Results of the KENTUCKY SOYBEAN PERFORMANCE TESTS—1966

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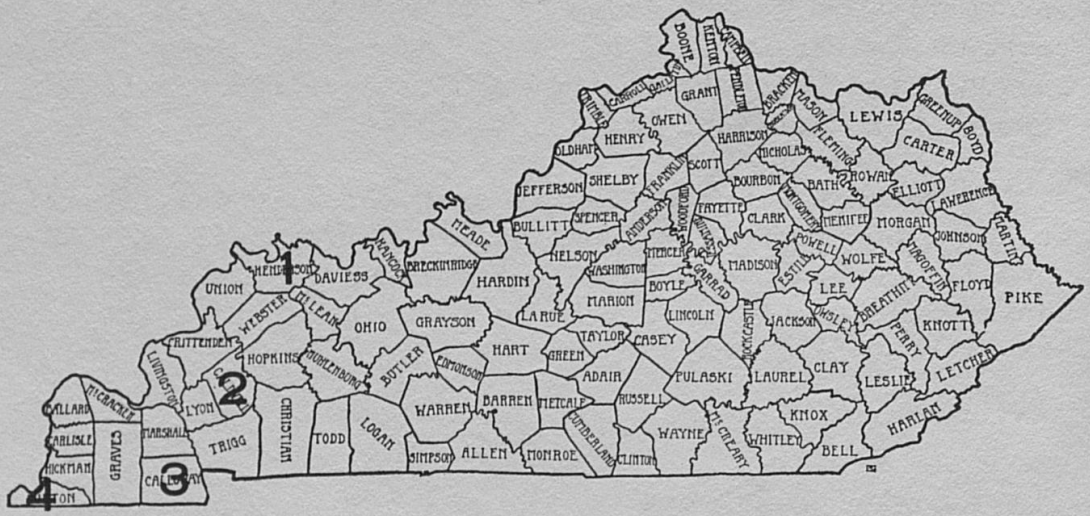
LOCATION OF THE 1966 SOYBEAN PERFORMANCE TESTS



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Location	Soil Type	pH	Phosphorus	Potassium
1. Henderson	Falaya silt loam	5.92	High	Low
2. Princeton	Huntington silt loam	7.4	High	Low
3. Murray	Grenada silt loam	6.2	Medium	Medium
4. Hickman	Robinsville silt loam	7.0	High	High

RESULTS OF THE KENTUCKY SOYBEAN PERFORMANCE TESTS - 1966

The objective of the Kentucky Soybean Performance tests is to provide an estimate of the relative performance of standard soybean varieties and to provide information on the performance of improved strains of soybeans in the U. S. Regional Soybean Laboratory Tests. Included in the testing program are herbicide tests, row-spacing tests and fertilizer tests.

Soybean production in Kentucky for 1966 was estimated at 7,750,000 bushels. Production in 1965 was 7,080,000 bushels and 5,185,000 bushels for the period 1960-64. Average yields per acre were 25 bushels for 1966, 24.0 bushels for 1965 and 23.6 bushels for 1960-64.

EXPERIMENTAL METHODS

Soybean tests were conducted at four locations in the major soybean-producing areas of the state. The testing locations are shown on the map on page 2. The field at Henderson was planted on June 2, that at Princeton May 11, Murray on May 13 and Hickman on May 30.

Field Designs

Varieties and experimental strains were planted in three plots at all locations with individual plots being 4 rows wide and 19 feet long. The seeding rate was 10 viable seed or 12 seed per foot of row.

In the row-spacing test the planting rate was 10 viable seed per foot of row with rows spaced 20, 30 and 40 inches apart. In the Henderson test, only the 20 and 40 inch rows were harvested. Morning glory growth was heavy in the Amsoy plots, moderate in the Clark 63 plots and light in the Hood plots at Henderson. Plants in the Amsoy plots were all down badly, Clark 63 plants were leaning considerably, and Hood plants were all erect. At Princeton Clark 63 was significantly higher yielding than Amsoy and Hood. Row spacing was not significant.

