WHAT ABOUT PLANTING RATES?

Frequently farm operators make decisions based on short term experience which can be costly. Due to rather general drought conditions in Kentucky in 1964, corn yields were reduced. Some producers believe that their losses would have been smaller if they had used a reduced planting rate.

Research results obtained at the University of Kentucky during conditions of drought and under more normal conditions are helpful in evaluating this point.

Yield Comparison in Bushels per Acre

Weather Conditions	Rate of Planting 8,000 Plts/A	12,000 Plts/A	16,000 Plts/A
Drought-Lex.'57	51.0	56.6	56.6
Normal Ave. 7 Trials	68.4	82.4	85.0

Results indicate that yield is generally reduced by conditions of drought. Increasing the rate of planting from 8,000 to 12,000 plants increased yield under drought conditions. Yield was not reduced by increasing planting rate to 16,000 plants per acre during an unfavorable year. Large increases in yield may be expected in favorable years when planting rate is increased from 8,000 plants per acre to 12,000 or 16,000 plants per acre. A planting rate of 16,000 plants per acre is not an excessive population for efficient corn production if accompanied by an adequate fertilizer program, timely planting, an effective weed control program and a high potential producing hybrid.

Since weather conditions tend toward the average rather than the extreme, prolonged summer droughts are not expected annually in Kentucky. Farm operators must plan their operations on a long-term basis utilizing proven profitable practices. No single practice in corn production is as profitable as increasing the rate of planting to insure a harvest stand of 14,000 to 16,000 plants per acre.

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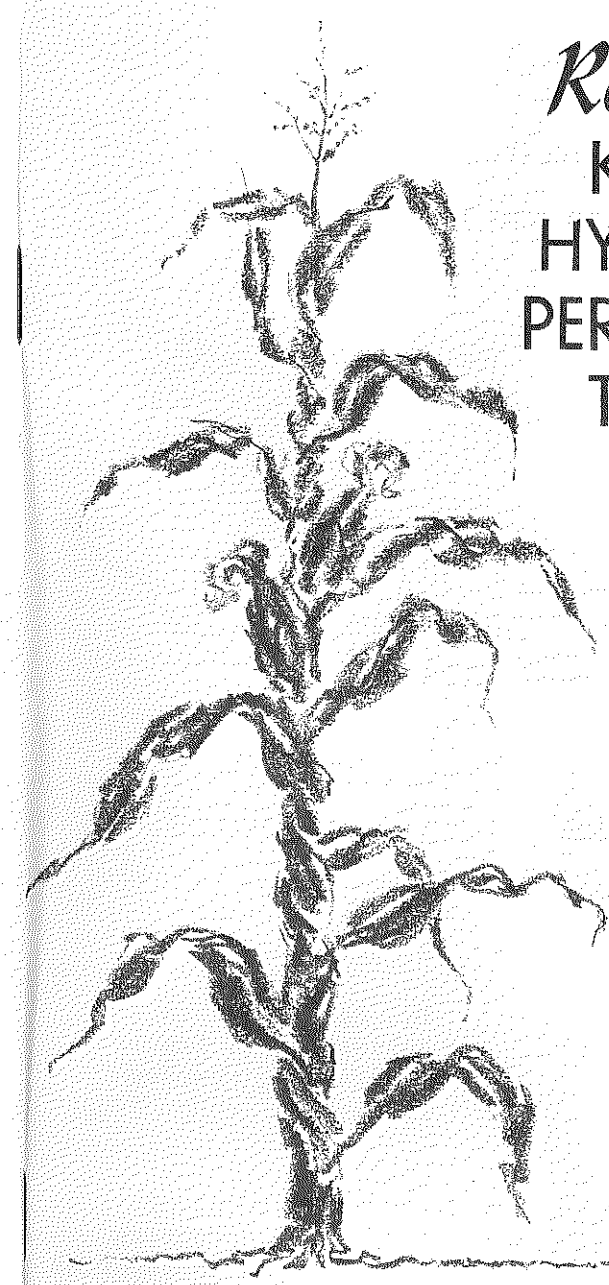

