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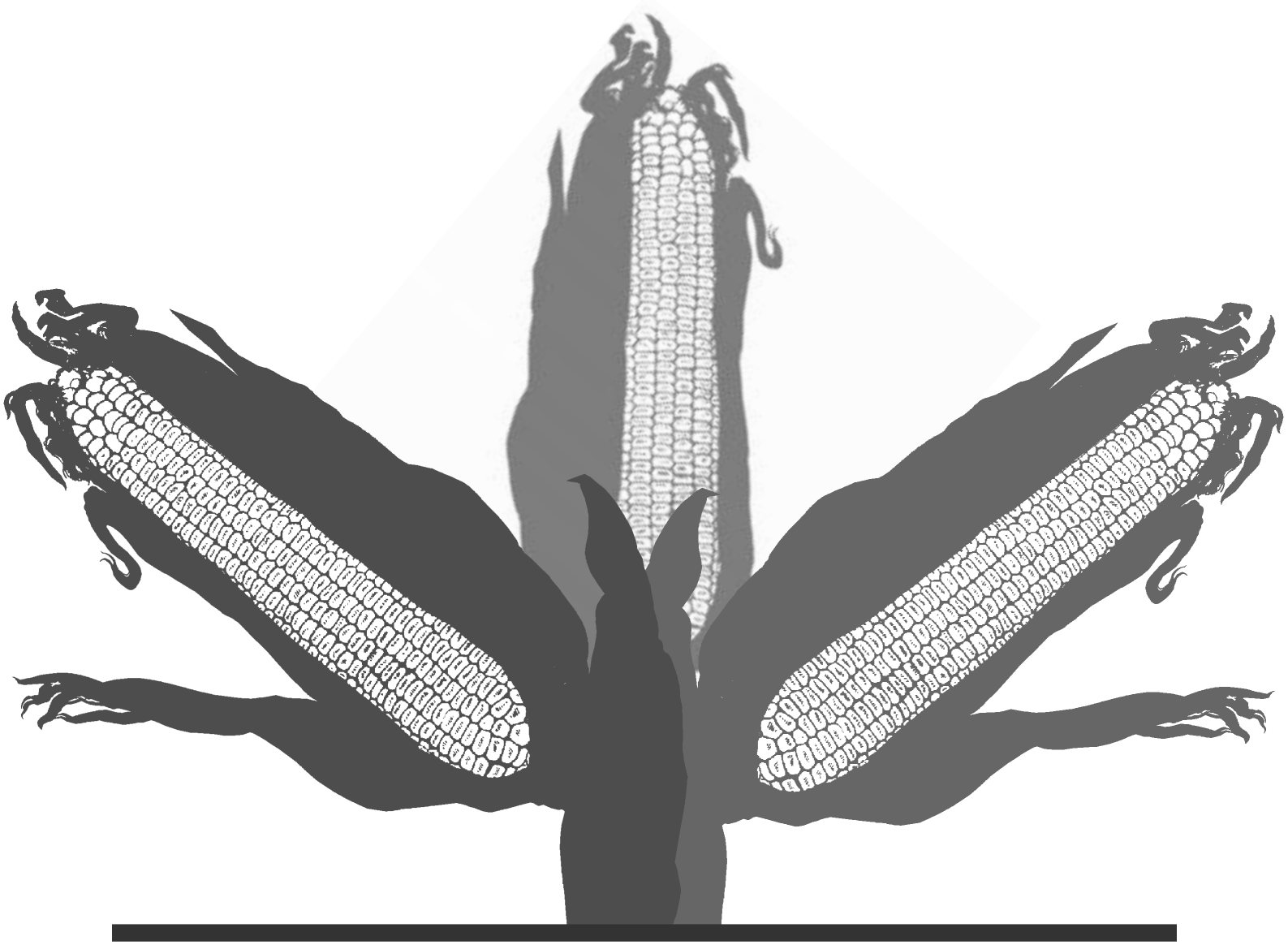
MISSISSIPPI
Corn for Grain



VARIETY TRIALS, 2000

Experiment Station
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Mississippi Agricultural & Forestry Experiment Station
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NOTICE TO USER

This Mississippi Agricultural and Forestry Experiment Station information bulletin is a summary of research conducted under project number MIS 1414 at locations shown on the map on the second page. It is intended for colleagues, cooperators, and sponsors. The interpretation of data presented in this report may change after additional experimentation. Information included is not to be construed as a recommendation for use or as an endorsement of a specific product by Mississippi State University or the Mississippi Agricultural and Forestry Experiment Station.

This report contains data generated as part of the Mississippi Agricultural and Forestry Experiment Station research program. Joint sponsorship by the organizations listed on page 3 is gratefully acknowledged.

Trade names of commercial products used in this report are included only for clarity and understanding. All available names (i.e., trade names, chemical names, etc.) of products used in this research project are listed on page 3.

Mississippi Corn for Grain Variety Trials, 2000

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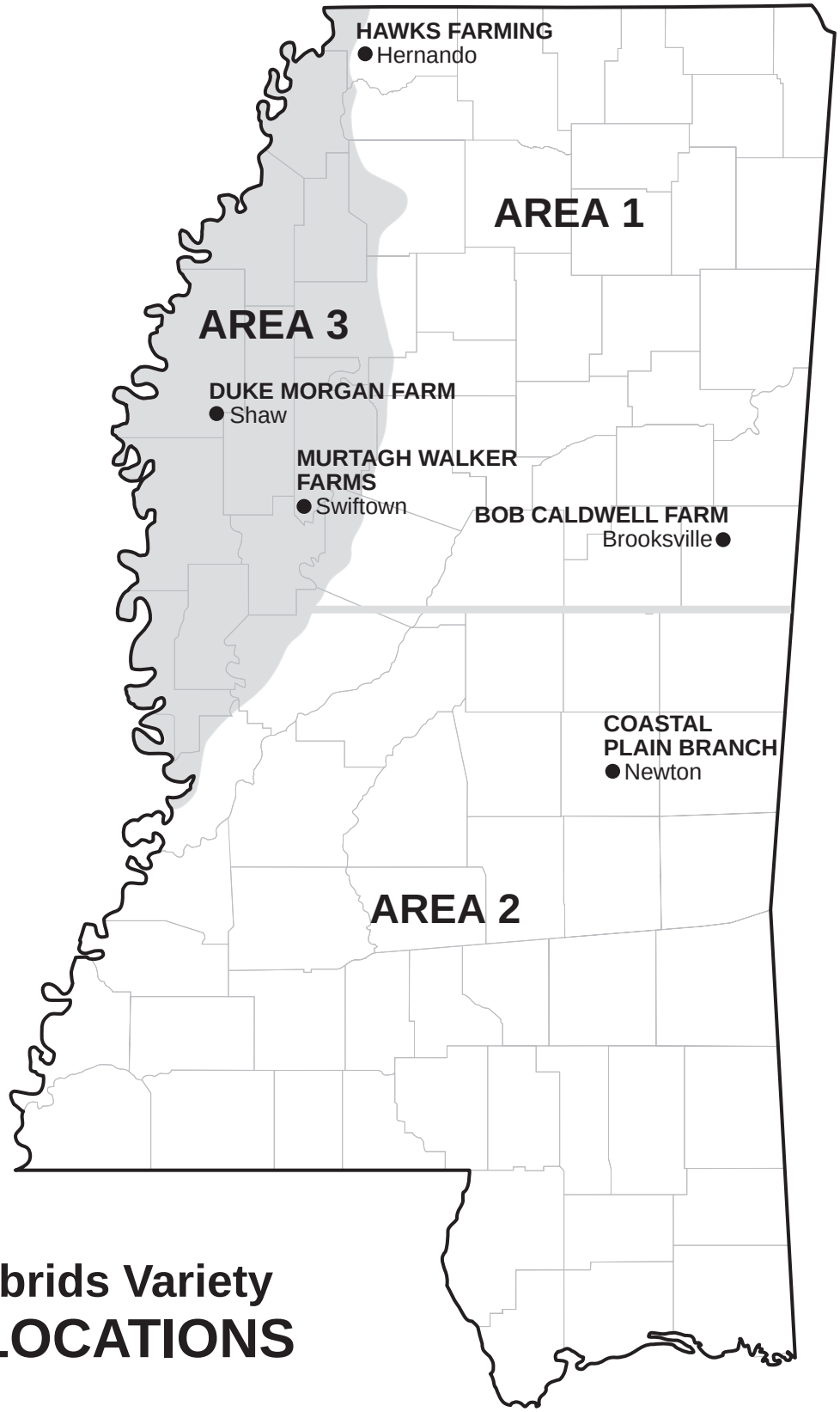

