

RESULTS OF THE
KENTUCKY SOYBEAN VARIETY PERFORMANCE
TESTS AT HENDERSON, 1963
(With Observations on Fungicide, Herbicide, Rate-of-
Planting, and Fertilizer Tests)

By Roy E. Sigafus and S. H. Phillips

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RECOMMENDED VARIETIES

SHELBY, CLARK AND CLARK 63 for northern and eastern Kentucky

CLARK, CLARK 63, KENT and HOOD for southern and western Kentucky

THE SOYBEAN VARIETY TESTS

The soybean variety performance reports for 1963 are based on a planting made by H. R. Richards on the farm of Allan Toy, 3 miles south of Henderson, through the cooperation of the Henderson County Extension Agent Stuart Brabant; the Owensboro Grain Co., Owensboro; and Ellis Elevator Co. and Henderson Elevator Co., of Henderson. Several of these varieties and 18 other experimental strains were also planted in the Uniform Tests of the U. S. Regional Soybean Laboratory, Urbana, Ill.

METHODS USED

The varieties were planted in four-row plots with three replications. The rows were 19 feet long and 40 inches apart. A 16-foot section was harvested from each of the two center rows. Beans were planted at a rate of approximately 12 seeds per foot of row. The plants were cut by hand and the beans threshed with a nursery thresher. The beans were cleaned of trash and let stand in the laboratory until they had reached a constant moisture content before plot weights were taken. The moisture content when weighed was about 10 percent. Acre yields were calculated and are reported on an air-dry basis.

Amiben, band treated over the row, and timely cultivations kept weeds at a minimum.

Oil content and protein content were determined by the U. S. Regional Soybean Laboratory and the University of Kentucky Department of Feed and Fertilizer and the Department of Agronomy Service Laboratory.

Lodging notes were recorded at or near maturity when the height was also measured from the ground to the top extremity of the plants.

Maturity is expressed as days earlier (-) or later (+) than Clark. For 1963, the soybeans tended to dry up rather than mature, so too much emphasis should not be placed on the recorded maturity due to the abnormally dry weather.

Seed quality was rated on appearance. Brightness, plumpness, freedom from wrinkling and the relative appearance of the seed were taken into account in rating for quality.

TABLE 1. —SOYBEAN RATE OF PLANTING AND FUNGICIDE TEST, HENDERSON 1963

Location: Farm of Allan Toy, 3 miles south of Henderson, Ky., on U. S. 41.

Soil: Falaya silt loam

Soil Test: moderate acidity with pH of 6.1.

Available phosphorus: high, 75 lb/A.; available potassium: low, 94 lb/A.

Date Planted: May 7, 1963. Killing Frost: Oct. 28, 1963. Row width: 40 in.

Variety	Planting Rate	Seeds Sown/ft.	Plants 1/ Estab./ft.	Percent Estab.	Plants at Harvest/ft.	Percent of possible	Yield Bu/A	Rel.
Kent	normal rate	12	6.5	54	5.0	42	36.0	100
"	half rate	6	3.8	63	3.5	58	35.6	99

	<u>Fungicide</u>							
Clark	none	12	7.2	60	5.4	45	39.5	100
"	Arasan 2/	12	8.0	67	6.0	50	40.7	103

1/ Established plants were counted a month after seeding.

2/ Spergon and Captan may also be used for seed treatment

TABLE 2. —SOYBEAN FERTILIZER AND HERBICIDE TEST, HENDERSON 1963 1/

Variety	Treatment	Yield Bu/A	Rel. Yield
Kent	none	36.4	100
"	8-20-30/A 2/	39.3	106

Clark	none	21.1	100
"	Amiben 3/	38.6	182

1/ Same location as test in Table 1.

2/ Fertilizer applied as 200 pounds of 4-10-15 in the row.

3/ Amiben banded over row at recommended rate. Soybeans hoed twice with rotary hoe and cultivated twice with shovel cultivator. Main weed competition was from giant foxtail. The Amiben treatment was not a replicated experiment. Other materials being recommended for pre-emergence use include: Alanap-3, Weedbeads or Napclor, CIPC, and Lorox.

Table 3. —Soybean Variety Performance, Henderson County 1963.

