

*Evaluations of
Corn Hybrids
in Alabama,
2007*

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TABLE OF CONTENTS

Introduction.....	4
Table 1. Locations and Cultural Practices for the 2007 Corn Hybrid Tests	6
NORTHERN ALABAMA	
Table 2. Two- and Three-year Yield and Lodging Averages for Corn in Northern Alabama, 2005-2007.....	7
Table 3. 2007 Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Northern Alabama.....	8
Table 4. Irrigated Corn Hybrid Performance and Characteristics, Belle Mina, Alabama, 2007	9
CENTRAL ALABAMA	
Table 5. One, Two- and Three-year Yield and Lodging Averages for Corn at Prattville in Central Alabama, 2005-2007	10
Table 6. One, Two- and Three-year Yield and Lodging Averages for the No-Till Early Corn Hybrid Test at Shorter in Central Alabama, 2005-2007	11
SOUTH ALABAMA	
Table 7. Two- and Three-year Yield and Lodging Averages for Corn in Southern Alabama, 2005-2007.....	12
Table 8. Yield of Corn Hybrids by Location and Regional Averages of Hybrid Characteristics in Southern Alabama, 2007.....	13
Table 9. Irrigated Corn Hybrid Performance and Characteristics, Headland, Alabama, 2005-2007	14
RAINFALL, SOIL TYPES AND SEED SOURCES	
Table 10. Growing Season Rainfall, 2005-2007.....	15
Table 11. Soil Types for Corn Trials, 2007.....	16
Sources of 2007 Corn Hybrid Test Seed	16

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 25,000 plants per acre with a seeding rate of 28,000 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.

EVALUATIONS OF CORN HYBRIDS IN ALABAMA 2007

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 10) and soil types (Table 11) 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 2007 CORN HYBRID TRIALS

Location	Planting date	Nitrogen Rate [†] lbs/ac	Plant pop. seeds/ac	Date harvested	Herbicides used
NORTHERN ALABAMA					
Tennessee Valley Res. and Ext. Ctr. (Belle Mina)					
Regular test (non-irrigated)	April 2	175	25,000	Not harvested	Atrazine/Dual
Regular test (irrigated)	April 2	200	30,000	September 6	Atrazine/Dual
Sand Mountain Res. and Ext. Ctr. (Crossville)					
Regular test	April 17	120	25,000	September 11	Atrazine/Dual
Early test	No trial	-	-	-	-
Preliminary test	No trial	-	-	-	-
CENTRAL ALABAMA					
E.V. Smith Research Center (Shorter)					
No-Till Early corn test	March 22	160	30,000	Not harvested	Atrazine/Dual
Early test	No trial	-	-	-	-
Plant Breeding Unit (Tallassee)					
Preliminary test	No trial	-	-	-	-
Prattville Experiment Field (Prattville)					
	April 5	120	25,000	August 23	Atrazine/Dual
SOUTHERN ALABAMA					
Brewton Experiment Field (Brewton)					
	April 9	120	25,000	September 10	Atrazine/Dual
Wiregrass Res. and Ext. Ctr. (Headland)					
Regular test (non-irrigated)	April 6	120	25,000	August 9	Atrazine
Regular test (irrigated)	April 9	200	30,000	August 28	Atrazine
Gulf Coast Res. and Ext. Ctr. (Fairhope)					
Regular test	March 14	140	25,000	August 30	Atrazine/Dual
Early test	No trial	-	-	-	-
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, 2005-2007

† The 2007 test at Belle Mina was lost due to prolong drought conditions, hence no multi-year information is reported for Northern Alabama

TABLE 3. 2007 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN NORTHERN ALABAMA

