Evaluations of Corn Hybrids in Alabama, 2005

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ALABAMA AGRICULTURAL EXPERIMENT STATION

EVALUATION OF CORN HYBRIDS IN ALABAMA

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INTRODUCTION

Selected 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 two locations in the northern region, one location in the central region and three locations in the southern region. Early yellow corn hybrids are tested at one location in each region. In addition, a regular corn hybrid test is irrigated at Belle Mina and Headland. Locations and cultural practices for all tests are given in Table 1.

EXPERIMENTAL PROCEDURES

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 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 lbs) 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.

STATISTICAL ANALYSIS

All test were conducted in randomized complete block designs and analyzed accordingly. It is important to keep in mind that genotype x environment interaction is common in multi-year and multi-location mean. This interaction usually is an indication that the relative rankings of varieties change from one environment to the next. Thus, one cannot draw widespread conclusions if the interaction is significant.

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 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, 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, 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 14) and soil types (Table 15) are provided. This information also serves as a guide for assessing conditions to which results may be extrapolated.

TABLE 1. LOCATIONS AND CULTURAL PRACTICES FOR THE 2005 CORN HYBRID TRIALS

Location	Planting date	Nitrogen Rate†	Plant pop.	Date harvested	Herbicides used
		lbs/ac	seeds/ac		
NORTHERN ALABAMA					
Tennessee Valley Res. and Ext. Ctr. (Belle Mina)					
Regular test (non-irrigated)	April 4	175	20,000	September 6	Atrazine/Dual
Regular test (irrigated)	April 4	200	25,000	September 7	Atrazine/Dual
Sand Mountain Res. and Ext. Ctr. (Crossville)					
Regular test	April 11	145	20,000	September 13	Atrazine/Dual
Early test	April 4	145	20,000	September 12	Atrazine/Dual
Preliminary test	April 11	135	20,000	September 13	Atrazine/Dual
CENTRAL ALABAMA					
E.V. Smith Research Center (Shorter)					
No-Till Early corn test	March 25	170	20,000	September 2	Atrazine/Dual
Early test	April 18	170	20,000	September 2	Atrazine/Dual
Plant Breeding Unit (Tallassee)					
Preliminary test	No trial	-	-	-	-
Prattville Experiment Field (Prattville)					
	March 21	120	20,000	August 24	Atrazine
SOUTHERN ALABAMA					
Brewton Experiment Field (Brewton)					
	March 25	120	20,000	September 19	Atrazine
Wiregrass Res. and Ext. Ctr. (Headland)					
Regular test (non-irrigated)	March 31	160	20,000	September 7	Atrazine
Regular test (irrigated)	April 11	220	25,000	September 9	Atrazine
Gulf Coast Res. and Ext. Ctr. (Fairhope)					
Regular test	March 24	135	20,000	August 15	Atrazine/Dual
Early test	March 7	130	20,000	August 12	Atrazine/Dual
Preliminary test	No trial	-	-	-	-

† 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 IN NORTHERN ALABAMA, 2003-2005

	Grain yield		% stalks lodging	
Brand name - hybrid	3-yr	2-yr	3-yr	2-yr
	---------- *bu/acre* ---------		---------- *%* ----------	
Dekalb DKC 69-71	197	182	1.9	2.7
Garst 8350 YG1	195	185	2.7	4.1
Garst 8200 YG1	192	182	6.0	8.6
Pioneer 31G66	183	171	7.7	11.0
Dyna-Gro 58K22	177	159	11.4	16.8
Garst 8288	173	160	8.5	12.6
Croplan Genetics 895BT	.	183	.	5.6
Dyna-Gro Cx 04319	.	179	.	8.3
AgraTech 755RRBt	.	174	.	4.2
Croplan Genetics 799BT	.	170	.	2.5
Croplan Genetics DS 830	.	166	.	15.3
Test Average	186	174	.	.
LSD $_{0.10}$	7	8	.	.
CV (%)	10	10	.	.

TABLE 3. 2005 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN NORTHERN ALABAMA

