Results of the KENTUCKY HYBRID CORN PERFORMANCE TEST—1965

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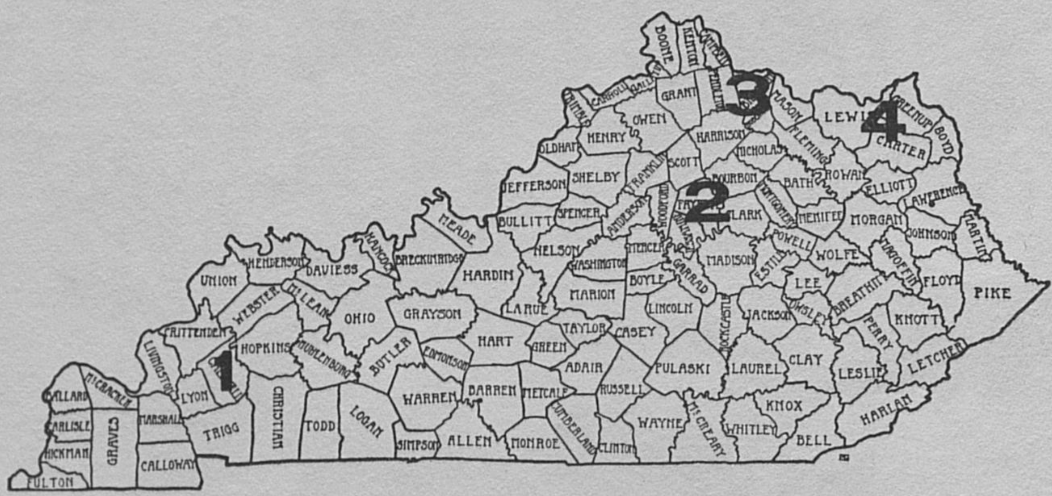
TESTING LOCATIONS OF

THE KENTUCKY HYBRID CORN PERFORMANCE TEST



Area	Location	Cooperator
Non-Virus	1. Princeton	West Ky. Sub. Sta.
	2. Lexington	Ky. Agr. Exp. Sta.
Virus	3. Augusta	George and Paul Gearhart
	4. Vanceburg	Alex Waters, Jr.

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RESULTS OF THE KENTUCKY HYBRID CORN PERFORMANCE TEST IN 1965

C. R. Tutt, F. A. Loeffel and D. E. Thorndale

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 established a new efficiency record for corn production in 1965. The average yield for the state was 69 bushels per acre. This is 3 bushels per acre above the previous record set in 1963 and 12 bushels above the 1964 yield. Production this year exceeded that of 1964 by 13,875,000 bushels. This represents an increase of 22 percent over last year. This year's crop also exceeded the average annual production for the five-year period 1959-63 by 6,199,000 bushels or almost 9 percent. Much of this increase in production can be attributed to a good growing season, but much credit must be given to the increasing use of superior hybrids, fertilizer, herbicides and improved practices used by Kentucky farmers.

An excellent corn crop was produced this year despite the drought during the month of August. Rainfall was adequate over most of the state for

most of the growing season, with the exception of August. However, the bluegrass area was short on moisture for most of the season. Early planted corn received enough rain the first part of July to mature a good crop, although late corn was severely damaged by the high temperatures and moisture shortage during August. An important factor in the good corn crop produced this year was the rapid planting made possible by modern machinery when conditions were favorable. Above-average temperatures during April and May were favorable for rapid germination and growth of corn.

Precipitation during April was near or above average and was accompanied by several unseasonably warm periods. Toward the last half of May, scattered localities were needing rain, but early June showers provided adequate moisture for most of the state. Rainfall during July broke records in many areas, with some areas receiving an excess of 7 or 8 inches, but by the first of August additional moisture was needed. The hot, dry weather during much of August reduced corn prospects some, but the actual reduction was not so great as anticipated. The dry weather hastened the maturity of early corn.

Corn planting at the end of April was behind the progress of any year since 1961, owing to an extremely wet March and frequent rains during much of April. This resulted in most of the acreage being planted during the month of May. By the end of the first week of May, 40 percent of the corn acreage had been planted, compared with less than 10 percent a week earlier. Sixty-nine percent of the crop had been planted by May 18 and 91 percent by June 1. This was higher than for any of the last five years. By July 20, progress of this year's corn crop was ahead of all recent years except 1962, with 60 percent of the crop tasselling or in a more mature stage. Nearly 50 percent of the corn crop was matured by September 14, with the remainder being in the dent

stage. Corn harvest began the first week of September but was prolonged by wet weather. Only 10 percent of the crop had been harvested by September 28, but harvest was 75 percent complete by November 2.