Corn Hybrids Variety

TEST LOCATIONS

Mississippi Corn for Grain Variety Trials, 2000

Procedure

Trials were conducted on Experiment Station land or on grower-cooperator fields in three geographical areas in Mississippi: Area I, located north of Interstate 20, two dryland locations; Area II, located south of Interstate 20, one dryland location; and Area III, located in the Delta region of Mississippi, two irrigated locations (see map). Commercial seed companies were given the opportunity to enter hybrids in Area I, Area II, or Area III.

Plots consisted of two 30-inch rows, each 13.33 feet long. Weeds were controlled by cultivation and/or herbicides. Only herbicides currently registered for use on corn were used in these studies, with strict adherence to all label instructions. Lorsban 15G was donated by Dow Agrosciences and applied in-furrow at planting for insect control. Experimental design was a randomized complete block with five replications at each location.

Hybrids were separated into two maturity groups based upon relative maturity as specified by the sponsoring companies. Those hybrids with a relative maturity of 115 days or less were considered to be early maturing, while those listed as requiring 116 days or more to mature were considered late maturing.

Seeds of all entries were supplied by participating companies. All seeds were packaged for planting at seeding rates suggested by the participating company and planted with a cone planter. Phosphorus, potassium, and lime were applied according to soil test recommendations. Nitrogen was applied in Areas I and II at 140 to 200 pounds per acre, and plots in Area III received 200 to 300 pounds of N per acre. Plots in Areas I and II were grown in dryland conditions, and plots in Area III were irrigated, if necessary.

Variables Measured in the Corn Hybrid Tests

•**Yield:** An Almaco SPC 20 plot combine was used to harvest the total area of each plot. Harvested grain was weighed, moisture was determined, and yields were converted to bushels per acre at 15.5 percent moisture.

•**Root Lodging:** Root lodging is the percentage of plants, based on actual counts of all plants in each plot, that were leaning more than 30 degrees from vertical at harvest.

•**Stalk Lodging:** Stalk lodging is the percentage of plants, based on actual counts of all plants in each plot, that were broken below the upper ear-bearing node at harvest.

•**Ear Height:** Ear height is the distance from the soil to the highest ear-bearing node.

•**Harvest Population:** Harvest population is a measure of the number of plants per acre, based on actual stand counts at time of harvest.

Use of Data Tables and Summary Statistics

The yield potential of a given variety cannot be measured with complete accuracy. Consequently, replicate plots of all varieties are evaluated for yield, and the yield of a given variety is estimated as the mean of all replicate plots of that variety. Yields vary somewhat from one replicate plot to another, which introduces a certain degree of error to the estimation of yield potential. As a result, although the mean yields of some varieties are numerically different, the two varieties may not be significantly different from each other within the range of natural variation. That is, the ability to measure yield is not precise enough to determine what the small differences are, other than what might be observed purely by chance.

The least significant difference (LSD) is an estimate of the smallest difference between two varieties that can be declared to be the result of something other than random variation in a particular trial. Consider the following example for a given trial:

Variety	Yield
A	90 bu/A
B	85 bu/A
C	81 bu/A
LSD	7 bu/A

The difference between variety A and variety B is 5 bu/A (i.e., 90 - 85 = 5). This difference is smaller than the LSD (7 bu/A). Consequently, we would conclude that variety A and variety B have the same yield potential, since we are unable to say that the observed difference did not occur purely due to chance. However, the difference between variety A and variety C is 9 bu/A (i.e., 90 - 81 = 9), which is larger than the LSD (7 bu/A). We would therefore conclude that the yield potential of variety A is superior to that of variety C.

The coefficient of variation (CV) is a measure of the relative precision of a given trial and is used to compare the relative precision of different trials. The CV is generally considered an estimate of the amount of unexplained variation in a given trial. This unexplained variation can be the result of variation between plots with respect to soil type, fertility, insects, diseases, moisture stress, etc. Overall, as the CV increases, the precision of a given trial decreases.

The coefficient of determination (R^2) is another measure of the level of precision in a trial and is also used to compare the relative precision of different trials. The R^2 is a measure of the amount of variation that is explained, or accounted for, in a given trial. For example, an R^2 value of 90 percent indicates that 90 percent of the observed variation in the trial has been accounted for in the trial, with the remaining 10 percent being unaccounted for. The higher the R^2 value, the more precise the trial. The R^2 is generally considered a better measure of precision than the CV for comparison of different trials.

Table 1. Location, number of entries, planting dates, and harvest dates for 2000 corn hybrid trials.

Location	Maturity[1]	No. of entries	Planting date	Harvest date
Area I				
Hawks Farming, Inc. (Hernando)	Early Late	27 28	March 28 March 28	August 31
Bob Caldwell Farm (Brooksville)	Early Late	25 28	March 6 March 6	August 14
Area II				
Coastal Plain Branch (Newton)	Early	14	March 14	August 17
Area III				
Murtagh-Walker Farm (Swiftown)	Early Late	26 30	March 8 March 8	August 24
Duke Morgan Farm (Shaw)	Early Late	28 30	April 20 April 20	August 28

[1]Early maturity = 115 days or less; late maturity =116 days or more.

Table 2. Characteristics provided by sponsoring companies for corn hybrids entered in the 2000 Mississippi variety trials.

