Results of the

KENTUCKY SOYBEAN VARIETY PERFORMANCE TESTS—1962

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Recommended Varieties:

Clark and Shelby - Northern and Eastern Kentucky.

Clark, Hood, Kent and Perry - Southern and Western Kentucky.

Clark is a fairly early-maturing variety with a high-yield record where it is adapted. It has good resistance to lodging and good oil content. The pods are brown, and the seeds are yellow.

Shelby is the earliest maturing of the recommended varieties. It lodges very little, has brown pods and yellow seeds.

Hood is a late-maturing variety, especially suited to the Delta area of western Kentucky. It is resistant to several diseases, has gray pods, and yellow seeds. This variety should replace the green-seeded Ogden variety.

Kent is a medium-early-maturing variety which has been superior in yield near the Ohio River when planted early. It lodges very little, has brown pods, and large yellow seeds.

Perry is later maturing than Shelby and Clark but earlier than the other recommended varieties. It yields well, has gray pods, and fairly large yellow seeds.

The Soybean Tests:

The soybean variety tests reported herein were designed to evaluate varieties which are commonly grown or appear promising for use in Kentucky. The 1962 results of the Uniform Group IV and Group V tests of experimental strains of soybeans conducted at Henderson in cooperation with the U.S. Regional Soybean Laboratory, Urbana, Illinois, are reported in the current progress report of the laboratory.

The Henderson county tests were located in the main soybean-producing area of the state on bottomlands of a stream which is tributary to the Ohio River. The able assistance of Henderson County Extension Agent Stuart Brabant is gratefully acknowledged.

Methods Used:

The variety tests were planted in 4-row plots with three replications and in a randomized block design. The rows were 19 feet long and 36 inches apart. A 16-foot section was harvested from each of the two center rows. Beans were planted at a rate of 12 seeds per foot of row. The plants were cut by hand and the beans threshed with a nursery thresher. Field losses of seed from this method of harvesting are less than those sustained in combine harvesting methods.

The attempt was made to follow best cultural practices.

Yields: Seed weights were recorded after the seed of all plots had reached a uniform moisture content. Then weights were calculated to bushels-per-acre basis.

Oil content: Percent of oil was determined from a composite sample of seed from all replications in each test. Analyses were made at the Kentucky Agricultural Experiment Station chemical laboratory. Percent oil is expressed on moisture-free basis.

Seed size is reported as weight in grams per 100 seeds.

Damaged beans per 100 represents those beans which were affected by purple stain and downy mildew.

Lodging notes were recorded at or near maturity according to the scale shown in footnote to each table.

Height of plants was determined as the average length of plants in a plot from ground to the top extremity at time of maturity.

Maturity is taken as the date when the pods are dry and most of the leaves have dropped. It is expressed as days earlier (-) or later (+) than Perry as a reference variety.

Seed quality is rated from 1 to 5 according to the scale shown as a footnote to each table. The factors considered in estimating seed quality are development of seed, wrinkling damage, and brightness.

Interpretation of Data:

The difference in yield between varieties necessary for reasonable assurance that such an inherent yield potential exists, has been calculated and is given in a footnote to each table. Unless the yields of the two varieties

or the two row spacings being compared differ by as much as or more than the figures shown, little confidence can be placed in the apparent superiority of one variety over the other under the conditions of the particular test.

Data on agronomic characteristics other than yield have not been analyzed statistically; however, small differences between any two varieties are likely to be of little importance and should not be considered strongly indicative of a true difference.

Duration of tests: The results of evaluating varieties over a period of several years are more trustworthy than those from a single year. A given variety may be outstanding in performance one year and show less desirable characteristics another year. Results over a period of years tend to average these fluctuations. Performance data for more than a single year are given in the tables that follow the table for 1962.