The average annual yield for all hybrids grown at Princeton and Lexington under non-virus conditions in 1965 was 4,645 pounds of shelled corn per acre or 82.9 bushels. Under virus conditions at Augusta and Vanceburg, the average yield was 2,684 pounds of shelled corn (47.9 bushels).

EXPERIMENTAL METHODS

The performance test was conducted at four locations in the state this year. The locations together with the names of the cooperators are listed on page 2. The testing sites were grouped according to the presence or absence of corn virus. No virus disease was present at Princeton or Lexington but was severe at the Augusta and Vanceburg locations.

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 is presented concerning the seed source of the hybrid, the kernel color and the type of cross. The type of hybrid is designated as follows: double cross, 4X; three-way cross, 3X; and a single cross 2X. The following material was evaluated in 1965; 46 double crosses, 7 three-way crosses and 19 single crosses.

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 one year under non-virus conditions

and are presented in Tables 4-6 respectively. Results of the one-year test under virus conditions are presented in Table 7. 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.

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 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 a comparable stand at each location. The procedures used in 1965 were the same as for 1964 except only four testing locations were used instead of five.

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 variations 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 1963 two moisture samples were taken at each location for each hybrid by taking a composite sample from replications 1 and 2 and from replications 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. Moisture samples were taken on an individual plot basis and moisture individually determined at each location in 1964 and 1965.

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 the 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, the 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 each plot of each hybrid at each location.

Disease.

Visual ratings of hybrid reaction to corn virus were taken at Augusta and Vanceburg. Present indications are that the only virus present in Kentucky is Maize Dwarf Mosaic. All plots of each hybrid were rated shortly after silking on a 1-9 scale, with 1 being resistant and 9 being extremely susceptible.

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 12 individual experiments conducted in 1963, 1964 and 1965. In Table 5 are summarized the results obtained from seven experiments in 1964 and 1965. Table 6 contains information obtained in 1965 from two locations where corn virus was not present. Data obtained in 1965 from two locations where corn virus was present are presented in Table 7. 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 extension 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.

DO YOUR PART TO CONTRIBUTE TOWARD
A 70-BUSHEL AVERAGE CORN YIELD IN
KENTUCKY IN 1966

Table 1. Hybrids Tested in 1965

Hybrid	Color	Cross	Source of Hybrids
AES 809	Y	4X	Agricultural Experiment Station (North Central)
Burgdorf B-92-W	W	4X	Burgdorf's Hybrids
B-846		4X	5101 W. Broadway
			Evansville, Ind.
Crib Filler 66	Y	2X	Mitchell Farms
78	Y	3X	Windfall, Ind.
116	Y	4X	
123	Y	4X	
183W	W	4X	
Dekalb 805	Y	2X	Dekalb Agricultural
824	Y	4X	Association, Dekalb,
999	W	4X	Ill.
1006	Y	4X	
XL-45	Y	2X	
XL-65	Y	3X	
XL-362	Y	3X	
XL-385	Y	3X	
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.
Kamp 910K	W	4X	Kamp's Farm Seed, Route 2
913BRK	W	4X	Evansville, Ind.
Ky 105	Y	4X	University of Kentucky
Ky 5921W	W	4X	Agricultural Experiment Station, Lexington
Meacham M-5	W	4X	Meacham's Hybrids
M-33YB	Y	4X	Route 3, Morganfield, Ky.
MX-30Y	Y	2X	
MX-50W	W	2X	
Oliver BB-25	Y	3X	Dearmont Oliver & Son
			210 Williams Street
			East Prairie, Mo.
P.A.G. SX19	Y	2X	Pfister Associated Growers,
SX29	Y	2X	Inc., Aurora, Ill. and
SX59	Y	2X	Franklin, Ky.
SX63	Y	2X	

