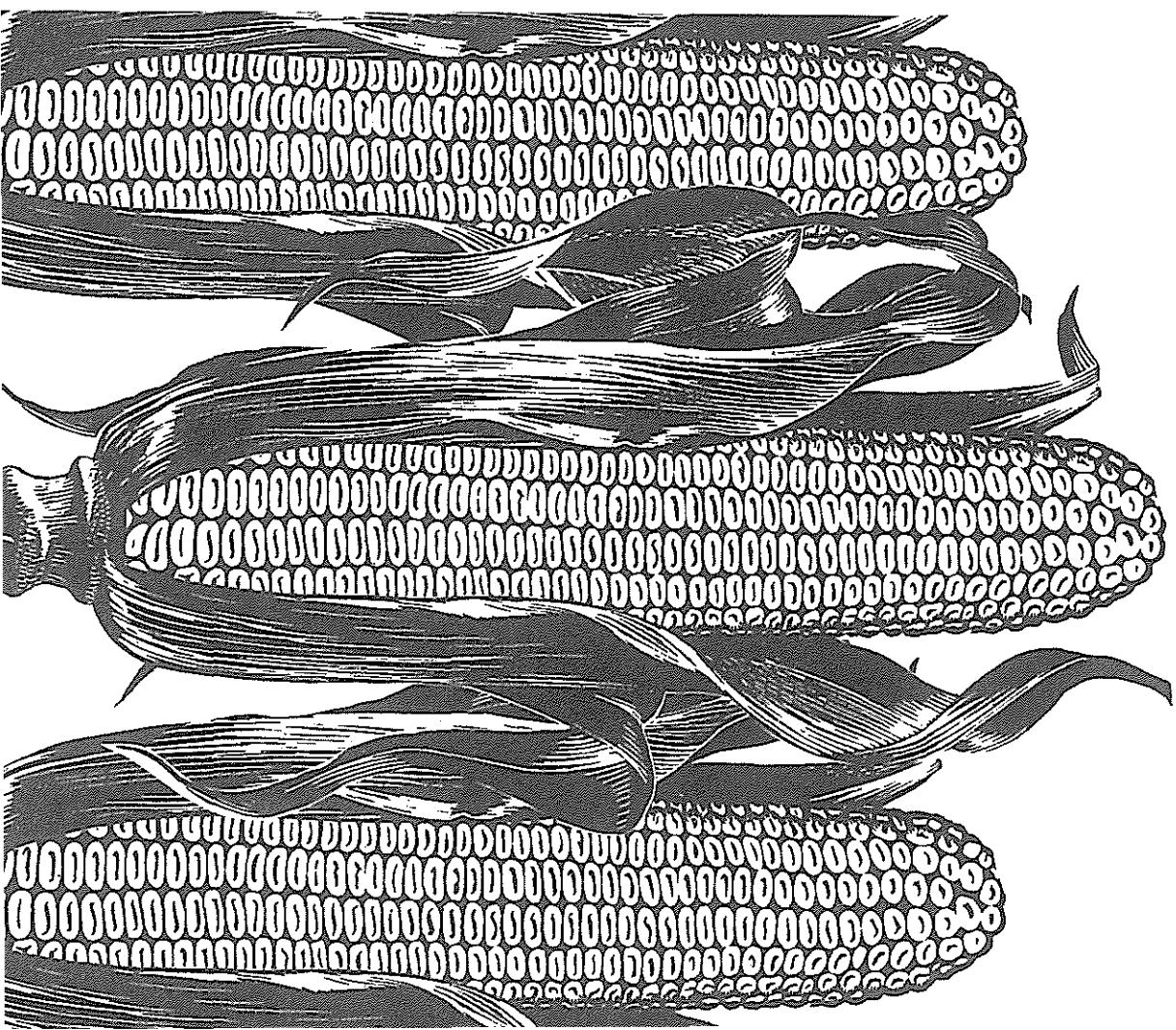


KENTUCKY HYBRID CORN PERFORMANCE TEST-1981

C. G. PONELEIT and K. O. EVANS • PROGRESS REPORT 258

UNIVERSITY OF KENTUCKY • COLLEGE OF AGRICULTURE
AGRICULTURAL EXPERIMENT STATION • DEPARTMENT OF AGRONOMY • LEXINGTON



The College of Agriculture is an Equal Opportunity Organization with respect to education and employment and authorization to provide research, educational information and other services; only to individuals and institutions that function without regard to race, color, national origin, sex, religion, age and handicap. Inquiries regarding compliance with Title VI and Title VII of the Civil Rights Act of 1964, Title IX of the Educational Amendments, Section 504 of the Rehabilitation Act and other related matters should be directed to Equal Opportunity Office, College of Agriculture, University of Kentucky, Room S-105, Agricultural Science Building-North, Lexington, Kentucky 40546.

20M-12-81

LIST OF TABLES

	Page
Table 1.—Hybrids Tested in 1981	9
Table 2.—Agronomic Information Pertaining to 1981 Test Locations.....	11
Table 3.—Annual Summary, Murray, Kentucky	12
Table 4.—Annual Summary, Princeton, Kentucky	14
Table 5.—Annual Summary, Sebree, Kentucky	16
Table 6.—Annual Summary, Elkton, Kentucky	18
Table 7.—Annual Summary, Bardstown, Kentucky	20
Table 8.—Annual Summary, Lexington, Kentucky	22
Table 9.—Annual Summary, Quicksand, Kentucky	24
Table 10.—Annual Summary, All Non-Virus Locations, 1981	26
Table 11.—Two-Year Summary, All Non-Virus Locations, 1980-1981	28
Table 12.—Three-Year Summary, All Non-Virus Locations, 1979-1981	30
Table 13.—Corn Virus Test, Frankfort, Kentucky, 1981	31

ACKNOWLEDGMENTS

The authors are grateful to the Agriculture Data Center for assistance in summarizing the results presented in this progress report. Also, acknowledgments are made to the following persons who aided in the conduct of this year's performance test:

- Dr. Morris Bitzer, Extension Specialist in Grain Crops, Lexington.
- Dr. John R. Hartman and Dr. Richard E. Stuckey, Department of Plant Pathology, Lexington.
- Dr. James Herbek, Extension Specialist in Grain Crops, West Kentucky Research and Education Center, Princeton.
- Charles Tutt, Research Specialist, West Kentucky Research and Education Center, Princeton.
- Donnie Davis, Superintendent, West Kentucky Research and Education Center, Princeton.
- George A. Armstrong, Superintendent, Robinson Substation, Quicksand.
- Ted Howard, Extension Agent, Murray.
- William Hendrick, Extension Agent, Henderson.
- Marvin Davidson and Daryl Templeman, Extension Agents, Elkton.
- Paul Gray, Extension Agent, Frankfort.
- Phil Gillespie, Extension Agent, Dixon.
- Burriss Rardin, Extension Agent, Bardstown.

