



evaluation of

**CORN
HYBRIDS
IN
ALABAMA,
1995**

Alabama Agricultural Experiment Station
Lowell T. Frobish, Director

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EVALUATION OF CORN HYBRIDS IN ALABAMA, 1995

K.M. Glass, D.I. Bransby and W.S. Gazaway¹

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.

¹Research Assistant, Professor of Agronomy and Soils, and Professor of Plant Pathology.

PROCEDURE

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

Grain yields are adjusted to 15.5 percent moisture and converted to bushels (56 lb) per acre. Stalks broken or leaning more than 45 degrees are considered lodged. The mid-silk data show the number of days from planting until approximately half the plants in the plots are showing silks. The Regular Corn Hybrid tests also are examined for disease incidence at selected locations each year. When virus or other disease symptoms indicate crop damage, disease ratings are compiled and published in this report. However, in 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 1995 CORN HYBRID TESTS

Location	Planting date	Nitrogen rate*	Plant population	Date harvested	Herbicides used
NORTHERN ALABAMA					
Tennessee Valley Substation (Belle Mina)....	March 29	150	20,000	August 29	Atrazine/Dual
Sand Mountain Substation (Crossville)					
Early corn test.....	March 31	153	20,000	September 1	Aatrex/Dual
Regular test.....	April 13	150	20,000	September 5	Atrazine/Dual
Preliminary test.....	April 13	150	20,000	September 7	Atrazine/Dual
White corn test.....	April 13	150	20,000	September 8	Atrazine/Dual
Upper Coastal Plain Substation (Winfield)...	April 14	120	20,000	September 19	Atrazine/Dual/ Broadstrike
CENTRAL ALABAMA					
E.V. Smith Research Center (Shorter)					
Early corn test.....	March 23	120	20,000	August 2	Atrazine/Lasso
Plant Breeding Unit (Tallassee).....	March 28	80	20,000	August 14	Atrazine/Lasso
Prattville Experiment Field (Prattville)....	April 14	120	20,000	August 15	Atrazine
Black Belt Substation (Marion Junction)....	March 23	140	20,000	August 24	Atrazine/Dual
Lower Coastal Plain Substation (Camden)....	April 18	104	20,000	Not harvested	Broadstrike
SOUTHERN ALABAMA					
Brewton Experiment Field (Brewton).....	March 22	140	20,000	August 15	Atrazine/Dual
Monroeville Experiment Field (Monroeville)..	March 21	140	20,000	August 14	Atrazine/Dual
Wiregrass Substation (Headland)					
Regular test (unirrigated).....	March 30	140	20,000	August 30	Atrazine
Regular test (irrigated).....	March 30	220	25,000	August 30	Atrazine
Gulf Coast Substation (Fairhope)					
Early corn test.....	March 13	160	20,000	August 2	Atrazine/Dual
Regular test.....	March 24	160	20,000	August 9	Atrazine/Dual
Preliminary test.....	March 24	160	20,000	August 9	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**, 1993-95

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1993-95	1994-95	1993-95	1994-95
	Bu.	Bu.	Pct.	Pct.
Pioneer 3154.....	122	117	4.4	5.2
Pioneer 3167.....	116	112	2.2	2.8
Pioneer 3140.....	116	107	2.1	1.8
Pioneer 3085 *.....	112	105	3.3	4.2
Dekalb DK 689.....	110	111	2.8	3.6
Terra TR 1167.....	107	108	1.5	1.9
Deltapine G-4666.....	106	106	2.2	2.8
Zimmerman Z27.....	101	99	3.2	4.3
Pioneer 3156.....	-	116	-	3.3
Terra TR 1185.....	-	116	-	4.0
AgraTech 787 *.....	-	116	-	1.9
Pioneer 3163 *.....	-	115	-	4.2
Terra TR702E.....	-	107	-	2.8
Hy Performer HS9843.....	-	106	-	1.5
Hy Performer HS 9944.....	-	99	-	3.0
Northrup King N7989.....	-	98	-	1.7

* Standard hybrids for comparison.

** Belle Mina, Crossville, and Winfield.

TABLE 3. 1995 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN NORTHERN ALABAMA