Company	Hybrid	Planting rate (x1000)	Days to maturity	Grain texture[1]	MDMV resistance[2]	MCDV resistance[2]
AgriGold Hybrids, Inc.	A6725	28	117	H	S	S
RR 1 Box 203	A6729Bt	28	118	H	S	S
St. Francisville, IL 62460	A6540	28	113	M	S	S
618-943-5776	A6617	28	115	H	S	S
	A6620	28	116	M	S	S
	XA3907	24	116	M	S	S
Garst Seed Co.	HS9843	28	117	H	S	S
761 Walnut Knoll Lane	AP9707	28	117	MH	S	S
Memphis, TN 38018	8222IT	28	119	H	–	–
901-844-7340	8220	28	119	M	R	R
	8251IT	28	117	M	–	–
Genesis Ag Ltd.	G3214Bt	32	114	M	S	S
P. O. Box 21085	G4A19	32	119	–	–	–
Lansing, MI 48909	G2A18	32	118	–	–	–
517-887-1684						
Land O' Lakes Seed	TR1106	28/32	110	–	–	–
Croplan Genetics	TR1157	28/32	115	M	S	S
6555 Quince Road, Suite 202	TR702	28/32	120	–	–	–
Memphis TN 38119	TR1087	28/32	108	M	–	–
901-758-3439	TR1097	28/32	109	–	–	–
	TR1167CL	28/32	116	M	R	R
	TR1129RR	28/32	112	–	–	–
	TR1089RR	28/32	108	–	–	–
	TR1166Bt	28/32	116	–	–	–
	818	28/32	116	–	–	–
	X837	28/32	116	–	–	–
Monsanto	DK611	24/28	111	M	–	–
3100 Sycamore Road	RX764	24/28	112	–	–	–
DeKalb, IL 60115	RX799Bt	24/28	114	–	–	–
815-758-9323	DK650	24/28	115	M	–	–
	DKC65-25	24/28	115	–	–	–
	RX889	24/28	116	–	–	–
	DK687	24/28	118	MH	–	–
	DK697	24/28	119	M	–	–
Pioneer Hi-Bred Intl.	34B23	28/32	108	M	MS	MS
6767 Old Madison Pike	33J56	28	113	M	MR	MR
Suite 110	32K61	28	114	MH	MS	MS
Huntsville, AL 35806	3223	28	116	–	–	–
256-971-0760	31B13	28	119	M	MS	MS
	31G98	28	118	M	MS	MS
	3167	24	124	M	S	S
	31R88	28	119	M	MS	MS
Southern States Coop	SS 710	28/32	111	M	S	S
P. O. Box 26234	SS 769Bt	28/32	117	M	S	S
6606 West Broad St.	SS 849CL	28/32	119	M	MR	MR
Richmond, VA 23200	SS 859CL	28/32	119	M	MR	MR
804-281-1253	SS 729CL	28/32	114	M	S	S
	SS 900Bt	28/32	120	M	S	S
	SS 78351	28/32	113	M	–	–
	SS 78406	28/32	113	M	–	–
Terral Seed, Inc.	TV2130	28/32	111	MH	MR	–
P. O. Box 826	TV2140	28	112	H	–	–
Lake Providence, LA 71254	TV2140RR	28	112	H	MR	–
318-559-2840	TV2128RR	30/32	110	H	MR	–
	TV2143Bt	30/32	112	MH	MS	–
	TV2160Bt	28/32	114	H	MR	–
	TV2930	26/28	118	M	R	R
UAP Mid South	DG5510A	32	118	H	R	–
57 Germantown Court	DG X5583	32	120	H	R	R
Suite 200	DG5516	32	120	H	MR	MR
Cordova, TN 38018	DG X15548	32	118	H	R	R
901-755-7566	DG X15550	32	120	H	R	R
	DG5516RR	32	118	–	–	–
	DGX15552RR	32	118	–	–	–

[1]M = Medium; H = Hard.
[2]MDMV = Maize Dwarf Mosaic Virus; MCDV = Maize Chlorotic Dwarf Virus (corn stunt); S = Susceptible; R = Resistant; MR = Moderately Resistant; and MS = Moderately Susceptible.

HAWKS FARMING, INC., HERNANDO

Crop Summary

Late frost and cutworms reduced stands slightly. Rainfall was sporadic. Data quoted below overstates actual field accumulation by approximately 2.5 inches in late June and July. Disease pressure was light. Moderate populations of corn borers were noted.

Soil type . . . . . Collins silt loam
Soil pH 6.3
Soil fertility . . . . . P=H; K=H
Fertilizer added . . . . . Preplant – N@ 50 lb/A, P @ 30 lb/A, K @ 40 lb/A + Sulfur @ 10 lb/A
Sidedress – N @ 150 lb/A
Herbicide application . . . . Preemergence – Bicep @ 1.6 qt/A + Atrazine @ 0.8 lb/A
Postemergence – Beacon @ 0.5 oz/A
Previous crop . . . . . Soybeans
Planting date . . . . . March 28
Harvest date . . . . . August 31

Table 3. Characteristics of 27 early-maturing corn hybrids grown without irrigation on a Collins silt loam soil in Hernando, DeSoto County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Dyna-Gro	X15552RR	202.7	–	–	0	0	45	13.6	32
Pioneer	33J56	194.7	193.7	–	0	0	35	12.8	30
Pioneer	34B23	182.6	–	–	0	0	31	12.9	28
Dyna-Gro	5516RR	182.3	–	–	0	0	38	14.4	30
Terral	TV2140RR	172.7	–	–	0	0	39	13.7	27
SS	710	169.1	–	–	0	0	33	12.1	24
Terral	TV2130	169.0	–	–	0	0	42	14.3	27
DEKALB	DK650	168.0	176.7	–	0	0	35	13.4	26
Pioneer	32K61	166.9	169.4	134.4	0	0	33	14.2	24
SS	729CL	166.3	171.1	–	0	0	41	12.1	28
Croplan Genetics	TR1157	164.6	165.7	135.1	0	0	37	14.0	28
Terral	TV2143Bt	163.3	–	–	0	0	38	13.7	28
Terral	TV2160Bt	162.2	–	–	0	0	39	14.8	24
ASGROW	RX799Bt	159.1	163.5	–	0	0	32	14.4	26
SS	78406	159.0	–	–	0	1	39	14.6	26
Croplan Genetics	TR1097	156.2	–	–	0	0	28	13.9	18
DEKALB	DK611	154.6	150.1	–	0	0	36	12.8	22
Terral	TV2140	147.2	178.7	144.1	0	3	38	13.8	24
Croplan Genetics	TR1089RR	143.7	–	–	0	0	26	12.7	22
AgriGold	A6617	142.7	–	–	0	0	28	14.0	28
Croplan Genetics	TR1106	142.5	138.1	–	0	0	32	13.3	26
ASGROW	RX764	139.4	–	–	0	1	30	12.3	22
Terral	TV2128RR	138.9	–	–	0	0	36	12.2	28
DEKALB	DKC65-25	135.8	–	–	0	0	35	12.8	25
Croplan Genetics	TR1129RR	135.1	–	–	0	0	34	11.7	27
Croplan Genetics	TR1087	125.1	131.8	107.6	0	0	26	12.5	25
SS	78351	124.2	–	–	0	0	27	12.2	24
Overall mean		159.5	164.8	130.3					
LSD (.10)		32.7	23.9	17.4					
Error degrees of freedom		92	69	35					
CV (%)		18.4	19.1	21.4					
R^2 (%)		52	50	86					

[1]Planted March 28; harvested August 31.

Rainfall Summary

	Inches
March	4.41
April	4.41
May	4.01
June	3.79
July	2.23
August	0.77
Total	19.62

