

**Evaluation
of
Corn
Hybrids
in
Alabama
1993**



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

EVALUATION OF CORN HYBRIDS IN ALABAMA, 1993

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INTRODUCTION

Selected varieties of corn hybrids are evaluated annually by the Alabama Agricultural Experiment Station as a service to producers and industry. These tests are spread throughout the state in an attempt to determine effects of different climatic factors and soil types on yield. There are several types of tests in the program. The Preliminary Hybrid Tests are conducted at one location in each of the northern, central and southern regions of the State. These tests include experimental and newly released hybrids. If a hybrid is outstanding in the preliminary test it is entered in the Regular Corn Hybrid Test in the following year.

The Regular Corn Hybrid Test is conducted at four locations in the northern region, four locations in the central region and four locations in the southern region. White and early yellow corn hybrids also are tested at one location in each region. In addition, one regular and one white corn hybrid test are irrigated at Headland in southern Alabama. Locations and cultural practices for all tests are shown in Table 1.

PROCEDURE

All tests are laid out in a randomized complete block design with four replicate plots for each variety at each location. Rows 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 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

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disease symptoms indicate crop damage, disease ratings are compiled and published in this report. Virus infection data from the tests at Belle Mina, Marion Junction, and Winfield are reported this year (Table 19 and Table 20), and are preceded by a report on the importance of the diseases, how they are rated, and the relevance of the results.

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 of 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 21) and soil types (Table 22) 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 1993 CORN HYBRID TESTS

Location	Planting date	Nitrogen rate*	Plant population	Date harvested	Herbicides used
<u>Northern Alabama</u>					
Tennessee Valley Substation (Belle Mina)	April 12	135	20,000	September 13	Atrazine/Dual
Sand Mountain Substation (Crossville)					
Early corn test	April 13	153	20,000	September 14	Atrazine/Dual
Regular test	April 14	153	20,000	September 14	Atrazine/Dual
Preliminary test	April 13	153	20,000	September 17	Atrazine/Dual
White corn test	April 14	153	20,000	September 17	Atrazine/Dual
Upper Coastal Plain Substation (Winfield)	April 14	120	20,000	October 5	Atrazine
<u>Central Alabama</u>					
E. V. Smith Research Center (Shorter)					
Early corn test	March 29	150	20,000	August 17	Atrazine/Lasso
White corn test	March 29	150	20,000	August 17	Atrazine/Lasso
Plant Breeding Unit					
(Tallassee)	March 29	173	20,000	August 20	Atrazine/Lasso
Prattville Experiment Field					
(Prattville)	March 19	120	20,000	September 7	Atrazine
Black Belt Substation					
(Marion Junction)	April 28	150	20,000	August 30	Atrazine
Lower Coastal Plain Substation					
(Camden)	April 14	120	20,000	August 25	Atrazine/Dual
<u>Southern Alabama</u>					
Brewton Experiment Field					
(Brewton)	March 11	120	20,000	September 22	Atrazine/Dual
Monroeville Experiment Field					
(Monroeville)	March 10	120	20,000	September 14	Atrazine/Dual
Wiregrass Substation (Headland)					
Regular test (unirrigated) ...	April 7	120	20,000	August 13	Atrazine
Regular test (irrigated)	April 7	200	25,000	August 31	Atrazine
White corn test (irrigated) .	April 17	200	25,000	August 31	Atrazine
Gulf Coast Substation (Fairhope)					
Early corn test	March 1	150	20,000	August 16	Atrazine/Dual
Regular test	March 29	150	20,000	August 16	Atrazine/Dual
Preliminary test	March 29	150	20,000	August 17	Atrazine/Dual

*Pounds per acre N. Lime, phosphorus, potassium, zinc, and sulfur were applied according to soil test recommendations.

TABLE 2A. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW
CORN FOR NORTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2-yr.	3-yr.	2-yr.
	1991-93	1992-93	1991-93	1992-93
	<u>Bu.</u>	<u>Bu.</u>	<u>Pct.</u>	<u>Pct.</u>
DEKALB DK 715.....	141	154	0.7	0.3
Pioneer 3140.....	139	142	2.0	2.8
Pioneer 3154.....	138	148	3.0	3.5
Pioneer 3165.....	138	146	0.8	1.0
DEKALB DK 689.....	137	143	1.7	1.8
Terra TR 1180.....	137	140	0.3	0.3
Northrup King N8727.....	134	136	1.0	1.5
Deltapine G-4666.....	132	137	0.8	1.0
Hy Performer HS 9911.....	132	142	1.2	1.0
AgraTech 888.....	132	138	1.2	1.5
Northrup King S8645.....	131	134	0.8	1.0
Zimmerman Z27.....	126	129	1.7	2.0
AgriGene AG 7935.....	-	151	-	3.5
DEKALB DK 74.....	-	150	-	3.3
Dyna-Gro 5509.....	-	149	-	1.5
Pioneer 3085.....	-	143	-	4.0
ICI 8105.....	-	141	-	0.5
Pioneer 3146.....	-	140	-	1.5
Terra TR 1167.....	-	129	-	0.8

* Belle Mina and Crossville.

TABLE 2B. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW
CORN FOR NORTHERN ALABAMA*, 1990 & 92-93

Brand name-hybrid	<u>Yield Per Acre, Av.</u>		<u>Lodged Stalks, Av.</u>	
	3-yr.	2-yr.	3-yr.	2-yr.
	1990 & 92-93	1992-93	1990 & 92-93	1992-93
	<u>Bu.</u>	<u>Bu.</u>	<u>Pct.</u>	<u>Pct.</u>
Pioneer 3140	121	123	1.3	1.5
Zimmerman Z27	116	113	4.0	6.0
Pioneer 3165	115	112	1.0	1.0
DEKALB DK 689	109	108	3.0	4.0
AgraTech 888	107	101	1.3	2.0
Deltapine G-4666	105	104	3.7	5.0
Terra TR 1180	102	100	1.3	2.0
Northrup King S8645	99	94	2.7	4.0
Northrup King N8727	93	84	3.7	5.5
Pioneer 3085	-	141	-	5.5
Pioneer 3146	-	121	-	2.5
DEKALB DK 715	-	118	-	7.0
ICI 8105	-	116	-	2.5
Terra TR 1167	-	115	-	2.0
DEKALB DK 743	-	114	-	5.0
Pioneer 3154	-	111	-	2.5
Dyna-Gro 5509	-	111	-	1.5
AgriGene AG 7935	-	110	-	10.5
Hy Performer HS 9911	-	102	-	2.0

*Winfield.