At Henderson Clark 63 in 20 inch rows was significantly higher yielding than Clark 63 in 40 inch rows and Amsoy and Hood in 20 and 40 inch rows. Amsoy 20 inch rows were significantly higher yielding than Amsoy and Hood 40 inch rows. Morning glory growth was heavy in Amsoy plots, moderate in Clark 63 plots, and very light in Hood plots.

Weed Control Experiments

Herbicides were applied with a tractor mounted boom sprayer. Chemicals were applied uniformly by using a constant pressure at 40 psi. All chemicals were applied in water at the rate of 25 gal/A. Treflan was applied as a preplant treatment and double disked immediately into the soil. All treatments gave commercially satisfactory control of grassy weeds. None controlled morning glory (Ipomoea purpurea).

Plot size at Henderson and Hickman was 4 rows 40 feet long. There were no weeds present in the Hickman test which was not harvested for yield. There were no statistically significant differences in yield at Henderson.

Weed control ratings for the Henderson test are presented in Table 9.

Yield

A 16-foot section from each of the 2 center rows was harvested for yield. Plants were cut by hand and threshed with a small nursery thresher. The yield of the varieties is reported as bushels per acre at 13.0 percent moisture.

Date Matured

The date when the pods are dry and most of the leaves have dropped. Stems are also dry, under most conditions. Maturity may also be expressed as days earlier (-) or later (+) than a standard variety.

Lodging

Lodging is based on a scale of 1 to 5: 1 = almost all plants erect; 2 = all plants over slightly or a few down; 3 = all plants over moderately or 25%-50% down; 4 = all plants over considerably or 50%-80% down; 5 = all plants down badly.

Seed Quality

Quality is also based on a scale of 1 to 5: 1 = very good; 2 = good; 3 = fair; 4 = poor; 5 = very poor.

Purple Stain

The amount of purple stain is expressed as the percentage of seeds which are stained.

Table 1.- Soybean Performance Test - Henderson, Ky. 1964-66

Variety	Yield Bu/Acre	Date Matured	Lodg-ing*	Ht, In	Seed Quality*	G/100 Seed	Purple Stain, %
Shelby	35.8	9-18	2.8	40	2.2	16.0	4.3
Wayne	37.1	9-30	2.2	41	3.0	17.5	3.3
Kent	40.3	10-6	1.9	40	2.8	18.4	1.0
Clark	37.1	10-3	2.9	43	2.7	17.3	1.2
Clark 63	39.0	10-3	2.0	43	2.7	16.6	2.3
Scott**	40.2	10-12	2.5	42	2.1	15.9	0.7
Hill	40.8	10-22	1.7	32	1.1	14.1	0.3
Hood**	28.9	11-3	2.5	36	1.5	16.0	0.5
Ogden	28.5	10-29	2.1	40	2.0	15.4	0.7

* See text for explanation of ratings
** 1965-66 data

Table 2.- Soybean Performance Test - Henderson, 1966

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality*	G/100 Seed	Purple Stain, %
Shelby	43.8	10-6	3.0	42	2.0	18.7	11
Wayne	43.9	10-6	3.0	39	2.0	18.1	6
Kent	49.9	10-17	1.7	44	2.2	19.6	0
Clark	47.3	10-12	2.0	43	2.0	18.9	0
Clark 63	51.6	10-12	2.0	44	2.0	18.0	3
Scott	47.3	10-26	2.7	42	1.5	16.7	0
Hill	50.3	11.3**	2.0	35	1.0	14.0	0
Dare	40.3	11-10	2.7	37	1.2	13.8	0
Hood	27.7	11-10	3.0	38	1.3	14.6	0
Ogden	29.8	11-10	3.3	39	2.0	14.4	0
Pickett	26.1	11-10	3.0	37	1.5	12.3	0