Recommended Soil Treatments:

If soil tests indicate that the soil is moderately or strongly acid use ground limestone at rate of 2 or 3 tons per acre respectively; if low in available phosphorus use fertilizers to supply up to 80 pounds of P_2O_5 per acre; and if low in available potassium use fertilizers to supply up to 80 pounds of K_2O per acre. Apply limestone and fertilizers either before or after plowing. To avoid injury to seedling soybeans, do not drill fertilizer in contact with the seed. Soybeans respond well to the use of needed lime and fertilizers on other crops in the rotation ahead of the soybean crop.

TABLE 1. SOYBEAN VARIETY TEST, HENDERSON COUNTY,
1962-PERFORMANCE DATA AND RELATED INFORMATION

Cooperators: Owensboro Grain Co., Owensboro: J. S. Priest and Herman Wood.

Location: 7 miles S.E. of Henderson, Ky. near Airline Highway; Farm: J. S. Priest: Herman Wood, operator.

Soil: Silt loam (Falaya local alluvium) on drainage ditch - bottomland.

Soil Treatment: Fertilizer: 200 lbs/A of 0-20-20 applied broadcast and worked in before planting.

Date Planted: May 15, 1962. Killing Frost: October 24, 1962. Row Width: 36 inches.

Comments: Soybeans were planted about the optimum planting date, came up good stands, and made good growth during the favorable moisture conditions which lasted most of the growing season. Overall, a good soybean production season was experienced.

Variety	Yield-1962 1/ Bu/A	Rank	Maturity 2/	Lodging 3/	Ht. In.	Seed Qual. 4/	Gm/100 Beans	% Oil Test	Damaged Beans/100
Shelby	43.0	3	-19	3.3	46	3	17	22.0	9
SL-1	44.0	2	- 7	2.7	46	3	16	21.7	20
Clark	41.1	8	- 7	2.7	44	4	18	22.1	19
Bethel	41.6	6	+ 7	3.0	46	3	16	21.1	16
Perry	41.3	7	9/24	3.7	47	4	18	21.5	10

Kent	50.7	1	+ 4	2.3	43	3	19	21.6	16
Hill	41.9	4 or 5	+ 8	3.2	36	2	13	19.9	5
Dorman	41.9	4 or 5	+16	4.3	45	2	15	19.4	12
Hood	30.9	11	+20	4.0	37	2	17	18.3	10
Ogden	35.8	10	+28	4.2	48	2	17	18.3	14
Lee	37.6	9	+31	3.7	38	3	15	18.6	14

1/ Mean data of 3 replicates for yield and performance. Oil content was determined from a composite sample from the 3 replicates. Yield differences of less than 6.9 bu/A not significant (Odds 19:1).

2/ Days earlier (-) or later (+) than Perry which matured September 24.

3/ Rating scale of plant lodging: 1 = almost all plants erect; 2 = either all plants over slightly or a few down; 3 = all plants over moderately or 25%-50% down; 4 = either all plants over considerably or 50%-80% down; 5 = all plants down badly.

4/ Rating scale of seed quality: 1 = very good; 2 = good; 3 = fair; 4 = poor; 5 = very poor.

TABLE 2. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Yield, Bu/A						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	41.1	40.6	39.9	38.3	39.5	39.8	40.9
Perry	41.3	41.5	41.0	39.4	40.0	40.4	40.0
Dorman	41.9	37.8	35.9	34.7	35.0	35.8	35.7
Hood	30.9	36.2	35.0	35.8	36.2	36.0	36.8
Ogden	35.8	35.0	36.1	35.9	35.2	34.9	35.2
Lee	37.6	38.0	36.0	36.8	36.6	36.1	36.7
Shelby	43.0	40.7	37.8	36.0			
Kent	50.7	48.4	45.7	44.1			
Hill	41.9	41.4	39.1	37.3			
Bethel	41.6	37.4	35.3	34.8			
SL-1	44.0	43.1					