Brand name-hybrid	Belle Mina	Crossville	Winfield	1995 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.
Hy Performer HS9843....	72	100	100	90	2.7	56.6	6-25	3	14.2
Dekalb DK 714.....	67	84	118	89	6.0	58.5	6-24	3	14.8
Pioneer 3154.....	66	98	104	89	9.3	57.3	6-24	3	14.5
Hy Performer HY 9899V..	70	102	95	89	6.0	56.1	6-26	3	14.8
Pioneer 3223.....	68	84	109	87	4.7	57.6	6-25	3	14.5
Terra TR 1185.....	61	87	113	87	7.0	56.5	6-25	3	14.9
Dekalb DK 683.....	54	105	95	85	3.3	56.6	6-26	3	14.8
Dyna-Gro 5516.....	67	89	98	85	3.7	57.3	6-24	3	14.5
Pioneer 3156.....	56	96	100	84	5.0	57.4	6-25	3	14.6
Northrup King N8020....	66	83	101	83	4.3	56.6	6-25	3	14.2
Pioneer 3167.....	57	90	103	83	5.0	57.2	6-27	3	15.4
Dekalb DK 689.....	54	80	114	82	6.7	56.3	6-26	3	15.0
AgraTech 787 *.....	63	104	78	82	3.3	56.8	6-25	3	13.9
Deltapine G-4666.....	53	95	97	81	5.0	57.5	6-24	3	14.4
Pioneer 3163 *.....	64	70	110	81	7.3	56.7	6-26	3	13.8
Terra TR702E.....	59	94	90	81	5.7	57.0	6-25	3	15.1
Terra TR 1167.....	69	89	82	80	3.3	56.8	6-23	3	13.9
Northrup King N7989....	62	86	86	78	2.7	57.6	6-26	3	14.3
Hy Performer HY 9919...	63	82	86	77	3.7	55.1	6-23	3	14.3
Pioneer 3140.....	59	86	82	76	3.7	55.2	6-25	3	14.1
Hy Performer HS 9944...	54	88	84	75	5.0	56.2	6-25	3	13.9
AgraTech 737.....	56	80	90	75	7.7	53.8	6-23	3	13.7
Zimmerman Z27.....	62	91	72	75	8.0	55.5	6-26	3	14.0
Dekalb DK 706.....	54	87	73	71	9.0	57.7	6-24	3	14.7
Northrup King N8656....	42	85	87	71	4.3	56.3	6-27	3	14.3
Pioneer 3085 *.....	63	67	67	66	5.3	54.7	6-22	4	13.5
Test Average.....	60.7	88.4	93.5						
L.S.D. (.05).....	9.3	17.7	26.8						
C.V. (%).....	10.9	14.2	20.3						

* Standard hybrids for comparison.

** 1= Excellent; 5= Very poor.

TABLE 4. WHITE CORN HYBRID TEST, NORTHERN ALABAMA***, 1993-95

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995			
	3-yr.	2-yr.	1995	3-yr.	2-yr.	1995	Midsilk	Test	Husk**	Harvest
	1993-95	1994-95		1993-95	1994-95		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Zimmerman Z64W.....	127	142	101	1.7	1.5	2.0	6-29	54.7	1	14.0
Zimmerman Z63W.....	117	136	96	2.7	1.5	1.0	6-29	56.2	2	13.8
Hy Performer HS 175W.	112	127	88	2.7	2.5	2.0	6-30	55.5	2	14.8
Dekalb DK 689 *.....	111	123	90	1.0	0.5	1.0	6-29	55.8	1	13.9
Zimmerman Z16W.....	108	124	79	2.3	1.0	1.0	6-28	56.9	1	14.8
Pioneer 3281W.....	105	119	83	0.7	0.5	1.0	6-30	57.7	1	14.4
Zimmerman Z27 *.....	104	121	92	0.7	0.5	1.0	6-29	54.9	2	14.3
Hy Performer HB 9755W.....	103	114	80	1.0	0	0	6-28	57.5	1	14.1
Hy Performer HB 947005W.....	-	141	103	-	0.5	1.0	6-28	56.3	1	14.3
Zimmerman Z62W.....	-	125	84	-	0.5	0	6-27	54.1	1	13.0
Zimmerman Z70W.....	-	-	93	-	-	2.0	6-29	55.8	1	13.7
Hy Performer HY 9796W.....	-	-	90	-	-	1.0	6-28	56.6	1	14.5
Pioneer 3203W.....	-	-	81	-	-	2.0	7-3	56.5	1	16.4
Pioneer 3085 *.....	-	-	78	-	-	1.0	6-26	52.5	1	13.4
Test Average.....			88.3							
L.S.D. (.05).....			18.2							
C.V. (%).....			14.4							

* Yellow corn check hybrid.
 ** 1= Excellent; 5= Very poor.
 *** Crossville.

TABLE 5. EARLY CORN HYBRID TEST, NORTHERN ALABAMA***, 1993-95

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995			
	3-Yr.	2-Yr.	1995	3-Yr.	2-Yr.	1995	Midsilk	Test	Husk**	Harvest
	1993-95	1994-95		1993-95	1994-95		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3245 *.....	126	148	115	0.7	0	0	6-26	56.7	2	14.9
Zimmerman Z27.....	119	135	103	0.7	0.5	1.0	6-27	55.2	2	15.0
Deltapine 4581.....	112	131	94	0.3	0	0	6-27	55.5	2	14.8
Pioneer 3394.....	102	112	78	0.7	0	0	6-22	55.5	2	14.6
Deltapine 4450.....	100	122	101	1.0	0	0	6-22	55.3	3	15.1
Zimmerman Z21.....	-	145	114	-	0	0	6-28	56.5	2	15.5
Dyna-Gro 5510.....	-	-	118	-	-	0	6-23	55.8	2	15.1
Zimmerman Z29.....	-	-	114	-	-	0	6-27	55.9	2	15.1
Dekalb DK 668.....	-	-	113	-	-	1.0	6-25	57.0	2	15.0
AgraTech 787 *.....	-	-	113	-	-	1.0	6-25	56.3	2	14.9
Zimmerman Z41.....	-	-	112	-	-	0	6-23	54.7	2	14.6
Pioneer 3279.....	-	-	108	-	-	0	6-22	55.3	3	14.8
Pioneer 3163 *.....	-	-	107	-	-	1.0	6-25	56.1	2	15.1
Test Average.....			106.9							
L.S.D. (.05).....			30.1							
C.V. (%).....			19.7							

* Standard mid to late season hybrids.
 ** 1= Excellent; 5= Very poor.
 *** Crossville.