Table 1. Continued

Hybrid	Color	Cross	Source of Hybrids
Pioneer 309A	Y	4X	Pioneer Corn Company, Inc.
310	Y	4X	Tipton, Ind.
321	Y	4X	
509	W	4X	
511	W	4X	
3306	Y	2X	
X1001	Y	2X	
3369	Y	2X	
Princeton 8-A	Y	4X	Princeton Farms
81-A	Y	4X	Princeton, Ind.
790-AA	W	4X	
890-AA	Y	4X	
920-A	W	4X	
990-A	W	4X	
SX-804	Y	2X	
SX-806	Y	3X	
Schenk S-73A	Y	4X	Charles H. Schenk
S-96W	W	4X	and Son, Inc., Route 4
SS-88	Y	2X	Vincennes, Ind.
Southern States			Southern States Coop.,
755	Y	4X	Inc., Division of Seed
820S	Y	2X	and Farm Supply, Richmond
860	Y	4X	20, Va.
909E	Y	4X	
979	Y	4X	
Catawba	Y	4X	
Matoaka	Y	4X	
Munsee	Y	4X	
Stokes 200	Y	4X	S.J. Stokes & Son, Military Pike, Route 2, Lexington, Ky.
Stull 100YB	Y	4X	Stull Brothers, Inc.
101YB	Y	4X	Sebree, Ky.
444W	W	2X	
800W	W	2X	
807Y	Y	2X	
T-E Cropmaster	Y	3X	Golden Acres Hybrids,
T-E E20YB	Y	4X	Tulia, Texas and
T-E 6416	Y	4X	Ken-Bred Hybrids Marion
Ken-Bred SX20Y	Y	2X	and Danville, Ky.
Ken-Bred E20YA	Y	4X	Distributors, Louisville
Ken-Bred M20W	W	4X	Seed Company, Louisville, Ky.
US 523W	W	4X	Experiment Station (U.S.D.A.)

Table 2. Pedigrees of Experiment Station and U. S. Hybrids Tested in 1965

Hybrid	Pedigree
AES 809	(WF9 x P8) (Oh 43 x C103)
Ky 105	(T8 x CI21E) (38-11 x Oh7B)
Ky 5921W	(CI64 x 33-16) (CI66 x Ky201)
US 523W	(K55 x K64) (Ky27 x Ky49)

Table 3. Agronomic Information Pertaining to Testing Locations in 1965

Location	Fertilizer Applied	Plants per Acre	Date Planted	Date Harvested	Experiment Average Yield Lb	Bu	Moisture
1. Princeton	365#NH_4NO_3	17,248	May 5	Oct. 6	5209	93.0	14.6
2. Lexington	400#NH_4NO_3 150#Murate	17,384	April 30	Oct. 20	4081	72.9	15.5
3. Augusta	320#NH_4NO_3 133#Super Phosphate 133#Murate	15,680	May 17	Oct. 16	3050	54.5	22.5
4. Vanceburg	1,000# 5-10-10	15,680	May 18	Nov. 1	2317	41.4	19.6

Table 4. Three-Year Summary of Hybrids Compared in 1963, 1964 and 1965

Hybrid	Average Acre Yield				Maturity		
	State		Western	Eastern	Harvest	Erect	Ear
	Lb.	Bu.	Wickliffe Owensboro Hopkinsville	Lexington Quicksand	Ear Moisture	Plants	Height
			Lb.	Lb.	%	%	Ft.
YELLOW							
P.A.G. SX19	5957	106.4	5436	6687	14.3	82.0	3.8
Dekalb 805	5488	98.0	4848	6384	15.0	79.7	3.3
P.A.G. SX29	5990	107.0	5459	6734	15.2	81.7	3.6
P.A.G. SX63	6106	109.0	5608	6804	15.2	80.1	3.7
Princeton 8-A	5261	94.0	4619	6160	15.5	89.3	3.4
Hagan H-9	5428	97.0	5016	6005	15.6	77.7	3.9
Crib Filler 123	5538	99.0	4860	6486	15.7	77.3	3.7
Meacham M-33YB	5407	97.0	4998	5980	15.8	79.0	4.0
AES 809	5054	90.2	4377	6002	15.9	80.1	3.3
Stull 100YB	5369	96.0	4764	6216	15.9	80.0	3.6
S.S. Matoaka	5281	94.3	4575	6269	16.0	74.7	3.6
Ken-Bred E20YA	5453	97.4	4853	6292	16.1	80.5	3.5
Ky 105	5518	99.0	5194	5972	16.1	83.0	4.3
S.S. 909E	5540	98.9	5115	6135	16.3	79.0	4.4
Pioneer 310	5684	102.0	5299	6223	16.4	88.5	3.8
S.S. Munsee	5113	91.3	4534	5923	16.4	77.9	3.4
Crib Filler 66	5825	104.0	5315	6539	16.5	75.1	3.7
Dekalb 824	5409	97.0	4717	6377	16.5	81.3	3.5
Dixie's 99Y	5595	99.9	5038	6375	16.5	75.3	4.0
Princeton 890-AA	5379	96.1	4718	6304	16.6	75.1	3.6

