 743.....	106	110	4.9	1.9
Pioneer 3146.....	103	108	2.6	1.7
Pioneer 3085.....	103	110	4.3	3.8
Pioneer 3167.....	-	115	-	2.7
Dyna-Gro 5510.....	-	112	-	1.2
Hy Performer HS 9773.....	-	112	-	4.5
Deltapine 4742.....	-	111	-	1.0
Zimmerman Z27.....	-	111	-	2.0
Asgrow RX 899.....	-	110	-	0.8
Northrup King N8811.....	-	110	-	1.3

\* Fairhope, Brewton, Monroeville, and Headland.

Table 13. 1994 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Southern Alabama

Brand name-hybrid					1994 Regional Averages					
	Fairhope	Brewton	Monroeville	Headland	Yield	Lodged	Test	Mid-	Husk*	Harvest
	Bu.	Bu.	Bu.	Bu.	per acre	stalks	weight	silk	cover	moisture
	Bu.	Bu.	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.
Pioneer 3163.....	171	138	144	130	146	1.7	54.6	5-30	2	16.3
Terra TR702E.....	158	137	145	140	145	0.7	55.9	5-31	2	16.8
AgraTech 967.....	171	132	146	130	145	0.7	52.7	5-27	3	17.4
Cargill 8527A.....	158	126	138	145	142	0.7	56.2	5-28	2	16.9
Dyna-Gro 5510.....	162	139	130	136	142	0.3	56.8	5-26	2	16.8
AgraTech 888.....	145	135	143	143	141	1.3	55.9	5-28	2	16.9
Deltapine DP 5750..	167	121	138	137	141	0.3	57.6	5-28	2	17.0
Zeneca 8105.....	152	137	133	141	141	0.3	57.4	5-30	2	18.2
Hy Performer										
HS 9773.....	163	115	144	139	140	1.7	54.9	5-26	3	16.5
Asgrow RX 899.....	161	135	126	140	140	0	56.8	5-29	2	16.3
Pioneer 3146.....	162	131	131	138	140	0.3	57.0	5-28	2	16.8
Zimmerman 227.....	172	136	124	126	139	1.3	54.2	5-29	2	16.0
Terra TR 1185.....	150	128	135	144	139	2.3	54.6	5-31	2	17.0
Dyna-Gro 5509.....	152	133	128	139	138	0.3	55.6	5-29	2	16.7
Asgrow RX 897.....	154	131	129	137	138	0.3	54.3	5-28	2	16.2
Deltapine G-4666...	157	133	124	135	137	0.7	57.8	5-27	2	17.0
Deltapine 4742.....	136	139	136	137	137	0.3	57.7	5-29	2	18.5
Hy Performer										
HS 9944.....	155	126	132	133	136	1.3	56.2	5-30	2	17.3
Pioneer 3085.....	153	123	136	132	136	2.3	54.5	5-31	2	18.0
Cargill 9027.....	152	131	123	137	136	1.3	55.7	5-28	2	17.0
Dekalb DK 689.....	163	131	118	131	136	1.0	55.8	5-30	2	17.3
Northrup King										
N8811.....	154	133	120	136	135	0.7	58.5	5-30	2	18.1
Northrup King										
N7989.....	147	136	129	128	135	0.3	56.2	5-29	2	16.3
Hy Performer										
HS9843.....	153	124	132	132	135	0.3	55.2	5-28	2	16.2
Hy Performer										
HS-9911.....	153	116	125	145	135	0.7	55.9	5-29	2	17.0
Pioneer 3167.....	158	121	136	123	134	1.3	54.6	6-1	3	18.3
Zimmerman 229.....	153	132	122	130	134	0.3	55.1	5-29	2	16.0
Mycogen 9220.....	153	120	125	132	132	1.7	54.4	5-28	2	17.0
Pioneer 3165.....	138	116	134	138	132	1.3	53.8	6-1	3	17.8
Vigoro V1204.....	171	113	127	110	130	1.0	53.1	5-28	3	17.1
Dekalb DK 743.....	141	121	114	137	128	1.3	55.6	5-28	3	17.6
Vigoro V1122.....	135	131	114	132	128	0.3	56.1	5-27	3	16.2
Vigoro V1184.....	135	125	115	127	125	0	56.7	5-29	2	16.3
Test Average.....	154.6	128.5	130.1	134.5						
L.S.D. (.05).....	19.8	13.6	15.5	20.4						
C.V. (%).....	9.1	7.6	8.5	10.8						

\* 1= Excellent; 5= Very Poor.