LSD (.05) 5.7 bushels

* See text for explanation of ratings

** Estimated

Table 3.- Soybean Performance Test - Princeton, 1964-66

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality	G/100 Seed	Purple Stain, %
Shelby	29.1	9-15	2.1	38	2.3	16.2	0.3
Kent	36.3	9-27	1.2	36	2.7	17.1	2.7
Clark	32.6	9-20	1.6	39	2.5	16.9	2.7
Clark 63	32.6	9-20	1.2	40	1.7	14.7	1.3
Scott	36.3	10-5	1.8	43	2.9	14.7	2.7
Hill	37.3	10-13	2.8	37	1.9	14.8	0
Hood	37.8	10-24	2.4	39	1.4	16.2	0
Ogden	37.0	10-27	2.4	42	1.9	17.0	0

* See text for explanation of ratings

Table 4.- Soybean Performance Test - Princeton, 1966

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality	G/100 Seed	Purple Stain, %
Shelby	32.6	9-13	1.3	33	2.0	17.2	2
Wayne	33.5	9-10	1.0	34	2.3	19.1	2
Kent	37.0	10-2	1.7	33	2.7	19.0	6
Clark	38.3	9-26	1.7	35	2.3	19.5	6
Clark 63	37.6	9-26	1.7	36	1.3	17.7	2
Scott	37.2	10-1	1.3	37	2.3	15.1	6
Hill	40.3	10-29	1.3	35	1.3	13.7	0
Dare	41.4	11-2	1.0	39	1.0	14.0	0
Hood	40.5	10-29	1.3	38	1.0	16.2	0
Ogden	35.4	11-2	1.3	41	1.7	16.2	0
Pickett	33.8	11-2	2.3	35	1.3	13.5	0
Lee	32.8	11-2	2.7	37	1.7	15.3	0
Davis	39.5	11-2	2.0	43	1.3	15.4	0
Semmes	28.3	11-2	2.3	43	2.7	17.5	0

LSD (.05) 6.5 bushels

* See text for explanation of ratings

Table 5.- Soybean Performance Test - Hickman, 1964-66

Variety	Yield Bu/Acre	Lodging*	Ht, In	Seed Quality*	G/100 Seed	Purple Stain, %
Kent	30.8	1.2	36	1.6	16.2	3.0
Clark 63	31.3	1.4	35	1.7	15.8	7.0
Scott	33.0	1.3	39	1.6	14.4	3.0
Hill	34.0	2.1	34	1.1	12.4	0
Dare**	34.3	1.7	37	1.0	12.6	0
Hood	33.4	1.7	37	1.0	14.4	0
Ogden	34.3	1.7	38	1.2	14.5	0
Lee	30.4	2.3	36	1.0	12.6	0
Semmes**	24.8	2.1	42	1.5	12.8	0

* See text for explanation of ratings
** 1965-66 data

Table 6.- Soybean Performance Test - Hickman, 1966

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality	G/100 Seed	Purple Stain, %
Kent	40.1	10-20	1.3	39	1.7	16.5	4
Clark 63	40.4	10-20	1.3	38	2.2	16.3	12
Scott	39.3	10-25	1.3	40	1.7	13.8	0
Hill	40.4	10-25	2.0	35	1.2	12.5	0
Dare	40.7	10-25	2.0	38	1.3	12.8	0
Hood	43.3	Harvested Nov. 11 after snow and freeze	2.0	36	1.0	14.4	0
Ogden	42.4		2.0	38	1.5	14.5	0
Pickett	35.2		2.0	36	1.7	12.0	0
Lee	37.6		3.0	38	1.5	12.6	0
Davis	41.0		3.7	41	1.2	12.9	0
Semmes	30.0		2.3	43	2.5	13.2	0