Brand name - hybrid	Belle Mina	Cross- ville	2007 regional averages					
			Yield	Lodging	Test- weight	Husk Mid-silk cover	Harvest moisture	
			----- bu/acre -----	-- % --	lb/bu	mo-day	-- % --	
Dekalb DKC 69-71	†	149	149	0.0	56.7	7-3	2.5	15.3
Dekalb DKC 61-45 (RR2/YGCB)		144	144	0.0	56.0	6-27	4.0	14.3
Garst 8295 YG1/RR		139	139	0.0	57.9	6-29	2.3	15.1
Garst 8380 IT		138	138	6.0	55.3	6-29	2.5	14.0
DynaGro CX 06517		135	135	0.0	56.0	7-6	2.0	13.8
Asgrow RX715 RR2/YGCB		133	133	0.0	56.5	6-27	3.8	13.7
Dekalb DKC 63-46 (RR2/YGCB)		127	127	0.3	56.8	6-27	4.0	13.7
AgraTech 7696		121	121	2.3	55.7	7-1	3.5	14.9
Dekalb DKC 63-81 (RR2/YGCB)		120	120	0.0	54.9	6-27	3.5	13.1
Southern States SS 96013		116	116	0.0	56.7	6-30	3.0	14.9
Southern States SS 842RR2/YGCB		112	112	10.5	55.4	7-3	2.3	13.6
Dyna-Gro Cx 04319		111	111	3.8	53.6	7-2	2.8	13.4
Garst 8247 YG1		111	111	0.0	55.2	6-30	2.0	13.8
AgraTech X 41751CRW		108	108	0.5	54.3	6-28	3.3	13.5
Southern States SS 791 CL		108	108	2.8	55.1	7-3	2.5	14.2
Dyna Gro 58K40		108	108	4.0	56.0	7-3	2.5	13.6
NK Brand N 77-P5		105	105	0.5	55.2	6-28	2.3	12.4
Dekalb DKC 64-27 (RR2)		103	103	1.8	55.0	6-28	3.0	14.4
Southern States SS 731 CL		101	101	4.0	56.3	6-30	3.0	17.3
DynaGro 58P60		100	100	0.5	54.4	7-1	3.0	13.4
DynaGro CX 06313		99	99	0.0	55.2	6-27	3.8	13.8
Dekalb DKC 61-22 (RR2)		90	90	2.8	55.9	6-28	3.5	11.8
NK Brand N 68-B8		71	71	0.0	55.5	6-27	3.0	46.6
Test Average		115	115	1.7				
LSD_{0.10}		25	17	1.0				
CV (%)		23	23	91.6				

† The 2007 test at Belle Mina was lost due to prolong drought conditions.

EVALUATIONS OF CORN HYBRIDS IN ALABAMA 2007

TABLE 4. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, BELLE MINA, ALABAMA, 2005-2007

Brand name - hybrid	Grain yield			Lodging			Test- weight <i>lb/bu</i>	Mid- silk <i>mo-day</i>	Husk cover	Harvest moisture <i>-- % --</i>
	3-yr	2-yr	2007	3-yr	2-yr	2007				
	---- <i>bu/acre</i> ----			----- % -----						
Dekalb DKC 61-45 (RR2/YGCB)	195	190	200	2.6	0.8	1.0	58	6-17	3.3	11.8
Dyna Gro 58K40	186	183	197	11.8	2.5	1.3	60	6-25	1.8	15.8
Dekalb DKC 63-81 (RR2/YGCB)	184	177	189	8.3	1.9	0.8	60	6-18	2.8	13.2
Dyna-Gro Cx 04319	178	179	207	14.2	2.0	0.8	56	6-22	3.0	13.9
Dekalb DKC 69-71	173	167	187	10.5	0.1	0.0	60	6-25	2.0	15.9
Garst 8247 YG1		216	229		2.4	0.5	58	6-20	2.0	13.1
Garst 8380 IT		199	220		2.3	1.0	56	6-17	1.8	11.5
Garst 8295 YG1/RR		196	219		1.5	1.3	55	6-19	1.0	13.8
Southern States SS 842RR2/YGCB		188	201		1.9	1.8	55	6-20	2.3	13.5
Southern States SS 96013		183	195		0.0	0.0	59	6-22	2.3	14.2
Dekalb DKC 64-27 (RR2)		183	187		2.4	0.8	58	6-15	3.5	12.6
Dekalb DKC 61-22 (RR2)		179	198		4.9	1.8	56	6-17	2.3	12.1
AgraTech X 41751CRW		177	193		2.8	1.3	56	6-18	2.3	11.8
DynaGro 58P60			207			0.3	59	6-21	2.0	14.7
DynaGro CX 06517			205			0.8	59	6-26	3.0	14.6
Asgrow RX715 RR2/YGCB			205			1.5	57	6-17	2.3	12.7
DynaGro CX 06313			199			0.0	55	6-16	2.3	12.2
Dekalb DKC 63-46 (RR2/YGCB)			197			0.5	58	6-16	3.8	12.1
NK Brand N 77-P5			196			0.3	55	6-18	1.8	12.9
Southern States SS 791 CL			195			0.8	60	6-21	2.5	14.4
Southern States SS 731 CL			193			1.0	58	6-18	2.8	14.2
AgraTech 7696			189			0.8	58	6-21	2.3	12.5
NK Brand N 68-B8			180			1.0	54	6-18	2.0	10.7
Test Average	183	186	199	9.5	1.9	0.8				
LSD_{0.10}	8	11	12	3.2	1.1	0.9				
CV (%)	9	9	7							

† The 2007 irrigated test received 12.3 inches of water.