TABLE 3. 1993 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN NORTHERN ALABAMA

Brand name-hybrid	Belle Mina Bu.	Crossville Bu.	Winfield Bu.	1993 Regional Averages					
				Yield per acre Bu.	Lodged stalks Pct.	Test weight Lb./Bu.	Mid-** silk Mo.-Da.	Husk* cover Rating	Harvest moisture Pct.
Pioneer 3140	175	84	139	132	2.7	56.8	7-1	2	14.0
Pioneer 3154.....	182	94	121	132	3.0	57.6	6-30	2	13.7
Pioneer 3085	177	72	134	128	1.7	58.8	7-3	3	14.7
Pioneer 3167	160	88	122	123	1.0	58.4	7-3	2	15.1
Hy Performer HS 9773	154	79	136	123	1.3	57.0	6-30	2	13.9
DEKALB DK 715	171	75	115	120	1.0	57.7	6-29	2	13.9
AgriGene AG 7935	152	104	102	119	2.3	57.5	7-3	2	14.7
Dyna-Gro 5509 ...	166	91	102	119	1.3	58.1	6-30	2	13.7
Pioneer 3165	160	77	117	118	0.7	59.1	7-3	2	14.7
AgriGene AG 7890	152	90	106	116	1.3	58.1	7-3	2	13.4
ICI 8105.....	159	79	104	114	0.3	58.4	7-2	2	15.1
DEKALB DK 743	142	85	112	113	2.3	58.0	7-1	2	14.7
Hy Performer HS 9911	140	94	104	112	1.0	59.0	7-1	2	14.2
Northrup King N8811	158	60	116	111	0.7	59.3	7-2	2	14.7
DEKALB DK 689.....	143	87	101	110	1.3	57.6	7-2	2	14.1
Pioneer 3146	140	68	122	110	2.0	59.9	7-1	2	14.2
Dyna-Gro 5510 ...	149	79	100	109	0.3	59.5	6-29	2	13.6
Terra TR 1180.....	147	84	92	107	0.3	58.3	7-1	2	13.9
Zimmerman Z27...	146	64	111	107	1.0	58.0	7-2	2	13.2
Terra TR 700E	152	78	88	106	1.7	57.5	7-2	3	14.4
Terra TR 1167.....	142	73	103	106	0.7	58.2	7-1	2	13.1
Deltapine G-4666	141	79	95	105	1.0	58.9	7-1	2	13.7
AgraTech 888.....	131	84	87	101	1.3	57.6	7-1	2	13.7
AgraTech 757.....	130	69	103	100	1.0	58.7	7-3	2	13.1
Northrup King N8727	132	88	58	93	1.3	59.7	7-2	2	14.8
Northrup King S8645	124	77	76	92	1.3	58.6	7-1	2	13.5
Test Average	150.7	80.6	106.2						
L.S.D. (.05).....	24.4	17.2	37.2						
C.V. (%)	11.5	15.2	24.9						

*1=Excellent; 5=Very Poor.

TABLE 4. WHITE CORN HYBRID TEST, NORTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-yr.	2-yr.	1993	3-yr.	2-yr.	1993	Midsilk	Test	Husk***	Harvest
	1991-93	1992-93		1991-93	1992-93		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
Pioneer 3165**	137	143	99	0.7	0	0	7-7	54.4	1	18.1
DEKALBDK 689**	132	140	88	1.3	1.5	2.0	7-8	53.1	1	17.5
Zimmerman										
Z63W	131	140	80	2.7	3.0	5.0	7-7	55.0	1	17.4
Hy Performer										
HS 175W	125	131	83	2.0	2.0	3.0	7-8	54.8	1	18.0
Zimmerman										
Z54W	123	127	80	3.3	3.0	5.0	7-9	53.5	1	18.0
Zimmerman										
Z16W	121	126	78	2.3	2.5	5.0	7-5	55.0	1	17.9
Pioneer 3281W	116	122	77	1.3	1.0	1.0	7-9	55.6	1	17.5
Hy Performer										
HS 165W	-	131	84	-	1.5	2.0	7-7	54.1	1	16.7
Hy Performer										
HS 185W	-	124	71	-	3.5	6.0	7-7	55.1	1	17.3
Zimmerman										
Z64W	-	-	98	-	-	2.0	7-6	52.2	1	17.5
Terra TR 563E	-	-	86	-	-	0	7-7	53.9	2	17.1
Hy Performer										
HB227094W ...	-	-	81	-	-	3.0	7-7	55.6	1	17.0
Hy Performer										
HB227096W	-	-	74	-	-	2.0	7-6	55.0	1	17.1
Zimmerman										
Z27**	-	-	70	-	-	1.0	7-8	54.0	2	16.9
DEKALBDK										
703 W	-	-	66	-	-	5.0	7-7	54.3	1	17.1
Test Average			80.8							
L.S.D. (.05)			18.7							
C.V. (%)			16.2							

* Crossville.

** Yellow Corn Check Hybrid.

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

TABLE 5. EARLY CORN HYBRID TEST, NORTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-Yr.	2-Yr.	1993	3-Yr.	2-Yr.	1993	Midsilk	Test	Husk**	Harvest
	1991-93	1992-93		1991-93	1992-93		Mo./Da.	weight	cover	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Rating	Pct.
DEKALB DK										
689***	140	128	98	1.3	2.0	3.0	7-4	57.0	1	15.3
Pioneer 3165*** ..	139	128	86	0.7	1.0	2.0	7-5	56.1	1	16.0
Zimmerman Z27....	124	119	89	0.7	1.0	1.0	7-5	55.9	1	14.9
Deltapine G-4666 .	121	123	98	1.3	1.5	2.0	7-3	56.8	1	15.6
Deltapine 458	119	106	76	0.7	0.5	1.0	7-5	57.7	2	15.2
Pioneer 3245	112	101	83	1.0	1.0	2.0	7-3	56.9	2	14.6
Pioneer 3394	103	99	82	1.0	1.5	2.0	6-27	56.4	1	14.1
ICI 8315	-	114	68	-	1.0	2.0	7-4	55.8	2	14.0
Northrup King										
N6330	-	102	80	-	2.5	4.0	7-2	55.3	1	14.0
ICI 8105	-	-	89	-	-	1.0	7-4	57.3	1	15.6
ICI 8513	-	-	84	-	-	2.0	6-28	54.6	2	14.8
DEKALBDK										
646	-	-	84	-	-	0	7-1	56.4	2	14.4
Deltapine 4450	-	-	57	-	-	3.0	6-30	56.5	2	14.8
Test Average			82.5							
L.S.D. (.05)			16.4							
C.V. (%)			13.8							

* Crossville.