LSD (.05) = 7.7 bushels

* See text for explanation of ratings

Table 7.- Soybean Performance Test - Murray, Mayfield, 1965-66

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality*	G/100 Seed	Purple Stain, %
Wayne	32.3	9-25	2.6	40	2.0	18.5	1
Kent	32.0	10-6	1.7	42	2.0	18.7	1
Clark	29.7	9-26	1.0	39	1.9	16.9	1
Clark 63	31.5	9-26	1.5	42	1.7	16.2	1
Scott	25.2	--	1.9	38	2.0	15.7	1
Hill	30.2	--	2.5	33	1.7	14.9	1
Hood	30.1	--	2.0	37	1.5	18.0	1
Ogden	31.5	--	2.0	39	1.9	18.1	1
Lee	31.6	--	2.5	38	1.5	14.6	1

* See text for explanation of ratings

Table 8.- Soybean Performance Test - Murray, 1966

Variety	Yield Bu/Acre	Date Matured	Lodging*	Ht, In	Seed Quality*	G/100 Seed	Purple Stain,
Wayne	40.9	10-10	4.0	41	2.0	22.3	2
Kent	44.8	10-13	1.6	45	1.7	24.6	2
Clark	39.6	10-12	2.0	42	1.7	20.9	2
Clark 63	43.0	10-12	3.0	44	1.3	20.0	2
Scott	35.3	11-10	3.7	46	1.0	18.8	0
Hill	39.8	10-15	5.0	37	1.0	14.2	0
Dare	36.4	11-10	4.0	39	1.0	15.4	0
Hood	34.2	11-10	4.0	39	1.0	15.6	0
Ogden	36.0	11-10	4.0	45	1.0	18.1	0
Pickett	32.6	11-10	4.0	39	1.0	14.4	0
Lee	33.7	11-10	5.0	42	1.0	14.9	0
Davis	32.6	11-10	5.0	44	1.7	14.2	0
Semmes	30.5	11-10	4.3	46	1.7	14.9	0

LSD (.05) 8.0 bushels

* See text for explanation of ratings

Table 9.- Soybean Herbicide Test. Henderson, 1966

Herbicide	Herbicide lb actual/Acre	Yield* - Bu/Acre 1965-66	Yield* - Bu/Acre 1966	Weed Rating June 28
Amiben	2.0	34.9	42.8	8.0
Vernam - incorporated	2.6	33.6	46.0	9.2
Ramrod	5.0	--	43.3	8.0
Lorox	1.0	32.4	35.9	7.5
Dynap (Alanap + DNBP)	3.0 + 1.5	--	43.8	8.0
Alanap Plus (Alanap + CIPC)	3.0 + 2.0	36.1	46.5	8.5
Treflan - disk, preplant	0.75	31.5	43.0	6.2
Rowmate	6.0	--	41.7	8.5
Check	--	30.8	41.6	0

* Not significant statistically

Table 10.- Soybean Molybdenum-Potassium Test - Henderson 1966

Treatment	Date I Bu/Acre*	Date II Bu/Acre*	Average Bu/Acre*
Molybdenum	44.5	42.0	43.3
Potassium	46.2	42.6	44.4
Molybdenum-Potassium	45.0	40.3	42.7
Check	46.8	37.8	41.7

* Not significant statistically

Table 11.- Soybean Row-spacing Test - Henderson , 1966

Variety	Bushels per acre 20" Rows	40" Rows	Average
Amsoy	41.9	26.9	34.4
Clark 63	54.2	39.2	46.7
Hood	35.2	26.7	31.0
Average	43.8	30.9	37.4

Table 12.- Soybean Row-spacing Test - Princeton, 1966

Variety	Bushels per acre 20" Rows	30" Rows	40" Rows	Average
Amsoy	41.1	33.0	40.5	38.2
Clark 63	47.3	42.3	41.7	43.7
Hood	44.1	38.9	37.5	40.1
Average	44.1	38.0	39.9	40.6

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