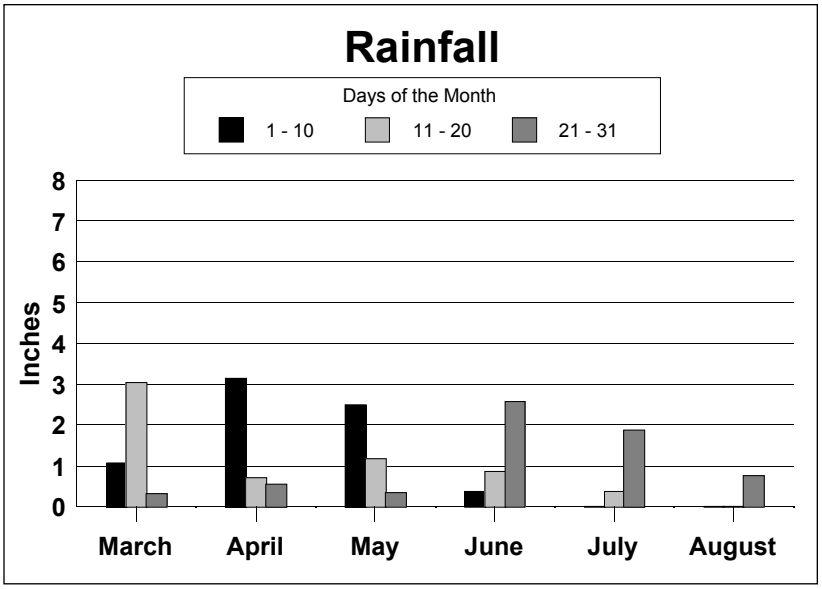

Table 4. Characteristics of 28 late-maturing corn hybrids grown without irrigation on a Collins silt loam soil in Hernando, DeSoto County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Garst/AgriPro	8220	210.6	186.4	145.1	0	2	41	15.3	26
AgriGold	A6729Bt	194.0	–	–	0	0	40	15.1	30
SS	900BT	190.6	–	–	0	1	40	14.3	28
Pioneer	3167	177.1	152.7	122.3	0	0	42	15.8	26
DEKALB	DK697	175.0	173.9	–	0	2	40	15.0	24
DEKALB	DK687	174.3	167.9	128.9	0	0	38	14.8	28
Garst/AgriPro	8222IT	172.8	–	–	1	0	43	15.8	28
Pioneer	31R88	172.4	–	–	0	1	41	15.8	26
Croplan Genetics	TR702	167.5	169.8	–	0	0	38	15.2	26
SS	849CL	167.2	177.6	–	0	0	41	14.3	23
SS	859CL	167.1	171.5	–	0	0	37	15.0	27
Pioneer	31B13	165.6	–	–	0	1	39	14.3	30
AgriGold	XA3907	165.1	–	–	0	1	36	13.6	28
Pioneer	31G98	160.9	–	–	0	1	36	15.1	28
Croplan Genetics	TR1167CL	159.2	156.0	129.6	0	0	39	15.6	26
Dyna-Gro	X15548	159.1	–	–	0	1	35	16.0	28
Dyna-Gro	5510A	156.5	181.6	–	0	0	38	14.5	24
Terral	TV 2930	155.2	147.1	120.0	0	0	42	15.4	26
Croplan Genetics	X837	153.4	–	–	0	0	38	15.2	26
Dyna-Gro	X15550	153.1	–	–	0	0	40	14.8	26
Croplan Genetics	818	151.7	–	–	0	0	38	14.1	29
Garst/AgriPro	8251IT	151.5	–	–	0	0	43	15.4	26
ASGROW	RX889	150.5	147.1	–	0	0	38	14.7	25
SS	769Bt	150.4	164.5	–	0	0	37	14.0	23
Garst/AgriPro	HS 9843	149.9	175.7	140.5	0	0	37	14.9	26
Pioneer	3223	149.2	164.7	134.7	0	0	41	14.2	24
Croplan Genetics	TR1166Bt	142.3	–	–	0	0	36	15.3	26
AgriGold	A6725	142.2	152.1	–	0	0	37	14.6	24
Overall mean		163.7	166.5	131.2					
LSD (.10)		33.2	24.8	20.6					
Error degrees of freedom		105	94	70					
CV (%)		19.1	19.9	25.5					
R^2 (%)		35	33	78					

[1]Planted March 28; harvested August 31.

Bob Caldwell, Jr., Farms, Brooksville

Crop Summary

Corn was planted early into stale seedbeds rowed up the previous fall. Corn emerged to a good stand. Less than adequate rainfall resulted in reduced yields.

Soil type	**Brooksville silty clay**
Soil pH	**6.0**
Soil fertility	**P=M; K=H**
Fertilizer added	**Preplant – P @ 67 lb/A, K @ 100 lb/A**
	Sidedress – N @ 200 lb/A
Herbicide application	**Preplant – Roundup Ultra @ 1 qt/A**
	Preemergence – Atrazine @ 2 qt/A
	Prowl @ 1.2 qt/A
Previous crop	**Corn**
Planting date	**March 6**
Harvest date	**August 14**

Table 5. Characteristics of 25 early-maturing corn hybrids grown without irrigation on a Brooksville silty clay soil in Brooksville, Noxubee County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
SS	729CL	109.5	109.5	–	0	0	40	12.9	28
AgriGold	A6617	104.6	–	–	0	1	30	13.4	28
Terral	TV2160Bt	104.1	–	–	0	0	41	13.3	26
SS	78351	103.5	–	–	0	0	31	12.7	31
Pioneer	33J56	102.1	106.4	–	0	0	35	12.9	27
Terral	TV2143Bt	101.5	–	–	0	0	41	13.6	26
SS	78406	100.5	–	–	0	0	39	12.8	27
DEKALB	DKC65-25	100.4	–	–	0	0	35	12.7	26
ASGROW	RX799Bt	99.6	110.8	–	0	0	34	13.3	24
Pioneer	34B23	99.4	–	–	0	0	31	12.6	27
Terral	TV2130	97.4	–	–	0	0	41	12.4	26
ASGROW	RX764	94.6	–	–	0	0	27	12.1	27
Croplan Genetics	TR1129RR	94.4	–	–	0	2	33	12.4	26
SS	710	94.3	–	–	0	0	35	12.2	28
DEKALB	DK611	91.5	103.5	–	0	0	35	12.7	24
Pioneer	32K61	90.6	109.4	103.1	0	0	34	13.4	26
Terral	TV2128RR	90.5	–	–	0	0	32	12.4	26
Terral	TV2140	88.0	103.1	90.0	0	0	37	12.3	29
DEKALB	DK650	85.8	99.7	–	0	0	39	12.9	25
Croplan Genetics	TR1087	85.3	102.0	95.4	0	0	28	12.5	30
Croplan Genetics	TR1157	83.0	99.6	95.8	0	0	36	12.5	28
Croplan Genetics	TR1097	78.1	–	–	0	0	30	12.5	29
Croplan Genetics	TR1089RR	77.5	–	–	0	0	28	11.4	27
Terral	TV2140RR	70.1	–	–	0	0	36	12.2	26
Croplan Genetics	TR1106	58.3	84.4	–	0	1	29	10.9	26
Overall mean		92.2	102.8	96.1					
LSD (.10)		15.5	14.7	9.1					
Error degrees of freedom		96	72	36					
CV (%)		16.0	19.2	15.4					
R^2 (%)		53	57	76					

[1]Planted March 6; harvested August 14.

Rainfall Summary

	Inches
March	3.25
April	7.21
May	1.26
June	4.18
July	1.15
August	3.07
Total	20.12