REPORT OF PRELIMINARY TESTS
 TABLE 6. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN
 PRELIMINARY TEST AT CROSSVILLE IN NORTHERN ALABAMA, 1995

Brand name-hybrid	Av. Yield	Lodged	Husk**	Mid silk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
Dyna-Gro 5670..	122	1.0	1	6-28	56.2	13.4
Pioneer X1184M.	113	2.0	1	6-30	56.3	13.1
Pioneer X1234F.	107	2.0	1	7-1	58.9	15.1
Pioneer X1194F.	104	2.0	1	6-27	59.6	13.2
AgraTech 709...	101	1.0	2	6-29	56.3	12.8
Zimmerman Z27 *	96	0	2	6-27	55.8	13.0
Pioneer 3163 *.	94	0	1	6-27	56.1	12.3
Mycogen 7660...	92	1.0	2	6-28	56.3	12.9
Pioneer X1134N.	87	1.0	1	6-29	59.8	14.0
Pioneer 3085 *.	86	1.0	1	6-25	54.4	12.9
Pioneer X1134M.	83	2.0	1	6-27	59.5	12.4
Pioneer X1134T.	81	1.0	2	6-29	57.0	12.4
Test Average ..	97.0					
L.S.D. (.05)...	15.4					
C.V. (%).....	11.1					

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

TABLE 7. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW
 CORN FOR CENTRAL ALABAMA**, 1993-95

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1993-95	1994-95	1993-95	1994-95
	Bu.	Bu.	Pct.	Pct.
Dekalb DK 689.....	68	81	2.0	1.5
Zimmerman Z27 *.....	68	80	1.3	0
Terra TR 1167.....	68	83	0	0
Pioneer 3146	67	81	1.0	1.0
Pioneer 3167.....	66	80	0.7	0.5
Pioneer 3085 *.....	66	83	1.0	0.5
Pioneer 3154.....	66	72	3.0	0.5
Pioneer 3140.....	56	62	2.3	0
Deltapine G-4666.....	54	66	1.0	1.0
Terra TR 1185.....	-	86	-	1.5
Terra TR702E.....	-	83	-	0
Pioneer 3163 *.....	-	80	-	0.5
Pioneer 3156.....	-	74	-	1.0

* Standard hybrids for comparison.
 ** Prattville only. Camden not harvested due to drought and
 wildlife damage.

TABLE 8. 1995 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN CENTRAL ALABAMA***

Brand name-hybrid	Prattville Bu.	1995 Regional Averages					
		Yield per acre Bu.	Lodged stalks Pct.	Test weight Lb./Bu.	Mid- silk Mo.-Da.	Husk** cover Rating	Harvest moisture Pct.
Dyna-Gro 5516.....	43	43	0	53.0	6-23	4	11.9
Northrup King N8020.....	40	40	0	53.4	6-23	3	11.7
Dekalb DK 683	37	37	0	51.8	6-24	3	10.8
Terra TR 1167.....	36	36	0	53.9	6-23	3	11.9
Zimmerman Z27 *	35	35	0	52.6	6-24	3	11.8
Terra TR 1185.....	33	33	1.0	51.5	6-23	3	10.7
Dekalb DK 689.....	33	33	2.0	49.9	6-24	3	9.6
Terra TR702E.....	32	32	0	51.6	6-25	4	10.8
Pioneer 3146.....	31	31	1.0	55.9	6-23	3	13.4
Pioneer 3163 *.....	30	30	0	53.4	6-23	3	11.7
Pioneer 3223.....	30	30	0	54.4	6-24	4	12.2
Pioneer 3167.....	28	28	1.0	51.7	6-24	4	10.0
Pioneer 3156.....	26	26	1.0	54.0	6-24	3	11.3
Pioneer 3154.....	24	24	1.0	54.7	6-22	4	11.6
Pioneer 3085 *.....	23	23	0	51.8	6-23	4	10.0
Deltapine G-4666.....	22	22	1.0	52.3	6-23	4	10.6
Pioneer 3140.....	21	21	0	49.3	6-22	4	9.0
Northrup King N8656.....	19	19	1.0	50.5	6-24	4	9.7
Test Average.....	30.0						
L.S.D. (.05).....	12.2						
C.V. (%).....	28.6						

* Standard hybrids for comparison.
 ** 1= Excellent; 5= Very poor.
 *** Camden not harvested due to drought and wildlife damage.