S.S. Catawba	5291	94.5	4816	5957	16.6	75.3	3.7
Stull 807Y	5645	100.8	4996	6553	16.6	76.6	3.7
Crib Filler 78	5470	97.7	4919	6241	16.7	73.7	3.7
P.A.G. SX59	6045	107.9	5503	6803	17.4	80.7	3.8
Pioneer 309A	5353	95.6	4740	6211	18.1	85.0	4.2
Dekalb 1006	5468	97.6	4999	6125	18.5	80.5	4.3
Yellow Average	5526	98.7	4974	6298	16.2	79.6	3.8
WHITE							
US 523W	5108	91.2	4886	5419	16.1	73.4	3.7
Schenk S-96W	5507	98.3	5067	6124	16.4	79.6	3.8
Meacham M-5	4950	88.4	4720	5273	16.6	76.2	4.0
Crib Filler 183W	5465	97.6	5024	6082	16.8	80.2	3.8
Ky 5921W	5417	96.7	5004	5995	17.1	79.2	3.7
Pioneer 509	5489	98.0	5074	6069	17.2	79.4	3.9
Princeton 990-A	5399	96.4	5114	5797	17.4	85.4	3.8
Hagan H-2	5037	89.9	4752	5437	17.8	83.2	3.9
Kamp 913 BRK	5112	91.3	4904	5403	18.0	84.0	3.9
Stull 444W	5477	97.8	5086	6025	19.1	76.2	3.7
White Average	5296	94.6	4963	5762	17.3	79.7	3.8
GRAND AVERAGE	5462	97.5	4971	6150	16.5	79.7	3.8

Table 5. Two-Year Summary of Hybrids Compared in 1964 and 1965

Hybrid	Average Acre Yield				Maturity		
	State		Western	Eastern	Harvest Ear	Erect	Ear
	Lb	Bu	Lb	Lb	Moisture,%	Plants,%	Height,Ft
YELLOW							
Pioneer 3369	4556	81.4	3906	5423	14.6	90.0	3.3
P.A.G. SX19	4984	89.0	4203	6025	14.7	77.7	3.6
P.A.G. SX29	5049	90.2	4349	5983	15.0	79.4	3.3
S.S. 820S	4518	80.7	3680	5636	15.0	78.0	3.3
Dekalb 805	4352	77.7	3665	5267	15.2	83.8	3.1
S.S. 755	4324	77.2	3497	5427	15.2	82.1	2.9
Dekalb XL-65	4186	74.7	3536	5053	15.3	83.6	2.9
Meacham MX-30Y	4260	76.1	3495	5280	15.4	81.2	3.3
Ken-Bred SX20Y	4482	80.0	3742	5469	15.4	81.1	3.4
P.A.G. SX-63	4978	88.9	4421	5720	15.6	75.3	3.4
Stull 101YB	4495	80.3	3594	5697	15.6	85.0	3.3
Hagan H-9	4620	82.5	3942	5524	15.8	76.8	3.8
Stull 100YB	4266	76.2	3527	5251	15.8	76.5	3.3
Crib Filler 123	4438	79.2	3682	5445	15.9	76.3	3.3
Princeton 8-A	4481	80.0	3764	5437	15.9	89.4	3.3
AES 809	4066	72.6	3267	5132	16.0	75.6	3.1
Pioneer 321	4375	78.1	3743	5217	16.0	77.9	3.7
Schenk S-73A	4463	79.7	3766	5392	16.0	78.4	3.6
S.S. Matoaka	4404	78.6	3520	5583	16.1	70.9	3.6
Dekalb 824	4156	74.2	3319	5271	16.2	78.5	3.3
Meacham M-33YB	4355	77.8	3793	5104	16.2	77.8	3.6
Ken-Bred E20YA	4260	76.1	3567	5185	16.3	75.5	3.4
S.S. Munsee	4136	73.9	3320	5225	16.3	73.5	3.3
S.S. 909E	4305	76.9	3947	4783	16.3	84.8	4.3
Crib Filler 66	4642	82.9	4058	5421	16.5	74.4	3.5
S.S. 860	4211	75.2	3692	4903	16.5	82.4	3.6

