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Information contained herein is available to all persons regardless of race, gender, or national origin.

EVALUATION OF CORN HYBRIDS IN ALABAMA, 1998

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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 conducted 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 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, a regular corn hybrid test is irrigated at both Belle Mina and Headland and a preliminary test is irrigated at Tallassee. Locations and cultural practices for all tests are presented 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 are 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 Belle Mina, Tallassee, and 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 pounds) 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. In 1998, the virus test at Marion Junction was not harvested due to extremely dry growing conditions.

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

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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 was 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, LSDs 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 CVs 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, 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 18), and soil types (Table 19) 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 1998 CORN HYBRID TESTS

Location	Planting date	Nitrogen rate*	Plant population	Date harvested	Herbicides used
NORTHERN ALABAMA					
Tennessee Valley Substation (Belle Mina)					
Regular test (unirrigated)	March 26	150	20,000	September 23	Bicep II
Regular test (irrigated)	March 26	175	25,000	September 24	Bicep II
Sand Mountain Substation (Crossville)					
Early corn test	April 7	160	20,000	September 17	Atrazine/Dual
Regular test	April 13	150	20,000	September 11	Aatrex/Dual
Preliminary test	April 7	160	20,000	September 14	Atrazine/Dual
White corn test	April 13	150	20,000	September 14	Aatrex/Dual
Upper Coastal Plain Substation (Winfield)	May 4	120	20,000	October 9	Atrazine/Broadstrike
CENTRAL ALABAMA					
E. V. Smith Research Center (Shorter)					
Early corn test	March 25	120	20,000	August 6	Atrazine/Dual
Plant Breeding Unit (Tallassee)					
Preliminary test	March 25	150	20,000	August 11	Bicep II
Preliminary test (irrigated)	March 25	150	25,000	August 11	Bicep II
Prattville Experiment Field (Prattville)	March 20	120	20,000	August 26	Atrazine
Black Belt Substation (Marion Junction)	April 13	150	20,000	Not harvested	Atrazine/Dual
Lower Coastal Plain Substation (Camden)	April 24	100	20,000	August 26	Dual
SOUTHERN ALABAMA					
Brewton Experiment Field (Brewton)					
Monroeville Experiment Field (Monroeville)	March 24	140	20,000	August 20	Atrazine/Dual
Wiregrass Substation (Headland)	March 23	120	20,000	August 24	Atrazine/Dual
Regular test (unirrigated)	April 2	140	20,000	August 26	Atrazine
Regular test (irrigated)	April 2	220	25,000	August 26	Atrazine
Gulf Coast Substation (Fairhope)					
Early corn test	March 4	150	20,000	July 30	Atrazine/Dual
Regular test	March 23	150	20,000	July 31	Atrazine/Dual
Preliminary test	March 23	150	20,000	July 30	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,*1996-98

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1996-98	1997-98	1996-98	1997-98
	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Pct.</i>
Pioneer 3223	103	97	1.7	1.5
Terra TR 1185	100	96	3.0	2.3
Pioneer 3163 **	100	97	2.0	1.5
Hy Performer HS9843	99	93	1.7	1.7
Terra TR 1167	98	94	1.9	1.7
Dekalb DK 687	98	98	1.4	1.3
Dekalb DK 706	98	97	2.7	2.3
AgraTech 787 **	97	96	1.8	1.2
Pioneer 3167 **	96	89	1.6	1.3
Dekalb DK 683	95	90	1.4	1.0
Funk's DG 5516	94	98	1.9	1.7
HyPerformer AP 9707	-	99	-	2.0
Funk's 5510A	-	95	-	1.7
Pioneer 32K61	-	92	-	1.8
Terra TR 1154	-	83	-	0.8
AgraTech ATX721	-	79	-	1.8

* Belle Mina, Crossville, and Winfield.

** Standard hybrids for comparison.

Table 3. 1998 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Northern Alabama