TABLE 13.—CORN VIRUS TEST, FRANKFORT, KY., 1981

	VIRUS RATING 80-81	VIRUS RATING 1981
YELLOW HYBRIDS		
ADLERS 70X	3.0	
ADLERS 73X	3.3	
ADLERS 753	4.0	
AGRI-GOLD A-6700	7.3	
AGRI-GOLD XA-812	7.3	
BALDWIN JUDGE RX335	5.7	
CARGILL 951	4.7	
CK	6.5	
DEKALB XL728	4.0	
DEKALB XL7288	4.3	
DENNIS 054-19	4.3	
DH 7150	5.7	
DH 9228	4.3	
FERRY-MURSE GT-EX4045	4.3	
FUNK'S G4525A	5.0	
FUNK'S G4740	4.3	
GOLDEN AC. T-E 6945	4.7	
GOLDEN HARV. H2745	5.0	
GUTWEIN MD42885	3.7	
JACOUES JX227	5.7	
JACOUES JX247	7.0	
MCCUROY 7978	4.7	
MCCUROY 8225	3.7	
NORTHROP-KING PX79	4.7	
NORTHROP-KING PX95	5.3	
O'S GOLD SX5255	5.7	
O'S GOLD TX311	5.0	
P.A.G. SX17A	4.3	
PIONEER BRAND 3147	3.7	
PIONEER BRAND 3160	3.7	
PIONEER BRAND 3179	4.0	
PIONEER BRAND 3328	3.7	
RING AROUND RA1604	6.0	
SELECT SEED MD475	4.3	
SO. STATES SS710	4.3	
STEWART 6586	5.7	
STEWART 7700	6.3	
SUPER CRUST EXP81059	3.7	
TROJAN MDM-116	4.3	
USS AG-CHEM USS 2315	4.0	
ZIMMERMAN Z30Y	3.7	
YELLOW AVERAGE	3.6	4.8
WHITE HYBRIDS		
CK	5.0	
HK/MCNAIR X233W	4.3	
PRINCETON SX910W	5.0	
ZIMMERMAN Z14W	5.7	
ZIMMERMAN Z52W	4.3	
ZIMMERMAN Z54W	5.0	
WHITE AVERAGE	4.2	4.9
GRAND AVERAGE	3.6	4.8
LSD*	0.9	
C.V.	14.0	

* For the difference between two means in a column to be significant the difference must exceed the LSD.

TABLE 12.—THREE-YEAR SUMMARY, ALL NON-VIRUS LOCATIONS, 1979-1981

	YIELD BU/AAC 79-81	Avg % MOIST 79-81	Avg % STAND 79-81	Total % LODGED 79-81
YELLOW HYBRIDS				
BO-JAC 925	150.3	20.8	88.2	10.3
AGRI-GOLD A-6900	148.3	21.0	85.9	9.1
SELECT SEED 9300	148.0	20.6	85.8	11.1
D'S GOLD SX5509	147.2	20.6	86.2	8.9
DH 9113	146.5	20.3	84.7	9.4
PREMIER SX636	146.5	20.8	87.2	9.2
ADLERS 88X	146.0	20.7	85.3	8.5
MCCURDY 84AA	144.7	20.6	85.9	9.4
NORTHROP-KING PX95	144.5	22.1	83.2	10.4
VORTIS SEEOS V2651	143.7	20.4	86.4	15.7
JACQUES JX247	142.9	20.5	83.9	10.7
SUPER CROST 7801	142.7	20.8	84.0	10.0
COLBERT 345	142.6	21.0	86.1	10.6
SELECT SEED 8400	142.5	19.4	87.1	13.0
MIGRU/NAPB M-0707	141.8	20.4	86.6	7.6
RING AROUND RA1502	141.6	20.2	85.6	7.3
CARGILL 967	141.3	19.1	87.7	11.0
COLBERT 340	141.3	20.4	85.8	8.2
ACCU UC8951	141.3	20.6	87.0	8.2
PRINCETON SX870	140.7	20.3	81.7	10.3
PIONEER BRAND 3369A	138.3	19.3	86.3	11.6
STEWART 6973	138.1	20.4	82.2	9.2
DEKALB XL71	137.6	20.0	86.6	7.5
PIONEER BRAND 3184	137.4	20.0	89.3	6.7
P.A.G. SX373	136.6	20.9	85.0	8.6
ZIMMERMAN Z24Y	136.5	19.8	87.2	12.3
GUTWEIN 2910	136.4	20.3	79.0	11.0
SELECT SEED 5100	135.9	19.2	86.7	10.2
SO. STATES SS915	134.9	21.0	86.3	12.0
NORTHROP-KING PX87	134.6	20.9	82.8	9.3
COKER 22	134.4	20.7	84.2	11.0
RUFF'S R334A	134.3	19.8	84.2	14.5
DH 7175	133.9	19.3	85.5	10.0
TROJAN TXS-114	133.8	19.2	84.7	11.6
DENNIS DS42	133.5	19.1	79.1	6.7
STEWART SX77	133.3	20.4	83.1	6.9
P.A.G. SX333	132.6	19.2	84.3	14.3
COKER 19	130.8	19.3	83.2	10.6
FERRY-MORSE GT3020	128.7	19.4	81.9	12.5
USS AG-CHEM USS 1010	126.9	19.2	82.0	9.6
BALDRIDGE RX77	126.3	19.9	82.9	11.3
JACQUES JX180	126.1	19.3	81.3	11.4
SO. STATES SS775	125.2	19.6	87.4	8.5
GOLDEN AC. T-E 6995	125.1	19.4	82.1	9.8
YELLOW AVERAGE	138.1	20.1	84.8	10.1
WHITE HYBRIDS				
SO. STATES SS950W	139.2	22.0	85.6	14.1
DEKALB XL3908	137.7	21.0	81.0	12.8
PRINCETON SX910W	136.1	22.3	86.6	16.3
ZIMMERMAN Z52W	134.7	22.1	85.8	13.9
NK/MCNAIR X233W	133.4	21.9	79.2	14.0
ZIMMERMAN Z11W	133.0	22.3	85.2	13.7
ASCRUN RX962W	132.8	22.2	83.5	14.2
GOLDEN HARV. H2660W	129.7	22.0	82.8	13.9
WHITE AVERAGE	134.6	22.0	83.7	14.1
GRAND AVERAGE	137.5	20.4	84.6	10.8