			2005 regional averages					
Brand name - hybrid	Belle Mina	Cross-ville	Yield	Lodging	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--- *bu/acre* ---		---	*-- % --*	*lb/bu*	*mo-day*		*-- % --*
Terral TV26B82 (YGCB)	155	210	183	5	60	6-23	2	17
Dekalb DKC 66-21 (YGCB)	148	216	182	4	60	6-22	3	15
Garst 8292 YG1	158	205	182	8	59	6-24	2	16
Garst 8350 YG1	154	209	181	7	60	6-23	2	15
Dyna Gro 58P59	152	208	180	9	57	6-23	2	15
Vigoro V 58YR2	150	209	180	7	58	6-23	2	14
Vigoro V 56Y51	154	205	179	4	61	6-23	3	16
FFR 900 BT	148	209	178	19	58	6-24	2	15
Croplan Genetics 851RR2/BT	150	205	177	12	57	6-24	2	15
Croplan Genetics 895BT	141	209	175	10	59	6-23	2	17
Pioneer 31G68 (YGCB)	149	202	175	5	59	6-23	2	15
Croplan Genetics 731HX/LL	153	196	175	9	58	6-23	2	15
Garst 8225 RR	143	205	174	11	58	6-22	2	15
Dekalb DKC 61-45 (RR2/YGCB)	139	208	174	3	60	6-22	3	15
Garst 8200 YG1	132	216	174	13	59	6-24	2	17
Croplan Genetics 799BT	136	210	173	3	60	6-23	2	15
Terral TV25BR23 (RR/YGCB)	150	196	173	12	58	6-23	2	15
AgraTech 755RRBt	145	199	172	8	59	6-23	3	15
Dekalb DKC 63-81 (RR2/YGCB)	142	196	169	8	61	6-22	3	15
FFR 746 RR2/BT	141	197	169	6	60	6-26	2	16
Croplan Genetics 721RR2/BT	140	199	169	6	59	6-23	2	16
Dekalb DKC 69-71	132	204	168	4	60	6-26	2	15
Croplan Genetics DS 822RR2/BT	129	200	164	14	58	6-25	2	17
Dyna-Gro Cx 04319	115	212	163	15	57	6-25	2	16
Dyna Gro 58K40	119	205	162	17	61	6-25	2	16
Croplan Genetics 823HX/LL	128	194	161	24	57	6-26	3	17
Terral TV25R31 (RR)	108	208	158	13	59	6-23	2	15
Terral TV27C48	101	215	158	18	59	6-23	2	15
AgraTech 719CRW	99	213	156	18	58	6-22	3	13
Pioneer 31G66	105	207	156	18	59	6-23	3	16
AgraTech 755RR	108	203	156	19	58	6-24	3	15
Dekalb DKC 61-72 (RR2)	107	203	155	18	59	6-21	3	14
Pioneer 31R87	100	210	155	20	59	6-24	3	16
Dyna-Gro 58K22	105	204	155	24	58	6-25	2	14
Dyna Gro CX 05516	103	202	153	16	60	6-23	3	15
Pioneer 31G97	98	205	152	19	59	6-26	3	15
Dyna Gro CX 04219	94	208	151	20	59	6-24	3	16
Garst 8288	104	191	148	22	59	6-22	3	15
Garst 8450IT	109	186	147	13	57	6-22	2	14
Pioneer 33M54	91	203	147	19	61	6-23	3	16
Terral TV23R31 (RR)	106	187	147	18	60	6-25	2	17
Croplan Genetics DS 830	85	202	143	26	59	6-24	2	15
Test Average	127	204	165	13	.		.	.
LSD $_{0.10}$	11	12	8	4	.		.	.
CV (%)	9	7	7		.		.	.

TABLE 4. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, BELLE MINA, ALABAMA, 2003-2005