Brand Name-Hybrid	Belle Mina	Crossville	Winfield	1998 Regional Averages					
				Yield	Lodged	Test	Mid-	Husk*	Harvest
				Per Acre	Stalks	Weight	Silk	Cover	Moisture
	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Lb./Bu.</i>	<i>Mo.-Da.</i>	<i>Rating</i>	<i>Pct.</i>
Dekalb DK 706	40	136	90	89	2.3	58.8	7-1	3	13.1
AgriPro AP 9909	54	113	89	85	1.3	58.6	7-1	3	12.3
Dekalb DK 687	41	137	73	84	1.7	58.8	7-1	3	13.3
Pioneer 3163 **	44	117	76	79	1.0	58.1	6-30	3	12.9
Funk's DG 5516	45	126	60	77	2.0	57.5	7-2	3	12.4
Hy Performer HS9843	37	119	70	76	2.0	58.0	7-2	3	13.0
Terra TR 1167	45	114	67	75	2.7	58.0	6-30	3	12.9
HyPerformer AP 9707	39	123	62	75	2.3	57.4	7-1	3	12.5
Funk's 4653	21	115	84	74	1.7	57.4	6-30	3	12.2
Terra E 1226	38	104	77	73	2.3	57.8	7-2	3	12.4
Pioneer 3223	35	111	73	73	0.7	58.2	6-30	3	13.1
AgraTech 787 **	41	101	75	72	1.7	58.2	7-1	3	13.0
AgraTech ATX770	36	112	67	71	1.3	56.8	7-3	3	12.6
Dekalb DK 683	31	131	50	70	1.0	57.8	7-3	3	13.2
HyPerformer HY 9646	34	115	62	70	1.0	57.0	7-1	3	13.2
Terra TR 1185	45	117	47	70	2.3	57.8	7-1	3	12.9
Funk's 5510A	39	97	67	68	2.3	55.2	6-30	3	11.9
Garst 8222IT	35	109	55	66	2.0	59.6	6-30	3	12.2
Pioneer 32K61	32	106	60	66	2.0	60.1	6-30	3	13.1
Terra TR 1154	41	96	56	64	1.0	57.6	7-1	3	12.4
Pioneer 33G26	46	84	40	57	2.0	57.3	6-30	3	13.2
Terra E 1186	35	104	27	55	3.0	58.0	7-1	3	13.1
Pioneer 3167 **	22	109	33	55	1.7	58.8	7-2	3	12.6
AgraTech ATX721	33	82	41	52	1.7	55.9	7-1	3	13.4
Test Average	37.8	111.4	62.4						
L.S.D. (.05)	17.7	20.7	31.4						
C.V. (%)	33.2	13.2	35.3						

* 1= Excellent; 5= Very Poor.

** Standard hybrids for comparison.

Table 4. White Corn Hybrid Test at Crossville in Northern Alabama, 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1998			
	3-yr.	2-yr.	1998	3-yr.	2-yr.	1998	Midsilk	Test	Husk*	Harvest
	1996-98	1997-98		1996-98	1997-98			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Pioneer 3163 **	125	110	100	1.3	1.5	0	6-25	-	3	9.4
Pioneer 3167 **	123	113	104	0.7	1.0	1.0	6-25	-	3	11.1
Zimmerman Z62W	114	105	89	1.0	1.0	1.0	6-25	57.3	3	10.5
Zimmerman Z64W	111	110	101	1.3	1.5	1.0	6-25	56.9	3	9.8
Wilson E8051	-	-	106	-	-	1.0	6-28	-	3	9.8
Zimmerman Z74W	-	-	96	-	-	1.0	6-25	-	3	9.4
Asgrow RX 921W	-	-	91	-	-	0	6-25	-	3	10.0
Zimmerman Z75W	-	-	82	-	-	0	6-29	-	3	9.6
Test Average	95.8									
L.S.D. (.05)	15.8									
C.V. (%)	11.2									

* 1= Excellent; 5= Very Poor.

** Yellow corn check hybrid.

Table 5. Early Corn Hybrid Test at Crossville in Northern Alabama, 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1998			
	3-Yr.	2-Yr.	1998	3-Yr.	2-Yr.	1998	Midsilk	Test	Husk*	Harvest
	1996-98	1997-98		1996-98	1997-98			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Dekalb DK 626	132	126	100	2.7	3.5	1.0	6-24	55.2	3	9.2
AgraTech 787 **	127	117	99	1.3	1.5	1.0	6-29	55.6	3	10.4
Zimmerman Z37	125	117	97	1.3	2.0	1.0	6-27	57.6	3	9.9
Dekalb DK 642	123	127	108	2.0	3.0	2.0	6-24	-	3	9.7
Pioneer 3245 **	122	114	93	2.3	3.0	2.0	6-26	57.5	3	10.1
Zimmerman Z39	-	120	98	-	1.5	1.0	6-27	56.4	3	9.6
Terra TR 1106	-	111	87	-	2.5	3.0	6-26	54.9	3	9.7
Funk's DG 5516	-	-	111	-	-	1.0	6-26	56.6	3	9.0
Asgrow RX 770	-	-	111	-	-	0	6-24	56.3	3	9.7
Garst 8222IT	-	-	106	-	-	1.0	6-28	57.2	3	10.1
Asgrow RX 740	-	-	105	-	-	3.0	6-25	-	3	11.3
Pioneer 32K61	-	-	102	-	-	1.0	6-27	58.7	3	10.0
Zimmerman Z42	-	-	102	-	-	1.0	6-24	54.7	3	10.1
Pioneer 33G26	-	-	97	-	-	1.0	6-25	57.0	3	9.2
Terra TR 1088	-	-	92	-	-	1.0	6-24	54.3	3	9.4
Terra TR 1128	-	-	90	-	-	2.0	6-24	54.4	3	10.8
Pioneer 3394	-	-	84	-	-	2.0	6-23	56.6	3	10.4
Asgrow RX 760	-	-	75	-	-	1.0	6-24	55.8	3	9.7
Test Average	97.5									
L.S.D. (.05)	22.9									
C.V. (%)	16.5									