Kentucky Hybrid Corn Performance Test 1981

C. G. Poneleit and K. O. Evans

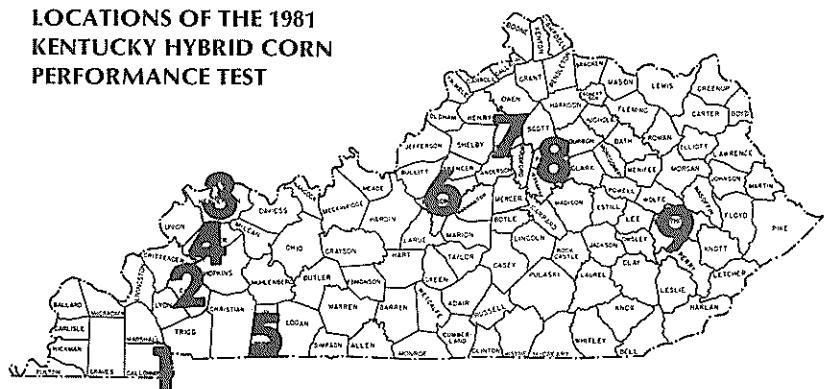
The objective of the Kentucky Hybrid Corn Performance Test is to provide unbiased performance estimates of hybrid seed corn sold in Kentucky. Every effort has been made to conduct the test in an unbiased manner according to accepted agronomic practices.

PRESENTATION OF DATA

Complete 1981 data are presented for the tests at each location. Two-year and three-year averages for yield are included in each of the single-location tables. Readers are encouraged to consider these multiple year averages and the averages over locations (Tables 10, 11, and 12) since these are better estimates of a hybrid's relative yield ability than data gathered at one location in one year.

Comparisons between yields or other characters of any two or more hybrids should be made only with data from one table at a time. The testing procedures do not provide a suitable comparison between a hybrid grown at one location and population with another hybrid grown at a different location and population.

LOCATIONS OF THE 1981 KENTUCKY HYBRID CORN PERFORMANCE TEST



TESTING PROCEDURE

SELECTION OF HYBRIDS

The hybrids chosen for testing are those most likely to be available for sale in 1982. Seed of each commercial hybrid (Table 1) was obtained from the sponsoring company.

Those hybrids grown in the corn virus tests are indicated in column 2 of Table 1. The hybrid corn companies were asked to nominate those hybrids known to have virus resistance for inclusion in the virus test.

LOCATION OF TESTS

The map on page 3 shows the location for each test. The non-virus test sites were selected to represent different agro-climatic areas of the state where corn is a major crop commodity. The Henderson and Frankfort sites are specifically for the presence of corn virus in diverse areas of the state and should represent differences in virus populations.

CULTURAL PRACTICES

The seedbed at each location except Bardstown was prepared by conventional tillage methods. Fertilizer was applied as indicated by soil tests. The test at Bardstown was planted in soybean stubble using recommended no-tillage practices. All test areas were treated with herbicide and supplemented by post-emergence cultivation when necessary. Except for the virus tests, Furadan was applied in the row at planting. Table 2 shows the specific cultural treatment for each location.

EXPERIMENTAL DESIGN

Each hybrid was grown in three separate plots at each location to sample uncontrollable variability of soil types, fertility, and other factors. Annual mean yields presented in Tables 3 through 13 are the average of three replications at that test site while 2-year and 3-year means are averages of six and nine replications, respectively. An 11 x 11 lattice design was used at each non-virus location, and a 7 x 7 lattice design was used at the virus locations.

TABLE 11.—(continued)

	YIELD BU/AC 80-81	Avg % MOIST 80-81	Avg % STAND 80-81	Avg % TOTAL LODGED 80-81
YELLOW HYBRIDS				
SELECT SEED 5100	124.7	18.5	85.8	10.3
TROJAN TXS-114	124.4	18.5	83.2	11.9
P.A.G. SX351	124.3	18.4	84.6	9.0
P.A.G. SX373	124.2	19.8	86.0	8.3
TROJAN TXS-115A	123.7	18.6	85.4	11.0
DH 7175	123.6	18.7	85.9	9.2
GUTHRIE 2910	122.4	19.5	78.3	11.6
CARGILL 949	121.8	18.1	82.4	11.4
USS AG-CHEM USS 1010	121.4	18.4	84.7	9.2
JACQUES JX180	121.2	18.5	83.5	12.3
P.A.G. SX333	121.0	18.4	84.5	14.7
COKE 19	120.6	18.5	82.7	10.1
PIONEER BRAND 3320	120.1	19.5	86.7	8.1
FUNK'S G4507A	118.5	18.6	86.5	12.0
AULEHS 30X	118.5	17.8	85.4	7.7
HALDRIDGE RX77	118.1	19.0	82.9	8.9
FERRY-MORSE GT3020	117.1	18.7	81.5	10.9
SU. STATES SS775	116.1	18.8	87.5	8.7
GOLDEN AC. T-E 6995	114.6	18.9	83.4	9.5
NORTHROP-KING PXR3	114.3	18.8	82.2	9.8
RING AROUND RA1504	112.8	17.7	84.3	9.7
PRINCETON SX860	110.9	19.5	83.2	6.3
CARGILL 934	110.1	17.9	82.9	9.0
YELLOW AVERAGE	127.5	19.5	85.1	9.9
WHITE HYBRIDS				
PRINCETON SX910W	131.4	21.5	86.6	10.7
SU. STATES SS950W	129.4	21.1	86.5	14.8
MEACHAM'S MV78	129.0	21.3	85.3	11.7
ZIMMERMAN Z14W	128.3	21.1	85.1	10.4
MK/MCNAIR X233W	128.1	21.1	82.6	12.3
ZIMMERMAN Z11W	128.1	21.7	87.1	12.2
ZIMMERMAN Z52W	127.3	21.3	86.4	12.7
AGRI-GULD A-6955N	126.2	21.4	88.1	11.8
ASGROW RX962W	125.7	21.4	85.1	11.1
PIONEER BRAND 519W	125.0	19.7	85.5	9.1
DEKALB XL390B	123.8	20.2	80.4	11.4
GOLDEN HARV. H2660W	122.4	21.2	85.0	12.5
RING AROUND 2602W	121.4	21.5	85.6	14.1
WHITE AVERAGE	126.6	21.1	85.3	11.9
GRAND AVERAGE	127.4	19.6	85.1	10.2