Results of the KENTUCKY HYBRID CORN PERFORMANCE TEST—1964

by
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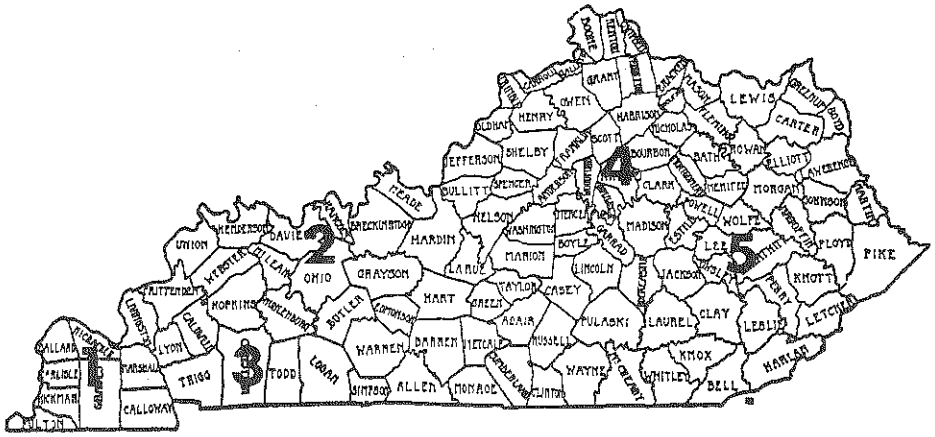
Progress Report 145
(Filing Code: 1-1)

February 1965

UNIVERSITY OF KENTUCKY
AGRICULTURAL EXPERIMENT STATION
LEXINGTON

TESTING LOCATIONS OF

THE KENTUCKY HYBRID CORN PERFORMANCE TEST



Area		Location	Cooperator
Western	1.	Wickliffe	James Wilson
	2.	Owensboro	Beverly Gregory
	3.	Hopkinsville	Graham Duncan
Eastern	4.	Lexington	Ky. Agr. Exp. Sta.
	5.	Quicksand	Robinson Agr. Exp. Substation, Charles M. Martin

Acknowledgment is made to Gary Hicks, Department of Agronomy, and to the University of Kentucky Computing Center for assistance in summarizing the results reported in this progress report.

RESULTS OF THE KENTUCKY HYBRID CORN PERFORMANCE TEST IN 1964

F. A. Loeffel, D. E. Thorndale and J. F. Shane

The objective of the Kentucky Hybrid Corn Performance Test is to provide an unbiased estimate of the relative performance of corn hybrids being sold in Kentucky. This information may be used by farmers, seedsmen, and research and extension personnel to determine which hybrid most nearly possesses the characteristics which are desired or required for a specific situation. The need for the University of Kentucky Agricultural Experiment Station to obtain this information is indicated by the continuing shift to hybrids by Kentucky farmers. In recent years, much more seed of single-cross hybrids is being planted in Kentucky. This is a part of a continuing search by corn producers in the state to improve their efficiency of production.

Kentucky failed to establish a new efficiency record for corn production for the first time since 1961. This year the average yield per acre for the state was 57 bushels per acre. This yield level has been exceeded in Kentucky only in 1962 and 1963 when record yields of 58 and 66 bushels per acre were obtained. The achievement of farm operators in Kentucky to maintain the efficiency of corn production under the adverse weather conditions of 1964 points out the remarkable progress being made to utilize improved products and cultural practices. The rate of increasing the efficiency of corn production in the state in terms of bushels per acre is encouraging. A comparison of the five-year period 1960-64 with that of 1940-44 shows that the yield of corn has more than doubled, having increased by 113 percent. The reduced corn acreage in Kentucky since 1955, however, is not encouraging to a sound

expansion of livestock feeding and breeding operations so necessary for agricultural progress.

The estimated corn production for Kentucky in 1964 is 62.3 million bushels. This is 12.1 million bushels less than the 1963 production and the third lowest production since 1955. A reduction of 3 percent in acres harvested and a marked cut in yield from the 1963 record yield of 66 bushels per acre accounted for the decline in production.

Despite adverse weather conditions during various parts of the growing season, the yield of corn turned out as well as or better than average. There were very few general rains over the state during the growing season. Most of the precipitation resulted from local showers which were very spotty. Yield was reduced by drought conditions which developed over the state in areas not obtaining showers regularly. Cool weather continuing into June also retarded plant development. However, the hot, dry weather the first week of August was the most damaging of the season.

Rainfall was about normal through April but corn was needing moisture before the late May rains. These rains brought some record-breaking low temperatures with them in early June. Unseasonal low temperatures also occurred in early July. July rainfall was extremely spotty, with most areas getting dry by the end of the month. The extremely high temperatures with no precipitation during early August then seriously reduced corn prospects. The drought conditions matured early corn faster than normal, permitting early harvesting. A dry fall also permitted rapid harvesting of the corn crop.