Ky 105	4341	77.5	3937	4879	16.6	79.9	4.0
Princeton 890-AA	4383	78.3	3552	5491	16.6	74.4	3.4
Pioneer 310	4508	80.5	4061	5103	16.7	84.9	3.5
Stull 807Y	4416	78.9	3690	5383	16.8	74.5	3.5
Crib Filler 78	4313	77.0	3587	5281	16.9	71.8	3.5
Dixie's 99Y	4379	78.2	3636	5369	17.1	68.3	3.6
P.A.G. SX59	4905	87.6	4262	5763	17.1	77.2	3.5
Dekalb XL-385	4747	84.8	4160	5529	17.2	90.4	3.5
S.S. Catawba	4300	76.8	3766	5013	17.2	78.1	3.5
S.S. 979	4416	78.9	3962	5021	17.7	79.9	4.1
Pioneer 309A	3948	70.5	3388	4695	18.2	81.1	4.0
Dekalb 1006	4366	78.0	3736	5205	19.0	82.7	4.2
Yellow Average	4431	79.1	3756	5331	16.2	79.0	3.5
WHITE							
Princeton 790-AA	3822	68.2	3201	4651	15.8	83.3	3.5
US523W	3854	68.8	3553	4255	16.1	73.6	3.4
Meacham M-5	3640	65.0	3354	4022	16.4	71.9	3.7
Schenk S-96W	4536	81.0	4058	5173	16.8	78.3	3.6
Crib Filler 183W	4405	78.7	3952	5008	17.1	78.4	3.5
Ky 5921W	4220	75.4	3767	4825	17.2	79.3	3.4
Pioneer 509	4098	73.2	3714	4611	17.2	77.5	3.6
Princeton 990-A	4201	75.0	3989	4484	17.9	86.6	3.6
Hagan H-2	4042	72.2	3724	4466	18.0	87.2	3.8
Pioneer 511	4371	78.1	3939	4947	18.3	77.8	3.7
Kamp 913BRK	3809	68.0	3593	4096	18.4	85.1	3.7
Meacham MX-50W	4307	76.9	4144	4524	18.7	73.8	3.7
Stull 444W	3997	71.4	3524	4627	19.2	72.2	3.3
Stull 800W	4080	72.9	3594	4728	19.3	72.3	3.7
White Average	4099	73.2	3722	4601	17.6	78.4	3.6
GRAND AVERAGE	4341	77.5	3747	5134	16.6	78.8	3.5

Table 6. Annual Summary of Hybrids Evaluated Under Non-virus Conditions in 1965

Hybrid	Average Acre Yield				Maturity		
	State		Princeton	Lexington	Harvest Ear	Erect	Ear
	Lb	Bu	Lb	Lb	Moisture,%	Plants,%	Height,Ft
YELLOW							
Dekalb XL-362	5360	95.7	5973	4747	13.7	87.2	2.3
Dekalb 805	5109	91.2	5688	4530	13.7	82.5	2.7
Pioneer 3369	5054	90.2	5161	4947	13.8	77.1	2.7
P.A.G. SX19	5017	89.6	5689	4344	13.9	67.6	3.5
T-E 6416	4520	80.7	4765	4274	14.0	69.9	2.8
Burgdorf B-846	5126	91.5	5627	4624	14.1	89.6	3.3
S.S. 755	5219	93.2	5461	4976	14.1	76.4	2.3
P.A.G. SX29	5269	94.1	6017	4520	14.2	56.6	3.0
Crib Filler 123	5113	91.3	5669	4557	14.3	53.8	3.2
Dekalb XL-65	5135	91.7	5783	4486	14.3	71.2	2.7
Hagan H-9	4854	86.7	5525	4183	14.3	67.3	3.2
Dekalb XL-45	5019	89.6	5447	4590	14.4	75.5	1.8
Princeton 8-A	4595	82.1	5207	3983	14.4	86.4	3.0
Stull 100YB	4784	85.4	5327	4241	14.4	51.2	3.0
Meacham MX-30Y	4474	79.9	4939	4008	14.5	70.2	3.0
Pioneer 3306	4868	86.9	5333	4402	14.5	78.1	3.0
Stull 101YB	5108	91.2	5530	4686	14.5	76.7	3.0
Crib Filler 116	5012	89.5	5860	4163	14.6	68.0	3.2
P.A.G. SX63	4869	86.9	5219	4519	14.6	59.0	2.8
Princeton 81-A	4773	85.2	5106	4440	14.6	81.8	2.8
Schenk S-73A	4943	88.3	5857	4029	14.6	60.1	3.0
S.S. 909E	4744	84.7	5265	4223	14.6	81.8	4.0
S.S. Catawba	4913	87.7	5638	4187	14.6	77.4	3.2
Ky 105	4195	74.9	4972	3418	14.7	68.3	3.5
Ken-Bred SX20Y	5316	94.9	6208	4424	14.7	76.0	3.0