TABLE 11.—TWO-YEAR SUMMARY, ALL NON-VIRUS LOCATIONS, 1980-1981

	YIELD BU/AC	AVG % MOIST	AVG % STAND	TOTAL % LODGED	
				80-81	80-81
YELLOW HYBRIDS					
PREMIER SX636	141.4	20.0	88.1	9.9	
PIONEER BRAND 3160	141.2	20.6	88.2	9.8	
O'S GOLD SX5509	140.8	19.8	87.0	9.3	
SELECT SEED 9300	140.1	20.1	85.8	9.8	
80-JAC 925	139.7	20.1	88.1	9.8	
AGRI-GOLD A-6900	139.7	20.3	87.0	9.6	
HIGRU/NAPB HP87	137.7	19.8	86.3	11.9	
DH 9113	136.5	19.4	83.6	9.0	
KING AROUND RA1502	136.1	19.7	86.9	7.1	
MCCURDY 84AA	135.5	19.8	86.7	9.3	
VORIS SEEDS V2651	135.1	19.9	86.4	17.2	
NORTHRUP-KING PX95	134.9	20.9	83.2	12.3	
ACCO UC8951	134.8	20.0	87.3	9.2	
TROJAN T-1230	134.5	19.7	85.5	8.9	
DENNIS DS42	133.7	18.4	83.9	7.9	
ADLENS 88X	132.9	20.1	85.5	6.7	
SELECT SEED 8400	132.4	18.8	86.7	10.4	
JACQUES JX247	132.3	19.7	83.9	10.7	
HIGRU/NAPB M-0707	132.2	19.8	85.2	7.4	
HIGRU/NAPB SPX77	131.8	19.8	86.0	10.4	
PING AROUND RA1604	131.7	20.1	86.0	8.0	
SUPER CROST 7801	131.0	20.3	83.8	9.7	
USS AG-CHEM USS 2020	130.9	20.3	82.9	7.7	
FERRY-MORSE GT4022	130.7	19.5	84.5	12.1	
SUPER CROST 6101	129.9	18.8	86.7	11.3	
DEKALB XL74A	129.5	19.5	84.6	8.2	
COLBERT 345	129.5	20.3	87.2	10.8	
ZIMMERMAN Z24Y	129.3	19.1	88.2	10.5	
COLBERT 340	128.7	19.9	84.6	9.6	
PRINCETON SX870	128.6	19.6	81.2	8.8	
USS AG-CHEM USS 1516	128.5	19.1	84.5	21.9	
DEKALB XL71	128.1	19.3	87.3	8.0	
GUTWEIN 2875	128.0	20.2	83.0	9.5	
STEWART SX77	127.8	19.7	83.1	6.5	
CARGILL 967	127.6	18.3	86.7	10.0	
RUFF'S R334A	127.3	18.9	84.7	13.0	
COLBERT 315	127.0	18.9	89.5	12.8	
COKER 22	126.6	19.9	84.8	10.8	
STEWART 6973	126.5	19.5	82.0	9.6	
SO. STATES SS915	126.4	20.5	85.5	10.5	
PIONEER BRAND 3184	126.2	19.2	89.1	4.4	
NORTHRUP-KING PX87	126.2	19.9	82.8	10.3	
PIONEER BRAND 3369A	125.5	18.4	86.0	10.9	
COKER 19A	124.9	19.6	84.8	9.3	

Small differences in yield are usually of little importance. The yield of two varieties at a single location may differ because of chance factors (difference in soil characteristics, fertility, or availability of moisture) even though the inherent yielding ability is the same. To decide if an observed yield difference is real, use the LSD (least significant difference) quoted at the bottom of the tables. If the difference in yield is greater than the LSD value, you may be reasonably certain that the entries actually do differ in yielding ability. "N.S." in the tables indicates that no statistically significant differences were determined. The LSD is calculated for an α level of 0.10.

PLANTING

All plots were planted with a two-row, no-till planter modified for small plot work. The planter boxes were replaced by special planting cones which allowed planting of a specified number of kernels per plot. Each plot consisted of two rows 38 inches apart and 22 feet long. Each normal population, conventional tillage test was planted at the rate of 22,000 kernels per acre. The normal population, no-till test was planted at 25,000 kernels per acre. Final stands were expected to be between 19,000 and 20,000 plants per acre if average stand losses occurred.

HARVESTING

All plots were harvested with a modified two-row self-propelled corn combine. Both rows of each two-row plots were picked and shelled, and the grain collected in a metal container. The grain weight and moisture content of each plot were then measured with a portable scale and moisture meter. Yields were calculated and adjusted to No. 2 corn at 15.5% moisture. Dropped ears were not gleaned from the plots. The total number of plants and lodged plants were recorded immediately prior to harvest.

CORN VIRUS

Two corn virus diseases occur in Kentucky; maize dwarf mosaic virus (MDM) and maize chlorotic dwarf virus (MCD). Both overwinter in johnsongrass and are usually present as a virus complex. Two locations (Frankfort and Henderson) were planted with 49 hybrids to evaluate resistance to the virus complex. Most plants at the Frankfort location were found to be virus infested when observed on June 6.

A later virus rating, presented in Table 13, also showed heavy infection. Yields were collected from the Frankfort plots but detrimental effects of the virus and late season growth of johnsongrass were so severe that the yield data was judged to be meaningless. The Henderson virus test location was planted but abandoned because flooding in the area during June prevented proper maintenance of the plots.

The virus ratings in Table 13 are on a 0 to 9 scale. A rating of 0 means that the plants showed no virus symptoms while a rating of 9 means that nearly all plants had very severe symptoms and would likely produce no grain. Intermediate values represent degrees of virus resistance or susceptibility.

Four virus-susceptible check hybrids (two yellow and two white) were included in the virus tests. Their average performance is listed as Susceptible Checks.

NOTES ABOUT THE GROWING SEASON

MURRAY

The Murray test was planted on April 16 and harvested September 23, 24, and 25. Monthly precipitation amounts for April and subsequent months were 4.3, 6.5, 6.5, 7.5, 4.4, and 3.5 inches, respectively. Weed control was good. There was no apparent damage from insects or diseases and lodging was minimal.

PRINCETON

The Princeton test was planted on June 12 and harvested on November 10, 11 and 12. Precipitation amounts for the months of June through October were 2.4, 5.7, 2.0, 3.8, and 2.2 inches, respectively. Weed control was good. Army worms caused early leaf damage and required a control spray of Lorsban. European and Southwestern corn borers caused much of the lodging problems associated with the test.