Corn planting was getting started over the state during the week ending April 28. Nearly half of the crop was reported planted in some of the southern counties. Sixty percent of the corn crop was planted

by May 19, which is later than the last couple of years but ahead of normal. Corn planting was 90 percent completed by June 2. Yellowing occurred in some areas during the week ending June 9 owing to cool weather. On July 21, nearly 60 percent of the crop was tasselling, with some early planted corn in southern counties, severely damaged by drought, being salvaged as silage. By August 25, 60 percent of the crop was reported to be mature or in dent stage with only 10 percent still in the milk stage. Over 65 percent of the corn was mature by September 22, with 7 percent of it harvested primarily in western counties. Harvesting throughout the state was more uniform than normal, with 81 percent of the crop harvested by November 3.

The average yield for all hybrids grown at five locations in 1964 was 4,179 pounds of shelled corn per acre or 74.6 bushels. The highest test average was 5,908 pounds per acre (105.5 bu) at Quicksand. The lowest test average was 2,895 pounds per acre (51.7 bu) at one western location.

EXPERIMENTAL METHODS

The performance test was conducted at five locations which represent corn-producing areas typical of the state. These locations together with the name of the cooperator are listed on the inside of the front cover. These testing sites were grouped by geographical location into western and eastern areas for convenience in presenting the results. Yields from Wickliffe, Owensboro, and Hopkinsville were averaged for the western area. Similarly, the yields from Lexington and Quicksand were averaged for the eastern Kentucky area.

Seventy-two hybrids which are available to the farmers of Kentucky through commercial trade channels were compared. These hybrids, developed by state and federal research agencies and by private

seed companies, are listed in Table 1. Information concerning the seed source of the hybrid, the kernel color and the type of cross is presented. The type of hybrid is designated as follows: double cross, 4X; three-way cross, 3X; single cross, 2X; and a multiple cross, MX. Seed of a single cross hybrid sells at a premium owing to increased costs of producing seed. The following material was evaluated in 1964: 49 double crosses, 2 three-way crosses, 20 single crosses and a multiple cross.

The pedigrees of hybrids developed by state and federal agencies are listed in Table 2. Agronomic information pertaining to the testing locations is presented in Table 3. Results of the Kentucky Hybrid Corn Performance Test are summarized for periods of 3 years, 2 years and 1 year and are presented in Tables 4-6 respectively. The hybrids are grouped in the tables on the basis of kernel color. Within groups the hybrids are listed in order of increasing moisture content. The reaction of the hybrids to northern and southern corn leaf blight are summarized in Table 7. The hybrids in Table 7 are listed in alphabetical order.

Field Design.

Each hybrid was planted in four plots at each of the five locations with individual plots being two hills wide and the equivalent of five hills long in 1962 and 1963. In 1964,each hybrid was planted in three plots per location. Corn was hand planted simulating hill dropping. These plots were located in different parts of the testing field to minimize cultural and soil differences. All tests were planted at an increased rate and the resulting plants thinned to comparable stands at each location.

Yield.

The corn from each plot was harvested and weighed individually. The yield of the hybrids was determined and is reported on the basis of pounds of shelled

corn per acre and bushels of shelled corn per acre with a moisture content of 15.5 percent. Adjustments were made for missing hills but not for other variation in stand. Therefore, the yields at each location reported in this progress report constitute an average yield of 3 or 4 plots after all adjustments were made.

Moisture.

The moisture content at harvest is the best measure of relative maturity of hybrids which is available. A hybrid may be considered to be earlier than a second hybrid if its moisture content at harvest is consistently lower. Maturity thus determined is not absolute but is relative to the hybrids being compared.

In 1962 and 1963, two moisture samples were taken at each location for each hybrid by taking a composite sample from replication 1 and 2 and from replication 3 and 4. The moisture content in the grain was determined at harvest by removing 2 rows of kernels from each of 10 ears selected at random from each of 2 replications. The grain from the 20 ears was thoroughly mixed and the moisture content of a 100-gram sample was determined with a Steinlite moisture meter. In 1964, moisture samples were taken on an individual plot basis at each of the five locations and moisture individually determined.

Erect Plants.

The percentage of erect plants is considered to be an estimate of the resistance of a hybrid to the total insect and disease complex affecting standing ability. This value is obtained by counting plants with stalks broken between the ear-bearing node and ground level and those which lean from the base at an angle of more than 30 degrees from the vertical. This sum is subtracted from the plants present and the difference divided by the total plants present to give the percentage of erect plants.

Ear Height.

Ear height, distance from the base of the plant to the point of attachment of the upper ear, was measured visually using a scale with one-foot intervals. Visual ratings were taken on four plots of each hybrid at each location.

Disease.

Visual ratings of hybrid reaction to northern and southern corn leaf blight disease were taken on an artifically inoculated planting of the hybrids at Lexington. Each hybrid was planted in a 1 x 5 hill plot replicated three times. A five class rating scale was used: excellent, very good, good, fair and poor.