	Grain yield			Lodging						
Brand name - hybrid	3-yr	2-yr	2005	3-yr	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	-------- *bu/acre* ---------			---------- *%* ----------			*lb/bu*	*mo-day*		*-- % --*
Pioneer 31G66	219	204	165	9.6	14.1	25.0	58	6-17	1.3	15.3
Garst 8200 YG1	215	198	179	11.3	16.3	24.8	58	6-19	1.0	17.7
Dekalb DKC 69-71	215	203	184	12.2	17.8	31.3	60	6-22	2.0	16.2
Garst 8350 YG1	213	207	204	6.7	8.0	8.0	58	6-16	2.0	14.0
Dyna-Gro 58K22	200	178	138	19.8	29.5	49.0	56	6-20	1.0	13.4
Garst 8288	196	176	150	16.8	25.0	43.5	59	6-17	2.0	14.9
Croplan Genetics 895BT	.	204	188	.	19.0	31.5	56	6-19	1.0	17.8
AgraTech 755RRBt	.	202	196	.	21.8	29.8	58	6-16	1.8	15.5
Dyna-Gro Cx 04319	.	200	175	.	20.4	38.5	55	6-19	1.8	15.8
Croplan Genetics DS 830	.	195	170	.	22.0	29.8	58	6-19	1.5	14.8
Croplan Genetics 799BT	.	195	178	.	7.4	5.8	59	6-17	1.0	15.2
Dyna Gro 58P59	.	.	217	.	.	20.0	55	6-20	2.0	14.9
Terral TV26B82 (YGCB)	.	.	215	.	.	36.5	59	6-17	1.8	16.7
Croplan Genetics 851RR2/BT	.	.	211	.	.	42.5	55	6-19	1.8	14.8
FFR 900 BT	.	.	211	.	.	35.5	57	6-19	1.0	14.5
Vigoro V 58YR2	.	.	207	.	.	28.8	58	6-18	1.8	15.1
Garst 8225 RR	.	.	207	.	.	25.0	57	6-17	1.8	14.8
FFR 746 RR2/BT	.	.	206	.	.	21.0	58	6-19	2.0	14.9
Dekalb DKC 61-45 (RR2/YGCB)	.	.	204	.	.	6.3	59	6-17	2.3	14.0
Pioneer 31G68 (YGCB)	.	.	204	.	.	23.3	58	6-18	2.0	15.3
Terral TV25BR23 (RR/YGCB)	.	.	199	.	.	39.3	57	6-17	1.3	14.1
Dekalb DKC 63-81 (RR2/YGCB)	.	.	197	.	.	21.3	60	6-15	2.8	14.1
Croplan Genetics 731HX/LL	.	.	193	.	.	28.0	57	6-19	2.3	14.8
Dyna Gro 58K40	.	.	190	.	.	30.5	59	6-20	1.5	17.1
Garst 8292 YG1	.	.	186	.	.	20.8	59	6-19	1.5	16.1
Vigoro V 56Y51	.	.	184	.	.	37.3	60	6-18	2.3	15.0
Terral TV23R31 (RR)	.	.	184	.	.	29.3	59	6-18	1.8	16.4
Croplan Genetics DS 822RR2/BT	.	.	179	.	.	43.3	57	6-21	2.3	16.7
Croplan Genetics 721RR2/BT	.	.	178	.	.	20.8	58	6-15	2.0	14.0
Terral TV25R31 (RR)	.	.	177	.	.	21.8	58	6-17	1.8	15.3
Dyna Gro CX 04219	.	.	176	.	.	38.3	58	6-19	2.0	15.8
Pioneer 31G97	.	.	175	.	.	36.5	59	6-20	2.0	14.2
Dekalb DKC 66-21 (YGCB)	.	.	174	.	.	27.3	59	6-14	2.0	15.1
Garst 8450IT	.	.	173	.	.	25.3	56	6-15	1.8	12.4
Croplan Genetics 823HX/LL	.	.	173	.	.	45.5	56	6-21	2.0	17.0
Pioneer 31R87	.	.	169	.	.	45.3	59	6-20	2.3	16.4
Pioneer 33M54	.	.	166	.	.	26.0	60	6-17	2.0	15.1
Dyna Gro CX 05516	.	.	157	.	.	23.0	60	6-19	2.3	15.2
Terral TV27C48	.	.	156	.	.	26.3	57	6-19	2.3	15.7
AgraTech 755RR	.	.	152	.	.	34.8	57	6-18	1.8	13.9
Dekalb DKC 61-72 (RR2)	.	.	152	.	.	35.3	58	6-13	2.5	12.7
AgraTech 719CRW	.	.	137	.	.	49.0	57	6-14	2.0	12.9
Test Average	210	197	182	12.7	18.3	30.0	.	.	.	.
LSD $_{0.10}$	10.2	10.9	15.5	2.9	4.2	9.5	.	.	.	.
CV (%)	9	9	9				.	.	.	.

TABLE 5. EARLY CORN HYBRID PERFORMANCE AND CHARACTERISTICS, CROSSVILLE, ALABAMA, 2003-2005

	Grain yield		Lodging					
Brand name - hybrid	2-yr	2005	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--- *bu/acre* --		------- *%* --------		*lb/bu*	*mo-day*		-- *%* --
Pioneer 33M54	205	213	0.3	0.3	61	6-29	1.5	15.9
Pioneer 33V15	195	214	0.5	0.0	62	6-24	2.0	17.4
AgraTech X 41751CRW	.	226	.	1.5	59	6-25	2.3	15.9
Pioneer 33H25	.	221	.	2.0	59	6-24	2.5	16.5
Dekalb DKC 57-84 (YGCB)	.	218	.	0.0	59	6-26	2.3	15.5
Terral TV25R31 (RR)	.	215	.	1.5	59	6-28	1.8	18.0
AgraTech X 41655	.	212	.	0.5	59	6-24	3.0	16.1
Terral TV23R31 (RR)	.	212	.	1.8	61	6-26	2.0	18.8
Dekalb DKC 58-80 (RR2/YGCB)	.	209	.	0.5	57	6-28	3.0	18.5
Pioneer 31N56	.	207	.	0.5	60	6-26	2.8	16.4
AgraTech 719CRW	.	202	.	1.5	59	6-25	2.0	16.2
Terral TV25BR23 (RR/YGCB)	.	201	.	4.5	59	6-25	2.5	16.0
Dekalb DKC 69-71	.	189	.	0.3	60	6-27	1.8	19.3
Test Average	200	211	0.4	1.1	.	.	.	
LSD $_{0.10}$	16.3	16.4	0.3	2.4	.	.	.	
CV (%)	11	8			.	.	.	