TABLE 9. EARLY CORN HYBRID TEST, CENTRAL ALABAMA**, 1993-95

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995		
	3-Yr. 1993-95 Bu.	2-Yr. 1994-95 Bu.	1995 Bu.	3-Yr. 1993-95 Pct.	2-Yr. 1994-95 Pct.	1995 Pct.	Midsilk Mo./Da.	Test weight Lb./Bu.	Harvest moisture Pct.
Deltapine 4581. 83	98	62	1.7	1.0	2.0	6-19	53.2	19.5	
Pioneer 3245 * . 82	94	64	1.7	0.5	0	-	60.3	16.4	
Zimmerman Z27 . 79	91	56	3.7	3.0	6.0	6-19	51.2	20.3	
Pioneer 3394 .. 78	97	72	1.7	0	0	6-19	58.6	16.3	
Deltapine 4450. 75	97	64	2.3	2.5	3.0	-	57.4	15.5	
Dyna-Gro 5510.. -	-	67	-	-	0	-	55.9	17.1	
AgraTech 787 * . -	-	65	-	-	4.0	6-19	52.1	22.1	
Pioneer 3163 * . -	-	59	-	-	8.0	-	58.0	15.9	
Test Average ..	63.5								
L.S.D. (.05)...	9.4								
C.V. (%).....	9.9								

* Standard mid to late season hybrids.
 ** Shorter.

REPORT OF PRELIMINARY TESTS
TABLE 10. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN
PRELIMINARY TEST AT TALLASSEE IN CENTRAL ALABAMA, 1995

Brand name-hybrid	Av. Yield		Lodged stalks	Husk** cover	Midsilk	Test weight	Harvest moisture
	per acre						
	Bu.	Pct.		Rating	Mo.-Da.	Lb./Bu.	Pct.
Pioneer 3163 *....	125	5.0		3	6-15	56.7	16.9
Dyna-Gro 5670.....	124	4.0		4	6-16	55.5	18.7
Pioneer X1184M....	123	10.0		3	6-16	56.5	15.0
Pioneer X1234F....	116	12.0		3	6-17	57.2	19.3
Pioneer X1134M....	112	1.0		4	6-13	59.2	15.9
Zimmerman Z27 *...	106	3.0		4	6-16	56.2	14.1
Pioneer X1194F....	105	2.0		3	6-16	59.5	14.9
Pioneer 3085 *....	91	0		4	6-13	55.7	14.7
Pioneer X1134N....	87	4.0		3	6-18	58.2	16.1
Pioneer X1134T....	80	1.0		4	6-18	57.1	17.9
Test Average.....	106.9						
L.S.D. (.05.....)	22.3						
C.V. (%).....	14.4						

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

TABLE 11. BLACK BELT CORN HYBRID/VIRUS TEST***, 1993-95

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995			
	3-yr.	2-yr.	1995	3-yr.	2-yr.	1995	Midsilk	Test weight	Husk** cover	Harvest moisture
	1993-95	1994-95		1993-95	1994-95					
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Dekalb DK 743	83	106	76	1.3	0	0	6-10	57.0	1	14.1
Pioneer 3154.....	83	103	76	1.3	0	0	6-8	57.4	2	13.7
Zimmerman Z27 *.....	77	99	75	1.0	0	0	6-14	56.2	1	14.3
Pioneer 3156	76	93	61	1.7	0.5	1.0	6-11	58.0	2	15.2
Dekalb DK 689.....	73	90	68	1.3	0	0	6-12	55.6	2	14.4
Deltapine G-4666.....	71	88	79	1.0	0	0	6-12	58.2	2	13.3
Cargill 8936	70	89	58	1.3	0	0	6-11	55.0	2	14.7
Hy Performer HY 9919...	-	107	83	-	0.5	1.0	6-9	56.2	2	14.9
Hy Performer HY 9899V..	-	102	86	-	0.5	1.0	6-12	56.4	2	14.9
Mycogen 8460.....	-	100	77	-	0	0	6-14	54.4	2	14.5
Dekalb DK 683.....	-	99	65	-	0	0	6-12	58.0	1	14.9
Northrup King N8656 ...	-	98	71	-	0	0	6-12	56.4	1	13.4
Pioneer 3163 *.....	-	96	67	-	0.5	1.0	6-12	56.6	2	13.5
Dyna-Gro 5670.....	-	-	86	-	-	0	6-12	56.6	2	14.8
Greenwood 830.....	-	-	72	-	-	1.0	6-14	55.4	1	15.4
Pioneer 3085 *.....	-	-	57	-	-	0	6-9	56.8	2	13.9
Test Average.....			72.2							
L.S.D. (.05).....			18.8							
C.V. (%).....			18.3							

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

TABLE 12. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR
YELLOW CORN FOR SOUTHERN ALABAMA**, 1993-95

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1993-95	1994-95	1993-95	1994-95
	Bu.	Bu.	Pct.	Pct.
AgraTech 888.....	114	123	5.5	6.7
Deltapine G-4666.....	111	120	4.1	5.1
Mycogen 9220.....	110	112	5.9	7.5
Pioneer 3167.....	107	113	7.1	8.7
Northrup King N8811.....	107	118	6.1	8.2
Zimmerman Z27 *.....	106	117	4.9	6.0
Dekalb DK 689.....	105	114	6.3	7.6
Pioneer 3085 *.....	99	106	3.6	2.8
Pioneer 3146	98	110	5.6	6.9
Hy Performer HS9843.....	-	122	-	6.3
Cargill 8527A.....	-	121	-	7.0
Terra TR702E.....	-	121	-	4.8
Pioneer 3163 *.....	-	121	-	8.0
Terra TR 1185	-	120	-	9.0
Hy Performer HS 9944.....	-	118	-	7.2
AgraTech 967.....	-	116	-	6.7
Northrup King N7989.....	-	111	-	3.9

* Standard hybrids for comparison.