TABLE 3. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Maturity, days earlier (-) or later (+) than Perry						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	-7	-6	-6	-7	-6	-6	-5
Perry	9-24	10-2	9-30	9-29	9-27	9-29	9-28
Dorman	+16	+12	+11	+11	+13	+13	+15
Hood	+20	+18	+16	+16	+21	+21	+19
Ogden	+28	+24	+22	+21	+25	+26	+25
Lee	+31	+28	+25	+27	+31	+30	+28
Shelby	-19	-16	-15	-17			
Kent	+4	+2	0	+2			
Hill	+8	+8	+8	+10			
Bethel	+7	+3	+2	+3			
SL-1	-7	-6					

TABLE 4. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Lodging*						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	2.7	2.1	2.1	2.0	2.0	1.8	2.0
Perry	3.7	3.0	2.8	2.4	2.3	2.2	2.2
Dorman	4.3	4.4	4.3	4.0	4.1	3.8	3.7
Hood	4.0	3.8	3.3	2.9	2.9	2.8	2.7
Ogden	4.2	3.6	3.5	3.0	2.9	2.7	2.7
Lee	3.7	3.4	3.4	3.1	3.1	3.2	3.4
Shelby	3.3	2.6	2.5	2.1			
Kent	2.3	2.2	1.9	2.2			
Hill	3.2	3.4	3.2	3.2			
Bethel	3.0	2.8	3.0	3.2			
SL-1	2.7	2.0					

* 1 = almost all plants erect; 2 = either all plants over slightly or a few down; 3 = all plants over moderately or 25%-50% down; 4 = either all plants over considerably or 50%-80% down; 5 = all plants down badly.

TABLE 5. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Height, inches						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	44	42	42	41	41	41	42
Perry	47	44	44	43	42	42	42
Dorman	45	50	47	46	46	45	45
Hood	37	42	40	39	39	39	40
Ogden	48	50	49	47	47	47	47
Lee	38	42	42	40	40	41	41
Shelby	46	44	42	42			
Kent	43	44	42	42			
Hill	36	40	39	38			
Bethel	46	52	51	50			
SL-1	46	44					

TABLE 6. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Seed Quality*						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	4	4	4	4	4	4	4
Perry	4	4	4	4	4	4	4
Dorman	2	2	2	2	2	2	2
Hood	2	2	2	2	2	2	2
Ogden	2	2	2	2	2	2	2
Lee	3	3	3	3	3	3	3
Shelby	3	3	3	3			
Kent	3	3	3	3			
Hill	2	2	2	2			
Bethel	3	2	2	2			
SL-1	3	3					

* 1 = very good; 2 = good; 3 = fair; 4 = poor; 5 = very poor.

TABLE 7. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Grams per 100 beans						
	1962	'61-62	'60-62	'59-62	'58-62	'57-62	'56-62
Clark	18	18	18	17	17	17	17
Perry	18	18	18	17	17	17	17
Dorman	15	15	14	13	13	13	13
Hood	17	17	16	16	16	16	16
Ogden	17	17	16	16	16	16	16
Lee	15	15	14	14	14	14	14
Shelby	17	18	18	17			
Kent	19	19	19	19			
Hill	13	13	12	12			
Bethel	16	16	15	15			
SL-1	16	16					

TABLE 8. PERIOD OF YEARS SUMMARY OF SOYBEAN VARIETIES GROWN IN THE 1962 VARIETY TEST IN HENDERSON COUNTY

Variety	Percent oil content				
	1962	'61-62	'60-62	'59-62	'58-62
Clark	22.1	21.1	20.7	20.7	21.0
Perry	21.5	21.1	21.0	20.6	21.2
Dorman	19.4	19.0	18.8	18.9	19.4
Hood	18.3	19.0	18.8	18.9	19.3
Ogden	18.3	18.4	18.6	18.6	18.8
Lee	18.6	18.6	18.3	18.0	18.5
Shelby	22.0	21.2	21.1	21.0	
Kent	21.6	20.8	20.7	21.0	
Hill	19.9	20.0	19.6	19.6	
Bethel	21.1	20.5	20.3	20.5	
SL-1	21.7	21.4			

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