TABLE 6. PRELIMINARY CORN HYBRID PERFORMANCE AND CHARACTERISTICS, CROSSVILLE, ALABAMA, 2004-2005

	Grain yield		Lodging					
Brand name - hybrid	2-yr	2005	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--- *bu/acre* --		------- *%* -------		*lb/bu*	*mo-day*		-- *%* --
AgraTech X 41751CRW	†	210	†	1.3	59	6-27	2.8	15.5
AgraTech X 41655	†	192	†	0.0	60	6-30	2.5	15.3
Southern States SS 746RR2/YGCB	†	192	†	0.0	60	6-28	1.8	16.5
Southern States SS 842RR2/YGCB	†	184	†	18.3	58	7-4	2.5	17.9
Southern States SS 804	†	178	†	3.3	60	6-28	2.3	16.3
Test Average	.	191	.	4.6	.	.	.	.
LSD $_{0.10}$	.	16	.	3.2	.	.	.	.
CV (%)	.	9	.		.	.	.	.

† There were no entries in common between 2004 and 2005

TABLE 7. ONE, TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN AT PRATTVILLE IN CENTRAL ALABAMA, 2003-2005

	Grain yield			Lodging						
Brand name - hybrid	3-yr	2-yr	2005	3-yr	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	------- *bu/acre* --------			---------- *%* ----------			*lb/bu*	*mo-day*		*-- % --*
Garst 8200 YG1	174	162	143	0.2	0.3	0.5	52	6-11	1.0	15.2
Dyna-Gro 58K22	171	161	143	1.8	2.8	5.5	50	6-10	1.0	14.4
Pioneer 31G66	163	150	134	0.6	0.8	1.5	53	6-10	1.5	13.7
Terral TV2160Bt	160	143	127	0.7	0.9	1.8	54	6-11	1.5	14.5
Dekalb DKC 67-60	.	169	145	.	0.4	0.5	53	6-11	1.0	15.9
Dekalb DKC 69-72	.	167	147	.	0.9	1.8	52	6-12	2.3	14.5
Pioneer 31G97	.	163	156	.	0.5	1.0	53	6-11	1.3	14.4
Croplan Genetics DS 830	.	154	125	.	0.3	0.5	52	6-11	1.3	13.9
Dekalb DKC 69-71	.	152	133	.	1.8	3.5	52	6-11	2.0	14.5
Dyna Gro CX 04219	.	.	158	.	.	0.3	51	6-9	2.0	15.2
Dekalb DKC 66-21 (YGCB)	.	.	157	.	.	2.8	51	6-11	1.8	15.4
Garst 8292 YG1	.	.	156	.	.	0.0	51	6-10	1.0	15.8
Dyna Gro 58K40	.	.	156	.	.	0.0	52	6-11	1.0	15.6
Terral TV26B82 (YGCB)	.	.	154	.	.	0.0	53	6-10	1.0	14.6
Terral TV26BR41 (RR/YGCB)	.	.	153	.	.	0.0	50	6-11	1.3	14.9
Terral TV25R31 (RR)	.	.	152	.	.	0.0	52	6-10	1.3	15.3
Garst 8288	.	.	150	.	.	0.0	50	6-10	1.5	15.7
Garst 8225 RR	.	.	149	.	.	0.3	50	6-10	1.0	15.2
Dyna Gro 58P59	.	.	149	.	.	0.5	49	6-11	1.5	15.2
Vigoro V 59YR52	.	.	148	.	.	0.5	51	6-12	2.0	14.2
Terral TV25BR23 (RR/YGCB)	.	.	148	.	.	0.0	52	6-11	1.0	14.6
Southern States SS 746RR2/YGCB	.	.	147	.	.	1.3	50	6-11	2.3	14.2
Southern States SS 804	.	.	146	.	.	0.5	53	6-10	1.0	13.9
Dekalb DKC 61-72 (RR2)	.	.	138	.	.	0.0	50	6-8	2.0	14.6
Croplan Genetics 823HX/LL	.	.	136	.	.	10.0	48	6-12	1.8	16.4
Dyna Gro CX 05516	.	.	134	.	.	0.0	53	6-11	1.3	15.2
Vigoro V 62R66	.	.	134	.	.	0.0	52	6-11	1.3	15.4
Terral TV23R31 (RR)	.	.	132	.	.	2.0	53	6-11	1.0	15.3
FFR 746 RR2/BT	.	.	131	.	.	2.5	52	6-12	2.3	14.1
Terral TV27C48	.	.	129	.	.	1.8	50	6-10	2.3	15.5
Pioneer 33M54	.	.	127	.	.	2.3	53	6-10	1.8	14.5
Southern States SS 842RR2/YGCB	.	.	126	.	.	1.0	49	6-12	2.0	16.1
FFR 900 BT	.	.	109	.	.	34.0	51	6-11	1.3	14.4
Test Average	167	158	142	0.8	0.9	2.3	.	.	.	.
LSD $_{0.10}$	10	9	14	1.1	1.2	4.0	.	.	.	.
CV (%)	11	9	11				.	.	.	.