Princeton SX-804	4806	85.8	5192	4419	14.8	66.6	3.2
S.S. 820S	5411	96.6	6395	4427	14.8	62.4	3.2
S.S. Matoaka	4679	83.6	5172	4185	14.8	55.4	3.2
S.S. Munsee	4982	89.0	5648	4316	14.8	64.9	3.2
Dixie's 99Y	4306	76.9	4871	3741	14.9	48.2	3.2
Meacham M-33YB	4010	71.6	4732	3287	14.9	59.9	3.5
Schenk SS-88	4512	80.6	5132	3891	14.9	52.9	2.7
T-E E20YB	5160	92.1	5431	4889	14.9	70.0	3.0
S.S. 860	4492	80.2	5118	3866	15.0	68.5	3.0
AES 809	4765	85.1	4989	4541	15.1	55.1	2.7
Ken-Bred E20YA	4870	87.0	5368	4372	15.1	53.6	3.0
Pioneer X1001	5076	90.6	5534	4618	15.1	24.2	2.7
Dekalb 824	4749	84.8	5026	4472	15.3	74.7	3.0
T-E Cropmaster	4805	85.8	5349	4261	15.3	48.4	3.3
Pioneer 310	4920	87.9	5379	4461	15.4	76.2	3.0
P.A.G. SX59	5199	92.8	5847	4550	15.5	58.1	3.0
Princeton 890-AA	4885	87.2	5181	4589	15.5	58.6	3.2
Princeton SX-806	4683	83.6	5079	4287	15.5	57.4	3.7
Pioneer 321	4242	75.7	4654	3830	15.6	60.2	3.3
Stokes 200	4710	84.1	5040	4380	15.8	63.1	3.2
Stull 807Y	5163	92.2	5642	4683	15.8	59.3	3.2
Crib Filler 66	5624	100.4	6628	4619	15.9	50.4	3.0
Oliver BB-25	4350	77.7	4990	3709	15.9	60.0	3.0
Dekalb XL-385	4570	81.6	4997	4143	16.0	83.4	3.3
Pioneer 309A	3944	70.4	4436	3452	16.0	62.8	3.8
Crib Filler 78	4946	88.3	5694	4198	16.1	54.7	3.2
S.S. 979	4739	84.6	5758	3720	16.2	68.8	4.0
Dekalb 1006	4038	72.1	4595	3481	17.9	72.9	3.8
Yellow Average	4835	86.3	5380	4281	14.9	66.0	3.1

Table 6. Continued

Hybrid	Average Acre Yield				Maturity		
	State		Princeton	Lexington	Harvest Ear	Erect	Ear
	Lb	Bu	Lb	Lb	Moisture,%	Plants,%	Height,Ft
WHITE							
US 523W	4151	74.1	4584	3717	13.9	65.2	3.2
Princeton 790-AA	4206	75.1	4663	3748	14.4	76.1	3.2
Meacham M-5	3724	66.5	4076	3372	14.6	61.1	3.5
Ken-Bred M20W	4499	80.3	4955	4043	14.6	59.1	3.5
Kamp 910K	4449	79.4	5335	3562	14.8	66.3	2.8
Princeton 990-A	4570	81.6	5433	3707	14.8	74.2	3.2
Burgdorf B-92W	4271	76.3	4816	3726	15.0	72.3	3.0
Princeton 920-A	4285	76.5	5041	3529	15.0	74.6	3.0
Schenk S-96W	4190	74.8	4997	3382	15.1	61.9	3.0
Ky 5921W	4258	76.0	4685	3830	15.3	57.2	3.0
Hagan H-2	4030	72.0	4995	3064	15.4	82.5	3.5
Crib Filler 183W	4057	72.4	4536	3577	15.7	57.5	3.0
Pioneer 509	4338	77.5	5151	3525	15.8	71.8	3.2
Dekalb 999	4238	75.7	4852	3623	16.0	58.8	3.3
Pioneer 511	3899	69.6	4670	3127	16.1	61.1	3.3
Meacham MX-50W	3732	66.6	4018	3446	16.3	54.6	3.3
Kamp 913 BRK	4034	72.0	4555	3512	16.4	79.0	3.2
Stull 444W	3768	67.3	4144	3391	17.1	56.5	3.0
Stull 800W	3735	66.7	4382	3088	17.4	56.6	3.3
White Average	4115	73.4	4732	3525	15.3	66.1	3.2
GRAND AVERAGE	4645	82.9	5209	4081	15.1	66.1	3.1