** 1= Excellent; 5= Very Poor.

*** Standard Mid to Late Season Hybrids.

REPORT OF PRELIMINARY TESTS
**TABLE 6. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY
 TEST AT CROSSVILLE IN NORTHERN ALABAMA, 1993**

Brand name-hybrid	Av. yield	Lodged	Husk*	Midsilk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	<u>Bu.</u>	<u>Pct.</u>	<u>Rating</u>	<u>Mo.-Da.</u>	<u>Lb./Bu.</u>	<u>Pct.</u>
ORO 188.....	108	3.0	1	7-4	55.5	16.1
DEKALB DK 689**	102	3.0	1	7-4	55.6	16.1
Pioneer 3165**	94	6.0	1	7-5	56.4	16.6
Hy Performer HS 9944	93	2.0	1	7-5	55.5	15.6
Hy Performer HS 9843	93	2.0	1	7-4	56.2	15.7
AgraTech 787	92	2.0	2	7-6	55.7	15.9
AgraTech 810	92	4.0	1	7-5	55.5	15.9
Terra TR 702E	88	2.0	1	7-5	56.0	16.0
ICI 8100	82	0	1	7-5	56.7	16.2
Northrup King X751	78	2.0	1	7-2	56.3	15.4
Zimmerman Z29	77	2.0	1	7-4	55.8	15.8
DEKALB EXP 372	77	1.0	1	7-5	56.4	16.0
Pioneer 3163	74	1.0	2	7-5	55.6	15.8
Hy Performer HS 9977	71	0	1	7-5	58.1	16.1
Zimmerman Z27**	70	3.0	1	7-4	45.7	16.1
ICI N0320	67	1.0	1	7-2	56.6	15.8
Northrup King N7989.....	67	2.0	2	7-4	56.3	16.3
Pioneer 3156	66	5.0	1	7-6	57.4	16.1
Hy Performer HS 9848	64	2.0	2	7-6	56.0	15.8
Test Average	81.7					
L.S.D. (.05)	18.4					
C.V. (%)	15.9					

* 1= Excellent; 5= Very Poor.

** Standard Hybrids for Comparison.

TABLE 7. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW
CORN FOR CENTRAL ALABAMA*, 1991-93

Brand name-hybrid	<u>Yield Per Acre, Av.</u>		<u>Lodged Stalks, Av.</u>	
	3-yr.	2-yr.	3-yr.	2-yr.
	1991-93	1992-93	1991-93	1992-93
	<u>Bu.</u>	<u>Bu.</u>	<u>Pct.</u>	<u>Pct.</u>
AgriGene AG 7935	89	76	1.7	1.8
Pioneer 3165	84	70	3.0	2.3
DEKALB DK 689	84	69	2.0	2.3
Deltapine G-4666	83	67	1.0	1.0
Pioneer 3154	81	72	5.3	5.3
Pioneer 3140	77	64	3.2	3.5
Terra TR 1167	-	80	-	1.0
Pioneer 3085	-	78	-	2.0
Pioneer 3146	-	73	-	1.3
Dyna-Gro 5509	-	72	-	1.0

* Prattville and Camden.

TABLE 8. 1993 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN CENTRAL ALABAMA

Brand name-hybrid	1993 Regional Averages							
	Prattville	Camden	Yield per acre	Lodged stalks	Test weight	Midsilk	Husk* cover	Harvest moisture
	<u>Bu.</u>	<u>Bu.</u>	<u>Bu.</u>	<u>Pct.</u>	<u>Lb./Bu.</u>	<u>Mo.-Da.</u>	<u>Rating</u>	<u>Pct.</u>
Pioneer 3085	32	56	44	2.0	57.8	6-18	2	12.8
Pioneer 3154	52	35	44	7.5	57.0	6-16	2	13.4
AgriGene AG 7935	49	37	43	2.0	55.6	6-17	3	12.1
Pioneer 3167	38	46	42	2.5	55.9	6-18	2	12.5
Dyna-Gro 5509	51	26	39	2.0	55.7	6-15	2	12.6
Terra TR 1167	37	40	38	2.0	56.3	6-17	2	12.2
Terra TR 700E	48	25	37	4.0	55.8	6-17	3	12.4
AgriGene AG 7885	47	26	36	3.0	54.9	6-18	3	12.6
Northrup King S8645	37	33	35	3.5	56.3	6-17	2	12.5
Dyna-Gro 5510	45	23	34	1.0	56.2	6-15	3	13.0
Pioneer 3140	44	24	34	6.5	53.6	6-17	3	12.0
ICI 8105	34	31	33	2.0	59.6	6-18	2	13.1
Pioneer 3146	37	28	32	2.0	57.5	6-17	3	12.9
DEKALB DK 689	43	21	32	4.0	56.2	6-17	2	12.8
Zimmerman Z27	44	17	30	3.5	53.8	6-18	3	12.2
Terra TR 1180	34	26	30	2.5	56.2	6-17	2	12.1
Pioneer 3165	35	18	27	4.5	55.4	6-18	3	12.8
Deltapine G-4663	31	22	26	2.0	55.4	6-16	3	12.8
Test Average	40.9	29.6						
L.S.D. (.05)	12.7	16.9						
C.V. (%)	22.0	40.4						

* 1= Excellent; 5= Very Poor.

Yield reduction occurred at Camden due to severe bird damage.

TABLE 9. WHITE CORN HYBRID TEST, CENTRAL ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993		
	3-yr.	2-yr.	1993	3-yr.	2-yr.	1993	Midsilk Test	Harvest	
	1991-93	1992-93		1991-93	1992-93		weight	moisture	
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo./Da.	Lb./Bu.	Pct.
Zimmerman Z63W	131	125	81	4.7	7.0	11.0	6-22	56.0	7.5
Zimmerman Z54W	129	123	85	4.7	6.0	11.0	6-23	54.6	7.2
DEKALB DK 689**	129	122	91	1.7	2.5	4.0	6-23	55.0	7.0
Pioneer 3165**	126	114	67	4.3	6.5	12.0	6-25	56.6	6.3
Hy Performer HS 175W.....	122	121	83	5.0	7.0	13.0	6-25	54.6	6.3
Pioneer 3281W	121	114	78	1.0	1.5	3.0	6-24	57.9	7.9
Zimmerman Z16W	115	110	72	3.0	4.0	8.0	6-21	56.2	6.6
Hy Performer HS 165W.....	-	116	79	-	1.5	3.0	6-22	55.8	6.8
Hy Performer HS 185W.....	-	114	69	-	4.5	8.0	6-21	56.4	7.0
Zimmerman Z64W	-	-	86	-	-	2.0	6-23	55.0	6.0
Asgrow RX 951	-	-	82	-	-	13.0	6-26	57.7	6.5
Asgrow RX 959W	-	-	77	-	-	7.0	6-27	56.9	7.2
Terra TR 563E	-	-	75	-	-	3.0	6-21	55.6	6.7
DEKALB DK 703 W	-	-	73	-	-	9.0	6-21	56.9	7.5
Zimmerman Z27**	-	-	67	-	-	5.0	6-23	54.7	6.3
Test Average			77.4						
L.S.D. (.05).....			16.4						
C.V. (%)			14.8						

* Shorter.