TABLE 8. ONE, TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR THE EARLY NO-TILL CORN TEST AT SHORTER IN CENTRAL ALABAMA, 2003-2005.

	Grain yield			Lodging						
Brand name - hybrid	3-yr	2-yr	2005	3-yr	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	-------- *bu/acre* ---------			---------- *%* ----------			*lb/bu*	*mo-day*		*-- % --*
Pioneer 31G66	160	147	123	1.2	1.5	1.0	55	6-18	.	19.2
Dyna-Gro 58K22	160	149	122	2.3	3.3	4.0	54	6-23	.	21.0
Terral TV2160Bt	157	145	121	0.9	1.3	1.8	56	6-19	.	19.8
Dekalb DKC 69-72	.	172	144	.	1.1	0.0	57	6-25	.	21.6
Dekalb DKC 69-71	.	162	146	.	0.0	0.0	57	6-23	.	21.4
Dekalb DKC 67-60	.	159	130	.	0.5	0.0	58	6-22	.	21.9
Garst 8200 YG1	.	159	131	.	0.1	0.0	58	6-17	.	21.2
Croplan Genetics DS 830	.	151	114	.	1.3	1.3	55	6-20	.	21.5
Pioneer 31G97	.	147	125	.	4.4	0.8	57	6-21	.	20.3
FFR 900 BT	.	.	151	.	.	1.8	56	6-19	.	20.7
Dekalb DKC 66-21 (YGCB)	.	.	139	.	.	0.8	57	6-20	.	20.5
Terral TV25R31 (RR)	.	.	136	.	.	0.5	57	6-18	.	21.3
Terral TV25BR23 (RR/YGCB)	.	.	134	.	.	0.3	56	6-19	.	20.8
Garst 8288	.	.	133	.	.	0.0	56	6-18	.	21.1
Terral TV23R31 (RR)	.	.	132	.	.	0.0	58	6-18	.	20.8
Garst 8292 YG1	.	.	132	.	.	0.3	57	6-19	.	21.9
Terral TV26BR41 (RR/YGCB)	.	.	131	.	.	1.8	55	6-17	.	21.0
Garst 8225 RR	.	.	131	.	.	0.0	56	6-18	.	20.9
Dyna Gro CX 04219	.	.	130	.	.	1.3	55	6-20	.	22.5
Vigoro V 62R66	.	.	130	.	.	0.0	57	6-20	.	21.4
Dyna Gro 58P59	.	.	129	.	.	1.3	55	6-18	.	20.8
Croplan Genetics 823HX/LL	.	.	126	.	.	3.3	56	6-23	.	22.8
Terral TV26B82 (YGCB)	.	.	125	.	.	0.0	57	6-19	.	21.6
Vigoro V 59YR52	.	.	125	.	.	0.5	55	6-22	.	19.5
FFR 746 RR2/BT	.	.	123	.	.	0.8	55	6-20	.	19.0
Dekalb DKC 61-72 (RR2)	.	.	123	.	.	0.3	54	6-15	.	18.0
Dyna Gro 58K40	.	.	120	.	.	0.0	57	6-19	.	20.9
Terral TV27C48	.	.	119	.	.	0.0	56	6-19	.	22.2
Dyna Gro CX 05516	.	.	117	.	.	0.5	56	6-17	.	20.7
Pioneer 33M54	.	.	111	.	.	0.0	58	6-18	.	19.3
Test Average	159	155	128	1.5	1.5	0.7	.		.	.
LSD $_{0.10}$	5.5	10.3	10.5	1.5	2.5	1.6	.		.	.
CV (%)	6	10	9				.		.	.

TABLE 9. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR THE EARLY CORN TEST AT SHORTER IN CENTRAL ALABAMA, 2004-2005.

	Grain yield		Lodging					
Brand name - hybrid	2-yr	2005	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--- bu/acre --		*------- % -------*		*lb/bu*	*mo-day*		*-- % --*
Pioneer 33V15	134	103	0.5	0.8	55	6-25	.	20.0
Pioneer 33M54	130	95	0.8	0.8	55	6-27	.	19.0
Terral TV25BR23 (RR/YGCB)	.	115	.	1.0	54	6-26	.	20.9
Terral TV25R31 (RR)	.	106	.	0.3	55	6-27	.	22.9
Terral TV23R31 (RR)	.	106	.	0.3	55	6-28	.	21.6
Pioneer 33H25	.	99	.	1.0	53	6-23	.	18.3
Test Average	132	104	0.6	0.7	.	.	.	.
LSD $_{0.10}$	7	11	0.6	0.8	.	.	.	.
CV (%)	8	11			.	.	.	.