Table 7. Annual Summary of Hybrids Evaluated Under Virus Conditions in 1965

Hybrid	Average Acre Yield				Virus 1/ Rating	Maturity	Erect	Ear
	State		Augusta	Vanceburg		Harvest Ear	Plants	Height
	Lb.	Bu.	Lb.	Lb.	Grade	Moisture,%	%	Ft.
YELLOW								
Dekalb XL-362	1079	19.3	1633	524	8.3	18.9	17.7	2.0
Dekalb 805	921	16.4	1157	684	8.2	20.2	15.3	2.3
Pioneer 3369	3437	61.4	4030	2844	5.7	19.0	54.3	2.3
P.A.G. SX19	4484	80.1	4359	4609	2.3	19.2	77.4	3.2
T-E 6416	1982	35.4	2342	1622	7.5	20.6	33.0	2.5
Burgdorf B-846	2963	52.9	3046	2879	4.8	21.5	42.9	2.8
S.S. 755	1749	31.2	2418	1079	8.2	18.6	26.8	2.0
P.A.G. SX29	2375	42.4	2519	2230	5.7	19.0	77.6	2.3
Crib Filler 123	1323	23.6	1800	845	7.8	20.3	22.7	2.2
Dekalb XL-65	1945	34.7	2364	1525	7.7	21.4	36.5	2.7
Hagan H-9	4105	73.3	4465	3745	2.8	21.2	72.7	3.0
Dekalb XL-45	1779	31.8	2889	669	8.0	19.1	38.0	2.0
Princeton 8-A	1903	34.0	2228	1577	7.5	21.8	27.2	3.0
Stull 100YB	1503	26.8	2178	828	8.2	18.7	38.1	2.3
Meacham MX-30Y	1573	28.1	2041	1104	8.2	19.4	22.6	2.0
Pioneer 3306	2795	49.9	3321	2268	4.2	20.0	30.5	2.7
Stull 101YB	2499	44.6	2861	2136	6.0	21.2	43.8	2.8
Crib Filler 116	2451	43.8	2305	2596	5.5	20.2	54.1	2.5
P.A.G. SX63	1836	32.8	2873	798	7.0	20.7	12.9	2.0
Princeton 81-A	1546	27.6	1853	1238	7.5	20.1	41.0	2.2
Schenk S-73A	2370	42.3	2524	2215	6.8	20.7	46.7	2.7
S.S. 909E	3127	55.8	3407	2846	5.5	21.3	49.3	2.8
S.S. Catawba	3078	55.0	3143	3012	4.7	21.9	53.6	2.7
Ky 105	4777	85.3	5063	4491	1.7	22.9	79.0	4.0
Ken-Bred SX20Y	1585	28.3	2176	993	8.0	18.7	32.4	2.5

Table 7. Continued

Hybrid	Average Acre Yield				Virus 1/ Rating	Maturity	Erect	Ear
	State		Augusta	Vanceburg		Harvest Ear	Plants	Height
	Lb.	Bu.	Lb.	Lb.	Grade	Moisture,%	%	Ft.
Princeton SX-804	2598	46.4	2897	2299	4.3	20.9	33.3	2.7
S.S. 820S	1504	26.9	1800	1208	7.8	20.2	30.7	2.7
S.S. Matoaka	2848	50.9	2848	2847	5.8	20.4	59.0	2.5
S.S. Munsee	1832	32.7	2065	1598	7.7	22.3	32.2	2.3
Dixie's 99Y	1860	33.2	1921	1799	6.2	23.3	23.5	2.5
Meacham M-33YB	3664	65.4	3981	3346	3.5	21.6	70.7	3.0
Schenk SS-88	1583	28.3	1500	1666	7.5	20.3	21.6	2.5
T-E E20YB	2435	43.5	2583	2286	6.5	21.8	44.0	2.5
S.S. 860	2495	44.6	2874	2116	6.2	21.1	75.6	2.5
AES 809	2137	38.2	2637	1636	6.2	20.0	55.2	2.5
Ken-Bred E20YA	1537	27.4	1940	1134	7.3	21.8	27.8	2.5
Pioneer X1001	3543	63.3	4202	2883	3.8	19.0	64.8	2.0
Dekalb 824	1377	24.6	1419	1334	7.8	18.7	43.9	2.2
T-E Cropmaster	1675	30.0	1737	1612	7.0	20.9	34.2	2.8
Pioneer 310	3509	62.7	3793	3225	5.3	20.6	68.3	3.2
P.A.G. SX59	2993	53.4	3783	2203	5.2	21.0	64.5	2.8
Princeton 890-AA	2284	40.8	3077	1491	5.5	19.8	47.8	2.3
Princeton SX-806	3022	54.0	4044	1999	5.0	20.6	43.4	3.0
Pioneer 321	1946	34.7	2639	1253	7.3	22.5	38.7	2.3
Stokes 200	2563	45.8	2782	2344	5.5	22.1	35.4	2.8
Stull 807Y	1321	23.6	1770	871	8.3	20.7	21.0	2.5
Crib Filler 66	1329	23.7	1714	943	7.7	20.5	22.9	2.2
Oliver BB-25	1206	21.5	1846	566	8.3	19.3	26.8	2.0
Dekalb XL-385	2819	50.3	3406	2231	6.3	19.5	60.4	2.5
Pioneer 309A	3806	68.0	3886	3725	2.8	23.8	71.7	3.3