** Yellow Corn Check Hybrid.

TABLE 10. EARLY CORN HYBRID TEST, CENTRAL ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993		
	3-yr.	2-yr.	1993	3-yr.	2-yr.	1993	Midsilk	Test	Harvest
	1991-93	1992-93	1993	1991-93	1992-93	1993	Mo./Da.	weight	moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.		Lb./Bu.	Pct.
DEKALB DK 689**	133	120	62	2.3	3.5	7.0	6-25	54.6	7.2
Pioneer 3245	127	116	58	1.3	2.0	4.0	6-22	58.5	7.5
Deltapine G-4666	123	115	72	0.3	0.5	1.0	6-22	55.9	6.9
Zimmerman Z27	121	111	54	2.0	2.5	5.0	6-24	54.4	6.6
Pioneer 3165**	120	110	48	3.0	4.0	8.0	6-23	55.0	7.8
Deltapine 4581	113	103	53	1.3	1.5	3.0	6-23	55.8	6.7
Pioneer 3394	112	101	40	1.7	2.5	5.0	6-18	56.1	6.8
ICI 8315	-	116	60	-	3.5	6.0	6-24	54.6	6.5
ICI 8105	-	-	55	-	-	2.0	6-22	57.8	7.2
ICI 8513	-	-	46	-	-	2.0	6-17	54.4	7.4
Deltapine 4450	-	-	33	-	-	2.0	6-18	55.8	6.9
Test Average			52.6						
L.S.D. (.05)			13.4						
C.V. (%)			17.7						

* Shorter.

** Standard Mid to Late Season Hybrids.

Substantial yield reduction occurred due to wildlife damage.

REPORT OF PRELIMINARY TESTS
 TABLE 11. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY TEST
 AT TALLASSEE IN CENTRAL ALABAMA, 1993

Brand name-hybrid	Av. yield	Lodged	Husk*	Midsilk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	<u>Bu.</u>	<u>Pct.</u>	<u>Rating</u>	<u>Mo.-Da.</u>	<u>Lb./Bu.</u>	<u>Pct.</u>
Terra TR 702E	143	1.0	3	6-22	56.9	11.3
Hy Performer HS 9944	143	1.0	2	6-24	56.4	11.1
Pioneer 3165**	138	1.0	3	6-22	57.3	11.8
DEKALB DK 689**	137	2.0	3	6-22	56.5	13.6
Pioneer 3163	137	3.0	4	6-18	56.5	12.3
Hy Performer HS 9848	131	1.0	3	6-20	56.4	9.9
Hy Performer HS 9843	129	0	3	6-17	56.9	8.7
Zimmerman Z27**	125	5.0	4	6-22	56.2	11.1
Hy Performer HS 9977	122	0	3	6-22	58.9	10.5
Zimmerman Z29	122	0	3	6-21	57.6	9.5
ORO 188	114	2.0	3	6-15	56.6	9.7
Pioneer 3156	114	1.0	2	6-19	55.4	14.0
ICI 8100	106	0	4	6-24	58.0	10.2
Test Average	127.8					
L.S.D. (.05)	25.0					
C.V. (%)	13.7					

* 1= Excellent; 5= Very Poor.

** Standard Hybrids for Comparison.

TABLE 12. BLACK BELT CORN HYBRID/VIRUS TEST*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-yr.	2-yr.	1993	3-yr.	2-yr.	1993	Midsilk Test	Husk**	Harvest	
	1991-93	1992-93		1991-93	1992-93		weight	cover	moisture	
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
Pioneer 3085	100	97	41	6.3	9.5	4.0	7-3	-	2	16.5
Pioneer 3165	97	95	40	5.7	8.0	4.0	7-6	-	2	13.7
DEKALBDK										
689	95	90	40	4.3	6.5	4.0	7-3	-	2	13.5
AgriGene AG										
7935	92	89	39	4.7	6.0	4.0	7-7	-	2	13.6
Jacques 9220	91	91	39	4.0	5.5	4.0	7-5	-	2	14.2
DEKALBDK										
743	-	94	39	-	5.5	4.0	7-4	-	2	14.0
Pioneer 3154	-	90	42	-	8.0	4.0	7-1	-	2	16.3
Deltapine 4682	-	77	35	-	4.5	3.0	7-7	-	1	12.4
Pioneer 3146	-	-	50	-	-	5.0	7-3	-	2	14.3
Pioneer 3167	-	-	48	-	-	4.0	7-2	-	2	16.3
Pioneer 3140	-	-	42	-	-	5.0	7-1	-	3	15.3
Pioneer 3156	-	-	42	-	-	4.0	7-6	-	1	14.3
ICI 8105	-	-	41	-	-	4.0	7-5	-	2	14.5
Terra TR 1167	-	-	39	-	-	4.0	7-8	-	2	14.1
Dyna-Gro 5510	-	-	37	-	-	3.0	7-2	-	2	14.9
Deltapine G-4666	-	-	37	-	-	3.0	7-5	-	2	13.0
Dyna-Gro 5509	-	-	36	-	-	3.0	7-5	-	2	15.4
Deltapine 8695	-	-	36	-	-	5.0	7-5	-	2	13.3
Terra TR 700E	-	-	36	-	-	4.0	7-6	-	2	14.9
Terra TR 1180	-	-	35	-	-	4.0	7-5	-	2	13.3
Zimmerman Z27	-	-	34	-	-	3.0	7-8	-	3	12.4
Cargill 8936	-	-	32	-	-	4.0	7-6	-	2	14.5
AgriGene AG										
7885	-	-	32	-	-	4.0	7-7	-	2	14.0
ICI 8120	-	-	31	-	-	4.0	7-5	-	2	13.7
Northrup King										
S8645	-	-	27	-	-	4.0	7-6	-	2	11.6
Test Average			37.9							
L.S.D. (.05)			5.9							
C.V. (%)			11.0							

* Marion Junction. See Table 19 & 20 for virus disease reactions.