INTERPRETATION

The performance of hybrids varies with weather conditions which change from season to season and from testing location to testing location in the same season. Since the weather conditions cannot be predicted at the time of planting, a farmer should plant a hybrid which has been a good performer in an "average" season. The best estimate of hybrid performance for an "average" season is obtained by combining the results obtained from a large number of experiments grown in different years at a number of locations.

The information presented in Table 4 is the average of 15 individual experiments conducted in 1962, 1963 and 1964. In Table 5 are summarized the results obtained from 10 experiments in 1963 and 1964. Table 6 contains information obtained from five experiments in 1964 at different locations in the state. For this reason, the information contained in Table 4 is the best estimate available for comparing the performance of corn hybrids for average growing conditions in Kentucky.

MAKE YOUR CHOICE BASED ON YOUR OWN NEEDS

Improvements in corn hybrids are constantly being made. An efficient corn producer will want to keep informed on these improvements and to determine if they will produce well on his farm. For this reason, it is suggested that new hybrids be grown frequently on a trial basis in comparison with the hybrid or hybrids presently grown. If this suggestion is followed, a commonly made error can be avoided. Frequently a farmer changes his entire corn acreage to a different hybrid and then compares the performance of the new hybrid with the old hybrid. This is not a valid comparison since the hybrids were not grown under similar conditions. Hybrids being compared should be grown in the same field, using identical management practices. A good way to do this is to plant seed of the new hybrid beside currently used hybrids in a field, being sure to mark them at planting time. It is important to observe the hybrids frequently during the growing season. At harvest, yield should be determined and other observational notes recorded. Consult your county agent for procedure. If this suggestion is followed, a corn grower will be able to select hybrids which more nearly fit his production practices and personal preferences.

The number of corn plants per acre in Kentucky is generally too low for top production. It would be well worth the time and effort to change the setting on the drill and compare yields at different rates of planting. It should be kept in mind, however, that plant population and fertility level must be kept in balance for efficient production. Consideration should also be given to the use of chemical weed killers, soil insecticides and some method of minimum tillage for preparation of land.

Table 1. Hybrids Tested in 1964

Hybrid	Color	Cross	Source of Hybrids
AES 809	Y	4X	Agricultural Experiment Station (North Central)
Crib Filler 55	Y	2X	Mitchell Farms
66	Y	2X	Windfall, Ind.
78	Y	3X	
123	Y	4X	
183W	W	4X	
Dekalb 633	Y	4X	Dekalb Agricultural
640	Y	4X	Association, Dekalb,
805	Y	2X	Ill.
824	Y	4X	
1006	Y	4X	
XL-65	Y	2X	
XL-385	Y	3X	
XL-390	W	4X	
Dixie's 99Y	Y	4X	Dixie Stock Farm Sonora, Ky.
Hagan H-2	W	4X	R. M. Hagan, Route 4
H-9	Y	4X	Owensboro, Ky.
Hilligoss 9X3L	Y	2X	Hilligoss Corp., Route 1
84M	Y	4X	McCordsville, Ind.
Kamp 910B	W	4X	Kamp's Farm Seed, Route 2,
913BRK	W	4X	Evansville, Ind.
Ken-Bred E-20YA	Y	4X	George Patmor, Marion;
F-20W	W	4X	Clyde Jackson, Danville;
SX-20Y	Y	2X	Louisville Seed Co., Louisville, Ky. - Distributors
Ky 105	Y	4X	University of Kentucky
Ky 5901W	W	4X	Agricultural Experiment
Ky 5921W	W	4X	Station, Lexington
Ky 6001	Y	4X	
Meacham M-5	W	4X	Meacham's Hybrids
M-33YB	Y	4X	Route 3, Morganfield, Ky.
MX-30Y	Y	2X	
MX-50W	W	2X	