SEBREE

The Sebree test was planted on April 15 and harvested on September 28 and 29. Precipitation amounts recorded for the months of April through September were 2.8, 8.3, 5.0, 4.9, 0.3, and 4.3 inches,

TABLE 10.—(continued)

	YIELD BU/AAC 1981	Avg % MOIST 1981	Avg % STAND 1981	Avg % TOTAL LODGED 1981
YELLOW HYBRIDS				
STEWART SX77	134.3	21.3	79.3	5.9
ACCO UC7601	134.2	20.2	84.0	5.1
P.A.G. SX351	133.7	19.6	83.5	6.7
SELECT SEED 5100	133.7	19.4	84.1	8.5
USS AG-CHEM USS 1010	132.9	19.9	85.1	6.3
JACQUES JX180	132.8	19.5	81.8	8.4
OH 7175	131.7	19.6	85.3	8.4
FERRY-MORSE GT3020	131.4	19.5	81.5	10.3
SO. STATES SS775	131.3	20.0	86.4	6.0
MICRO/NAPCO HP470	129.5	18.5	84.6	6.3
COKEH 19	129.4	19.4	83.0	7.4
SO. STATES SS785	129.1	19.6	86.0	6.6
FUNK'S G4522	128.2	20.0	80.6	6.0
BD-JAC 452	128.0	18.6	84.4	7.1
CARGILL 949	127.2	19.0	81.4	8.7
NORTHRUP-KING PX83	126.9	20.0	79.5	8.0
PIONEER BRAND 3320	126.8	21.1	82.6	4.8
P.A.G. SX333	126.7	19.2	82.6	9.5
GOLDEN AC. T-E 6995	126.4	19.5	83.2	8.8
FUNK'S G4507A	126.0	19.6	83.4	9.5
ADLERS 30X	125.2	18.5	82.2	6.0
DENNIS DS25	125.2	19.4	80.5	7.7
SELECT SEED 5050	124.4	18.4	77.3	5.3
CARGILL 921	123.5	17.9	86.4	9.0
SCOTT SEED LR101	120.8	19.7	78.9	8.6
PRINCETON SX860	120.4	20.8	80.3	6.1
FERRY-MORSE GT3006	119.5	18.6	81.9	5.3
RING AROUND RA1504	118.7	18.9	80.0	7.7
P.A.G. SX397	117.9	17.8	84.9	10.0
CARGILL 934	117.3	18.5	82.2	5.3
SUPER CROST 4337	115.7	18.5	78.6	5.3
STEWART 7349	113.3	18.7	77.5	5.1
TROJAN T-1100	111.9	19.2	74.9	4.9
USS AG-CHEM USS 0555A	110.5	19.1	80.0	7.9
DENNIS DS25	107.3	18.6	75.4	5.5
PREMIER SX632	106.1	18.4	78.3	7.5
OH 8177	103.3	21.1	71.0	11.6
FERRY-MORSE GT3008	100.6	19.1	77.8	12.6
JACQUES JX179	99.9	18.8	80.3	9.7
YELLOW AVERAGE	135.6	20.4	83.1	7.6
WHITE HYBRIDS				
ZIMMERMAN Z52W	153.1	22.9	86.8	8.1
PRINCETON SX910N	150.7	22.9	89.1	10.2
NK/MCNAIR X233N	147.9	22.5	86.5	9.1
ZIMMERMAN Z11W	147.2	23.3	86.8	9.8
MEACHAM'S MV78	147.0	23.1	82.1	8.9
SO. STATES SS950W	146.8	22.8	85.0	9.5
FUNK'S G4747W-1	144.6	22.9	88.9	12.1
RING AROUND RA3605W	143.3	22.5	86.0	9.7
ASGRUM RX962W	142.7	22.7	85.4	6.5
AGRI-GOLD A-6955W	142.5	23.0	87.3	10.4
FUNK'S G4787W	140.7	23.6	85.3	5.8
RING AROUND 2602W	140.4	23.4	85.3	12.4
PIONEER BRAND 519W	140.3	21.7	82.9	8.1
GOLDEN HARV. H2660W	139.1	23.0	85.0	8.8
DEKALB XL3908	138.6	21.7	80.7	7.6
ZIMMERMAN Z14W	135.4	22.6	79.8	5.6
ZIMMERMAN Z54W	116.2	23.1	82.3	5.3
WHITE AVERAGE	142.1	22.6	85.0	8.7
GRAND AVERAGE	136.7	20.7	83.4	7.7

TABLE 10.—ANNUAL SUMMARY, ALL NON-VIRUS LOCATIONS, 1981

	YIELD BU/AC 1981	Avg % MOIST 1981	Avg % STAND 1981	Total % LODGED 1981
YELLOW HYBRIDS				
NORTHRUP-KING PX95	158.5	23.0	82.6	7.1
PIONEER BRAND 3160	157.7	22.7	88.5	7.3
PREMIER SX636	157.2	21.1	87.6	7.9
GOLDEN AC. T-E 6908	154.2	21.7	85.2	7.0
SELECT SEED 9300	153.6	21.7	87.7	7.6
SUPER CROST 7801	151.8	21.8	87.2	6.3
COLBERT 345	151.2	22.0	85.7	8.6
GOLDEN HARV. H2775A	151.1	22.4	88.9	10.0
SELECT SEED 8900	150.6	19.9	85.5	4.6
VORIS SEEDS V2651	150.5	21.5	83.6	10.2
RING AROUND RA1502	150.5	20.8	84.4	6.4
MCCURDY 8150	150.5	22.6	87.0	4.0
HO-JAC 923	150.3	21.4	85.9	7.2
O'S GOLD SX5509	150.2	21.4	84.2	4.7
ACCO UC8951	149.7	21.0	86.0	5.6
OH 9115	148.9	20.9	83.6	9.2
AGRI-GOLD A-6900	148.6	21.1	86.0	7.7
MIGRU/NAPB SPX77	148.3	21.7	89.1	4.3
RUFF'S R339A	147.4	19.7	85.0	10.1
SU. STATES SS915	147.3	22.1	87.3	11.2
FUNK'S G4755	146.8	22.2	88.2	7.1
SELECT SEED 8400	146.2	20.1	87.0	7.0
GOLDEN HARV. H2640	145.9	21.3	83.8	6.1
BALDRIDGE RX77	145.8	20.6	80.6	7.7
COLBERT 340	145.7	21.1	83.4	4.2
COKER 21	145.5	20.7	82.9	7.1
MIGRU/NAPB H-0707	145.4	21.2	85.4	6.6
RING AROUND RA1604	144.6	21.3	84.8	7.0
ZIMMERMAN Z24Y	144.1	20.5	87.3	5.0
DEKALB XL71	143.9	20.5	86.7	7.0
VORIS SEEDS V2641	143.7	21.4	82.0	8.7
HO-JAC 562	143.7	20.5	82.9	9.7
ACCOUCOY 54AA	142.5	21.2	84.2	5.8
GUTHWEIN 2875	142.4	21.9	84.0	5.5
ADLERS 68X	142.2	21.3	83.5	5.3
PIONEER BRAND 3164	141.9	20.2	89.6	4.6
MIGRU/NAPB HP87	141.8	21.5	82.9	7.0
JACQUES JX247	141.1	21.0	81.9	5.7
SCOTT SEEJ LR880	141.0	21.1	82.4	9.4
SUPER CROST 6101	141.0	20.0	84.8	12.0
TROJAN TXS-114	140.7	19.4	82.2	7.2
USS AG-CHEM USS 2020	139.7	22.1	81.8	5.8
DEKALB XL74A	139.6	20.7	84.8	9.1
P.A.G. SX373	139.4	21.4	83.3	10.2
GOLDEN HARV. H2646	139.2	22.7	76.2	7.4
COLBERT 315	139.1	20.4	87.7	9.1
DENNIS DS42	138.9	19.4	81.2	7.1
DEKALB XL7288	138.8	20.9	87.7	8.0
NORTHRUP-KING PX87	138.7	21.0	81.6	12.0
TROJAN T-1230	138.2	21.1	82.0	6.9
PIONEER BRAND 3369A	138.0	19.3	85.8	10.0
PREMIER SX639A	137.9	20.8	83.5	5.0
COKER 19A	137.8	20.3	84.2	7.4
AGRI-GOLD XA-812	137.6	20.7	83.5	4.3
CARGILL 967	137.5	19.4	86.4	7.1
STEWART 6973	137.5	20.6	80.0	8.0
FERRY-NORSE GT4022	137.4	20.9	81.7	10.2
O'S GOLD SX5291	136.8	21.5	84.9	7.3
USS AG-CHEM USS 1516	136.8	20.2	81.1	11.4
TROJAN TXS-115A	136.5	19.4	84.5	10.9
PRINCETON SX870	135.4	20.9	76.4	7.9
GUTHWEIN 2910	135.3	20.3	77.8	10.7
ADLERS 60X	135.3	20.3	84.0	8.8
STEWART 7384	134.7	19.8	76.9	5.4
COKER 22	134.5	21.5	84.2	6.9