** 1= Excellent; 5= Very Poor.

TABLE 13. TWO- AND THREE-YEAR YIELD AND LODGING AVERAGES FOR YELLOW
CORN FOR SOUTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.		Lodged Stalks, Av.	
	3-yr.	2 -yr.	3-yr.	2-yr.
	1991-93	1992-93	1991-93	1992-93
	<u>Bu.</u>	<u>Bu.</u>	<u>Pct.</u>	<u>Pct.</u>
Jacques 9220	108	102	7.6	10.1
AgraTech 888.....	107	100	3.4	4.9
Northrup King S8645	106	99	2.8	4.1
Terra TR 1180.....	105	95	3.0	4.3
AgriGene AG 7935	105	95	5.5	7.9
Deltapine G-4666	104	98	2.5	3.6
Dekalb DK 689	103	96	4.7	6.5
Deltapine DP 5750.....	102	96	3.0	4.4
Cargill 9027.....	99	94	4.4	6.5
Pioneer 3165	99	93	4.5	6.1
Hy Performer HS-9911	98	98	2.7	3.6
Northrup King N8727	97	88	2.2	3.1
Pioneer 3085	97	86	3.9	5.3
Dekalb DK 715	93	86	3.3	4.6
NC+ 7507	91	82	5.8	7.3
Dekalb DK 743	-	94	-	6.8
Terra TR 1167.....	-	91	-	4.4
Dyna-Gro 5509	-	91	-	2.6
Zeneca 8105	-	89	-	3.4
Pioneer 3146	-	85	-	3.8

* Fairhope, Brewton, Monroeville, and Headland.

TABLE 14. 1993 YIELD OF CORN HYBRIDS BY LOCATION AND REGIONAL AVERAGES OF HYBRID CHARACTERISTICS IN SOUTHERN ALABAMA

Brand name-hybrid	Fairhope	Brewton	Monroeville	Headland	1993 Regional Averages					
					Yield per acre	Lodged stalks	Test weight	Mid-silk	Husk* cover	Harvest moisture
	Bu.	Bu.	Bu.	Bu.	Bu.	Pct.	Lb./Bu.	Mo.-Da.	Rating	Pct.
Jacques 9220	15	113	121	39	106	2.8	55.4	6-15	3	16.6
Terra TR 700E	138	123	119	36	104	2.8	54.9	6-15	3	16.2
AgriGene AG 7935 ..	134	111	104	47	99	4.8	56.6	6-14	2	16.1
Pioneer 3167	126	134	89	36	96	4.0	55.7	6-15	2	16.3
AgraTech 888	136	98	107	41	92	2.0	57.4	6-15	2	15.8
Deltapine DP 5750 ..	124	115	99	27	91	3.3	56.7	6-14	2	16.0
DEKALBDK 743	130	103	92	39	91	2.5	56.0	6-16	3	16.5
Northrup King										
S8645	120	114	88	38	90	3.0	56.5	6-14	2	15.9
Hy Performer										
HS 9911	133	102	90	33	89	1.5	56.2	6-14	2	15.7
Cargill 9027	133	100	91	32	89	3.8	56.6	6-13	3	15.9
Pioneer 3165	139	91	90	36	89	6.0	56.1	6-16	3	16.4
DEKALBDK 689	143	97	71	42	88	3.8	55.4	6-15	2	16.2
ICI 8105	122	124	76	26	87	2.0	57.1	6-16	2	16.5
Deltapine 4742	136	105	81	24	86	1.8	56.6	6-15	2	16.6
Terra TR 1167.....	136	97	66	43	86	1.3	55.1	6-14	2	15.6
Northrup King										
N8811	147	90	72	31	85	2.0	57.1	6-15	2	16.2
Dyna-Gro 5509	133	103	64	38	84	0.5	56.0	6-12	3	16.0
Pioneer 3085	125	107	73	33	84	5.3	56.4	6-17	2	16.5
Terra TR 1180	115	108	81	32	84	2.0	56.0	6-16	2	15.9
Hy Performer HS										
9773	136	86	70	42	83	7.3	55.4	6-13	3	15.7
Zimmerman Z27	142	88	67	35	83	2.8	54.7	6-15	2	15.5
Dyna-Gro 5510	126	94	76	35	83	2.0	56.7	6-14	3	16.0
DEKALBDK 715	136	90	86	18	81	2.5	54.2	6-15	3	15.2
Asgrow RX 899	127	91	58	46	80	1.5	55.2	6-14	3	15.5
Northrup King										
N8727	124	91	72	34	80	2.5	57.8	6-15	2	16.0
Pioneer 3146	136	73	61	30	75	3.0	57.4	6-15	2	16.0
AgraTech 757	118	73	58	39	72	1.5	55.7	6-14	3	15.5
Test Average	131.8	101.0	81.4	35.3						
L.S.D. (.05	24.7	32.7	20.2	20.1						
C.V. (%)	13.3	23.0	17.6	40.4						

* 1= Excellent; 5= Very Poor.