Table 14. Irrigated Corn Hybrid Performance and Characteristics, Headland, Alabama, 1992-94\*

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994			
	3-yr.	2-yr.	1994	3-yr.	2-yr.	1994	Midsilk	Test weight	Husk**	Harvest
	1992-94	1993-94	1994	1992-94	1993-94	1994	Mo.-Da.	Lb./Bu.	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.			Rating	Pct.
Dekalb DK 689.....	168	177	175	-	-	-	5-26	56.0	-	13.5
Hy Performer										
HS-9911.....	163	171	175	-	-	-	5-28	57.9	-	13.5
Zeneca 8105.....	160	166	174	-	-	-	5-27	57.2	-	13.5
AgraTech 888.....	160	169	166	-	-	-	5-25	55.8	-	13.5
Pioneer 3146.....	159	164	170	-	-	-	5-25	56.2	-	13.5
Dekalb DK 743.....	159	169	171	-	-	-	5-28	56.1	-	13.5
Deltapine G-4666..	158	161	159	-	-	-	5-28	54.4	-	13.5
Mycogen 9220.....	158	164	164	-	-	-	5-27	55.6	-	13.5
Deltapine DP 5750.	155	164	162	-	-	-	5-28	58.1	-	13.5
Dyna-Gro 5509.....	148	159	177	-	-	-	5-26	57.6	-	13.5
Cargill 9027.....	147	148	147	-	-	-	5-25	55.2	-	13.5
Pioneer 3165.....	144	152	176	-	-	-	5-28	56.3	-	13.5
Pioneer 3085.....	142	144	160	-	-	-	5-25	55.8	-	13.5
Northrup King										
N8811.....	-	166	181	-	-	-	5-31	58.7	-	13.5
Asgrow RX 899.....	-	157	167	-	-	-	5-30	55.0	-	13.5
Hy Performer										
HS 9773.....	-	155	163	-	-	-	5-28	54.9	-	13.5
Pioneer 3167.....	-	153	163	-	-	-	5-30	57.2	-	13.5
Zimmerman Z27.....	-	151	174	-	-	-	5-28	56.1	-	13.5
Dyna-Gro 5510.....	-	149	175	-	-	-	5-26	57.3	-	13.5
Deltapine 4742.....	-	142	149	-	-	-	6-1	56.4	-	13.5
Asgrow RX 897.....	-	-	179	-	-	-	5-26	55.3	-	13.5
Vigoro V1122.....	-	-	175	-	-	-	5-26	56.9	-	13.5
Pioneer 3163.....	-	-	174	-	-	-	5-30	55.1	-	13.5
Hy Performer										
HS9843.....	-	-	171	-	-	-	5-26	56.7	-	13.5
Hy Performer										
HS 9944.....	-	-	170	-	-	-	5-26	59.0	-	13.5
AgraTech 967.....	-	-	169	-	-	-	5-28	53.2	-	13.5
Cargill 8527A.....	-	-	168	-	-	-	6-1	57.1	-	13.5
Vigoro V1184.....	-	-	167	-	-	-	5-30	57.7	-	13.5
Northrup King										
N7989.....	-	-	164	-	-	-	5-28	56.8	-	13.5
Vigoro V1204.....	-	-	155	-	-	-	5-27	54.5	-	13.5
Zimmerman Z29.....	-	-	154	-	-	-	5-27	53.8	-	13.5
Terra TR702E.....	-	-	152	-	-	-	5-30	55.3	-	13.5
Terra TR 1185.....	-	-	145	-	-	-	5-28	54.6	-	13.5
Test Average.....			166.3							
L.S.D. (.05).....			22.7							
C.V. (%).....			9.7							

\* The test received approximately 10.0 inches of irrigation water in 8 applications in May and 1 application in July.