TABLE 5. ONE, TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN AT PRATTVILLE IN CENTRAL ALABAMA, 2005-2007

Brand name - hybrid	Grain yield			Lodging			Test- weight lb/bu	Mid- silk mo-day	Husk cover	Harvest moisture -- % --
	3-yr	2-yr	2007	3-yr	2-yr	2007				
	---- bu/acre ----			----- % -----						
Dekalb DKC 69-71	56	17	†	2.1	0.8	4.5	54		2.3	7.0
Southern States SS 842RR2/YGCB	53	17		1.0	1.0	6.3	50		1.8	6.5
Garst 8380 IT		27			1.3	11.0	55		2.3	7.3
Dekalb DKC 67-23 (RR2/YGCB)		26			0.8	8.9	55		3.0	7.5
Garst 8247 YG1		25			1.3	3.9	53		2.0	7.0
Garst 8295 YG1/RR		22			0.5	7.5	57		1.8	7.3
Dekalb DKC 66-23 (RR2/YGCB)		20			0.8	3.0	54		4.0	7.5
Southern States SS 96013		20			0.0	9.1	58		3.5	7.5
Dekalb DKC 65-47 (RR2)						11.8	59		3.0	6.5
NK Brand N 77-P5						11.4	56		2.8	6.8
Southern States SS 731 CL						10.5	58		1.5	5.8
Dekalb DKC 64-27 (RR2)						6.9	57		2.8	7.5
Southern States SS 791 CL						6.1	56		1.5	6.0
Dekalb DKC 67-87 (RR2/YGCB)						5.2	54		2.8	6.0
Dekalb DKC 69-43 (RR2)						5.2	59		2.3	6.9
Dekalb DKC 61-73 (RR2/YGCB)						4.8	57		3.3	7.0
Dekalb DKC 63-46 (RR2/YGCB)						2.7			2.8	7.5
NK Brand N 68-B8						2.1			3.3	8.1
Test Average	54	22		1.6	0.8	6.7				
LSD_{0.10}	4	4								
CV (%)	12	30								

† The 2007 trial was lost due to prolonged drought.

TABLE 6. ONE, TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR THE NO-TILL EARLY CORN TEST AT SHORTER IN CENTRAL ALABAMA, 2005-2007.

† The 2007 test at Shorter was lost due to prolong drought conditions

TABLE 7. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW CORN IN SOUTHERN ALABAMA, 2005-2007[†]

Brand name - hybrid	Grain yield		% stalks lodging	
	3-yr	2-yr	3-yr	2-yr
	----- bu/acre -----		----- % -----	
Dyna Gro 58K40	109	116	2.4	2.4
Dyna-Gro Cx 04319	104	117	5.1	3.9
Dekalb DKC 69-71	101	110	5.0	2.3
Croplan Genetics 851RR2/BT	96	99	8.3	6.2
Croplan Genetics 751 RR2/Bt	.	114	.	3.7
Croplan Genetics 799 RR2	.	99	.	2.3
Southern States SS 96013	.	96	.	2.9
Dekalb DKC 67-23 (RR2/YGCB)	.	95	.	1.8
Dekalb DKC 66-23 (RR2/YGCB)	.	93	.	3.1
Southern States SS 842RR2/YGCB	.	92	.	5.3
Test Average	102	103	.	.
LSD_{0.10}	7	7	.	.
CV (%)	18	14	.	.

[†] Data from Headland not included in the 3-yr and 2-yr averages

EVALUATIONS OF CORN HYBRIDS IN ALABAMA 2007

TABLE 8. 2007 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN SOUTHERN ALABAMA