** Fairhope, Brewton, Monroeville, and Headland.

TABLE 13. 1995 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID
CHARACTERISTICS IN SOUTHERN ALABAMA

Brand name-hybrid	Fairhope	Brewton	Monroeville	Headland	1995 Regional Averages						
					Yield	Lodged	Test	Mid-	Husk**	Harvest	
					per acre	stalks	weight	silk	cover	moisture	
	Bu.	Bu.	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.	
Dekalb DK 683.....	138	132	71	101	110	10.5	55.8	6-4	2	18.0	
Hy Performer HS9843...	108	130	82	120	110	12.3	54.7	6-4	2	16.6	
Pioneer 3223.....	120	140	62	112	108	10.3	54.4	6-4	3	17.3	
AgraTech 888.....	116	131	68	104	105	12.0	55.0	6-4	2	17.7	
Terra TR 1180.....	105	141	66	104	104	11.5	55.6	6-5	2	18.0	
Deltapine G-4666	119	117	73	107	104	9.5	55.9	6-4	2	17.3	
Dekalb DK 706.....	122	118	68	99	102	14.0	55.2	6-5	2	19.0	
Hy Performer HY 9899V.	94	132	69	110	101	16.8	54.0	6-6	3	18.9	
Cargill 8527A	99	137	78	91	101	13.3	54.4	6-5	2	18.3	
Northrup King N8811...	101	133	72	98	101	15.8	56.1	6-5	3	19.4	
Terra TR 1185.....	118	116	67	101	100	15.8	52.6	6-5	3	19.3	
Hy Performer HS 9944..	99	135	58	106	99	13.0	54.2	6-5	2	17.6	
Dyna-Gro 5516.....	112	103	62	116	98	6.8	54.6	6-4	2	16.6	
Vigoro V1235.....	90	132	64	105	98	10.0	54.5	6-7	2	17.6	
Vigoro V1165.....	103	121	65	101	98	9.0	53.7	6-3	3	16.1	
Terra TR702E.....	97	124	61	106	97	9.0	54.2	6-7	3	18.2	
Pioneer 3163 *.....	123	108	64	91	96	14.3	54.8	6-5	3	17.2	
Zimmerman Z27 *.....	109	112	66	95	96	10.8	53.4	6-5	3	16.3	
NC+ 7507.....	110	111	62	88	93	13.0	53.4	6-6	3	16.4	
Dekalb DK 689.....	117	124	49	77	91	14.3	53.5	6-5	2	16.9	
Mycogen 9220.....	106	107	61	92	91	13.3	54.8	6-7	3	18.4	
Hy Performer HY 9919..	106	112	65	82	91	8.8	51.5	6-3	3	18.2	
Pioneer 3167.....	100	109	64	92	91	16.0	54.2	6-5	2	20.2	
AgraTech 967.....	81	119	60	92	88	12.8	49.9	6-5	3	20.5	
Northrup King N7989...	94	98	62	96	87	7.5	54.5	6-6	3	18.6	
Dekalb DK 714.....	93	96	61	99	87	10.3	54.9	6-6	3	18.5	
Cargill 8936	91	103	58	84	84	6.0	51.7	6-5	3	17.5	
Pioneer 3146	84	97	61	80	80	13.5	55.6	6-6	2	19.2	
Pioneer 3085 *.....	85	88	56	79	77	3.3	52.4	6-4	3	16.3	
Test Avarage.....	104.7	118.0	64.5	97.4							
L.S.D. (.05).....	27.7	34.3	11.7	18.7							
C.V. (%).....	18.8	20.6	12.9	13.7							

* Standard hybrids for comparison.

** 1= Excellent; 5= Very poor.

TABLE 14. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS, HEADLAND, ALABAMA, 1993-95***