* 1= Excellent; 5= Very Poor.

** Standard mid to late season hybrids.

Table 6. Characteristics of Corn Hybrids Tested One Year in Preliminary Test at Crossville in Northern Alabama, 1998

Brand Name-Hybrid	Av. Yield Per Acre	Lodged Stalks	Husk* Cover	Midsilk	Test Weight	Harvest Moisture
	<i>Bu.</i>	<i>Pct.</i>	<i>Rating</i>	<i>Mo.-Da.</i>	<i>Lb./Bu.</i>	<i>Pct.</i>
Asgrow XP 8897	131	0	3	6-25	-	10.0
Wilson 2335	131	1.0	3	6-28	-	9.5
Wilson E5307	128	0	3	6-29	-	10.5
Pioneer 3167 **	127	0	3	6-27	-	9.9
Wilson 2330	122	1.0	3	6-29	-	10.4
Asgrow RX 897	121	1.0	3	6-25	-	11.9
AgraTech ATX725	116	1.0	3	6-24	-	9.9
Asgrow RX 826	113	0	3	6-25	-	9.6
Pioneer 3245 **	113	2.0	3	6-25	-	10.5
Dekalb DK 679	112	1.0	3	6-26	-	9.4
Terra E1188	111	1.0	3	6-26	-	10.3
Asgrow RX 938	108	0	3	6-25	-	10.2
Asgrow RX 913	108	0	3	6-26	-	9.3
Mycogen 2888	105	1.0	3	6-25	-	11.0
Mycogen 2725	97	0	3	6-25	-	8.7
Asgrow RX 810	94	0	3	6-24	-	9.0
Asgrow RX 813	94	1.0	3	6-25	-	9.5
Pioneer 3163 **	92	1.0	3	6-25	-	9.8
<i>Test Average</i>	<i>112.2</i>					
<i>L.S.D. (.05)</i>	<i>21.6</i>					
<i>C.V. (%)</i>	<i>13.6</i>					

* 1= Excellent; 5= Very Poor.

** Standard hybrids for comparison.

Table 7. Irrigated Corn Hybrid Performance and Characteristics, Belle Mina, Alabama, 1998*

Brand Name-Hybrid	Av. Yield Per Acre	Lodged Stalks	Husk** Cover	Midsilk	Test Weight	Harvest Moisture
	<i>Bu.</i>	<i>Pct.</i>	<i>Rating</i>	<i>Mo.-Da.</i>	<i>Lb./Bu.</i>	<i>Pct.</i>
Dekalb DK 706	197	1.0	2	6-15	58.0	17.0
Garst 8222IT	196	1.0	2	6-12	57.9	17.6
Pioneer 3163 ***	195	2.0	3	6-14	57.4	16.5
Funk's 5510A	193	1.0	3	6-14	53.0	16.5
Dekalb DK 687	193	0	2	6-15	58.8	17.2
HyPerformer AP 9707	192	1.0	2	6-15	58.3	16.8
Pioneer 3223	190	1.0	3	6-15	58.6	16.9
Dekalb DK 683	190	1.0	2	6-15	57.7	17.1
Funk's 4653	188	0	2	6-12	58.5	17.0
Pioneer 3167 ***	187	0	2	6-15	61.2	17.3
Hy Performer HY 9646	186	2.0	2	6-15	58.1	16.4
Terra TR 1167	186	0	2	6-13	58.7	16.9
AgraTech ATX770	183	1.0	2	6-12	59.5	16.4
Hy Performer HS9843	182	1.0	2	6-15	59.0	16.8
AgriPro AP 9909	182	1.0	3	6-13	57.1	17.4
Terra TR 1154	182	2.0	2	6-12	58.2	16.8
Funk's DG 5516	180	1.0	2	6-14	58.5	16.7
Terra TR 1185	180	1.0	3	6-14	58.0	17.0
AgraTech 787 ***	179	1.0	3	6-13	59.2	17.2
Pioneer 32K61	175	1.0	3	6-12	59.0	17.8
Pioneer 33G26	174	2.0	3	6-12	58.3	17.4
Terra E 1226	172	0	2	6-15	58.1	16.7
AgraTech ATX721	171	2.0	3	6-12	57.4	16.1
Terra E 1186	169	1.0	3	6-14	58.7	17.5
Test Average	184.1					
L.S.D. (.05)	8.9					
C.V. (%)	3.4					