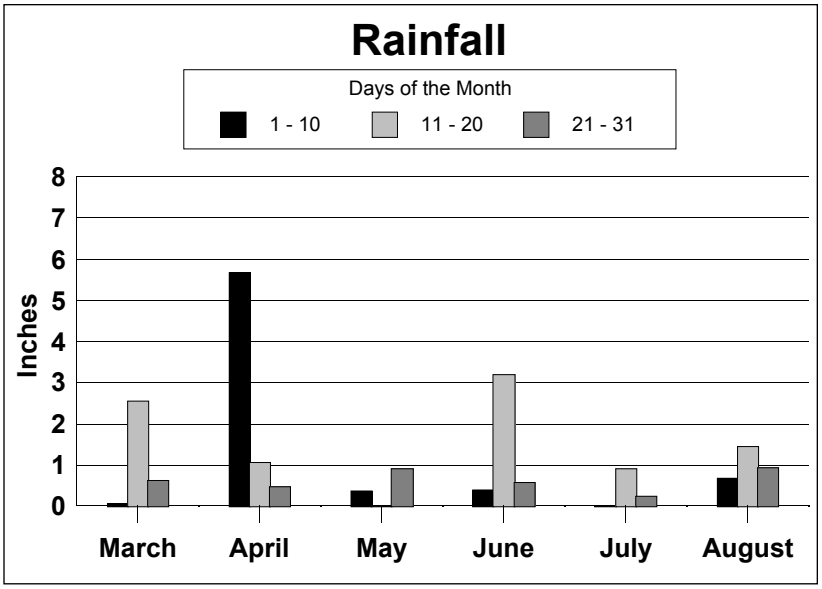

Table 6. Characteristics of 28 late-maturing corn hybrids grown without irrigation on a Brooksville silty clay soil in Brooksville, Noxubee County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
SS	769Bt	111.4	121.8	–	0	0	37	13.8	29
ASGROW	RX889	104.6	103.7	–	3	0	39	13.7	28
Dyna-Gro	X15548	103.1	–	–	1	2	36	13.6	30
Croplan Genetics	818	100.2	–	–	0	0	41	13.5	28
Garst/AgriPro	8222IT	98.4	–	–	0	0	39	13.9	28
Garst/AgriPro	8251IT	98.4	–	–	2	0	39	13.8	29
Dyna-Gro	X15550	96.7	–	–	1	0	36	13.7	27
Garst/AgriPro	8220	94.1	103.5	93.3	0	0	38	13.4	31
SS	859CL	93.7	110.7	–	1	0	40	13.7	28
Pioneer	3167	93.5	100.4	96.4	3	1	32	13.8	27
DEKALB	DK687	93.4	108.4	103.0	0	0	37	13.5	26
Dyna-Gro	5510A	91.8	108.4	100.5	1	0	38	14.0	28
Croplan Genetics	TR1167CL	91.0	104.5	100.0	1	0	34	13.7	24
Pioneer	31R88	90.8	–	–	0	0	37	13.4	28
AgriGold	XA3907	90.7	–	–	2	0	45	14.3	30
Croplan Genetics	X837	90.6	–	–	1	1	38	13.6	30
Pioneer	31G98	89.9	–	–	0	0	37	13.6	30
SS	849CL	89.4	116.7	–	2	1	37	13.3	28
Terral	TV 2930	88.7	97.0	90.1	2	0	38	13.2	29
Garst/AgriPro	HS 9843	88.3	100.2	96.1	0	2	36	14.9	30
AgriGold	A6725	88.0	113.1	–	1	0	39	13.3	27
AgriGold	A6729Bt	83.9	–	–	0	0	34	13.0	30
Croplan Genetics	TR1166Bt	82.6	–	–	3	1	36	14.1	27
DEKALB	DK697	80.3	103.2	–	0	0	35	13.8	29
Pioneer	3223	79.0	121.5	114.1	0	0	38	13.6	32
SS	900BT	76.6	–	–	3	2	38	13.5	29
Croplan Genetics	TR702	76.4	96.0	–	0	0	35	13.6	28
Pioneer	31B13	75.4	–	–	0	0	32	13.5	27
Overall mean		90.8	107.5	98.9					
LSD (.10)		17.5	14.4	10.4					
Error degrees of freedom		108	96	72					
CV (%)		18.3	18.1	17.3					
R^2 (%)		42	68	71					

[1]Planted March 6; harvested August 14.

MAFES Coastal Plain Branch, Newton

Crop Summary

Adequate soil conditions allowed for planting in the optimum planting window. Early crop growth was exceptional until the first of May. From April 13 until June 15, the corn received only 3.37 inches of rainfall. During this period, the crops' potential dropped to below average. Weather conditions allowed for a timely harvest.

Soil type	**Prentiss very fine sandy loam**
Soil pH	**6.2**
Soil fertility	**P=H; K=M**
Fertilizer added	**Preplant – N @ 65 lb/A, P @ 65 lb/A, K @ 125 lb/A**
	Sidedress – N @ 120 lb/A
Herbicide application	**Frontier 6E @ 1.5 pt/A**
	Atrazine 4L @ 2 qt/A
Previous crop	**Corn**
Planting date	**March 14**
Harvest date	**August 1**

Rainfall Summary

	Inches
April	**5.03**
May	**1.78**
June	**3.92**
July	**3.50**
August	**3.19**
Total	**17.42**

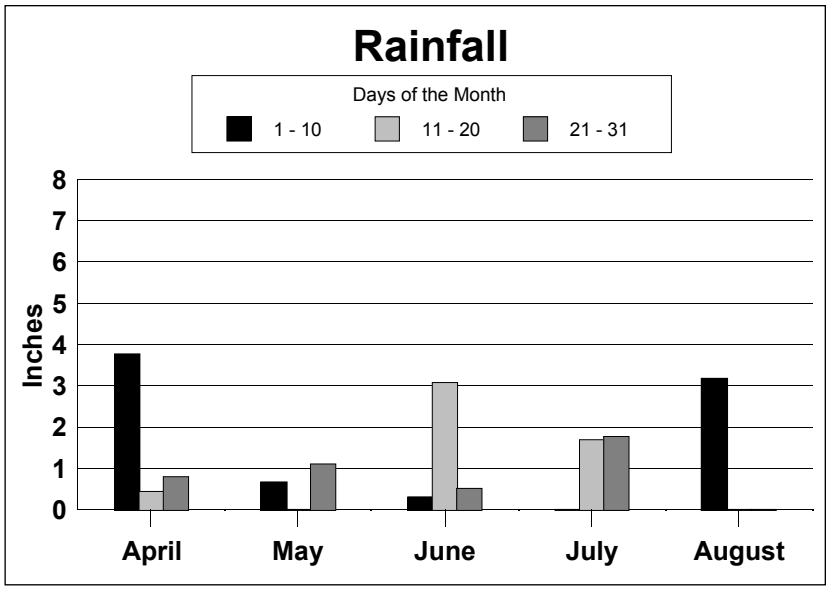

Table 7. Characteristics of 14 early-maturing corn hybrids grown without irrigation on a Prentiss very fine sandy loam soil at the MAFES Coastal Plain Branch, Newton, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average[2]	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
SS	729CL	94.6	126.4	–	1	1	39	15.0	28
Terral	TV2140	88.7	108.7	93.7	0	1	37	14.4	27
Terral	TV2160Bt	87.2	–	–	0	4	38	16.0	25
Terral	TV2140RR	86.5	–	–	0	4	38	14.4	26
Terral	TV2128RR	85.3	–	–	0	5	37	14.8	26
Pioneer	32K61	85.1	113.3	105.6	0	1	36	16.5	28
Terral	TV2130	83.9	–	–	0	1	39	14.8	20
Terral	TV2143Bt	83.2	–	–	0	8	38	16.9	24
Croplan Genetics	TR1087	75.9	107.0	98.7	0	1	30	14.1	24
Croplan Genetics	TR1129RR	75.4	–	–	0	4	32	14.9	22
Croplan Genetics	TR1157	70.2	100.5	96.5	0	4	36	14.2	29
Croplan Genetics	TR1089RR	69.3	–	–	0	0	32	14.9	22
Croplan Genetics	TR1097	66.7	–	–	0	0	33	14.9	27
Croplan Genetics	TR1106	51.6	91.8	–	0	0	31	14.0	26
Overall mean		78.8	108.0	98.6					
LSD (.10)		13.1	11.7	9.4					
Error degrees of freedom		52	40	36					
CV (%)		15.7	14.4	15.5					
R^2 (%)		53	88	85					

[1]Planted March 14; harvested August 17.
[2]3-year average = 2000, 1999, and 1997.

DUKE MORGAN FARM, SHAW

Crop Summary

Wet conditions from mid-March through April delayed planting. Rains were timely until the first part of July. After that time, the only moisture the corn received was from irrigation. Temperatures were very high with temperatures at 95 degrees or hotter more for more than 30 days in July.