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995			
	3-yr.	2-yr.	1995	3-yr.	2-yr.	1995	Midsilk	Test	Husk**	Harvest
	1993-95	1994-95	1995	1993-95	1994-95	1995	Mo.-Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Dekalb DK 689.....	172	168	160	-	-	9.0	6-5	57.9	2	11.3
AgraTech 888.....	171	171	175	-	-	2.0	6-8	59.9	3	11.3
Pioneer 3146.....	168	173	177	-	-	5.0	6-2	60.0	2	11.3
Northrup King N8811.....	164	172	162	-	-	2.0	6-9	61.0	2	11.3
Pioneer 3167.....	162	172	181	-	-	5.0	6-8	59.5	2	11.3
Mycogen 9220.....	158	155	145	-	-	3.0	6-5	58.2	3	11.3
Deltapine G-4666.....	152	147	135	-	-	0	6-5	59.6	3	11.3
Zimmerman Z27 *.....	152	164	154	-	-	2.0	6-6	56.1	2	11.3
Pioneer 3085 *.....	136	140	121	-	-	3.0	6-5	53.2	3	11.3
Hy Performer HS9843.....	-	181	191	-	-	2.0	6-4	59.0	2	11.3
Hy Performer HS 9944.....	-	175	180	-	-	2.0	6-8	59.2	3	11.3
Pioneer 3163 *.....	-	175	175	-	-	4.0	6-3	58.0	2	11.3
Cargill 8527A.....	-	174	180	-	-	3.0	6-7	60.5	3	11.3
Terra TR702E.....	-	165	179	-	-	0	6-9	58.9	4	11.3
Terra TR 1185.....	-	160	175	-	-	4.0	6-7	59.5	2	11.3
Northrup King N7989.....	-	159	154	-	-	1.0	6-8	59.4	3	11.3
AgraTech 967.....	-	158	146	-	-	1.0	6-6	56.5	4	11.3
Dyna-Gro 5516.....	-	-	194	-	-	1.0	6-5	59.1	2	11.3
Pioneer 3223.....	-	-	188	-	-	1.0	6-8	59.5	2	11.3
Dekalb DK 706.....	-	-	185	-	-	4.0	6-6	60.4	3	11.3
Dekalb DK 683.....	-	-	181	-	-	0	6-7	58.9	2	11.3
Dekalb DK 714.....	-	-	179	-	-	1.0	6-3	60.5	3	11.3
Hy Performer HY 9899V.....	-	-	172	-	-	3.0	6-5	59.1	3	11.3
Terra TR 1180.....	-	-	169	-	-	1.0	6-6	61.1	3	11.3
Cargill 8936.....	-	-	166	-	-	0	6-6	56.1	3	11.3
Vigoro V1235.....	-	-	166	-	-	2.0	6-9	59.4	3	11.3
Vigoro V1165.....	-	-	165	-	-	3.0	6-5	57.9	2	11.3
NC+ 7507.....	-	-	160	-	-	0	6-6	57.1	3	11.3
Hy Performer HY 9919.....	-	-	146	-	-	3.0	6-3	55.2	3	11.3
Test Average.....			167.5							
L.S.D. (.05).....			21.7							
C.V. (%).....			9.2							

* Standard hybrids for comparison.

** 1= Excellent; 5= Very poor.

*** The test received approximately 11.25 inches of irrigation water in 9 applications in May, June, and July.

TABLE 15. EARLY CORN HYBRID TEST, SOUTHERN ALABAMA***, 1993-95

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1995			
	3-yr.	2-yr.	1995	3-yr.	2-yr.	1995	Midsilk	Test	Husk**	Harvest
	1993-95	1994-95	1995	1993-95	1994-95	1995	Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3245 *.....	159	165	161	0.7	1.0	1.0	5-27	56.4	3	22.8
Deltapine 4581.....	148	148	128	0	0	0	5-27	53.9	4	18.8
Zimmerman Z27.....	143	148	132	0.3	0.5	1.0	5-27	54.8	3	19.3
Pioneer 3394.....	140	148	135	0	0	0	5-25	54.8	4	19.4
Deltapine 4450.....	139	148	133	0.3	0	0	5-25	56.2	4	19.1
Zimmerman Z21.....	-	154	135	-	0.5	1.0	5-29	53.8	3	19.8
Pioneer 3163 *.....	-	-	153	-	-	2.0	5-27	55.9	4	21.3
NC+ 6959.....	-	-	155	-	-	0	5-27	56.1	3	19.3
AgraTech 787 *.....	-	-	155	-	-	0	5-28	56.3	3	19.2
Dekalb DK 668.....	-	-	152	-	-	0	5-27	55.2	3	19.4
Zimmerman Z29.....	-	-	135	-	-	1.0	5-29	54.0	2	20.1
Dyna-Gro 5510.....	-	-	129	-	-	0	5-27	54.4	3	21.1
Zimmerman Z41.....	-	-	128	-	-	1.0	5-26	53.6	3	18.8
Test Average.....			141.2							
L.S.D. (.05).....			23.5							
C.V. (%).....			11.6							

* Standard mid to late season hybrids.

** 1= Excellent; 5= Very poor.

*** Fairhope.

REPORT OF PRELIMINARY TESTS
 TABLE 16. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY
 TEST AT FAIRHOPE IN SOUTHERN ALABAMA, 1995

Brand name-hybrid	Av. Yield	Lodged	Husk**	Midsilk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	Bu.	Pct.	Rating	Mo.-Da.	Lb./Bu.	Pct.
NC+ 7665.....	132	4.0	3	6-6	54.6	24.1
Pioneer X1184M....	118	5.0	2	6-6	54.4	21.8
Pioneer X1234F....	116	2.0	3	6-8	55.8	33.1
NC+ 7117.....	115	0	3	6-6	54.8	21.3
Mycogen 8240.....	113	0	2	6-5	54.9	21.8
Mycogen 7660.....	113	0	3	6-6	54.7	20.0
AgraTech 1010.....	112	1.0	2	6-6	55.3	29.1
Dyna-Gro 5670.....	112	2.0	3	6-7	53.1	27.1
Pioneer 3163 *....	111	2.0	3	6-5	53.2	24.5
Pioneer X1134T....	110	2.0	4	6-6	55.0	23.8
Pioneer X1134M....	108	1.0	3	6-3	50.4	23.9
Greenwood 830.....	108	4.0	2	6-8	52.7	30.4
Pioneer X1194F....	105	0	2	6-9	54.5	30.3
Zimmerman Z27 *....	102	1.0	3	6-6	53.5	21.1
Pioneer 3085 *....	85	1.0	3	6-4	52.8	20.9
Test Average.....	110.5					
L.S.D. (.05).....	23.9					
C.V. (%).....	15.1					