Table 1. Continued

Hybrid	Color	Cross	Source of Hybrids
P.A.G. SX19	Y	2X	Pfister Associated Growers,
SX29	Y	2X	Inc., Aurora, Ill. and
SX59	Y	2X	Franklin, Ky.
SX63	Y	2X	
437	Y	4X	
Pioneer 309A	Y	4X	Pioneer Corn Company, Inc.
312A	Y	4X	Tipton, Ind.
310	Y	4X	
321	Y	4X	
509	W	4X	
511	W	4X	
X2280	Y	2X	
3304	Y	2X	
Princeton 8-A	Y	4X	Princeton Farms
790-AA	W	4X	Princeton, Ind.
840-A	Y	4X	
888-A	Y	4X	
890-AA	Y	4X	
990-A	W	4X	
8-X	Y	MX	
SX-800	Y	2X	
Schenk S-73	Y	4X	Charles H. Schenk
S-73A	Y	4X	and Son, Inc., Route 4
S-96W	W	4X	Vincennes, Ind.
Southern States			
775	Y	4X	Southern States Coop.,
820S	Y	2X	Inc., Division of Seed
860	Y	4X	and Farm Supply, Richmond
909E	Y	4X	20, Va.
979	Y	4X	
Catawba	Y	4X	
Matoaka	Y	4X	
Munsee	Y	4X	
Stull 100YB	Y	4X	Stull Brothers, Inc.
101YB	Y	4X	Sebree, Ky.
400W	W	4X	
444W	W	2X	
800W	W	2X	
807Y	Y	2X	
807YA	Y	2X	
US 523W	W	4X	Experiment Station (U.S.D.A.)

Table 2. Pedigrees of Experiment Station and U.S. Hybrids Tested in 1964

Hybrid	Pedigree
AES 809	(WF9 x P8) (Oh 43 x C103)
Ky 105	(T8 x CI21E) (38-11 x Oh 7B)
Ky 5901W	(Ky 211 tms x 33-16) (K55 x CI64)
Ky 5921W	(CI64 x 33-16) (CI66 x Ky 201)
Ky 6001	(WF9 x Ky 36-11) (C103 x B14)
US 523W	(K55 x K64) (Ky 27 x Ky 49)

Table 3. Agronomic Information Pertaining to Testing Locations in 1964

Location	Fertilizer Applied	Plants per Acre	Date Planted	Date Harvested	Experiment Average Yield Lb	Bu	Moisture
1. Wickliffe	300# 15-15-15 100# Anhydrous NH_3	16,400	May 5	Oct. 14	3660	65.3	13.6
2. Owensboro	800# 5-20-20 136# 45% Urea	15,900	May 11	Oct. 5	2895	51.7	22.1
3. Hopkinsville	120# Anhydrous NH_3 pre-plant 200# 18-46-0 in rows	14,600	April 17	Oct. 1	3071	54.8	14.3
4. Lexington	400# Am. Nitrate 150# K_2O	19,300	May 5	Oct. 19	5362	95.7	14.8
5. Quicksand	300# 0-30-30 100# Am. Nitrate 125# Am. Nitrate (Side dressed)	18,650	May 8	Oct. 24	5908	105.5	20.5