TABLE 15. IRRIGATED CORN HYBRID PERFORMANCE AND CHARACTERISTICS,
HEADLAND, ALABAMA, 1991-93*

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-yr. 1991-93	2-yr. 1992-93	1993	3-yr. 1991-93	2-yr. 1993 1992-93		Midsilk	Test weight	Husk** cover	Harvest moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo.-Da.	Lb./Bu.	Rating	Pct.
DEKALB DK										
689	167	164	179	4.3	0.5	0	6-13	56.8	3	15.0
Jacques 9220	166	154	165	6.3	5.0	0	6-10	56.2	2	15.0
Deltapine G-4666 .	164	158	162	9.3	8.5	13.0	6-11	58.4	2	15.0
Hy Performe										
HS 9911	163	157	166	4.0	3.0	5.0	6-12	58.2	2	15.0
AgraTech 888.....	159	156	172	5.3	4.5	8.0	6-16	57.3	1	15.0
Deltapine DP										
5750	159	152	167	5.3	6.0	6.0	6-16	57.9	2	15.0
AgriGene AG										
7935	155	151	165	5.3	3.0	0	6-14	56.9	3	15.0
Terra TR 1180.....	155	152	164	2.3	2.0	4.0	6-11	58.4	2	15.0
Northrup King										
S8645	153	139	144	2.0	1.5	1.0	6-10	58.5	2	15.0
Northrup King										
N8727.	150	151	147	2.7	2.0	3.0	6-14	58.4	3	15.0
Cargill 9027.....	147	147	149	7.7	5.5	3.0	6-11	56.7	2	15.0
Pioneer 3085	139	133	128	14.7	17.0	13.0	6-11	56.3	2	15.0
DEKALB										
DK 715	138	134	113	1.3	1.0	1.0	6-10	56.1	3	15.0
NC+ 7507	138	125	130	9.3	7.5	5.0	6-16	54.5	3	15.0
Pioneer 3165	135	128	129	15.0	15.5	9.0	6-16	55.1	3	15.0
Pioneer 3146	-	154	158	-	3.0	5.0	6-14	58.0	2	15.0
ICI 8105	-	153	159	-	1.0	0	6-16	59.2	2	15.0
DEKALB										
DK 743.....	-	153	168	-	5.0	5.0	6-11	57.2	2	15.0
Terra TR 1167.....	-	151	157	-	9.0	12.0	6-10	56.8	3	15.0
Dyna-Gro 5509	-	134	142	-	2.5	4.0	6-11	56.5	2	15.0
Terra TR 700E	-	-	173	-	-	9.0	6-13	56.8	1	15.0
AgraTech 757.....	-	-	158	-	-	15.0	6-14	56.5	2	15.0
Northrup King										
N8811	-	-	150	-	-	4.0	6-16	58.5	3	15.0
Hy Performer										
HS 9773	-	-	147	-	-	6.0	6-11	55.2	3	15.0
Asgrow RX 899 ...	-	-	147	-	-	4.0	6-16	56.3	4	15.0
Pioneer 3167	-	-	143	-	-	2.0	6-14	56.4	3	15.0
Deltapine 4742	-	-	136	-	-	5.0	6-11	59.3	2	15.0
Zimmerman Z27.....	-	-	128	-	-	2.0	6-16	55.3	3	15.0
Dyna-Gro 5510	-	-	122	-	-	6.0	6-13	57.1	3	15.0
Test Average			150.5							
L.S.D. (.05).....			38.8							
C.V. (%)			18.3							

* The test received approximately 13.75 inches of irrigation water in 11 applications during the months of June and July.

** 1= Excellent; 5= Very Poor.

TABLE 16. WHITE CORN HYBRID TEST, SOUTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-yr. 1991-93	2-yr. 1992-93	1993	3-yr. 1991-93	2-yr. 1992-93	1993	Midsilk	Test	Husk**	Harvest
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo./Da.	Lb./Bu.	Rating	Pct.
DEKALBDK 689** .	155	149	169	4.7	5.5	6.0	6-12	57.1	2	15.0
ZimmermanZ63W	153	148	153	4.7	5.0	4.0	6-11	58.1	1	15.0
ZimmermanZ16W	139	132	135	3.3	3.0	2.0	6-10	59.8	1	15.0
Pioneer 3281W.....	135	128	141	2.3	3.0	3.0	6-14	59.0	3	15.0
ZimmermanZ54W	131	124	129	4.0	5.0	2.0	6-16	57.5	2	15.0
Pioneer 3165**	130	125	141	9.3	9.0	17.0	6-16	55.9	2	15.0
Hy Performer										
HS 175W	125	117	119	3.3	4.5	2.0	6-16	57.2	2	15.0
Hy Performer										
HS 165W	-	145	147	-	2.5	1.0	6-14	57.9	3	15.0
Hy Performer										
HS 185W	-	138	144	-	2.0	0	6-11	59.5	2	15.0
ZimmermanZ64W	-	-	158	-	-	0	6-10	58.3	1	15.0
ZimmermanZ27**	-	-	146	-	-	5.0	6-14	55.9	3	15.0
DEKALBDK										
703 W	-	-	141	-	-	3.0	6-13	59.6	3	15.0
Terra TR 563E	-	-	138	-	-	12.0	6-14	58.7	2	15.0
Asgrow RX 951	-	-	135	-	-	1.0	6-11	60.7	2	15.0
Asgrow RX 959W.....	-	-	134	-	-	1.0	6-11	59.7	1	15.0
Test Average			141.9							
L.S.D. (.05)			32.9							
C.V. (%)			16.2							

* Headland. The test received approximately 13.75 inches of irrigation water in 11 applications during the months of June and July.

** Yellow Corn Check Hybrid.

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

TABLE 17. EARLY CORN HYBRID TEST, SOUTHERN ALABAMA*, 1991-93

Brand name-hybrid	Yield Per Acre, Av.			Lodged Stalks, Av.			1993			
	3-yr. 1991-93	2-yr. 1992-93	1993	3-yr. 1991-93	2-yr. 1992-93	1993	Midsilk	Test weight	Husk** cover	Harvest moisture
	Bu.	Bu.	Bu.	Pct.	Pct.	Pct.	Mo./Da.	Lb./Bu.	Rating	Pct.
DEKALB										
DK 689***	116	138	153	0	0	0	6-3	55.5	3	19.9
Deltapine 4581	107	136	149	0	0	0	6-1	56.0	3	16.4
Deltapine G-4666	101	126	137	0	0	0	6-1	56.8	3	17.7
Pioneer 3165***	99	125	137	0.3	0.5	1.0	6-4	56.0	3	20.2
Zimmerman Z27	98	126	133	0	0	0	6-1	54.4	3	17.4
Pioneer 3245	98	130	146	0	0	0	6-1	57.2	3	17.1
Pioneer 3394	86	117	124	0	0	0	5-29	53.7	3	16.2
ICI 8315	-	128	138	-	0	0	6-1	53.6	3	16.2
ICI 8105	-	-	137	-	-	1.0	6-2	56.7	3	18.1
Deltapine 4450	-	-	123	-	-	1.0	5-30	54.5	3	17.3
ICI 8513	-	-	122	-	-	0	5-28	52.7	4	16.5
NC+ 5037	-	-	119	-	-	0	5-31	52.0	3	16.7
Test Average			134.7							
L.S.D. (.05)			27.5							
C.V. (%)			14.2							

* Fairhope.