respectively. Excessive rainfall during May caused some stunting. Additional nitrogen was applied by air during June. Weed control was only fair. Disease and insect problems were minimal.

HENDERSON

The Henderson test was planted on May 7. During early June the plot area was inundated by flood water of the Ohio and Green Rivers. Chemicals were apparently leached by excessive rainfall and flooding. The plot was overgrown with various weeds and was abandoned because of the weed problems.

ELKTON

The Elkton test was planted on April 7 and harvested September 21 and 22. Precipitation amounts recorded from April through September were 1.5, 5.6, 5.3, 4.8, 4.6, and 2.1 inches, respectively. Weed control was good. Disease and insect problems were minimal.

BARDSTOWN

The Bardstown test was planted on April 8 and harvested on September 30 and October 1 and 2. This test was planted no-till in soybean stubble. Precipitation amounts recorded for the months of April through September were 3.7, 8.7, 3.0, 6.8, 2.2, and 2.4 inches, respectively. Weed control was fair although climbing milkweed and morning-glories were not well controlled. These vines caused much of the lodging associated with the test. There were no apparent disease or insect problems.

LEXINGTON

The Lexington test was planted on April 27 and harvested on October 5 and 6. Monthly precipitation amounts recorded for April through September were 0.8, 4.7, 2.4, 5.4, 2.2, and 1.4 inches, respectively. Weed problems were minimal although climbing milkweed infested some field areas. The test was cultivated once to control some of the vines. Disease and insect problems were minimal.

QUICKSAND

The Quicksand test was planted on May 4 and harvested on October 7, 8, and 12. Precipitation amounts recorded for May through October were 5.5, 4.8, 5.2, 2.2, 1.7, and 0.7 inches, respectively. Weed control was fair. Some stand and lodging problems were caused by vine and johnsongrass competition. Maize Dwarf Mosaic Virus was observed on johnsongrass and corn in areas where the grass was present. Leaf diseases were present but did not appear to have major effects. Insects were not a problem.

FRANKFORT

The Frankfort test was planted on May 22 and harvested on October 29. Precipitation was not recorded at this test location. Weed control was poor. The seedbed was prepared and the herbicides were incorporated on May 1, but excessive rainfall delayed planting until May 22. The test area was cultivated twice and hoed once during the early part of growing season. Johnsongrass was the major weed problem. Detrimental effects of the virus diseases and johnsongrass competition caused the yield data to be meaningless. Hybrid yields ranged from 0.9 to 44.0 bu/a with a coefficient of variation of 49.2%. Only virus ratings are presented in Table 13.

TABLE 9.—(continued)

	YIELD BU/AC 79-81	YIELD BU/AC 80-81	YIELD BU/AC 1981	Avg % MOIST 1981	Avg % STAND 1981	X TOTAL LODGED 1981
YELLOW HYBRIDS						
SO. STATES SS785			128.9	21.0	88.6	6.5
USS AG-CHEM USS 1516	106.9	128.7	21.2	74.8	8.6	
GUTWEIN 2910	131.3	111.6	128.6	21.8	75.7	22.1
STEWART 6973	121.1	112.4	127.3	20.7	74.8	8.5
USS AG-CHEM USS 2020		123.6	126.0	22.1	75.7	10.1
FERRY-MURSE GT4022		124.1	125.2	23.1	80.0	15.3
SCOTT SEED LR101			125.1	19.4	78.6	11.4
RING AROUND RA1504		108.3	123.7	19.7	77.6	10.4
PRINCETON SX870	122.7	112.5	122.7	21.4	76.2	6.2
NORTHRUP-KING PX87	117.1	108.6	121.8	21.8	69.5	23.3
COKER 22	123.4	117.3	121.1	22.1	82.4	2.3
COKER 21			121.0	22.0	73.3	8.6
STEWART SX77	110.5	103.6	120.9	21.8	77.6	7.7
SELECT SEED 5050			120.5	18.6	80.0	6.0
DENNIS DS26			117.7	20.0	86.2	4.5
SUPER CROSII 6101		108.2	117.4	20.9	80.5	18.1
SCOTT SEED LR880			116.8	22.2	89.5	8.7
OH 8177			116.4	22.2	75.2	7.1
STEWART 7389			116.4	19.3	77.1	7.2
COLBERT 340	132.5	113.7	115.6	21.9	73.3	22.5
BO-JAC 452			115.4	19.7	75.2	15.0
P.A.G. SX553	125.4	105.3	115.1	20.6	72.4	12.0
JACQUES JX247	125.3	108.2	115.0	21.5	79.0	5.7
TROJAN T-1100			113.6	19.2	69.0	1.3
USS AG-CHEM USS 0555A			113.6	20.8	77.1	10.3
FERRY-MURSE GT3006			113.4	19.4	83.8	5.7
P.A.G. SX351	107.3	112.6	19.3	80.5	12.8	
PRINCETON SX860	91.5	110.8	22.0	79.5	2.4	
CARGILL 914	103.0		109.4	19.1	76.2	8.6
FUNK'S G4522			109.0	20.5	74.3	7.2
P.A.G. SX397			106.3	17.4	88.6	9.1
CARGILL 921			104.5	17.8	91.0	2.1
TROJAN T-1230	104.7	103.6	22.2	77.1	14.2	
PREMIER SX632			103.3	19.7	74.3	8.6
SUPER CROSII 4337			100.6	19.1	77.1	1.8
JACQUES JX179			100.1	20.5	83.8	4.1
ADLEMS 30X	92.4	98.0	19.1	70.5	14.6	
DENNIS DS25			89.7	20.1	71.9	7.4
FERRY-MURSE GT3008			88.5	20.3	56.7	34.6
YELLOW AVERAGE	131.5	120.0	135.0	21.3	82.4	7.9
WHITE HYBRIDS						
PRINCETON SX910W	151.1	145.2	181.3	24.9	95.7	5.0
ZIMMERMAN Z11W	148.3	141.3	169.8	25.2	91.4	3.1
FUNK'S G4787W			167.2	25.5	89.0	5.2
RING AROUND 2602W			135.6	165.2	26.0	91.0
ZIMMERMAN Z52W	137.9	136.0	163.3	24.8	88.1	5.9
MEACHAM'S 4W78			137.8	162.9	25.0	88.5
NK/MCNAIR X233N	147.6	136.0	161.7	24.9	84.8	4.5
RING AROUND RA360SW				157.8	23.7	92.4
GOLDEN HARV. H2660N	138.0	132.1	157.6	24.2	91.0	3.3
SO. STATES SS950W	139.6	128.9	157.1	24.5	80.0	2.3
ASGRUM RX962W	134.5	131.8	155.4	25.3	85.7	9.7
AGRI-GOLD A-6955W		131.6	154.0	23.6	83.8	12.7
FUNK'S G4747W-1				146.6	23.9	88.1
DEKALB XL390B	139.9	118.0	144.0	23.4	86.2	5.6
PIONEER BRAND 519W			124.1	142.4	24.6	76.2
ZIMMERMAN 254W				134.4	24.0	89.0
ZIMMERMAN Z14W			124.4	126.0	24.2	73.3
WHITE AVERAGE	142.1	132.6	155.7	24.6	86.2	6.0
GRAND AVERAGE	133.1	122.0	137.9	21.8	82.9	7.6
LSD*				32.8	1.7	12.5
C.V.				17.6	5.9	11.2
						107.5