* The test received approximately 8.8 inches of irrigation water.

** 1= Excellent; 5= Very Poor.

*** Standard hybrids for comparison.

Table 8. Two- and Three-Year Yield and Lodging Averages for Yellow Corn for Central Alabama,* 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Pct.</i>
Pioneer 3223	91	86	7.7	4.0
Pioneer 3167 **	89	80	4.3	3.8
Hy Performer HS9843	86	76	3.8	3.5
Pioneer 3163 **	80	67	7.7	4.3
Terra TR 1167	78	62	5.0	4.5
Terra TR 1185	77	71	9.8	6.0
Pioneer 32K61	-	72	-	4.8
Funk's DG 5516	-	65	-	5.8
Terra TR 1154	-	62	-	3.8

* Prattville and Camden.

** Standard hybrids for comparison.

Table 9. 1998 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Central Alabama

Brand Name-Hybrid	Prattville	Camden	1998 Regional Averages					
			Yield	Lodged	Test	Mid-	Husk*	Harvest
			Per Acre	Stalks	Weight	Silk	Cover	Moisture
	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Lb./Bu.</i>	<i>Mo.-Da.</i>	<i>Rating</i>	<i>Pct.</i>
Pioneer 3223	40	65	52	7.0	57.3	6-18	3	11.8
Hy Performer HS9843	42	45	43	6.5	55.2	6-17	2	11.8
Terra TR 1185	49	36	43	10.0	55.0	6-16	2	11.3
Pioneer 3167 **	36	47	42	5.0	55.3	6-17	2	11.5
Terra TR 1154	32	39	35	7.0	55.4	6-16	2	11.1
Pioneer 31B13	35	36	35	13.0	54.2	6-16	3	11.3
Terra TR 1167	30	38	34	7.5	54.2	6-17	2	11.2
Funk's DG 5516	32	34	33	10.0	52.8	6-16	3	11.0
Terra E 1226	27	36	31	5.5	53.7	6-17	2	10.6
HyPerformer HY 9646	29	29	29	7.5	52.1	6-16	2	10.7
Funk's 5510A	27	29	28	10.0	49.2	6-18	3	10.0
Pioneer 32K61	31	25	28	9.5	58.0	6-15	3	11.7
HyPerformer AP 9707	24	29	26	5.5	53.2	6-19	3	11.0
AgriPro AP 9909	32	16	24	7.0	54.2	6-18	3	11.4
Pioneer 3163 **	32	14	23	8.0	53.9	6-16	3	11.8
Terra E 1186	21	19	20	19.5	53.8	6-18	3	11.0
Pioneer 33G26	25	7	16	11.0	53.0	6-16	3	10.8
Test Average	31.9	31.9						
L.S.D. (.05)	12.4	22.6						
C.V. (%)	27.4	50.0						

* 1= Excellent; 5= Very Poor.

** Standard hybrids for comparison.

Table 10. Early Corn Hybrid Test at Shorter in Central Alabama, 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1998		
	3-Yr.	2-Yr.	1998	3-Yr.	2-Yr.	1998	Midsilk	Test	Harvest
	1996-98	1997-98		1996-98	1997-98			Weight	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Pct.
Zimmerman Z37	114	120	61	0	0	0	6-7	55.7	8.6
Pioneer 3394	113	122	59	0	0	0	6-6	56.4	8.5
Pioneer 3245 *	110	119	49	0.3	0.5	1.0	6-9	54.1	7.9
AgraTech 787 *	108	115	52	0	0	0	6-10	54.6	9.1
Zimmerman Z39	-	118	63	-	0.5	1.0	6-9	52.0	8.5
Terra TR 1106	-	110	48	-	0	0	6-8	55.9	8.3
Terra TR 1128	-	-	66	-	-	1.0	6-7	57.7	8.9
Funk's DG 5516	-	-	65	-	-	0	6-9	54.1	8.9
Zimmerman Z42	-	-	61	-	-	0	6-7	52.8	7.8
Pioneer 33G26	-	-	58	-	-	4.0	6-8	56.5	8.3
Pioneer 32K61	-	-	53	-	-	1.0	6-8	58.6	8.9
Terra TR 1088	-	-	37	-	-	1.0	6-7	52.8	7.8
Test Average			55.8						
L.S.D. (.05)			12.0						
C.V. (%)			15.0						

* Standard mid- to late season hybrids.