** 1= Excellent; 5= Very Poor.

*** Standard Mid to Late Season Hybrids.

REPORT OF PRELIMINARY TESTS
 TABLE 18. CHARACTERISTICS OF CORN HYBRIDS TESTED ONE YEAR IN PRELIMINARY
 TEST AT FAIRHOPE IN SOUTHERN ALABAMA, 1993

Brand name-hybrid	Av. Yield	Lodged	Husk*	Midsilk	Test	Harvest
	per acre	stalks	cover		weight	moisture
	<u>Bu.</u>	<u>Pct.</u>	<u>Rating</u>	<u>Mo.-Da.</u>	<u>Lb./Bu.</u>	<u>Pct.</u>
Deltapine 7077X	136	6.0	2	6-14	56.0	20.7
Terra TR 702E	133	1.0	3	6-11	55.2	20.5
Hy Performer HS 9843	131	5.0	3	6-9	56.1	19.0
ICI 8100	131	16.0	3	6-11	56.1	20.9
Pioneer 3163	130	6.0	3	6-12	54.7	20.4
NC+ 6959	129	8.0	3	6-9	56.4	18.9
DEKALB EXP 372	129	8.0	3	6-10	55.0	21.5
Zimmerman Z29	125	6.0	3	6-11	55.5	18.9
Cargill 8527A	124	9.0	3	6-12	56.7	19.8
AgraTech 3954	123	3.0	3	6-11	53.5	20.9
Hy Performer HS 9944	123	12.0	3	6-13	55.0	19.9
Asgrow RX 897	119	9.0	3	6-10	56.6	18.8
DEKALB DK 689**	118	4.0	3	6-13	53.8	20.9
NC+ 7665	118	10.0	3	6-14	55.3	18.4
Hy Performer HS 9848	117	1.0	3	6-11	57.0	18.7
Cargill 8527	117	7.0	2	6-10	57.6	19.8
Northrup King N7989	117	9.0	3	6-10	56.0	18.9
Northrup King X751	116	15.0	3	6-9	56.0	19.1
Deltapine 6157X	113	17.0	3	6-10	55.1	19.4
Hy Performer HS 9977	111	7.0	3	6-11	56.9	20.0
Cargill 8936	110	5.0	3	6-11	53.7	21.0
Pioneer 3165**	110	25.0	3	6-15	56.3	19.5
Zimmerman Z27**	104	18.0	3	6-10	55.5	18.3
AgraTech 810	99	3.0	3	6-11	55.5	19.1
Asgrow RX 919	96	19.0	3	6-10	56.5	19.9
ORO 188.....	87	22.0	3	6-12	55.7	19.4
Test Average	117.7					
L.S.D. (.05)	30.9					
C.V. (%)	18.6					

* 1= Excellent; 5= Very Poor.

** Standard Hybrids for Comparison.

Lodging moderate due to several heavy thunderstorms.

VIRUS DISEASE REACTIONS OF SOME HYBRIDS IN 1993

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.

Symptoms of the two diseases are similar in appearance and sometimes difficult to distinguish. Generally, affected plants are chlorotic or discolored and may be stunted. Leaves of MDM diseased plants show an irregular, light and dark green mosaic or mottle; the initial symptom of MCD is a fine, chlorotic streaking over the smallest veins.

The causal viruses are spread by feeding activities of insects. MCDV is transmitted by certain leafhoppers, and MDMV is carried by some aphids. Both viruses have similar host ranges among a variety for wild and cultivated grasses. Johnsongrass is an important over-season or reservoir host for the viruses, and MCD and MDM incidence and damage are high in corn fields that are heavily infested with johnsongrass.

Use of resistant or tolerant corn hybrids and the control or avoidance of johnsongrass-infested areas are the most practical controls for MCD and MDM. Commercial and experimental hybrids are evaluated yearly to identify resistant hybrids or promising sources of resistance to the diseases. Results of evaluations of some commercial hybrids during 1993 are summarized in this report.

PROCEDURE

Virus disease ratings were made on entries in the corn hybrid tests at the Prattville Experiment Field, Prattville, the Black Belt Substation, Marion Junction; the Sand Mountain Substation, Crossville; the Tennessee Valley Substation, Belle Mina; and the Upper Coastal Plain Substation, Winfield. Plants showing symptoms of MCD and/or MDM were counted, and data are reported as percent incidence of the diseases for each hybrid.

RESULTS

Levels of MCD and MDM were insufficient for any meaningful ratings at the Prattville Experiment Field and the Sand Mountain Substation, and they generally were low in the tests at the other locations, tables 19 and 20. Incidence for MCD across all the tests ranged from 0 to 26.1%, and averaged 2.25%; levels of MDM ranged from 0 to 2.0%, and averaged 0.30%. Several hybrids at all locations showed no symptoms of either disease.

Although virus disease incidence was generally low, hybrids showing relatively greater resistance or tolerance were apparent at all locations. Presumably, hybrids would retain their relative ranking under conditions of higher incidence of the diseases. When selecting a hybrid, virus disease reactions should be taken into account for areas where the diseases are known or suspected to occur, along with yield and other characteristics given elsewhere in this report.

TABLE 19. INCIDENCE OF MAIZE CHLOROTHIC DWARF VIRUS DISEASE IN REGULAR CORN HYBRID TESTS, 1993

Brand Name-Hybrid	Belle Mina	Marion Junction	Winfield
	<u>Pct.</u>	<u>Pct.</u>	<u>Pct.</u>
AgraTech 757	4.02	-	1.75
AgraTech 888	1.21	-	2.08
AgriGene 7890	1.61	-	0.00
AgriGene AG 7935	1.25	4.70	1.50
Cargill 8936	-	1.79	-
DEKALB DK 715	0.89	-	3.48
DEKALB DK 689	0.00	0.00	0.00
DEKALB DK 743	0.00	5.06	0.00
Deltapine 4682	-	4.89	-
Deltapine 8695	-	0.00	-
Deltapine G-4666	1.75	5.36	3.71
Dyna-Gro 5509	0.78	0.00	1.12
Dyna-Gro 5510	1.62	0.00	0.98
Hy Performer HS 9773	0.85	-	0.97
Hy Performer HS 9911	1.56	-	2.85
Jacques 9220	-	0.00	-
Northrup King N8727	1.53	-	4.95
Northrup King N8811	2.10	-	1.17
Northrup King S8645	2.94	26.14	0.52
Pioneer 3085	2.16	10.20	1.16
Pioneer 3140	0.42	1.47	0.00
Pioneer 3146	1.63	3.14	3.07
Pioneer 3154	0.00	0.00	0.38
Pioneer 3156	-	1.92	-
Pioneer 3165	1.59	11.85	0.60
Pioneer 3167	1.69	0.00	0.00
Terra TR 1167	3.40	2.94	1.69
Terra TR 700E	2.66	0.00	0.68
ICI 8105	0.82	7.14	0.91
ICI 8120	-	0.00	-
Zimmerman Z27	3.34	1.72	3.52