Brand name - hybrid	Fair- hope	Brew- ton	Head- land	2007 regional averages					
				Yield	Lodg- ing	Test- weight	Husk cover ¹	Harvest moist.	
				----- bu/acre -----	-- % --	lb/bu	mo-day	-- % --	
Dyna-Gro Cx 04319	175	140	†	157	1.3	53	6-12	3	16.1
DynaGro 58P60	165	128		147	3.6	57	6-12	3	17.6
Dyna Gro 58K40	152	134		143	1.6	53	6-13	2	19.8
Dekalb DKC 69-71	158	136		147	2.9	51	6-14	3	17.0
Garst 8247 YG1	179	97		138	3.3	56	6-12	3	15.4
Croplan Genetics 751 RR2/Bt	168	111		139	3.3	57	6-12	2	16.5
DynaGro CX 06517	146	123		134	2.5	54	6-15	3	17.5
Croplan Genetics 8702 RH	159	106		133	3.8	52	6-13	3	15.1
Croplan Genetics 8221 RB	136	116		126	4.9	56	6-14	3	15.4
AgraTech 897RR	157	99		128	0.1	52	6-12	2	18.6
Croplan Genetics 8950 RB	168	76		122	1.1	53	6-13	2	15.6
Croplan Genetics 851RR2/BT	135	105		120	6.6	56	6-12	3	15.4
Dekalb DKC 69-43 (RR2)	157	83		120	0.0	55	6-10	3	16.3
NK Brand N 77-P5	147	90		118	2.5	53	6-12	3	15.9
Dekalb DKC 67-87 (RR2/YGCB)	164	89		126	0.3	53	6-12	3	16.4
Southern States SS 96013	141	98		119	3.3	56	6-13	4	16.7
AgraTech 797RR	139	91		115	2.3	55	6-15	3	20.8
Dekalb DKC 67-23 (RR2/YGCB)	158	65		111	1.3	53	6-10	4	16.4
Croplan Genetics 799 RR2	134	88		111	2.9	52	6-12	2	18.1
Southern States SS 842RR2/YGCB	129	89		109	4.4	53	6-12	3	17.7
Southern States SS 731 CL	124	79		102	3.5	53	6-11	3	18.2
Dekalb DKC 65-47 (RR2)	137	69		103	0.3	56	6-11	4	16.4
DynaGro CX 06313	156	52		104	1.5	54	6-10	4	13.4
Dekalb DKC 66-23 (RR2/YGCB)	143	57		100	3.9	57	6-11	3	15.0
Dekalb DKC 61-73 (RR2/YGCB)	144	52		98	1.9	52	6-10	3	15.8
Dekalb DKC 64-27 (RR2)	134	58		96	0.4	53	6-10	3	14.8
Southern States SS 791 CL	148	44		96	3.6	52	6-14	3	15.7
Dekalb DKC 63-46 (RR2/YGCB)	120	51		85	0.3	54	6-10	3	14.3
Test Average	149	90		120	2.4	.	.	.	.
LSD_{0.10}	18	19		9	1.4	.	.	.	.
CV (%)	13	23		19	.	.	.	.	.

† The 2007 test at Headland was lost due to prolong drought conditions

TABLE 9. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, HEADLAND, ALABAMA, 2005-2007

Brand name - hybrid	Grain yield			Lodging			Test- weight	Mid- silk	Husk cover	Harvest moisture
	3-yr	2-yr	2007	3-yr	2-yr	2007				
	--- bu/acre ---			----- % -----			lb/bu	mo-day		-- % --
Dyna Gro 58K40	174	185	178	4.5	1.0	0.0	59	6-11	2.0	21.6
Dekalb DKC 69-71	169	175	152	6.1	3.9	0.0	59	6-11	2.8	20.5
Croplan Genetics 851RR2/BT	164	173	159	7.2	6.4	0.0	55	6-11	2.8	17.3
Dyna-Gro Cx 04319	159	170	158	6.7	2.6	0.3	54	6-8	2.5	20.3
Croplan Genetics 751 RR2/Bt		178	165		3.9	0.3	56	6-11	1.8	19.8
Croplan Genetics 799 RR2		170	142		5.0	0.3	59	6-8	2.0	18.3
Dekalb DKC 66-23 (RR2/YGCB)		163	134		6.9	0.0	57	6-8	1.5	18.3
Southern States SS 96013		157	131		6.8	0.0	58	6-11	2.8	19.5
Dekalb DKC 67-23 (RR2/YGCB)		154	139		7.3	0.3	57	6-4	3.0	18.2
Southern States SS 842RR2/YGCB		148	108		19.5	0.8	53	6-10	2.5	19.4
Garst 8247 YG1			169			0.0	59	6-8	1.8	18.3
DynaGro 58P60			166			0.0	58	6-11	2.5	20.8
Dekalb DKC 67-87 (RR2/YGCB)			161			0.0	57	6-10	1.8	19.6
Croplan Genetics 8702 RH			156			0.0	58	6-11	2.0	18.9
NK Brand N 77-P5			151			1.0	55	6-11	1.5	19.7
Southern States SS 731 CL			149			0.0	57	6-8	2.0	18.9
AgraTech 897RR			149			0.3	59	6-8	1.5	18.1
Croplan Genetics 8221 RB			148			0.5	57	6-8	1.8	17.6
AgraTech 797RR			144			1.3	57	6-10	3.5	18.0
Dekalb DKC 65-47 (RR2)			144			0.0	56	6-11	3.8	18.3
DynaGro CX 06517			137			0.0	55	6-8	1.5	18.4
DynaGro CX 06313			135			0.0	54	6-8	2.3	17.0
Dekalb DKC 69-43 (RR2)			134			0.0	60	6-11	2.5	20.1
Dekalb DKC 64-27 (RR2)			130			0.3	56	6-8	3.0	17.9
Croplan Genetics 8950 RB			125			0.0	58	6-8	1.5	20.4
Dekalb DKC 61-73 (RR2/YGCB)			119			0.3	53	6-4	2.8	16.8
Dekalb DKC 63-46 (RR2/YGCB)			106			0.0	54	6-8	3.25	15.7
Southern States SS 791 CL			95			0.0	55	6-11	2.75	17.5
Test Average	166	167	142	6.1	6.3	0.2				
LSD_{0.10}	9	13	19	2.3	4.0	0.5				
CV (%)	10	12	15	69	98					