Table 11. Characteristics of Corn Hybrids Tested One Year in Preliminary Test at Tallassee in Central Alabama, 1998

Brand Name-Hybrid	Av. Yield	Lodged	Husk*	Midsilk	Test	Harvest
	Per Acre	Stalks	Cover		Weight	Moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Mycogen 2888	107	1.0	2	6-16	56.8	21.9
Pioneer 3167 **	98	0	1	6-16	59.4	24.8
AgriPro AP9939	88	1.0	2	6-17	57.7	22.3
Pioneer 3163 **	83	1.0	4	6-16	58.5	23.1
Terra E1188	74	1.0	2	6-17	56.6	22.6
Greenwood 830	71	1.0	1	6-22	56.5	32.1
AgraTech ATX725	69	0	2	6-15	57.0	19.3
Greenwood 835	60	4.0	1	6-24	54.9	32.9
Pioneer 3245 **	56	0	4	6-18	58.8	19.0
Test Average	78.4					
L.S.D. (.05)	16.8					
C.V. (%)	14.7					

* 1= Excellent; 5= Very Poor.

** Standard hybrids for comparison.

Table 12. Characteristics of Irrigated Corn Hybrids Tested One Year in Preliminary Test at Tallassee in Central Alabama, * 1998

Brand Name-Hybrid	Av. Yield Per Acre	Lodged Stalks	Husk** Cover	Midsilk	Test Weight	Harvest Moisture
	<i>Bu.</i>	<i>Pct.</i>	<i>Rating</i>	<i>Mo.-Da.</i>	<i>Lb./Bu.</i>	<i>Pct.</i>
Pioneer 3163 ***	195	0	3	6-10	58.8	21.5
Pioneer 3167 ***	189	1.0	2	6-13	58.9	23.5
AgriPro AP9939	182	0	2	6-10	58.4	21.3
Terra E1188	178	1.0	2	6-8	59.2	20.4
Mycogen 2888	172	0	2	6-8	59.0	19.6
Greenwood 830	166	2.0	1	6-15	56.5	25.5
Pioneer 3245 ***	163	0	3	6-9	61.4	18.6
AgraTech ATX725	148	0	2	6-8	60.3	19.2
Greenwood 835	135	8.0	2	6-18	54.3	28.3
<i>Test Average</i>	<i>169.6</i>					
<i>L.S.D. (.05)</i>	<i>21.4</i>					
<i>C.V. (%)</i>	<i>8.7</i>					

* The test received approximately 9.9 inches of irrigation water.

** 1= Excellent; 5= Very Poor.

*** Standard hybrids for comparison.

Table 13. Two- and Three-Year Yield and Lodging Averages for Yellow Corn in Southern Alabama,* 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Pct.</i>
Dekalb DK 687	123	112	0.3	0.3
Pioneer 3223	121	108	0.9	1.0
Pioneer 3163 **	120	104	0.9	1.3
Hy Performer HS9843	116	100	0.2	0.2
Dekalb DK 683	115	104	0.3	0.5
Funk's DG 5516	114	106	0.2	0
Dekalb DK 706	114	104	0.1	0.2
AgraTech 888	110	97	0.8	1.0
Pioneer 3167 **	107	95	0.5	0.3
Terra TR 1185	107	98	2.7	1.2
Terra TR 1154	-	107	-	0.7
HyPerformer AP 9707	-	107	-	1.2
Pioneer 32K61	-	106	-	0
AgraTech ATX770	-	105	-	0.2
Funk's 5510A	-	102	-	0
AgraTech ATX999	-	102	-	1.1

* Fairhope, Brewton, and Monroeville.