Table 5. Two-Year Summary of Hybrids Grown in 1963 and 1964

Hybrid	Average Acre Yield				Maturity		
	State		Western	Eastern	Harvest Ear	Erect	Ear
	Lb	Bu	Bu	Bu	Moisture,%	Plants,%	Height, Ft
YELLOW							
P.A.G. SX19	6149	109.8	96.3	129.9	14.5	85.0	3.8
Dekalb 640	5583	99.7	81.5	126.9	15.2	91.5	3.8
Dekalb 805	5566	99.4	84.1	122.3	15.2	79.3	3.4
P.A.G. SX29	6138	109.6	95.8	130.2	15.3	86.7	3.7
Hilligoss 84M	5594	99.9	86.1	120.7	15.4	86.1	3.8
P.A.G. SX63	6356	113.5	101.3	131.7	15.4	84.3	3.8
Princeton 840-A	5029	89.8	77.5	108.3	15.4	84.8	3.2
Ky 6001	5410	96.6	83.0	117.0	15.5	90.7	3.8
Princeton 8-A	5393	96.3	80.7	119.8	15.8	90.0	3.5
Hagan H-9	5544	99.0	88.1	115.4	15.9	79.7	4.0
Pioneer 3304	5281	94.3	82.1	112.6	15.9	83.0	3.5
AES 809	5113	91.3	76.4	113.8	16.1	84.9	3.3
Crib Filler 123	5622	100.4	84.4	124.5	16.1	82.1	3.7
Meacham M-33YB	5684	101.5	90.0	118.8	16.1	82.7	4.0
Schenk S-73	5370	95.9	77.9	122.7	16.1	84.6	3.9
Stull 100 YB	5488	98.0	83.4	119.9	16.2	85.7	3.6
Ken-Bred E-20YA	5572	99.5	85.2	121.0	16.3	85.8	3.6
S.S. Matoaka	5404	96.5	79.9	121.3	16.3	78.5	3.7
Ky 105	5785	103.3	93.4	118.1	16.5	85.9	4.4
Crib Filler 66	5869	104.8	91.0	125.4	16.6	80.1	3.8
S.S. 909E	5701	101.8	90.9	118.2	16.6	78.6	4.4
S.S. Munsee	5141	91.8	77.7	113.0	16.6	80.5	3.4
Dekalb 824	5544	99.0	83.4	122.4	16.7	82.6	3.6
Pioneer 310	5841	104.3	94.4	119.0	16.7	91.0	3.8
Princeton 890-AA	5482	97.9	83.0	120.3	16.8	78.3	3.7
Stull 807Y	5740	102.5	87.3	125.4	16.8	80.2	3.7
Crib Filler 78	5578	99.6	85.6	120.6	16.9	77.3	3.8
Dixie's 99Y	5858	104.6	90.5	125.7	16.9	80.7	4.1
S.S. Catawba	5365	95.8	83.6	114.3	17.2	74.9	3.8
P.A.G. SX59	6216	111.0	97.3	131.6	17.7	85.1	3.9
Pioneer 309A	5634	100.6	85.6	123.3	18.5	89.5	4.2
Dekalb 1006	5757	102.8	90.5	121.2	18.7	82.0	4.4
Yellow Average	5619	100.3	86.5	121.1	16.3	83.5	3.8
WHITE							
Ky 5901W	5482	97.9	83.9	118.9	16.3	79.0	3.7
US 523W	5303	94.7	88.2	104.4	16.5	75.1	3.8
Schenk S-96W	5774	103.1	90.7	121.6	16.8	83.1	3.9
Meacham M-5	5197	92.8	86.2	102.7	17.0	79.2	4.0
Crib Filler 183W	5751	102.7	91.2	119.9	17.1	84.6	3.8
Ky 5921W	5650	100.9	90.3	116.8	17.4	83.4	3.8
Stull 400W	5449	97.3	88.3	110.9	17.4	86.3	3.8
Pioneer 509W	5723	102.2	90.4	119.8	17.5	81.0	4.0
Kamp 910B	5348	95.5	89.9	103.9	17.7	81.6	4.0
Princeton 990-A	5566	99.4	90.4	112.9	18.0	87.5	3.8
Kamp 913 BRK	5331	95.2	88.6	105.0	18.3	85.1	3.9
Hagan H-2	5242	93.6	84.1	107.7	18.4	85.9	3.9
Stull 444W	5818	103.9	93.6	119.4	19.5	80.1	3.8
White Average	5510	98.4	88.9	112.6	17.5	82.4	3.9
GRAND AVERAGE	5588	99.8	87.2	118.6	16.7	83.2	3.8