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

TABLE 17. GROWING SEASON RAINFALL, 1993-95

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina.....	1995	3.6	4.8	1.8	2.7	3.0	3.7	7.6	27.2
	1994	8.6	2.5	5.7	7.4	3.9	1.6	4.0	33.4
	1993	6.6	3.0	4.7	3.0	2.6	5.5	5.3	30.7
Crossville.....	1995	4.4	4.2	1.5	3.4	2.5	7.8	4.1	27.9
	1994	8.3	4.3	3.8	7.1	5.9	1.6	6.3	37.3
	1993	4.5	3.9	4.4	0.8	2.3	4.2	1.8	21.9
Winfield.....	1995	6.2	9.2	1.9	1.7	7.8	4.8	2.4	34.0
	1994	7.8	3.1	4.7	9.7	7.8	3.0	3.1	39.2
	1993	5.5	2.6	6.1	8.6	0.7	3.7	4.0	31.2
Tallasse.....	1995	3.7	3.6	1.3	1.8	1.9	2.7	4.4	19.4
	1994	5.6	2.4	1.6	4.9	11.1	4.1	2.3	32.0
	1993	6.3	3.2	2.3	3.5	1.6	5.5	2.0	24.4
Shorter.....	1995	4.6	4.2	1.2	1.8	1.5	1.9	6.3	21.5
	1994	5.8	2.1	2.2	7.2	10.9	1.2	2.1	31.5
	1993	6.5	2.5	2.9	6.3	0.6	5.9	2.8	27.5

Con't

TABLE 17. GROWING SEASON RAINFALL, 1993-95

Con't

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Prattville.....	1995	4.0	4.3	2.0	2.2	1.4	2.3	2.8	19.0
	1994	4.6	3.7	1.5	5.3	7.7	1.9	4.5	29.2
	1993	5.7	2.9	2.3	2.2	2.1	6.4	0.9	22.5
Marion Junction.....	1995	5.9	5.4	1.3	1.4	1.4	5.3	6.4	27.1
	1994	8.2	3.2	1.6	5.8	7.6	1.9	4.0	32.3
	1993	5.3	2.9	3.1	1.4	2.3	6.8	3.7	25.5
Camden.....	1995	4.9	4.2	4.3	1.0	3.6	6.3	1.4	25.7
	1994	5.5	4.2	2.1	4.8	7.5	1.8	3.3	29.2
	1993	7.3	3.4	2.3	3.0	5.6	3.2	4.6	29.4
Monroeville.....	1995	4.2	5.1	4.4	1.0	7.4	10.2	0.8	32.4
	1994	4.2	6.6	7.8	8.6	10.8	2.6	3.0	43.6
	1993	6.2	3.1	3.4	2.9	8.2	7.0	1.3	32.1
Brewton.....	1995	8.3	7.5	8.3	2.9	7.9	10.1	1.9	46.8
	1994	5.5	7.5	4.4	16.6	15.2	3.2	3.5	55.9
	1993	8.8	2.1	4.2	3.1	10.7	3.8	8.3	41.0
Fairhope.....	1995	10.0	6.7	6.0	4.5	8.7	9.6	3.1	48.6
	1994	7.8	4.7	2.9	7.3	10.9	6.5	1.5	41.6
	1993	7.3	2.6	5.8	3.4	8.1	7.6	5.0	39.8
Headland.....	1995	5.2	4.5	2.8	3.8	5.3	5.2	1.7	28.5
	1994	6.5	6.9	0.6	9.4	19.4	3.6	3.5	49.9
	1993	8.5	1.6	1.3	1.7	5.3	1.5	4.8	24.7

TABLE 18. SOIL TYPES FOR CORN TRIALS, 1995

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

VIRUS DISEASE REACTIONS OF SOME HYBRIDS IN 1995

The most prevalent virus diseases of corn in Alabama are maize chlorotic dwarf (MCD), caused by the maize chlorotic dwarf virus (MCDV), and maize dwarf mosaic (MDM), caused by the maize dwarf mosaic virus (MDMV). Discovery of MDM in the State dates back to the early 1960's, while MCD has been recognized since 1973. Both diseases probably occur throughout Alabama; however, they generally have been more prevalent and damaging in the northern two-thirds of the State. In 1995, these virus diseases were not detected at any location.

Northern leaf blight, normally a cool season disease, has occurred sporadically in South Alabama for the past two seasons (1994 and 1995). It has caused serious disease losses in certain corn fields, exceeding 50% loss in yields in a few isolated cases. Disease resistant hybrids are the most economical means of dealing with this troublesome disease. Corn hybrids at the Brewton Experiment Field were rated for their reaction to northern leaf blight in 1995. The results are given in Table 19.

Why this disease has been a problem recently in Southern Alabama remains a mystery. It is normally favored by moderately temperate (i.e. 64 to 87 degrees Fahrenheit) conditions. Perhaps, the causal fungus has adapted to warmer conditions. Whether this disease will become a chronic problem or its occurrence over the past two seasons is a fluke remains to be seen.