** Standard hybrids for comparison.

Table 14. 1998 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Southern Alabama

Brand Name-Hybrid	Fairhope	Brewton	Monroeville	Headland*	1998 Regional Averages					
					Yield Per Acre	Lodged Stalks	Test Weight	Mid- Silk	Husk** Cover	Harvest Moisture
	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Bu.</i>	<i>Pct.</i>	<i>Lb./Bu.</i>	<i>Mo.-Da.</i>	<i>Rating</i>	<i>Pct.</i>
Terra TR 1185	128	75	31	-	78	0.3	53.4	6-4	2	17.5
Pioneer 31B13	126	76	27	-	77	0	55.4	6-4	2	17.5
AgriPro AP 9909	125	80	25	-	76	0.3	55.4	6-3	2	17.5
Terra TR 1167	127	76	23	-	75	0.7	54.9	6-4	1	16.6
Terra TR 1154	133	67	25	-	75	0.3	53.7	6-2	2	15.3
Funk's DG 5516	131	68	25	-	75	0	54.8	6-4	2	16.1
HyPerformer HY 9646	126	78	21	-	75	0.3	52.4	6-3	2	15.6
Pioneer 3223	123	67	30	-	73	0	55.3	6-5	2	17.2
Dekalb DK 687	123	72	22	-	72	0	54.7	6-6	2	17.3
AgraTech 888	125	67	25	-	72	0	53.8	6-4	2	16.4
Pioneer 32K61	124	72	22	-	72	0	58.3	6-3	3	18.0
HyPerformer AP 9707	124	63	29	-	72	0.3	53.8	6-5	2	16.1
Dekalb DK 706	130	63	22	-	71	0.3	54.4	6-5	2	17.3
Funk's 4653	131	65	18	-	71	0.3	54.5	6-3	2	16.5
Pioneer 3163 ***	131	59	23	-	71	1.0	54.4	6-5	3	17.0
AgraTech ATX770	122	63	26	-	70	0.3	53.1	6-4	2	15.7
Dekalb DK 683	121	73	17	-	70	0	54.1	6-6	2	17.1
Pioneer 3167 ***	117	62	30	-	70	0	55.1	6-6	2	18.6
Funk's 5510A	120	68	20	-	69	0	50.8	6-3	2	16.5
Hy Performer HS9843	124	64	19	-	69	0.3	54.9	6-4	2	16.7
Pioneer 33G26	111	68	28	-	69	0.3	54.6	6-3	3	16.5
AgraTech ATX999	121	64	19	-	68	0.7	53.0	6-7	2	18.1
Terra E 1226	115	63	24	-	67	0	53.2	6-6	2	16.1
Terra E 1186	121	56	17	-	64	1.0	55.5	6-5	2	18.0
Test Avarage	124.0	67.8	23.5	.						
L.S.D. (.05)	7.9	16.3	10.9	.						
C.V. (%)	4.5	17.1	33.0	.						

* Headland is not reported. Yields were adversely affected by severe drought.

** 1= Excellent; 5= Very Poor.

*** Standard hybrids for comparison.

Table 15. Irrigated Corn Hybrid Performance and Characteristics, Headland, Alabama,* 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1998			
	3-yr.	2-yr.	1998	3-yr.	2-yr.	1998	Midsilk	Test	Husk**	Harvest
	1996-98	1997-98		1996-98	1997-98			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Funk's DG 5516	173	177	169	1.7	2.5	2.0	6-7	57.1	2	13.3
Dekalb DK 683	171	168	153	3.7	4.5	6.0	6-7	57.4	2	13.3
Pioneer 3223	171	165	150	4.0	4.5	7.0	6-5	58.0	2	13.3
AgraTech 888	170	173	159	2.0	3.0	4.0	6-6	57.7	2	13.3
Pioneer 3163 ***	166	161	150	2.7	3.5	6.0	6-5	57.0	2	13.3
Terra TR 1185	165	154	153	4.0	6.0	10.0	6-4	56.7	3	13.3
Hy Performer HS9843	164	155	144	3.3	5.0	6.0	6-8	57.2	2	13.3
Dekalb DK 706	162	155	139	5.3	7.5	12.0	6-7	57.0	2	13.3
Dekalb DK 687	161	155	134	5.7	8.0	16.0	6-9	57.4	2	13.3
Pioneer 3167 ***	151	153	149	7.3	11.0	20.0	6-6	58.5	2	13.3
HyPerformer AP 9707	-	173	157	-	4.0	6.0	6-7	56.0	3	13.3
Pioneer 32K61	-	154	139	-	1.0	0	6-5	59.7	2	13.3
AgraTech ATX770	-	153	136	-	4.0	7.0	6-8	56.8	3	13.3
Terra TR 1154	-	150	120	-	4.5	3.0	6-6	57.8	2	13.3
Funk's 5510A	-	139	114	-	8.5	15.0	6-8	53.8	3	13.3
AgraTech ATX999	-	131	106	-	3.5	5.0	6-8	55.5	2	13.3
Pioneer 31B13	-	-	162	-	-	4.0	6-8	58.2	2	13.3
AgriPro AP 9909	-	-	162	-	-	5.0	6-8	58.3	3	13.3
HyPerformer HY 9646	-	-	157	-	-	7.0	6-7	57.1	2	13.3
Terra TR 1167	-	-	156	-	-	11.0	6-8	57.6	2	13.3
Funk's 4653	-	-	146	-	-	4.0	6-6	57.8	3	13.3
Terra E 1226	-	-	146	-	-	8.0	6-6	57.4	2	13.3
Pioneer 33G26	-	-	137	-	-	2.0	6-7	57.5	3	13.3
Terra E 1186	-	-	110	-	-	11.0	6-7	56.9	2	13.3
<i>Test Average</i>			<i>143.5</i>							
<i>L.S.D. (.05)</i>			<i>30.4</i>							
<i>C.V. (%)</i>			<i>15.0</i>							