TABLE 10. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN IN SOUTHERN ALABAMA, 2003-2005

	Grain yield		% stalks lodging	
Brand name - hybrid	3-yr†	2-yr	3-yr	2-yr
	bu/acre		*%*	
Dekalb DKC 69-71	136	127	4.9	5.5
Pioneer 31G66	128	118	5.5	5.8
Dyna-Gro 58K22	127	117	9.1	9.3
Dekalb DKC 67-60	125	116	5.5	6.1
Dekalb DKC 69-72	.	125	.	5.5
Croplan Genetics 895BT	.	124	.	5.2
Croplan Genetics DS 830	.	124	.	5.8
Dyna-Gro Cx 04319	.	120	.	3.8
Croplan Genetics 799BT	.	117	.	3.4
Test Average	129	121	.	.
LSD $_{0.10}$	6	6	.	.
CV (%)	13	13	.	.

† Three-year averages based on Brewton and Headland data only.

TABLE 11. 2005 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN SOUTHERN ALABAMA

				2005 regional averages					
Brand name - hybrid	Fair-hope[†]	Brew-ton[‡]	Head-land	Yield	Lodg-ing	Test-weight	Mid-silk	Husk cover	Harvest moist.
	---------- *bu/acre* ----------				*-- % --*	*lb/bu*	*mo-day*		*-- % --*
Croplan Genetics 823HX/LL	71	91	168	109	17.1	53	6-12	3	15.9
Dyna Gro 58K40	89	96	141	109	5.2	56	6-13	3	16.0
Terral TV25BR23 (RR/YGCB)	102	65	147	105	13.3	53	6-11	2	14.8
Croplan Genetics 851RR2/BT	80	101	133	105	13.1	51	6-11	3	14.4
Dekalb DKC 69-71	82	84	145	104	10.6	56	6-14	3	16.1
Pioneer 31N26 (RR2)	92	81	134	102	5.8	57	6-11	2	16.3
FFR 746 RR2/BT	96	77	132	102	12.7	54	6-13	3	14.5
Dyna Gro 58P59	76	80	150	102	9.8	52	6-12	3	15.0
Vigoro V 62R66	78	95	130	101	8.9	56	6-12	3	16.1
Vigoro V 58YR2	88	61	152	100	11.4	52	6-10	3	15.2
Terral TV25R31 (RR)	100	75	122	99	9.8	53	6-9	3	15.5
Pioneer 33M54	86	87	122	98	6.3	56	6-10	2	15.8
Dekalb DKC 69-72	99	57	135	97	10.9	55	6-16	3	15.7
Dyna Gro CX 04219	104	65	121	97	10.6	53	6-10	3	15.6
Pioneer 31G97	78	82	128	96	8.4	53	6-12	3	15.0
Croplan Genetics 895BT	93	71	121	95	10.3	56	6-11	2	16.0
Terral TV26B82 (YGCB)	80	67	133	93	9.3	55	6-10	3	15.8
Croplan Genetics DS 830	69	68	137	91	11.4	53	6-11	2	14.9
Croplan Genetics 731HX/LL	87	74	113	91	13.1	52	6-11	3	14.8
FFR 900 BT	91	59	122	91	25.7	53	6-10	2	15.1
Terral TV26BR41 (RR/YGCB)	98	59	114	90	13.6	53	6-11	3	15.2
Croplan Genetics 799BT	84	51	140	90	6.8	56	6-10	2	15.7
Dekalb DKC 66-21 (YGCB)	88	43	137	89	10.8	54	6-10	3	15.6
Dekalb DKC 67-60	82	64	117	88	12.1	57	6-13	2	16.4
Dyna-Gro Cx 04319	82	74	106	87	7.5	52	6-11	2	15.1
Pioneer 31G66	86	44	131	87	11.3	53	6-11	2	14.9
Dyna-Gro 58K22	84	71	105	87	18.5	52	6-11	3	15.0
Dyna Gro CX 05516	82	57	113	84	9.2	54	6-11	3	15.3
Terral TV27C48	95	60	94	83	8.0	53	6-10	3	15.5
Vigoro V 59YR52	75	63	108	81	13.5	53	6-13	3	14.2
Croplan Genetics DS 822RR2/BT	73	51	114	79	10.8	52	6-12	3	15.7
Croplan Genetics 721RR2/BT	79	46	109	78	15.0	53	6-9	3	14.6
Dekalb DKC 61-72 (RR2)	81	56	83	73	7.7	53	6-9	3	13.8
Southern States SS 842RR2/YGCB	79	.	.	.	.	49	6-12	3	22.4
Southern States SS 804	83	.	.	.	.	55	6-11	3	20.9
Southern States SS 746RR2/YGCB	72	.	.	.	.	53	6-11	3	19.9
Test Average	85	69	126	93	11.2	.		.	.
LSD $_{0.10}$	19	17	18	17	6.4	.		.	.
CV (%)	24	28	16	20		.		.	.