Crib Filler 78	1558	27.8	2303	812	7.7	20.5	23.8	2.5
S.S. 979	3751	67.0	4318	3184	4.5	23.2	66.1	3.8
Dekalb 1006	3621	64.7	4069	3172	3.3	23.8	59.1	3.7
Yellow Average	2377	42.4	2770	1984	6.2	20.7	43.7	2.6
WHITE								
US 523W	1000	17.9	1769	231	8.3	21.1	42.4	2.2
Princeton 790-AA	3589	64.1	3773	3405	2.7	21.2	78.5	2.5
Meacham M-5	1974	35.2	2395	1553	6.8	19.8	23.4	3.0
Ken-Bred M20W	3772	67.4	4085	3459	4.0	20.5	60.1	3.0
Kamp 910K	3775	67.4	4046	3503	4.7	21.6	59.0	2.8
Princeton 990-A	3701	66.1	3695	3706	3.7	20.0	84.2	2.7
Burgdorf B-92-W	3569	63.7	3887	3250	4.5	22.5	78.1	2.7
Princeton 920-A	4512	80.6	4839	4185	2.7	23.4	75.8	3.3
Schenk S-96W	4020	71.8	4263	3777	4.0	21.8	67.3	2.8
Ky 5921W	4074	72.7	4021	4127	2.8	21.7	66.9	2.8
Hagan H2	3733	66.7	4254	3211	4.5	21.7	80.9	3.2
Crib Filler 183W	3576	63.9	4015	3136	3.8	21.8	64.9	2.8
Pioneer 509	3335	59.6	3990	2680	4.0	21.0	73.3	3.3
Dekalb 999	4307	76.9	4493	4121	2.3	22.5	82.6	3.0
Pioneer 511	4772	85.2	4852	4692	1.7	24.1	80.0	4.0
Meacham MX-50W	1811	32.3	2162	1459	6.8	22.6	45.9	2.8
Kamp 913 BRK	3038	54.2	3035	3040	5.5	22.5	72.4	3.2
Stull 444W	4260	76.1	4431	4088	2.8	22.4	86.7	3.0
Stull 800W	4448	79.4	4800	4095	2.0	22.5	84.0	3.5
White Average	3540	63.2	3832	3248	4.1	21.8	72.9	3.0
GRAND AVERAGE	2684	47.9	3050	2317	5.6	21.0	50.8	2.7

1/ Resistance rating scale; 1 = Resistance, 9 = Extreme Susceptibility

LAND USE - KEY TO BILLION DOLLAR INCOME

The Governor's Commission on Agriculture have stated that it would require approximately $100 income per acre of cropland to reach the billion-dollar goal for agriculture. With existing cropping patterns, recent yield increases although encouraging, will not produce this expected income. It is agreed that a major shift in land use toward more intensive cultivation will be required. The shift, toward more intensive land use, should be made as rapidly as possible recognizing land use capability standards.

THE ROLE OF CORN

The increasing importance of corn based on figures taken from "Production Potentials for Kentucky Commercial Agriculture", University of Kentucky Cooperative Extension Service Misc. 327 is indicated below.

	Present Status	Long Time Potenti
Acreage, acres	0.98 million	1.9 million
Total Production		
Grain, bu.	61.1 million	183.3 million
Silage, tons	0.9 million	5.0 million
Total Value	$67.9 million	$223.4 million
Percentage of Farm Income from Corn	11.8	16.4

If the long-time potential suggested by the study for corn was realized, corn acreage would double from 0.98 million to 1.9 million acres. Total grain production would triple and silage would increase 5-fold. The total value of corn production would more than triple from $67.9 million to $223.4 million. The percentage of total farm income derived from corn would increase from 11.8 to 16.4 percent.

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