Table 6. Annual Summary of Hybrids Grown in 1964

Hybrid	Average Acre Yield				Maturity		
	State		Western	Eastern	Harvest Ear	Erect	Ear
	Lb	Bu	Bu	Bu	Moisture,%	Plants,%	Height,Ft
YELLOW							
P.A.G. SX19	4975	88.8	66.2	122.7	15.0	82.1	3.6
Pioneer X2280	4357	77.8	62.3	101.1	15.0	95.4	3.5
S.S. 820S	4151	74.1	49.5	111.0	15.1	84.6	3.3
P.A.G. SX29	4963	88.6	67.7	119.9	15.2	88.7	3.4
Princeton SX-800	3626	64.7	50.5	86.0	15.2	90.4	3.2
Dekalb 640	4374	78.1	56.0	111.1	15.5	92.9	3.6
Dekalb XL-65	3808	67.9	49.8	95.3	15.7	88.6	3.0
Dekalb 805	4052	72.3	53.4	100.7	15.7	84.5	3.3
Ken-Bred SX-20Y	4149	74.0	52.1	107.0	15.7	83.1	3.5
P.A.G. 437	4272	76.2	60.1	100.6	15.7	80.2	3.4
Princeton 840-A	3680	65.7	51.8	86.4	15.7	88.3	3.0
S.S. 755	3967	70.8	50.7	101.0	15.7	84.6	3.0
Meacham MX-30Y	4176	74.5	53.8	105.7	15.8	87.1	3.4
Hilligoss 84M	4003	71.4	52.5	99.8	15.9	84.0	3.6
Ky 6001	3833	68.4	46.4	101.4	15.9	88.6	3.7
Dekalb 633	4206	75.1	53.9	106.9	16.0	84.2	3.4
P.A.G. SX63	5025	89.7	74.2	112.9	16.0	82.1	3.6
Pioneer 3304	3923	70.0	52.3	96.5	16.0	81.1	3.5
Stull 101YB	4251	75.9	52.6	110.8	16.0	88.4	3.4
Pioneer 321	4429	79.1	61.4	105.6	16.2	85.1	3.8
Princeton 8-X	4056	72.4	53.6	100.5	16.2	85.5	3.4
Hagan H-9	4531	80.8	61.0	110.7	16.4	80.8	4.0
Stull 100YB	4061	72.5	52.3	102.8	16.4	87.6	3.4
AES 809	3790	67.6	48.1	97.0	16.5	84.1	3.2
Princeton 8-A	4439	79.2	58.6	110.1	16.5	90.8	3.4
Schenk S-73A	4272	76.2	54.7	108.4	16.5	85.9	3.8
Crib Filler 123	4171	74.4	53.9	105.2	16.6	85.9	3.4
Dekalb 824	3926	70.0	49.2	101.3	16.6	80.2	3.4
Schenk S-73	3760	67.1	44.3	101.2	16.6	84.1	3.4
Stull 807YA	4034	72.0	45.8	111.2	16.6	88.2	3.4
Crib Filler 66	4255	75.9	57.2	104.0	16.7	84.5	3.6
Ken-Bred E-20YA	4020	71.7	53.0	99.9	16.7	84.6	3.5
S.S. Matoaka	4296	76.7	53.0	112.2	16.7	77.6	3.8
S.S. Munsee	3801	67.8	45.4	101.5	16.7	77.2	3.4
Meacham M-33YB	4497	80.2	62.1	107.4	16.8	85.0	3.6
Princeton 890-AA	4193	74.8	53.9	106.2	17.0	81.2	3.4
S.S. 909E	4131	73.7	62.6	90.5	17.0	86.0	4.4
Crib Filler 55	3998	71.3	47.7	106.9	17.1	85.7	3.4
Princeton 888-A	4083	72.8	51.2	105.3	17.1	81.9	3.4
S.S. 860	4099	73.1	57.4	96.8	17.1	88.5	3.8
Crib Filler 78	4063	72.5	51.5	104.0	17.2	78.6	3.6
Hilligoss 9X3L	4203	75.0	57.2	101.7	17.2	86.6	3.4
Ky 105	4402	78.6	64.1	100.2	17.2	84.8	4.2
Pioneer 310	4347	77.6	64.7	96.9	17.2	88.8	3.6
Stull 807Y	4120	73.5	54.3	102.4	17.2	80.9	3.6
Dekalb XL-385	4819	86.0	69.3	111.1	17.6	93.5	3.6
P.A.G. SX59	4775	85.2	66.7	113.1	17.8	85.1	3.7
Pioneer 312A	4414	78.8	64.9	99.6	17.8	85.9	3.6
Dixie's 99Y	4412	78.8	57.6	110.5	18.0	77.3	3.8
S.S. 979	4288	76.5	60.0	101.3	18.2	84.4	4.1
S.S. Catawba	4059	72.4	56.1	97.0	18.3	78.5	3.6
Pioneer 309A	3953	70.5	54.3	95.0	19.0	88.6	4.0
Dekalb 1006	4500	80.3	61.6	108.4	19.4	86.8	4.3
Yellow Average	4207	75.1	55.9	103.8	16.6	85.1	3.5

Table 6. Continued

Hybrid	Average Acre Yield				Maturity		
	State		Western	Eastern	Harvest Ear	Erect	Ear
	Lb	Bu	Bu	Bu	Moisture,%	Plants,%	Height,Ft
WHITE							
Princeton 790-AA	3670	65.5	48.4	91.1	16.3	86.5	3.6
Ky 5901W	3740	66.7	46.2	97.6	16.6	81.7	3.4
US 523W	3739	66.7	57.3	80.8	17.0	77.2	3.5
Meacham M-5	3611	64.4	55.6	77.7	17.2	76.4	3.8
Schenk S-96W	4677	83.5	66.9	108.4	17.5	85.4	3.8
Crib Filler 183W	4547	81.2	67.1	102.3	17.7	87.1	3.6
Pioneer 509W	4007	71.5	57.8	92.1	17.7	79.9	3.7
Ky 5921W	4210	75.1	61.8	95.1	17.8	88.0	3.6
Kamp 910B	3862	68.9	60.5	81.5	18.2	84.5	3.8
Stull 400W	3798	67.8	60.5	78.8	18.2	91.9	3.7
Ken-Bred F-20W	4296	76.7	64.2	95.5	18.6	89.7	3.7
Hagan H-2	4051	72.3	58.9	92.3	19.1	89.2	3.8
Kamp 913 BRK	3722	66.4	58.4	78.4	19.1	87.7	3.8
Pioneer 511	4560	81.4	65.9	104.6	19.2	84.8	3.8
Princeton 990-A	4057	72.4	62.6	87.1	19.2	91.4	3.8
Meacham MX-50W	4538	81.0	74.7	90.4	19.7	81.1	3.8
Dekalb XL-390	4525	80.8	71.8	94.1	19.9	77.1	3.5
Stull 800W	4218	75.3	59.5	99.1	20.0	79.0	3.8
Stull 444W	4092	73.0	59.2	93.7	20.1	78.5	3.4
White Average	4101	73.2	60.9	91.6	18.4	84.1	3.7
GRAND AVERAGE	4179	74.6	57.3	100.6	17.1	84.8	3.6