[†] Fairhope location was affected by heavy rain (15 inches) one week after planting

[‡] Severe lodging at the Brewton location due to hurricane winds

TABLE 12. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, HEADLAND, ALABAMA, 2003-2005

	Grain yield			Lodging						
Brand name - hybrid	3-yr	2-yr	2005	3-yr	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--------- *bu/acre* ---------			---------- % ----------			*lb/bu*	*mo-day*		-- % --
Dekalb DKC 69-71	166	149	155	4.8	5.3	10.5	61	6-15	3.3	14.5
Pioneer 31G66	164	154	148	5.4	6.4	12.8	57	6-15	2.5	13.2
Dekalb DKC 67-60	159	148	141	5.4	5.9	11.8	60	6-18	2.8	14.6
Dyna-Gro 58K22	135	106	147	4.9	5.9	11.8	54	6-16	2.8	12.9
Dekalb DKC 69-72	.	162	153	.	5.3	10.5	60	6-16	2.8	14.1
Croplan Genetics DS 830	.	157	153	.	6.6	13.3	58	6-19	2.3	14.6
Croplan Genetics 799BT	.	139	145	.	4.6	9.3	59	6-8	2.5	13.1
Croplan Genetics 895BT	.	136	150	.	5.5	11.0	60	6-18	2.8	15.9
Dyna-Gro Cx 04319	.	129	137	.	7.4	14.8	55	6-16	3.3	13.0
Vigoro V 62R66	.	.	175	.	.	14.3	59	6-17	3.0	13.8
Pioneer 31N26 (RR2)	.	.	162	.	.	11.0	62	6-19	2.5	14.8
FFR 900 BT	.	.	159	.	.	11.0	57	6-16	2.0	12.9
Terral TV25BR23 (RR/YGCB)	.	.	153	.	.	10.5	58	6-14	3.3	13.3
Dyna Gro CX 05516	.	.	153	.	.	9.5	58	6-17	2.5	13.3
Dekalb DKC 61-72 (RR2)	.	.	152	.	.	10.5	54	6-6	2.8	11.9
Dyna Gro 58K40	.	.	152	.	.	11.5	60	6-14	3.3	14.0
Terral TV26BR41 (RR/YGCB)	.	.	152	.	.	8.3	57	6-15	2.3	13.1
Croplan Genetics 851RR2/BT	.	.	146	.	.	8.8	54	6-18	3.3	12.6
Pioneer 33M54	.	.	145	.	.	10.5	58	6-12	2.5	13.6
Pioneer 31G97	.	.	144	.	.	15.0	58	6-16	3.0	13.1
Terral TV25R31 (RR)	.	.	144	.	.	15.5	58	6-12	2.5	13.9
Vigoro V 59YR52	.	.	141	.	.	14.3	58	6-19	2.5	13.2
Dyna Gro CX 04219	.	.	139	.	.	9.8	57	6-14	2.8	13.5
Croplan Genetics 721RR2/BT	.	.	135	.	.	12.5	57	6-15	3.0	12.3
Dekalb DKC 66-21 (YGCB)	.	.	134	.	.	12.8	57	6-15	2.8	13.7
Dyna Gro 58P59	.	.	132	.	.	12.8	56	6-19	3.0	12.6
Terral TV26B82 (YGCB)	.	.	132	.	.	8.8	58	6-16	3.3	14.5
Croplan Genetics DS 822RR2/BT	.	.	129	.	.	7.0	56	6-15	3.3	14.5
Vigoro V 58YR2	.	.	127	.	.	9.0	56	6-16	3.5	12.9
FFR 746 RR2/BT	.	.	125	.	.	12.8	57	6-16	3.5	12.9
Terral TV27C48	.	.	118	.	.	10.5	57	6-12	3.3	13.5
Croplan Genetics 823HX/LL	.	.	112	.	.	14.5	57	6-19	2.8	13.2
Croplan Genetics 731HX/LL	.	.	102	.	.	9.5	53	6-12	3.5	12.0
Test Average	156	142	142	5.1	5.9	11.4	.	.	.	.
LSD $_{0.10}$	9	14	22	2.4	2.7	5.1	.	.	.	.
CV (%)	11	15	17				.	.	.	.

† The 2005 irrigated test received 2.8 inches of water in four applications. A heavy stinkbug infes tation was reported in both 2004 and 2005

TABLE 13. EARLY CORN HYBRID PERFORMANCE AND CHARACTERISTICS, FAIRHOPE, ALABAMA, 2003-2005.