TABLE 19. INCIDENCE OF NORTHERN LEAF BLIGHT DISEASE IN REGULAR CORN
HYBRID TEST AT BREWTON EXPERIMENT FIELD, BREWTON, ALABAMA, 1995

Brand name-hybrid	Average rating*
AgraTech 888.....	2.75
AgraTech 967.....	3.50
Cargill 8527A.....	3.50
Cargill 8936.....	4.00
Dekalb DK 714.....	2.50
Dekalb DK 706.....	2.50
Dekalb DK 689.....	2.75
Dekalb DK 683.....	2.25
Deltapine G-4666.....	3.50
Dyna-Gro 5516.....	2.00
Hy Performer HS 9944.....	2.75
Hy Performer HS 9843.....	1.75
Hy Performer HY 9919.....	4.00
Hy Performer HY 9899V.....	3.00
Mycogen 9220.....	3.75
NC+ 7507.....	7.75
Northrup King N8811.....	2.25
Northrup King N7989.....	2.25
Pioneer 3223.....	1.50
Pioneer 3167.....	3.50
Pioneer 3163.....	4.00
Pioneer 3146.....	3.00
Pioneer 3085.....	2.75
Terra TR 1185.....	2.75
Terra TR 1180.....	3.50
Terra TR 702E.....	1.75
Vigoro V1235.....	2.75
Vigoro V1165.....	3.50
Zimmerman Z27.....	2.00

*Disease rating as follows:

1=Clean, free of disease.

2=<10% of the total leaf surface with lesions.

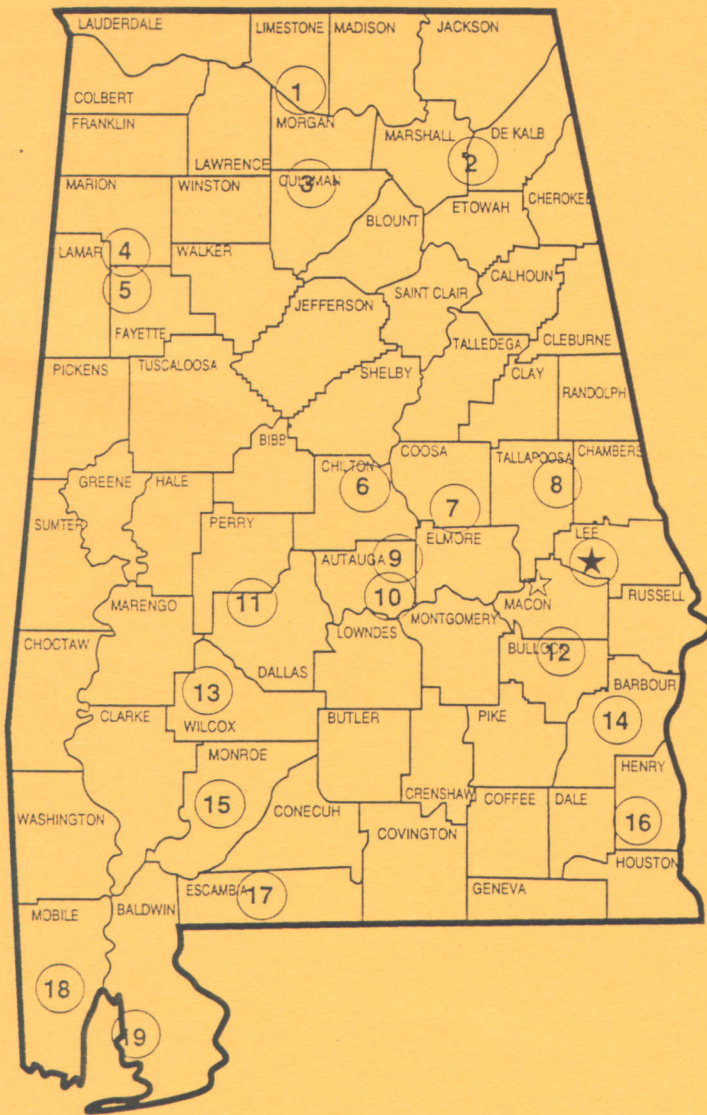
3=11-50% of the total leaf surface with lesions.

4=>50% of leaf surface covered with lesions.

SOURCES OF 1995 CORN HYBRID TEST SEED

Seed Company	Brand	Seed Company	Brand
AgraTech Seed, Inc. 5559 N. 500 W. McCordsville, IN 46055	AgraTech	NC+ Hybrids P.O. Box 4408 Lincoln, NE 68504	NC+
Cargill Hybrid Seeds Box 5645 Minneapolis, MN 55440	Cargill	Northrup King Co. 705 Woodbridge Dr. Somerville, TN 38068	Northrup King
DEKALB Genetics Corp. 3100 Sycamore Road DeKalb, IL 60115	Dekalb	Mycogen Plant Sciences P.O. Box 68 Tulia, TX 79088	Mycogen
Delta and Pine Land Co. P.O. Box 157 Scott, MS 38772	Deltapine	Pioneer Hi-Bred Int. 6767 Old Madison Pike Huntsville, AL 35806	Pioneer
Dixie Ag. Supply P.O. Box 534 Athens, AL 35611	Dyna-Gro	Terra International, Inc. 600 Fourth Street Sioux City, IA 51101	Terra
Greenwood Hybrids 8431 Davis Road Laural Hill, FL 32567	Greenwood	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

Alabama's Agricultural Experiment Station System AUBURN UNIVERSITY



★ Main Agricultural Experiment Station, Auburn.

☆ E. V. Smith Research Center, Shorter.

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