Table 7. Reaction of Hybrids to Leaf Blight Diseases [1/]

Hybrids	Leaf Blight Resistance-1964		Leaf Blight Resistance 1962-64	
	Southern	Northern	Southern	Northern
WHITE				
Crib Filler 183W	Good	Very Good	Fair	Very Good
Dekalb XL-390	Excellent	Very Good		
Hagan H-2	Good	Good	Good	Very Good
Kamp 910B	Very Good	Excellent		
Kamp 913 BRK	Very Good	Very Good	Good	Excellent
Ken-Bred F-20W	Very Good	Very Good		
Ky 5901W	Good	Very Good	Good	Good
Ky 5921W	Very Good	Very Good	Fair	Very Good
Meacham M-5	Very Good	Very Good	Good	Excellent
Meacham MX-50W	Excellent	Very Good		
Pioneer 509W	Good	Very Good	Fair	Good
Pioneer 511	Very Good	Very Good		
Princeton 790-AA	Good	Very Good		
Princeton 990-A	Good	Very Good	Good	Very Good
Schenk S-96W	Good	Very Good		
Stull 400W	Very Good	Very Good		
Stull 444W	Excellent	Excellent		
Stull 800W	Excellent	Excellent		
US 523W	Good	Fair	Poor	Good

(Continued on next page)

Table 7. Continued

Hybrids	Leaf Blight Resistance-1964 Southern	Northern	Leaf Blight Resistance 1962-64 Southern	Northern
YELLOW				
AES 809	Good	Very Good	Excellent	Good
Crib Filler 55	Fair	Good		
Crib Filler 66	Very Good	Very Good	Good	Excellent
Crib Filler 78	Good	Very Good		
Crib Filler 123	Very Good	Good	Very Good	Good
Dekalb 633	Good	Fair		
Dekalb 640	Very Good	Fair		
Dekalb 805	Very Good	Very Good	Very Good	Excellent
Dekalb 824	Fair	Very Good		
Dekalb 1006	Very Good	Very Good	Excellent	Excellent
Dekalb XL-65	Very Good	Poor		
Dekalb XL-385	Very Good	Very Good		
Dixie's 99Y	Good	Very Good		
Hagan H-9	Excellent	Very Good	Good	Good
Hilligoss 9X3L	Good	Very Good		
Hilligoss 84M	Fair	Very Good		
Ken-Bred E-20YA	Very Good	Good	Good	Very Good
Ken-Bred SX-20Y	Very Good	Fair		
Ky 105	Excellent	Good	Excellent	Fair
Ky 6001	Very Good	Good		
Meacham M-33YB	Very Good	Very Good	Good	Fair
Meacham MX-30Y	Good	Very Good		
P.A.G. SX19	Excellent	Good	Excellent	Good
P.A.G. SX29	Good	Very Good		
P.A.G. SX59	Very Good	Excellent		
P.A.G. SX63	Excellent	Good		
P.A.G. 437	Very Good	Good		
Pioneer 309A	Very Good	Very Good	Very Good	Good
Pioneer 312A	Very Good	Very Good		
Pioneer 310	Good	Very Good		
Pioneer 321	Fair	Very Good		
Pioneer X2280	Very Good	Very Good		
Pioneer 3304	Fair	Good		
Princeton 8-A	Very Good	Poor	Poor	Good
Princeton 840-A	Good	Good	Poor	Good
Princeton 888-A	Poor	Fair		
Princeton 890-AA	Good	Good		
Princeton 8-X	Good	Good		
Princeton SX-800	Fair	Fair		
Schenk S-73	Good	Good		
Schenk S-73-A	Good	Very Good		
S.S. 755	Good	Fair		
S.S. 820S	Very Good	Very Good		
S.S. 860	Very Good	Good		
S.S. 909E	Good	Good	Fair	Poor
S.S. 979	Very Good	Very Good		
S.S. Catawba	Very Good	Poor	Very Good	Poor
S.S. Matoaka	Good	Good	Fair	Fair
S.S. Munsee	Very Good	Very Good	Good	Good
Stull 100YB	Good	Very Good		
Stull 101YB	Very Good	Good		
Stull 807Y	Good	Very Good		
Stull 807YA	Very Good	Very Good		

1/ Resistance rating scale, excellent, very good, good, fair and poor.