	Grain yield		Lodging					
Brand name - hybrid	2-yr	2005	2-yr	2005	Test-weight	Mid-silk	Husk cover	Harvest moisture
	--- bu/acre --		*------- % --------*		*lb/bu*	*mo-day*		*-- % --*
Pioneer 33M54	162	153	1.0	0.8	58	6-2	3.0	22.6
Pioneer 33V15	140	120	1.5	0.8	60	5-31	2.8	21.7
Terral TV23R31 (RR)	.	151	.	0.8	58	6-1	3.3	23.6
Terral TV25R31 (RR)	.	151	.	1.0	56	6-2	3.3	24.5
Terral TV25BR23 (RR/YGCB)	.	150	.	2.5	56	5-30	2.8	22.5
Pioneer 33H25	.	143	.	0.8	57	6-1	2.8	21.9
Test Average	151	145	1.3	1.1	.	.	.	.
LSD $_{0.10}$	7	11	0.8	1.3	.	.	.	.
CV (%)	6	8			.	.	.	.

TABLE 14. GROWING SEASON RAINFALL, 2003-2005.

Location	Year	Monthly rainfall in inches							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina									
	2005	3.6	5.4	1.4	3.7	6.6	3.5	3.4	27.6
	2004	5.5	4.3	3.2	5.1	7.8	3.0	3.5	32.5
	2003	2.2	4.3	9.8	5.0	4.6	3.0	8.6	37.5
Crossville									
	2005	7.0	4.6	2.4	5.0	7.2	3.2	2.0	31.4
	2004	4.2	2.9	5.5	7.3	4.6	4.0	8.5	37.0
	2003	4.4	5.1	12.6	4.0	4.8	5.9	3.9	40.7
Shorter									
	2005	11.1	7.8	2.2	3.1	10.1	3.2	2.0	39.5
	2004	0.8	3.1	4.0	7.4	2.4	4.9	6.4	29.0
	2003	6.7	9.1	6.0	6.6	7.8	6.9	4.5	47.6
Prattville									
	2005	8.5	6.8	3.4	4.0	9.2	4.3	3.2	39.4
	2004	1.4	3.5	5.2	8.8	1.9	5.7	6.0	32.5
	2003	5.2	8.8	4.8	7.4	6.8	8.0	2.2	43.2
Brewton									
	2005	6.4	14.2	3.3	8.0	9.8	7.4	10.1	59.2
	2004	1.0	6.6	4.3	14.6	4.9	5.3	8.6	45.3
	2003	6.3	7.4	9.4	8.1	11.5	13.2	5.9	61.8
Fairhope									
	2005	4.3	20.5	7.1	10.4	11.4	11.4	4.7	69.8
	2004	0.7	2.3	2.0	10.8	4.7	8.3	12.6	41.4
	2003	5.2	3.1	5.8	9.5	18.4	5.2	3.7	50.9
Headland									
	2005	5.5	9.2	3.1	11.1	5.3	8.8	2.2	45.2
	2004	0.5	4.4	3.4	9.8	4.4	2.1	7.1	31.7
	2003	6.0	9.2	3.4	8.8	7.5	6.1	4.7	45.7

TABLE 15. SOIL TYPES FOR CORN TRIALS, 2005

Test location	Soil type
North	
Belle Mina	Decatur silt loam
Crossville	Wynnville fine sandy loam
Central	
Tallassee	Cahaba loamy sand
Shorter	Norfolk sandy loam
Prattville	Lucedale fine sandy loam
South	
Brewton	Benndale fine sandy loam
Headland	Dothan sandy loam
Fairhope	Malbis fine sandy loam

SOURCES OF 2005 CORN HYBRID TRIAL SEED

Seed Company	Brand	Seed Company	Brand
Grabow Seed Services, Inc. 6830 Lisa Lane Dunwoody, GA 30338	AgraTech	Pioneer Hi-Bred Int., Inc. 7501 Memorial Parkway SW Huntsville, AL 35802	Pioneer
Garst Seed Company 5210 St Rd 945 Hickory, KY 42051	Garst	Royster-Clark, Inc. 717 Robinson Rd. SE Washington C.H, OH 43160	Vigoro
Land O'Lakes P.O. Box 614 Midland City, AL 36350	Croplan	Terral Seed, Inc. P.O. Box 826 Lake Providence, LA 71254	TV
Monsanto Company 800 N. Lindbergh Blvd. St. Louis, MO 63167	Dekalb DKC	UAP Southeast 25324 HSV-Brownsferry Rd Madison, AL 35756	Dyna-Gro
Southern States 6606 West Broad St. Richmond, VA 23260	SS	FFR Seeds 969 Cloverleaf Dr. Southaven, MS 38671	FFR