TABLE 20. INCIDENCE OF MAIZE DWARF MOSAIC VIRUS DISEASE IN REGULAR CORN HYBRID TESTS, 1993

Brand Name-Hybrid	Belle Mina	Marion Junction	Winfield
	<u>Pct.</u>	<u>Pct.</u>	<u>Pct.</u>
AgraTech 757	2.01	-	0.38
AgraTech 888	0.42	-	0.00
AgriGene 7885	-	0.00	-
AgriGene 7890	0.42	-	0.00
AgriGene AG 7935	0.83	0.00	0.66
Cargill 8936	-	0.00	-
DEKALB DK 715	0.00	0.00	0.00
DEKALB DK 743	0.00	0.00	0.00
Deltapine 8695	-	0.00	-
Deltapine G-4666	0.86	0.00	0.69
Dyna-Gro 5509	0.00	0.00	0.00
Hy Performer HS 9773	0.39	-	0.94
Jacques 9220	-	0.00	-
Northrup King N8727	0.41	-	0.46
Northrup King N8811	0.00	-	0.00
Northrup King S8645	1.25	0.00	0.00
Pioneer 3085	0.00	0.00	1.21
Pioneer 3140	0.00	0.00	0.49
Pioneer 3146	0.38	0.00	0.68
Pioneer 3154	0.00	0.00	0.00
Pioneer 3156	-	0.00	-
Pioneer 3165	0.40	0.00	0.00
Pioneer 3167	0.43	0.00	0.00
Terra TR 1167	0.00	0.00	0.83
Terra TR 1180	0.00	0.00	0.00
Terra TR 700E	0.00	0.00	1.33
ICI 8105	1.19	0.00	1.82
ICI 8120	-	0.00	-
Zimmerman Z27	0.76	0.00	1.39

TABLE 21. GROWING SEASON RAINFALL, 1991-93

Test location	Year	Monthly rainfall (inches)							7-month total
		Mar.	Apr.	May	June	July	Aug.	Sept.	
Belle Mina	1993	6.6	3.0	4.7	3.0	2.6	5.5	5.3	30.7
	1992	4.8	1.8	2.3	9.0	6.3	4.3	5.2	33.7
	1991	8.0	9.0	9.5	1.8	2.1	2.0	3.7	36.1
Crossville	1993	4.5	3.9	4.4	0.8	2.3	4.2	1.8	21.9
	1992	4.2	2.2	2.1	5.7	5.5	4.5	4.3	28.5
	1991	5.6	6.2	4.9	5.5	2.9	3.1	3.2	31.4
Winfield	1993	5.5	2.6	6.1	8.6	0.7	3.7	4.0	31.2
	1992	3.9	1.5	1.1	4.5	8.4	5.2	2.3	26.9
	1991	4.8	14.8	15.0	4.5	1.9	2.9	3.1	47.0
Tallassee	1993	6.3	3.2	2.3	3.5	1.6	5.5	2.0	24.4
	1992	4.2	2.8	0.7	4.1	5.1	2.8	2.7	22.4
	1991	7.5	3.1	4.3	4.2	9.0	4.3	2.5	34.9
Shorter	1993	6.5	2.5	2.9	6.3	0.6	5.9	2.8	27.5
	1992	3.6	2.8	1.7	3.4	7.4	5.1	2.9	26.9
	1991	8.8	3.4	4.8	6.4	2.7	3.8	1.8	31.7
Prattville	1993	5.7	2.9	2.3	2.2	2.1	6.4	0.9	22.5
	1992	3.3	3.9	1.7	4.1	6.1	3.0	2.4	24.5
	1991	5.5	5.1	11.7	5.4	3.8	2.9	2.6	37.0
Marion Junction	1993	5.3	2.9	3.1	1.4	2.3	6.8	3.7	25.5
	1992	3.1	3.2	1.7	3.8	5.5	2.7	4.2	24.2
	1991	3.8	6.1	8.1	3.3	4.3	3.9	2.9	32.4
Camden	1993	7.3	3.4	2.3	3.0	5.6	3.2	4.6	29.4
	1992	2.9	2.8	1.4	6.4	5.9	4.7	4.0	28.1
	1991	6.9	6.8	11.2	2.8	5.6	1.9	2.8	38.0
Monroeville	1993	6.2	3.1	3.4	2.9	8.2	7.0	1.3	32.1
	1992	4.2	3.2	2.2	8.5	5.8	11.6	2.6	38.1
	1991	7.2	5.5	12.4	5.7	6.9	6.8	2.0	46.5
Brewton	1993	8.8	2.1	4.2	3.1	10.7	3.8	8.3	41.0
	1992	3.9	3.4	2.2	4.3	5.0	7.7	6.4	32.9
	1991	5.7	5.0	11.9	8.6	7.0	3.6	2.4	45.2
Fairhope	1993	7.3	2.6	5.8	3.4	8.1	7.6	5.0	39.8
	1992	2.9	2.7	2.4	4.6	5.0	6.2	1.4	25.2
	1991	4.9	9.1	13.8	5.9	8.6	6.7	3.1	52.1
Headland	1993	8.5	1.6	1.3	1.7	5.3	1.5	4.8	24.7
	1992	7.5	0.6	2.5	3.8	7.4	4.9	0.4	27.1
	1991	9.4	3.3	8.8	3.1	5.8	5.6	2.7	38.7

TABLE 22. SOIL TYPES FOR CORN TRIALS, 1993

Test location	Soil type
Belle Mina.....	Decatur silt loam
Crossville	Wynnvillevine 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

SOURCE OF 1993 CORN HYBRID TEST SEED

<u>Seed Company</u>	<u>Brand</u>	<u>Seed Company</u>	<u>Brand</u>
AgraTech Seed, Inc. 5559 N. 500 W. McCordsville, IN 46055	AgraTech	NC + Hybrid Box 4408 Lincoln, NE 68504	NC+
Asgrow Seed Co. 7000 Portage Road Kalamazoo, MI 49001	Asgrow	Northrup King Co. 705 Woodbridge Dr. Somerville, TN 367068	Northrup King
Cargill Hybrid Seeds Box 5645 Minneapolis, MN 55440	Cargill	Mycogen Plant Sciences 624 27th Street Lubbock, TX 79404	Jacques ORO AgriGene
DEKALB Plant Genetics 3100 Sycamore Road DeKalb, IL 60115	DEKALB	Pioneer Hi-Bred Int. 1000 W. Jefferson St. Tipton, IN 46072	Pioneer
Delta and Pine Land Co. P. O. Box 157 Scott, MS 38772	Deltapine	Terra International, Inc. 600 Fourth Street Sioux City, IA 51101	Terra
Dixie Ag. Supply P. O. Box 534 Athens, AL 35611	Dyna-Gro	ICI Seeds P.O. Box 8127 Dothan, AL 36304	ICI
Hy Performer Seed Co. 6075 Poplar Ave. Memphis, TN 38119	Hy Performer	Aimmerman Hybrids, Inc 5147 W. Franklin Rd. Evansville, IN 47711	Zimmerman