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



Table 15. Early Corn Hybrid Test, Southern Alabama\*, 1992-94

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1994			
	3-yr.	2-yr.	1994	3-yr.	2-yr.	1994	Midsilk	Test	Husk**	Harvest
	1992-94	1993-94	1994	1992-94	1993-94	1994	Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Dekalb DK 689 ***	151	165	176	0	0	0	5-25	50.6	3	21.1
Deltapine 4581	147	159	169	0	0	0	5-23	53.1	3	18.6
Pioneer 3245	143	157	169	0.3	0.5	1.0	5-24	54.2	3	19.4
Pioneer 3165 ***	139	152	168	1.0	1.5	2.0	5-27	50.7	3	25.0
Zimmerman Z27 ***	139	149	164	0	0	0	5-23	54.1	3	18.5
Pioneer 3394	132	143	162	0	0	0	5-22	51.8	4	18.1
Deltapine 4450	-	143	162	-	0.5	0	5-19	51.3	3	18.6
Zimmerman Z21	-	-	174	-	-	0	5-24	52.3	3	18.5
Deltapine 4393	-	-	134	-	-	0	5-17	50.9	3	17.5
Test Average			164.2							
L.S.D. (.05)			11.7							
C.V. (%)			4.9							

\* Fairhope.  
 \*\* 1= Excellent; 5= Very Poor.  
 \*\*\* Standard Mid to Late Season Hybrids.

Report of Preliminary Tests  
 Table 16. Characteristics of Corn Hybrids Tested One Year in Preliminary Test at Fairhope in Southern Alabama, 1994

Brand name-hybrid	Av. Yield	Lodged	Husk*	Midsilk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Deltapine 7088X	182	1.0	3	5-28	55.8	21.1
Deltapine 7078X	179	1.0	3	5-26	56.7	19.5
Pioneer X1183F	175	1.0	3	5-29	56.5	18.7
Dekalb DK 706	172	0	3	5-25	57.3	19.8
Mycogen 8240	162	1.0	2	5-26	60.7	19.0
Dekalb DK 689 **	161	0	3	5-28	56.5	20.2
Dekalb DK 668	161	0	2	5-25	55.0	18.6
Pioneer X1183C	161	0	3	5-26	56.6	19.0
Dekalb DK 714	159	1.0	3	5-26	58.0	21.5
Hy Performer HY 9899V	158	0	3	5-26	56.3	20.3
Dekalb DK 683	155	0	3	5-27	55.9	18.8
Hy Performer HB 847002	154	2.0	4	5-28	53.8	20.0
Hy Performer HB 846001	153	1.0	3	5-24	56.0	18.0
ICI 8281	152	0	3	5-25	56.5	17.6
Hy Performer HY 9919	150	0	3	5-25	51.8	19.3
Dyna-Gro 5625	148	3.0	3	6-1	52.5	22.9
Zimmerman Z27 **	148	1.0	3	5-26	57.1	18.3
Mycogen 4920X	145	3.0	3	5-28	56.7	19.5
AgraTech 1177	145	1.0	2	6-2	55.3	24.2
ICI N8206	140	0	3	5-26	58.3	20.0
Pioneer 3165 **	139	2.0	4	5-30	52.5	21.9
Dyna-Gro 5516	138	0	3	5-25	56.9	18.5
Asgrow RX 907	129	0	3	5-26	55.8	19.4
Test Average	154.9					
L.S.D. (.05)	21.8					
C.V. (%)	10.0					