† The 2007 irrigated test received 7.35 inches of water. The irrigation pump was out of service for 12 days.

EVALUATIONS OF CORN HYBRIDS IN ALABAMA 2007

TABLE 10. GROWING SEASON RAINFALL, 2005-2007.

Location	Year	----- Monthly rainfall in inches -----							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina									
	2007	1.1	4.6	1.0	1.2	3.7	1.1	1.2	13.9
	2006	2.0	4.9	4.2	1.8	2.4	2.5	3.1	20.9
	2005	3.6	5.4	1.4	3.7	6.6	3.5	3.4	27.6
Crossville									
	2007	1.3	4.4	0.7	1.6	4.3	3.0	4.3	19.6
	2006	2.8	6.6	3.6	2.9	1.2	1.9	5.5	24.5
	2005	7.0	4.6	2.4	5.0	7.2	3.2	2.0	31.4
Shorter									
	2007	3.4	2.0	0.3	0.8	7.0	2.0	2.3	17.8
	2006	3.7	1.9	3.6	1.2	2.3	4.9	3.1	20.7
	2005	11.1	7.8	2.2	3.1	10.1	3.2	2.0	39.5
Prattville									
	2007	1.0	2.5	0.6	1.6	2.8	2.9	1.9	13.3
	2006	5.3	2.2	3.1	0.8	3.4	2.5	3.2	20.5
	2005	8.5	6.8	3.4	4.0	9.2	4.3	3.2	39.4
Brewton									
	2007	1.0	11.6	1.3	3.5	6.7	6.1	6.5	36.7
	2006	2.8	2.8	7.0	2.7	3.6	8.9	4.0	31.8
	2005	6.4	14.2	3.3	8.0	9.8	7.4	10.1	59.2
Fairhope									
	2007	0.5	3.4	1.9	6.4	7.1	5.9	6.6	31.8
	2006	0.4	6.1	3.2	1.3	5.4	4.2	5.3	25.9
	2005	4.3	20.5	7.1	10.4	11.4	11.4	4.7	69.8
Headland									
	2007	1.3	7.3	0.1	1.4	5.2	3.8	4.2	23.3
	2006	0.7	1.2	4.1	2.6	2.7	3.5	4.6	19.4
	2005	5.5	9.2	3.1	11.1	5.3	8.8	2.2	45.2

TABLE 11. SOIL TYPES FOR CORN TRIALS, 2007.

Test location	Soil type
North	
Belle Mina.....	Decatur silt loam
Crossville	Wynnvilleville fine sandy loam
Central	
Shorter.....	Norfolk sandy loam
Prattville.....	Lucedale fine sandy loam
South	
Brewton.....	Benndale fine sandy loam
Headland	Dothan sandy loam
Fairhope	Malbis fine sandy loam

SOURCE OF 2007 CORN HYBRID TRIAL SEED

Seed Company	Brand	Seed Company	Brand
Grabow Seed Services, Inc. P.O. Box 88823 Atlanta, GA 30356	AgraTech	Monsanto Company 800 N. Lindbergh Blvd St. Louis, MO 63167	Dekalb DKC
NK Brand Seed 13760 Appomattox Cr. Laurinburg, NC 28352	Garst/NK Brand	Southern States 6606 West Broad St. Richmond, VA 23260	SS
Land O'Lakes P.O. Box 614 Midland City, AL 36350	Croplan	UAP Southeast 25324 HSV-Brownsferry Rd Madison, AL 35756	Dyna-Gro