Soil type . . . . . Forestdale silt loam
Soil pH 6.78
Soil fertility . . . . . P=H; K=H
Fertilizer added . . . . . Preplant – 11-37-0 @ 15 gal/A
Sidedress – N @ 285 lb/A
Herbicide application . . . . Burndown in February with Roundup Ultra @ 1 qt/A + Salvo (2,4-D) @ 1 qt/A
Preemergence – Roundup Ultra @ 1 qt/A + Dual @ 1 qt/A
Postemergence – Atrazine @ 2 qt/A + Clarity @ 1 pt/A
Irrigation . . . . . Furrow – June 10, June 20, June 30, July 10, July 20, July 30 & August 9
Previous crop . . . . . Soybeans
Planting date . . . . . April 20
Harvest date . . . . . August 28

Table 8. Characteristics of 25 early-maturing corn hybrids grown with irrigation on a Forestdale silt loam soil in Shaw, Bolivar County, 2000.[1]

Hybrid number	Brand name	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Terral	TV2130	201.2	–	–	1	1	45	13.8	26
Terral	TV2160Bt	190.7	–	–	0	0	42	15.2	24
Pioneer	33J56	187.6	193.9	–	0	0	50	13.5	32
DEKALB	DK650	184.8	189.2	–	1	0	49	14.7	28
Pioneer	32K61	184.8	189.7	193.7	0	1	44	14.4	28
Dyna-Gro	5516RR	177.7	–	–	3	1	42	14.0	24
Terral	TV2143Bt	177.2	–	–	0	1	49	14.6	32
Terral	TV2140RR	177.0	–	–	2	2	53	12.5	30
Croplan Genetics	TR1157	175.5	191.1	199.2	0	1	48	14.2	32
Terral	TV2140	174.5	173.7	180.4	0	2	50	13.7	28
Genesis	G3214Bt	174.3	–	–	0	1	45	14.3	30
SS	729CL	174.2	192.0	–	0	1	45	13.4	32
SS	78406	173.3	–	–	0	2	49	14.3	32
Terral	TV2128RR	172.5	–	–	0	1	44	13.3	26
Dyna-Gro	X15552RR	168.0	–	–	1	1	50	13.3	32
ASGROW	RX799Bt	166.8	188.1	–	0	1	33	13.9	23
Croplan Genetics	TR1129RR	165.3	–	–	0	1	44	13.0	32
SS	710	164.7	–	–	0	0	36	12.8	26
Croplan Genetics	TR1087	160.3	188.2	190.2	0	0	44	13.0	32
DEKALB	DK611	156.7	177.9	–	0	4	45	13.2	30
DEKALB	DKC65-25	142.7	–	–	0	0	42	13.2	28
SS	78351	128.0	–	–	0	2	22	12.7	15
Croplan Genetics	TR1106	126.4	160.2	–	0	0	45	14.2	24
AgriGold	A6540	126.2	–	–	0	2	42	11.4	28
Croplan Genetics	TR1097	114.2	–	–	0	7	38	13.4	27
Overall mean		170.0	188.1	193.6					
LSD (.10)		29.5	19.4	15.0					
Error degrees of freedom		75	69	31					
CV (%)		14.3	13.0	11.9					
R^2 (%)		46	51	59					

[1]Planted April 20; harvested August 28.

Rainfall Summary

	Inches
April	11.09
May	6.93
June	6.13
July	0.64
August	0
Total	24.79

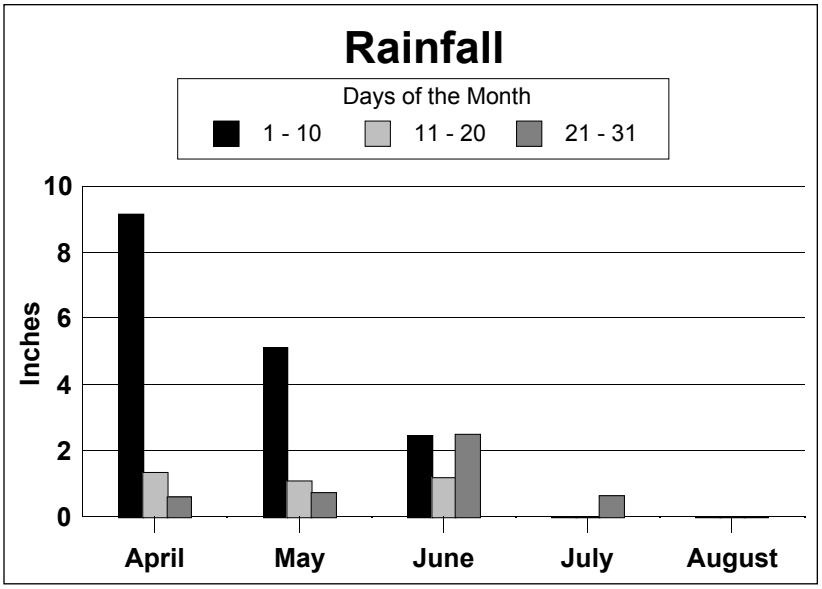

Table 9. Characteristics of 30 late-maturing corn hybrids grown with irrigation on a Forestdale silt loam soil in Shaw, Bolivar County, 2000.[1]

Hybrid number	Brand name	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Croplan Genetics	818	223.3	–	–	0	0	48	14.8	29
Terral	TV 2930	217.0	182.1	173.8	0	0	47	14.7	32
Dyna-Gro	X15548	205.5	–	–	0	0	51	16.3	34
Pioneer	31G98	205.0	–	–	0	0	50	15.5	32
AgriGold	A6725	202.6	182.5	–	1	0	46	16.8	33
Croplan Genetics	X837	201.7	–	–	0	0	48	14.8	31
ASGROW	RX889	201.0	203.6	–	2	0	49	14.4	34
SS	769Bt	199.7	173.0	–	0	2	54	15.0	28
SS	849CL	194.1	144.5	–	0	1	48	15.0	31
DEKALB	DK687	194.0	163.9	172.8	0	2	46	16.0	32
Genesis	G4A19	193.8	–	–	0	0	44	15.0	32
Pioneer	31R88	191.2	–	–	1	0	49	15.1	32
AgriGold	A6729Bt	189.6	–	–	0	1	45	14.9	30
Genesis	G2A18	189.4	–	–	0	1	46	14.6	30
AgriGold	A6620	188.9	–	–	0	0	46	16.0	30
SS	900BT	188.1	–	–	0	0	46	13.1	27
SS	859CL	186.9	184.6	–	0	0	48	15.5	30
Croplan Genetics	TR1167CL	186.7	151.6	164.1	0	1	48	14.6	33
Dyna-Gro	X5583	186.7	–	–	0	0	49	14.9	23
Pioneer	3167	185.0	184.6	184.4	0	0	44	15.2	28
Croplan Genetics	TR702	185.0	173.4	–	0	1	46	15.6	26
Pioneer	31B13	183.5	–	–	3	0	47	15.0	31
Dyna-Gro	5516	181.5	195.7	–	0	1	46	15.3	29
DEKALB	DK697	178.8	162.5	–	0	1	47	15.0	30
Garst/AgriPro	AP9707	176.2	167.3	179.0	0	1	47	15.3	29
Dyna-Gro	5510A	175.7	195.2	201.0	0	1	49	15.4	31
Pioneer	3223	171.0	167.2	174.7	0	0	50	15.6	30
Croplan Genetics	TR1166Bt	168.6	–	–	0	1	47	15.0	30
Dyna-Gro	X15550	166.5	–	–	0	0	45	15.5	28
Garst/AgriPro	8222IT	164.2	–	–	0	1	41	14.3	26
Overall mean		189.0	169.1	174.1					
LSD (.10)		37.0	40.0	30.9					
Error degrees of freedom		108	83	56					
CV (%)		18.1	31.1	28.3					
R^2 (%)		19	31	37					

[1]Planted April 20; harvested August 28.