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

Table 17. Growing Season Rainfall, 1992-94

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina.....	1994	8.6	2.5	5.7	7.4	3.9	1.6	4.0	33.4
	1993	6.6	3.0	4.7	3.0	2.6	5.5	5.3	30.7
	1992	4.8	1.8	2.3	9.0	6.3	4.3	5.2	33.7
Crossville.....	1994	8.3	4.3	3.8	7.1	5.9	1.6	6.3	37.3
	1993	4.5	3.9	4.4	0.8	2.3	4.2	1.8	21.9
	1992	4.2	2.2	2.1	5.7	5.5	4.5	4.3	28.5
Winfield.....	1994	7.8	3.1	4.7	9.7	7.8	3.0	3.1	39.2
	1993	5.5	2.6	6.1	8.6	0.7	3.7	4.0	31.2
	1992	3.9	1.5	1.1	4.5	8.4	5.2	2.3	26.9
Tallassee.....	1994	5.6	2.4	1.6	4.9	11.1	4.1	2.3	32.0
	1993	6.3	3.2	2.3	3.5	1.6	5.5	2.0	24.4
	1992	4.2	2.8	0.7	4.1	5.1	2.8	2.7	22.4
Shorter.....	1994	5.8	2.1	2.2	7.2	10.9	1.2	2.1	31.5
	1993	6.5	2.5	2.9	6.3	0.6	5.9	2.8	27.5
	1992	3.6	2.8	1.7	3.4	7.4	5.1	2.9	26.9
Prattville.....	1994	4.6	3.7	1.5	5.3	7.7	1.9	4.5	29.2
	1993	5.7	2.9	2.3	2.2	2.1	6.4	0.9	22.5
	1992	3.3	3.9	1.7	4.1	6.1	3.0	2.4	24.5
Marion Junction.	1994	8.2	3.2	1.6	5.8	7.6	1.9	4.0	32.3
	1993	5.3	2.9	3.1	1.4	2.3	6.8	3.7	25.5
	1992	3.1	3.2	1.7	3.8	5.5	2.7	4.2	24.2
Camden.....	1994	5.5	4.2	2.1	4.8	7.5	1.8	3.3	29.2
	1993	7.3	3.4	2.3	3.0	5.6	3.2	4.6	29.4
	1992	2.9	2.8	1.4	6.4	5.9	4.7	4.0	28.1
Monroeville.....	1994	4.2	6.6	7.8	8.6	10.8	2.6	3.0	43.6
	1993	6.2	3.1	3.4	2.9	8.2	7.0	1.3	32.1
	1992	4.2	3.2	2.2	8.5	5.8	11.6	2.6	38.1
Brewton.....	1994	5.5	7.5	4.4	16.6	15.2	3.2	3.5	55.9
	1993	8.8	2.1	4.2	3.1	10.7	3.8	8.3	41.0
	1992	3.9	3.4	2.2	4.3	5.0	7.7	6.4	32.9
Fairhope.....	1994	7.8	4.7	2.9	7.3	10.9	6.5	1.5	41.6
	1993	7.3	2.6	5.8	3.4	8.1	7.6	5.0	39.8
	1992	2.9	2.7	2.4	4.6	5.0	6.2	1.4	25.2
Headland.....	1994	6.5	6.9	0.6	9.4	19.4	3.6	3.5	49.9
	1993	8.5	1.6	1.3	1.7	5.3	1.5	4.8	24.7
	1992	7.5	0.6	2.5	3.8	7.4	4.9	0.4	27.1

Table 18. Soil Types for Corn Trials, 1994

Test Location	Soil Type
Belle Mina.....	Decatur silt loam
Crossville.....	Wynnville 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 1994 CORN HYBRID TEST SEED

<u>Seed Company</u>	<u>Brand</u>	<u>Seed Company</u>	<u>Brand</u>
AgraTech Seed, Inc. 5559 N. 500 W. McCordsville, IN 46055	AgraTech	ICI Seeds P.O. Box 8127 Dothan, AL 36304	ICI
Asgrow Seed Co. 7000 Portage Road Kalamazoo, MI 49001	Asgrow	Northrup King Co. 705 Woodbridge Dr. Somerville, TN 38068	Northrup King
Cargill Hybrid Seeds Box 5645 Minneapolis, MN 55440	Cargill	Mycogen Plant Sciences 624 27 <sup>th</sup> Street Lubbock, TX 79404	Mycogen (formerly Jacques)
DEKALB Genetics Corp. 3100 Sycamore Road DeKalb, IL 60115	DEKALB	Pioneer Hi-Bred Int. 6767 Old Madison Pike Huntsville, AL 35806	Pioneer
Delta and Pine Land Co. P.O. Box 157 Scott, MS 38772	Deltapine	Terra International, Inc. 600 Fourth Street Sioux City, IA 51101	Terra
Dixie Ag. Supply P.O. Box 534 Athens, AL 35611	Dyna-Gro	Vigoro Industries P.O. Box 156 Jefferson, GA 30549	Vigoro
Hy Performer Seed Co. One HY Crop Row Memphis, TN 38120	Hy Performer	Zimmerman Hybrids, Inc. 5147 W. Franklin Rd. Evansville, IN 47712	Zimmerman