Location: Farm of Allan Toy, 3 miles south of Henderson, Ky. on U. S. 41.
 Soil: Silt loam (Falya, local alluvium)
 Soil test results: Degree of acidity—moderate with a pH of 6.1; available phosphorus—high at 75 pounds per acre; available potassium—Low at 94 pounds per acre.
 Date planted: May 7, 1963. Killing frost: Oct. 28, 1963. Row width: 40 inches.

Variety	Yield ^{1/}	Maturity ^{2/}	Lodging Resistance	Height Inches	Seed Quality	Grams/100 Beans	Percent ^{3/} Oil	Percent ^{3/} Protein
SHELBY ^{4/}	37.0	-10	good	43	fair	15.3	21.0	40.1
CLARK 63	42.2	- 3	good	47	fair	14.5	20.5	42.1
CLARK	38.4	Sept. 28	fair	45	fair	15.4	20.2	42.2
KENT	43.8	+12	fair	47	fair	17.3	21.1	41.9
Perry	36.7	+22	fair	43	poor	17.3	20.4	42.0
Bethel	33.8	+20	good	48	good	16.1	21.0	40.5
Delmar	37.8	+12	fair	47	good	18.1	21.7	41.4
Hill	34.0	+18	fair	41	excellent	13.5	19.8	40.6
Scott	39.4	+22	fair	47	fair	14.5	20.1	39.9
Dorman	35.1	+21	poor	48	good	14.0	19.1	41.3
HOOD	37.5	+30	fair	43	excellent	16.2	18.6	41.7

^{1/} Yield and performance data are the means of three replications.

^{2/} Days earlier (-) or later (+) than Clark Variety

^{3/} Oil and protein content determined from a composite sample from the three replicates. Values on moisture-free basis.

^{4/} Varieties in all capital letters are the recommended ones for Kentucky planting.

Table 4. —SOYBEAN VARIETY PERFORMANCE, HENDERSON COUNTY, 1960, 1961 and 1962 averages.

Location: Three different farms in Henderson Co.
Soil: Falaya silt loam.

Variety	Yield <u>1</u> / Bu/A	Maturity <u>2</u> / Sept	Lodging Resistance	Height Inches	Seed Quality	Grams/ 100 Beans	Percent <u>3</u> / Oil	Percent <u>3</u> / Protein
SHELBY	37.8	- 9	good	42	fair	18	21.1	—
CLARK 63	43.6	- 1	good	45	fair	16	21.6	—
CLARK	39.9	Sept 24	excellent	42	fair	18	20.7	41.4
KENT	45.7	+ 6	excellent	42	fair	19	20.7	40.7
Perry	41.0	+ 6	good	44	poor	18	21.0	—
Bethel	35.3	+ 8	fair	51	good	15	20.3	42.4
Delmar	37.9	+11	good	48	fair	16	21.3	42.1
Scott	37.6	+12	fair	47	fair	15	21.4	39.4
Hill	39.1	+14	fair	39	good	12	19.6	40.0
Dorman	35.9	+17	poor	47	good	14	18.8	39.6
HOOD	35.0	+22	fair	40	good	16	18.8	—
Ogden	36.1	+28	fair	49	good	16	18.6	—
Lee	36.0	+31	fair	42	fair	14	21.6	—

1/ Yield and performance data are means of three replicates

2/ Days earlier (-) or later (+) than Clark variety

3/ Oil and protein content determined from a composite sample from the three replicates. Values on moisture-free basis.

TABLE 5. —YIELD IN BUSHELS PER ACRE OF SOYBEAN VARIETIES
GROWN AT FOUR KENTUCKY LOCATIONS IN 1961

Variety	Location			
	Henderson	Princeton	Lexington	Fulton Co.
SHELBY	38.4	33.6	34.5	27.4
CLARK 63	42.2	32.4	32.5	42.3
CLARK	40.0	30.9	37.5	41.3
KENT	46.2	35.3	36.3	40.9
Perry	41.7	33.4	29.4	33.8
Bethel	33.2	—	26.8	—
Delmar	38.4	—	29.1	—
Scott	44.9	—	32.5	—
Hill	40.9	36.5	20.0	36.5
Dorman	33.8	29.2	21.7	29.5
HOOD	41.4	34.5	22.6	33.7
Ogden	34.3	33.5	18.4	32.5
Lee	38.3	36.5	17.6	27.9

NOTE: All varieties listed in a given location were not grown in the same test but were at the same location.