* The test received approximately 13.75 inches of irrigation water.

** 1= Excellent; 5= Very Poor.

*** Standard hybrids for comparison.

Table 16. Early Corn Hybrid Test at Fairhope in Southern Alabama, 1996-98

Brand Name-Hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1998			
	3-yr.	2-yr.	1998	3-yr.	2-yr.	1998	Midsilk	Test	Husk*	Harvest
	1996-98	1997-98		1996-98	1997-98			Weight	Cover	Moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Zimmerman Z37	144	147	140	-	-	0	5-25	57.3	3	18.2
AgraTech 787 **	131	130	135	-	-	0	5-26	56.5	3	16.7
Pioneer 3245 **	120	116	116	-	-	0	5-27	58.5	3	17.5
Zimmerman Z39	-	143	136	-	-	0	5-26	55.3	2	16.9
Terra TR 1106	-	133	130	-	-	0	5-24	54.6	4	17.5
Pioneer 32K61	-	-	130	-	-	0	5-25	59.7	4	17.5
Terra TR 1128	-	-	130	-	-	0	5-24	57.2	4	16.9
Funk's DG 5516	-	-	121	-	-	0	5-26	56.7	2	17.2
Zimmerman Z42	-	-	118	-	-	0	5-24	56.0	3	16.6
Pioneer 33G26	-	-	117	-	-	0	5-24	56.5	4	17.1
Dekalb DK 626	-	-	114	-	-	0	5-25	54.7	4	16.1
Terra TR 1088	-	-	113	-	-	0	5-24	53.0	3	16.3
Test Average			125.0							
L.S.D. (.05)			16.7							
C.V. (%)			9.3							

* 1= Excellent; 5= Very Poor..

** Standard mid- to late season hybrids

Table 17. Characteristics of Corn Hybrids Tested One Year in Preliminary Test at Fairhope in Southern Alabama, 1998

Brand Name-Hybrid	Av. Yield Per Acre	Lodged Stalks	Husk* Cover	Midsilk	Test Weight	Harvest Moisture
	<i>Bu.</i>	<i>Pct.</i>	<i>Rating</i>	<i>Mo.-Da.</i>	<i>Lb./Bu.</i>	<i>Pct.</i>
AgriPro AP9939	125	0	4	6-1	53.9	18.9
Dekalb DK 679	123	0	3	5-31	54.9	19.1
Pioneer 3163 **	117	0	4	6-1	54.3	19.2
Pioneer 3245 **	116	0	3	5-31	56.7	17.8
Mycogen 2888	113	0	4	5-31	56.2	18.7
Pioneer 3167 **	108	0	2	6-5	53.2	21.8
AgraTech ATX725	103	0	3	5-31	54.9	17.9
Terra E1188	103	0	4	5-31	54.2	17.9
Greenwood 830	86	0	2	6-5	51.4	22.3
Greenwood 835	85	0	3	6-6	50.1	22.7
Terra TR 1088	82	0	3	6-5	-	20.6
Test Average	105.4					
L.S.D. (.05)	19.6					
C.V. (%)	12.8					

* 1= Excellent; 5= Very Poor.