MURTAUGH-WALKER FARM, SWIFTOWN

Crop Summary

Corn was planted no-till into cotton stalks cut the previous fall. Irregular seedling emergence, some early- season insect damage, and poor growing conditions in March and early April reduced the overall plant population. Rains immediately after the variety plots were planted prevented the grower from planting the surrounding corn for approximately 6 weeks. With the two significantly different planting dates (March 8 for the variety plot, April 20 for the corn surrounding the variety plot) it was difficult to apply normal management practices to the variety plots.

Soil type . . . . . Forestdale silt loam
Soil pH 6.4
Soil fertility . . . . . P=M; K=H+
Fertilizer added . . . . . Preplant – N @ 35 lb/A, P @ 46 lb/A
Sidedress – N @ 77.5 lb/A + S @ 14 lb/A
N @ 150 lb/A
Herbicide application . . . . Preemergence – Atrazine @ 2 qt/A
Postemergence – Dual @ 1.3 pt/A
Irrigation . . . . . Furrow irrigated June 28, July 5, July 13, July 20 & July 28
Previous crop . . . . . Cotton
Planting date . . . . . March 8
Harvest date . . . . . August 24

Table 10. Characteristics of 26 early-maturing corn hybrids grown with irrigation on a Forestdale silt loam soil in Swiftown, Leflore County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Terral	TV2140	203.5	214.0	198.8	0	0	34	12.9	28
ASGROW	RX799Bt	201.3	201.9	–	0	0	36	13.1	30
Terral	TV2140RR	200.6	–	–	0	0	35	12.9	29
SS	729CL	198.8	209.4	–	0	0	35	13.1	30
DEKALB	DK650	197.8	197.0	–	0	0	32	13.1	26
Terral	TV2143Bt	197.4	–	–	0	0	32	13.3	30
Genesis	G3214Bt	194.2	–	–	0	0	27	11.7	29
Pioneer	33J56	191.4	187.3	–	0	0	30	13.2	29
Terral	TV2160Bt	189.5	–	–	0	0	36	13.2	29
Croplan Genetics	TR1129RR	189.5	–	–	0	0	29	12.9	30
SS	78351	187.0	–	–	0	0	26	12.9	28
Terral	TV2130	184.7	–	–	0	0	37	12.8	29
Terral	TV2128RR	182.9	–	–	0	0	30	12.9	29
SS	710	182.3	–	–	0	0	28	12.7	30
SS	78406	179.0	–	–	0	0	30	12.9	28
DEKALB	DK611	178.3	182.4	–	0	0	31	12.8	28
DEKALB	DKC65-25	173.5	–	–	0	0	29	12.9	28
Croplan Genetics	TR1106	169.5	192.8	–	0	0	24	12.7	28
Pioneer	34B23	169.4	–	–	0	0	27	13.1	23
AgriGold	A6540	167.4	–	–	0	0	26	12.8	20
ASGROW	RX764	167.0	–	–	0	0	26	12.8	28
Croplan Genetics	TR1157	164.4	184.0	181.3	0	0	32	12.8	26
Pioneer	32K61	163.1	177.9	171.3	0	0	31	13.5	20
Croplan Genetics	TR1087	161.0	189.8	186.5	0	0	27	12.8	28
Croplan Genetics	TR1089RR	157.3	–	–	0	0	25	11.3	28
Croplan Genetics	TR1097	148.9	–	–	0	0	26	12.8	26
Overall mean		180.8	194.1	184.8					
LSD (.10)		22.6	16.2	12.7					
Error degrees of freedom		100	80	35					
CV (%)		11.9	11.2	11.0					
R^2 (%)		41	53	72					

[1]Planted March 8; harvested August 24.

Rainfall Summary

	Inches
March	5.99
April	8.73
May	1.19
June	1.49
July	3.22
August	0
Total	20.62

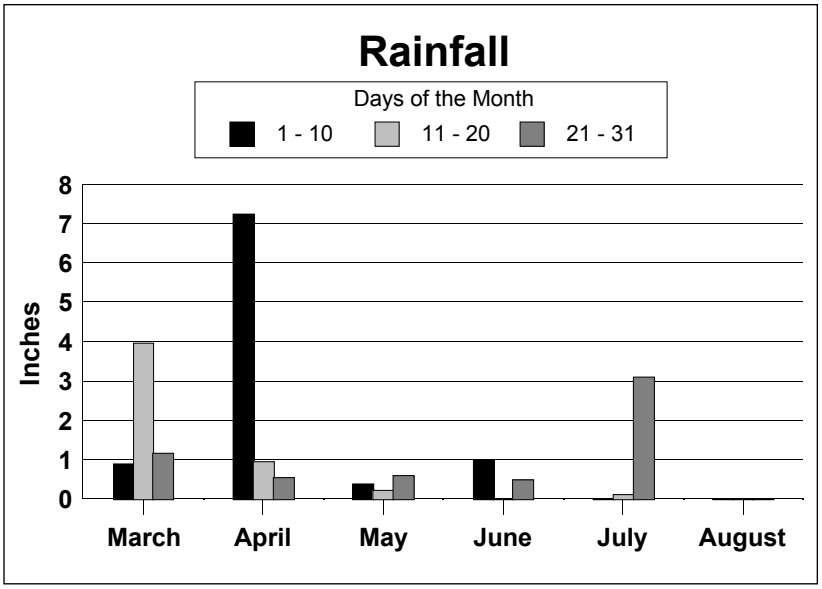

Table 11. Characteristics of 30 late-maturing corn hybrids grown with irrigation on a Forestdale silt loam soil in Swiftown, Leflore County, 2000.[1]

Brand name	Hybrid number	2000 yield	2-year average	3-year average	Root lodging	Stalk lodging	Ear height	Moisture content	Harvested stand (x1000)
		bu/A	*bu/A*	*bu/A*	*%*	*%*	*in*	*%*	
Pioneer	31G98	224.2	–	–	0	0	29	13.2	24
Pioneer	3223	218.6	211.0	200.5	0	0	34	13.4	24
Garst/AgriPro	AP9707	217.6	216.9	196.4	0	0	29	13.0	24
DEKALB	DK687	215.3	199.1	184.4	0	0	34	14.0	24
Pioneer	31R88	213.5	–	–	0	0	31	13.6	20
Croplan Genetics	TR1167CL	212.3	185.9	185.7	0	0	34	13.1	27
SS	769Bt	209.3	207.6	–	0	0	30	13.2	27
Pioneer	3167	208.4	206.7	194.5	0	0	32	14.1	24
Garst/AgriPro	8222IT	207.8	–	–	0	0	31	13.8	20
SS	849CL	207.1	210.6	–	0	0	31	12.6	26
Croplan Genetics	818	205.1	–	–	0	0	30	13.4	30
SS	859CL	204.3	162.3	–	0	0	33	13.1	29
Genesis	G2A18	201.5	–	–	0	0	38	13.2	28
Dyna-Gro	X15548	201.1	–	–	0	0	36	13.7	28
Croplan Genetics	TR702	201.0	203.3	–	0	0	32	13.5	26
Terral	TV 2930	196.1	180.2	174.1	0	0	36	13.7	25
Genesis	G4A19	195.9	–	–	0	0	34	13.2	22
DEKALB	DK697	195.3	198.5	–	0	0	33	13.7	29
SS	900BT	195.1	–	–	0	0	32	13.1	30
Pioneer	31B13	194.7	–	–	0	0	35	13.5	28
Croplan Genetics	TR1166Bt	193.9	–	–	0	0	28	13.2	31
AgriGold	A6729Bt	193.6	–	–	0	0	36	12.1	26
AgriGold	A6725	192.2	202.5	–	0	0	36	13.5	28
Dyna-Gro	5510A	188.0	203.3	192.7	0	0	27	14.6	26
Dyna-Gro	X5583	187.7	210.7	–	0	0	30	14.0	30
Dyna-Gro	X15550	183.7	–	–	0	0	33	13.9	18
Croplan Genetics	X837	178.8	–	–	0	0	28	13.0	26
Dyna-Gro	5516	175.3	194.9	189.3	0	0	38	13.2	27
AgriGold	A6620	172.3	–	–	0	0	30	13.5	17
ASGROW	RX889	171.7	175.5	–	0	0	26	13.3	26
Overall mean		198.5	198.0	188.0					
LSD (.10)		34.6	31.4	21.0					
Error degrees of freedom		109	84	57					
CV (%)		15.3	20.9	18.0					
R^2 (%)		30	34	49					