* For the difference between two means in a column to be significant the difference must exceed the LSD.

TABLE 8.—(continued)

		Hypoth			Color			Crosses**			Source		
		Test A		Test B	Test A		Test B	Color		Test A	Test B	Color	Crosses***
Hochkemp-Kings	PSX79	A	Yellow	2X	PSX83	A	Yellow	2X	Hypothd	Test A	Test B	Color	Crosses***
So. States	SS710	A	Yellow	2X	SS725	A	Yellow	2X	SS710	SS710	SS725	So. States Coop., Inc.	SS725
So. States	SS710	B	Yellow	2X	SS725	B	Yellow	2X	SS710	SS710	SS725	So. States Coop., Inc.	SS725
O. & Coal	SS2525	B	Yellow	2X (Mod)	SS2509	B	Yellow	2X	O. & Gold Seed Co.				
(Chatter)	X2349	AB	Yellow	2X					X2349				
P.BX5	A	Yellow	2X	P.BX7	A	Yellow	2X	P.BX5					
Zimmerman	T2311			Zimmerman				Zimmerman					
P.A.G.	SS17A	B	Yellow	2X	SS133	B	Yellow	2X	P-A-G Seeds				
Pioneer Brand	S19W	A	White	2X					S19W				
Princetion	SS2632	A	Yellow	2X	SS223	A	Yellow	2X	Princet				
Promoter	SS2623	A	Yellow	2X	SS2393	A	Yellow	2X	Promote				
Rings Around	RA1502	A	Yellow	2X	SS2604	A	Yellow	2X	Ring Around Produc				
Scot Seed	I2101	A	Yellow	2X	SS2602	A	Yellow	2X	Scot Seed				
Select Seed	5050	A	Yellow	2X	SS2603	A	Yellow	2X	Select Seed				
Stevens	SS1200	A	Yellow	2X	SS1200	A	Yellow	2X	Stevens				
Yellow Hybrids													
BO-JAC 452													
RING AROUND RA1502													
PIONEER BRAND 3369A													
JACQUES JX160													
STEWARD SX77													
DENNIS DS26													
BO-JAC 925													
USS AG-CHEM USS 0555A													
GOLDEN T-E 6998													
COKER 19													
STEWART 6973													
FUNK'S SX597													
COKER 22													
NORTH HUR-KLING PX83													
JACQUES JX247													
DENNIS DS25													
CARLIL 934													
STEWART 7389													
SO. STATES SS775													
SELECT SEED 5050													
GUTWEIN 2910													
MIGDAL/N.P.H. HP470													
SCOTT SEED LR101													
P.A.G. SX337													
PIONEER BRAND 3320													
PRINCETON T-1100													
FERRY-MORSE GT3008													
OH A177													
Premier SX632													
JACQUES JX179													
Yellow Average													
WHITE HYBRIDS													
ZIMMERMAN Z52N													
NK/N.C.N.AIR X233N													
PRINCETON PK910N													
ZIMMERMAN Z11W													
SO. STATES SS950W													
PIONEER BRAND 519W													
GOLDEN HARV. H2660W													
FUNK'S H474-H-1													
AGR-GOLD A-6955W													
HECHMAN M78													
ZIMMERMAN Z14W													
RING AROUND RA3605W													
ASSUM RY952W													
ODEKAL XL390B													
RING AROUND 2602W													
FUNK'S G4780W													
ZIMMERMAN Z54W													
WHITE Average													
GRAND Average													

** ZX = Single Cross, 2ZX (Mod) = Modified Single Cross, 3ZX = Three-Half Cross, 4ZX = Three-Day Cross,

*** ZX (Mod) = Modified three-half-day Cross, 2ZX (Mod) = Modified single-day Cross, 3ZX = Three-half-day Cross.

#

*

For the difference between two means in a column to be significant the difference must exceed the LSD.

C.V.

LSD*

TABLE 8.—ANNUAL SUMMARY, LEXINGTON, KY.