** Standard Hybrids for Comparison.

TABLE 18. GROWING SEASON RAINFALL, 1996-98

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina	1998	4.3	4.3	2.4	1.8	5.3	1.8	0.9	20.8
	1997	5.4	4.0	3.6	6.5	1.7	4.0	5.9	31.1
	1996	7.1	5.5	1.7	3.3	4.3	4.7	8.1	34.7
Crossville	1998	5.8	8.9	1.6	3.6	3.5	2.5	0.5	26.4
	1997	6.6	5.4	8.6	8.3	3.3	2.4	7.5	42.1
	1996	8.5	4.2	2.8	2.3	5.6	6.6	6.3	36.3
Winfield	1998	5.7	6.2	1.5	2.2	11.4	3.8	0.5	31.3
	1997	3.8	3.9	11.7	10.2	4.4	3.6	1.5	39.1
	1996	4.8	6.4	1.9	3.8	10.4	3.9	7.6	38.8
Tallassee	1998	6.3	7.5	1.7	3.9	6.1	1.4	8.8	35.7
	1997	1.5	7.7	5.2	8.7	2.1	3.4	4.5	33.1
	1996	8.7	3.6	3.3	1.8	7.6	5.8	7.5	38.3
Shorter	1998	6.5	5.2	4.4	2.6	2.6	2.2	9.9	33.4
	1997	2.2	7.0	3.5	5.5	2.4	3.9	3.3	27.8
	1996	8.6	4.6	4.4	2.4	8.9	6.4	7.4	42.7
Prattville	1998	5.3	2.4	2.5	2.7	4.1	3.4	8.6	29.0
	1997	3.0	6.0	3.3	6.8	3.0	3.4	2.2	27.7
	1996	11.1	3.6	5.1	3.3	8.0	7.3	7.4	45.8
Marion Junction	1998	3.7	4.3	1.2	2.9	6.3	2.2	9.1	29.7
	1997	2.5	7.8	4.8	12.5	5.2	1.6	4.3	38.7
	1996	10.3	2.7	2.7	6.4	8.3	3.3	4.4	38.1
Camden	1998	5.6	3.0	2.8	3.3	6.4	2.8	10.9	34.8
	1997	2.5	8.5	7.9	1.8	2.8	2.0	0.2	25.7
	1996	12.3	3.8	3.9	4.7	10.3	6.0	3.0	44.0
Monroeville	1998	5.7	3.6	2.2	1.4	7.2	9.8	17.7	47.6
	1997	2.5	6.0	7.6	5.5	2.7	1.7	0.8	26.8
	1996	7.8	5.7	2.3	4.1	4.7	5.5	7.2	37.3
Brewton	1998	13.0	6.2	0.8	1.7	8.4	5.1	25.9	61.1
	1997	4.1	7.3	4.2	6.1	2.5	2.6	1.8	28.6
	1996	11.1	8.9	1.6	8.0	9.1	12.0	5.4	56.1
Fairhope	1998	6.1	4.5	0.8	2.2	6.2	5.9	24.1	49.8
	1997	3.8	6.3	8.0	5.9	28.6	1.3	1.3	55.2
	1996	10.2	11.7	0.5	7.4	6.6	6.0	7.7	50.1
Headland	1998	9.2	2.7	0.5	2.4	9.6	3.9	4.7	33.0
	1997	2.6	5.2	4.1	5.6	4.8	2.3	3.3	27.9
	1996	6.9	4.7	2.2	2.9	3.6	13.3	11.6	45.2

TABLE 19. SOIL TYPES FOR CORN TRIALS, 1998

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

SOURCES OF 1998 CORN HYBRID TEST SEED

Seed Company	Brand	Seed Company	Brand
AgraTech Seed, Inc. 5559 N. 500 W. McCordsville, IN 46055	AgraTech	Greenwood Hybrids 8431 Davis Road Laurel Hill, FL 32567	Greenwood
AgriPro Seeds 6075 Poplar Ave. Memphis, TN 38119	AgriPro, HyPerformer	Mycogen Plant Sciences 3600 N. Columbia Plainview, TX 79072	Mycogen
Asgrow Seed Co. P.O. Box 7570 Des Moines, IA 50322	Asgrow	Pioneer Hi-Bred Int. 6767 Old Madison Pike Huntsville, AL 35806	Pioneer
DEKALB Genetics Corp. 3100 Sycamore Road DeKalb, IL 60115	Dekalb	Terra International, Inc. P.O. Box 6000 Sioux City, IA 51102	Terra
Dixie Ag. Supply P.O. Box 534 Athens, AL 35611	Funk's	Wilson Seeds, Inc. P.O. Box 391 Harlan, IA 51537	Wilson
Garst Seed Co. 3395 Leatherwood Rd. Williamsport, TN 38487	Garst	Zimmerman Hybrids, Inc. 5147 W. Franklin Rd. Evansville, IN 47712	Zimmerman