[1]Planted March 8; harvested August 24.

Table 12. Average grain production by area for early-maturing corn hybrids grown in Mississippi, 2000.

Hybrid number	Brand name	Area I[1]			Area II[2]		
		2000 yield	2-yr. avg.	3-yr. avg.	2000 yield	2-yr. avg.	3-yr. avg.
		bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*
A6540	AgriGold	–	–	–	146.8	–	–
A6617	AgriGold	98.7	–	–	–	–	–
RX764	ASGROW	96.0	–	–	167.0	–	–
RX799Bt	ASGROW	102.4	127.8	–	184.0	195.0	–
TR1106	Croplan Genetics	83.5	107.5	–	147.9	176.5	–
TR1157	Croplan Genetics	96.4	125.1	108.8	169.9	187.5	190.3
TR1087	Croplan Genetics	86.0	108.0	96.2	160.7	189.0	188.3
TR1097	Croplan Genetics	99.4	–	–	131.6	–	–
TR1129RR	Croplan Genetics	91.6	–	–	177.4	–	–
TR1089RR	Croplan Genetics	91.7	–	–	157.3	–	–
DK611	DEKALB	97.9	116.6	–	167.5	180.2	–
DK650	DEKALB	96.3	126.0	–	191.3	193.1	–
DKC65-25	DEKALB	95.4	–	–	158.1	–	–
DG5516RR	Dyna-Gro	112.8	–	–	177.8	–	–
DGX15552RR	Dyna-Gro	124.9	–	–	168.0	–	–
G3214Bt	Genesis	–	–	–	184.2	–	–
34B23	Pioneer	112.5	–	–	169.4	–	–
33J56	Pioneer	118.3	132.1	–	189.5	190.6	–
32K61	Pioneer	101.6	130.8	116.7	173.9	183.8	182.6
SS 710	Southern States	107.0	–	–	173.5	–	–
SS 729CL	Southern States	110.0	131.1	–	186.5	200.7	–
SS 78351	Southern States	98.2	–	–	157.5	–	–
SS 78406	Southern States	100.8	–	–	176.2	–	–
TV2130	Terral	104.2	–	–	192.9	–	–
TV2140	Terral	94.8	126.7	109.3	189.0	193.9	189.6
TV2140RR	Terral	97.3	–	–	188.8	–	–
TV2128RR	Terral	94.7	–	–	177.7	–	–
TV2143Bt	Terral	105.0	–	–	187.3	–	–
TV2160Bt	Terral	103.0	–	–	190.1	–	–
Overall Mean		99.3	123.8	110.2	176.0	191.2	189.0
LSD (.10)		12.3	11.4	8.1	19.1	12.4	9.6
Error degrees of freedom		28.9	210	93	175	149	66
CV (%)		19.9	21.3	20.2	12.9	12.1	11.5
R^2 (%)		89	82	89	46	53	67

[1]Average of Aberdeen, Brooksville, and Hernando.
[2]Average of Shaw and Swiftown.

Table 13. Average grain production by area for late-maturing corn hybrids grown in Mississippi, 2000.

Hybrid number	Brand name	Area I[1]			Area II[2]		
		2000 yield	2-yr. avg.	3-yr. avg.	2000 yield	2-yr. avg.	3-yr. avg.
		bu/A	*bu/A*	*bu/A*	*bu/A*	*bu/A*	*bu/A*
A6725	AgriGold	94.3	121.6	–	197.4	192.5	–
A6729Bt	AgriGold	112.2	–	–	191.6	–	–
A6620	AgriGold	–	–	–	180.6	–	–
XA3907	AgriGold	104.1	–	–	–	–	–
RX889	ASGROW	102.3	114.7	–	186.4	189.5	–
TR702	Croplan Genetics	102.8	126.3	–	193.0	188.3	–
TR1167CL	Croplan Genetics	102.5	121.9	110.7	199.5	168.7	177.3
TR1166Bt	Croplan Genetics	93.4	–	–	181.3	–	–
818	Croplan Genetics	101.9	–	–	214.2	–	–
X837	Croplan Genetics	97.3	–	–	190.3	–	–
DK687	DEKALB	107.0	129.0	113.9	204.7	181.5	183.9
DK697	DEKALB	108.0	133.4	–	87.1	180.5	–
DG5510A	Dyna-Gro	103.6	101.3	124.5	181.9	187.1	196.9
DG X5583	Dyna-Gro	–	–	–	187.2	210.4	–
DG5516	Dyna-Gro	–	–	–	178.4	196.5	195.6
DG X15548	Dyna-Gro	107.1	–	–	203.3	–	–
DG X15550	Dyna-Gro	99.9	–	–	175.1	–	–
HS9843	Garst/AgriPro	101.2	129.7	115.8	–	–	–
AP9707	Garst/AgriPro	–	–	–	196.9	192.1	194.1
8222IT	Garst/AgriPro	111.3	–	–	186.0	–	–
8220	Garst/AgriPro	118.6	129.6	112.7	–	–	–
8251IT	Garst/AgriPro	98.8	–	–	–	–	–
G4A19	Genesis	–	–	–	194.9	–	–
G2A18	Genesis	–	–	–	195.4	–	–
3223	Pioneer	93.1	131.3	119.9	194.8	189.1	189.3
31B13Bt	Pioneer	95.7	–	–	189.1	–	–
31G98	Pioneer	103.7	–	–	214.6	–	–
3167	Pioneer	109.7	118.0	109.0	196.7	195.6	190.1
31R88	Pioneer	105.4	–	–	202.4	–	–
SS 769Bt	Southern States	105.9	132.2	–	204.5	190.3	–
SS 849CL	Southern States	102.1	135.1	–	200.6	177.5	–
SS 859CL	Southern States	103.9	131.3	–	195.6	173.4	–
SS 900Bt	Southern States	105.3	–	–	191.6	–	–
TV2930	Terral	95.4	113.0	100.7	206.5	181.1	172.9
Overall Mean		102.7	127.0	111.5	193.8	183.6	183.9
LSD (.10)		13.2	10.3	8.4	27.7	25.2	22.2
Error degrees of freedom		321	28.6	214	217	167	93
CV (%)		21.2	18.9	21.6	16.6	25.8	25.1
R^2 (%)		86	83	82	26	38	41

[1]Average of Aberdeen, Brooksville, and Hernando.
[2]Average of Shaw and Cruger.

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