	YIELD BU/AC 79-81	YIELD BU/AC 80-81	YIELD BU/AC 1981	Avg % Moist Stand 1981	Avg % Total Lodged 1981	%
YELLOW HYBRIDS						
MIGRUM/NAPB SPX77	146.9	172.3	21.7	89.0	1.6	
VORIS SEEDS V2651	159.7	158.0	168.9	22.1	85.7	9.9
DENNIS DS42	147.1	147.6	158.3	19.8	80.5	0.6
COLBERT 340	149.8	143.8	157.4	22.6	90.5	2.7
FUNK'S G4733			156.5	22.0	88.6	2.6
DEKALB XL71	139.4	131.2	152.7	20.8	84.3	3.4
MCCURDY 84AA	160.9	153.0	151.1	21.7	83.3	4.0
GOLDEN AC. T-E 6995	130.7	122.9	149.2	21.2	80.0	6.2
GOLDEN HARV. H2775A			147.9	23.9	87.6	8.6
SO. STATES SS915	139.4	123.1	147.7	23.2	88.1	2.7
ADLERS 60X			147.4	20.7	86.2	1.7
DEKALB XL74A			146.2	20.3	88.8	9.0
AGRI-GOLD A-6900	159.1	142.6	146.2	21.1	83.8	3.9
RING AROUND RA1604			146.2	21.4	87.1	2.1
MCCURDY 8150			146.0	23.0	86.7	1.1
SELECT SEED 8900			145.9	21.0	82.9	1.8
CARGILL 967	151.9	140.6	145.9	20.6	90.5	2.1
DR 9113	159.6	154.3	145.6	21.4	81.4	8.3
O'S GOLD SX5509	154.9	144.8	145.5	22.3	81.0	4.6
GUTWEIN 2875			136.4	144.6	24.0	86.7
SUPER CROST 6101			126.8	144.1	20.3	81.4
TROJAN T-1230			146.8	144.0	21.3	80.0
COLBERT 345	142.2	128.2	143.4	24.0	88.1	5.9
SELECT SEED 9300	160.7	151.5	145.3	21.4	84.3	5.5
NORTHROP-KING PX95	147.3	151.1	143.2	24.0	78.6	3.6
PIONEER BRAND 3160			148.1	142.8	23.7	84.8
RUFF'S P334A	141.4	134.4	142.6	20.5	87.6	8.3
SELECT SEED 8400			134.5	142.2	21.1	80.5
NORTHROP-KING PX87	149.4	138.6	142.1	21.3	80.3	5.4
DUKE 21			141.8	22.3	86.7	3.2
DU-JAC 562			141.4	21.0	83.8	4.1
TROJAN TXS-115A			125.2	141.1	20.0	88.1
PIONEER BRAND 3184			133.5	141.0	20.6	93.3
PREMIER SX636	148.0	146.7	140.9	21.9	89.0	2.1
KALDIDGE RX77	133.6	125.9	140.6	21.6	80.0	3.0
FERRY-MORSE GT4022			138.5	140.3	21.3	88.8
P.A.G. SX573	145.8	134.6	140.3	22.9	84.3	1.6
SELECT SEED 5100	133.2	128.5	140.0	22.3	87.1	3.8
DEKALB XL7288			134.7	20.8	91.0	1.6
DR 7175			134.5	130.1	20.3	87.1
ZIMMERMAN Z24Y	140.9	133.7	139.3	20.8	90.5	5.8
CARGILL 921			139.2	18.8	86.2	6.6
PREMIER SX639A			134.2	20.6	88.5	1.9
GOLDEN HARV. H2686			139.2	25.1	75.2	0.0
VORIS SEEDS V2641			139.1	22.7	83.3	2.8
MIGRUM/NAPB HP87			151.7	138.7	23.2	84.8
STEWART 7384			134.7	20.9	73.6	1.3
SCOTT SEED LR880			138.0	21.0	76.7	1.3
COLBERT 315			132.7	137.1	21.4	92.4
ACCO UC8951	132.1	122.0	137.1	22.7	91.4	1.1
GOLDEN HARV. H2680			137.0	22.9	85.2	2.4
AGRI-GOLD XA-812			136.5	20.1	88.1	4.3
USS AG-CHEM USS 2020			132.7	135.1	22.7	80.5
USS AG-CHEM USS 1010	130.7	122.8	134.8	21.5	87.6	0.6
PRINCETON SX870	154.5	143.4	134.8	21.9	73.3	1.4
FERRY-MORSE GT3020	128.0	125.6	134.7	20.2	79.0	1.9
P.A.G. SX351			130.5	134.4	21.6	86.2
MIGRUM/NAPB M-0707	137.0	130.8	134.2	21.7	88.6	5.3
RING AROUND RA1504			122.0	133.9	19.6	79.5
SO. STATES SS785			133.4	19.9	89.5	1.6
SUPER CROST 7801	141.8	127.3	133.3	22.5	86.7	1.1
USS AG-CHEM USS 1516	133.7	132.8	20.3	88.3	11.6	
ACCO UC7601			132.5	20.6	85.7	4.4
FUNK'S G4507A			120.7	131.7	19.9	95.2
O'S GOLD SX5291			131.7	22.6	86.7	3.3

TABLE 2.—AGRONOMIC INFORMATION PERTAINING TO 1981 TEST LOCATIONS

Location and Cooperator	Soil Type	Fertilizer lb/A	Herbicide	Insecticide	Planting Date	Harvest Dates
(1) Murray, KY Sherwood and Ted Potts	Grenada and Brandon Silt Loam	N -170 P ₂ O ₅ - 92 K ₂ O - 90	Aatrex Nine-0 and Dual		April 16	September 23 & 25
(2) Princeton, KY Western KY Substation	Huntington and Lindsdale Silt Loam	N -150 P ₂ O ₅ -None K ₂ O - 60	Eradicane and Bladex		June 11	November 10, 11 & 12
(3) Henderson, KY James Buley Reid, KY	Huntington Sandy Loam	N -120 P ₂ O ₅ -None K ₂ O -None	Sutan ⁺ and Aatrex			Not Harvested
(4) Seabree, KY J. A. Tapp	Belknap Silt Loam	N -150 P ₂ O ₅ -None K ₂ O - 35	Dual and Aatrex		April 15	September 28 & 29
(5) Elkhorn, KY Rudy Hall Farm	Pembroke Silt Loam	N -160 P ₂ O ₅ -None K ₂ O -None	Sutan ⁺ and Aatrex Nine-0		April 8	September 21 & 22
(6) Bardstown, KY Tommy Hart	Pembroke Silt Loam	N -185 P ₂ O ₅ -92 K ₂ O -100	Aatrex and 2,4-D			September 30 & October 1 & 2
(7) Frankfort, KY Mason and Ralph Bates	Armour Silt Loam	N -100 P ₂ O ₅ -None K ₂ O -None	Eradicane and Aatrex		May 22	October 29
(8) Lexington, KY K.A.E.S. Spindletop Farm	Lanton Silt Loam	N -150 P ₂ O ₅ -None K ₂ O - 60	Eradicane and Aatrex		April 27	October 5 & 6
(9) Quicksand, KY Robinson Substation	Philo Silt Loam	N -180 P ₂ O ₅ -100 K ₂ O -100	Eradicane, Aatrex, & Lasso		May 4	October 7, 8 & 12

