

*Results of the*  
**KENTUCKY SOYBEAN  
PERFORMANCE  
TESTS—1965**

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LOCATION OF THE 1965  
SOYBEAN PERFORMANCE TESTS



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|    | <u>Location</u> | <u>Soil Type</u>   | <u>pH</u> | <u>Phosphorus</u> | <u>Potassium</u> |
|----|-----------------|--------------------|-----------|-------------------|------------------|
| 1. | Henderson       | Falaya silt loam   | 6.3       | Medium            | Low              |
| 2. | Princeton       | Pembroke silt loam | 7.5       | High              | Low              |
| 3. | Mayfield        | Grenada silt loam  | 6.2       | Low               | Low              |
| 4. | Hickman         | Commerce silt loam | 7.8       | High              | Medium           |

RESULTS OF THE KENTUCKY SOYBEAN  
PERFORMANCE TESTS - 1965

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, rate-of-planting and fertilizer tests, seed treatment tests and molybdenum tests.

Soybean production in Kentucky for 1965 was estimated at 6,864,000 bushels. Production in 1964 was 5,850,000 bushels and 4,915,000 bushels for the period 1959-63. Average yields per acre were 24 bushels for 1965, 22.5 bushels for 1964 and 23.6 bushels for 1959-63.

EXPERIMENTAL METHODS

Soybean tests were conducted at four locations in the major soybean-producing area of the state. The testing locations are shown on the map on page 2. The field at Henderson was planted on May 6, that at Princeton on May 4, Mayfield on May 13 and Hickman on May 14.

Field Design

Each variety and experimental strain was 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 except in the rate-of-planting and fertilizer test where 6, 9, and 12 viable seed per foot of row was planted.

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.

### Chemical Composition

Percent oil and percent protein content determined from a composite sample. Percentage composition is expressed on a moisture-free basis.

### Purple Stain

The amount of purple stain is based on a scale of 1 to 5:  
1 = no purple stain; 2 = 1 to 3%; 3 = 4 to 8%; 4 = 9 to 19%;  
5 = over 20%.

Table 1. - Soybean Performance Test - Henderson, 1963-65

| Variety           | Yield<br>Bu/Acre | Date<br>Matured | Lodg-<br>ing | Ht,<br>In. | Seed<br>Qual | G/100<br>Seeds | Protein<br>%** | Oil<br>% | Purple<br>Stain |
|-------------------|------------------|-----------------|--------------|------------|--------------|----------------|----------------|----------|-----------------|
| Kent              | 38.2             | 10-4            | 2.0*         | 41         | 3.1*         | 17.6           | 43.3           | 19.3     | 1.5*            |
| Clark             | 34.2             | 9-29            | 3.4          | 44         | 3.0          | 16.1           | 43.4           | 20.4     | 1.9             |
| Clark 63          | 35.9             | 9-28            | 2.0          | 44         | 3.0          | 15.4           | 42.6           | 20.6     | 2.0             |
| Ogden**           | 27.9             | 10-25           | 1.5          | 41         | 2.0          | 15.9           | ---            | 17.4     | 1.0             |
| Shelby            | 33.5             | 9-12            | 2.6          | 40         | 2.6          | 14.8           | 42.7           | 20.4     | 1.0             |
| Lindarin 63<br>** | 32.9             | 9-5             | 1.6          | 32         | 1.4          | 15.1           | ---            | 20.1     | 1.5             |
| Wayne**           | 33.7             | 9-29            | 1.9          | 42         | 3.5          | 17.2           | ---            | 20.1     | 1.5             |
| Scott             | 34.8             | 10-6            | 2.2          | 43         | 2.3          | 14.7           | 41.4           | 19.9     | 1.6             |
| Hill              | 35.1             | 10-17           | 2.5          | 35         | 1.4          | 13.9           | 40.9           | 19.8     | 1.0             |
| Dorman**          | 29.5             | 10-21           | 3.0          | 42         | 2.0          | 13.8           | 43.0           | 18.8     | 1.0             |

\* See text for explanation of scales used.

\*\* Two-year data.

Table 2.- Soybean Performance Test - Henderson, 1965

| Variety     | Yield*<br>Bu/Acre | Date<br>Matured | Lodg-<br>ing | Ht,<br>In | Seed<br>Qual | G/100<br>Seeds | Protein<br>% | Oil<br>% | Purple<br>Stain |
|-------------|-------------------|-----------------|--------------|-----------|--------------|----------------|--------------|----------|-----------------|
| Kent        | 35.8              | 9-30            | 2.0          | 36        | 3.7          | 18.4           | 44.8         | 19.7     | 2.0             |
| Clark       | 30.6              | 9-28            | 2.7          | 38        | 4.0          | 16.2           | 44.6         | 19.4     | 2.7             |
| Clark 63    | 29.6              | 9-28            | 2.0          | 38        | 4.0          | 16.3           | 43.1         | 20.5     | 3.0             |
| Ogden       | 33.6              | 10-26           | 2.0          | 38        | 2.0          | 17.0           | 45.8         | 16.9     | 1.0             |
| Shelby      | 28.0              | 9-9             | 2.3          | 37        | 2.7          | 14.0           | 45.4         | 19.3     | 1.0             |
| Lindarin 63 | 28.9              | 9-9             | 1.3          | 28        | 1.7          | 14.6           | 45.4         | 20.2     | 1.0             |
| Wayne       | 26.8              | 9-28            | 1.7          | 38        | 4.0          | 16.8           | 45.8         | 20.0     | 2.0             |
| Scott       | 33.2              | 9-28            | 2.3          | 42        | 2.7          | 15.2           | 43.0         | 19.0     | 1.3             |
| Hill        | 36.2              | 10-14           | 2.0          | 34        | 1.3          | 14.1           | 41.2         | 17.9     | 1.0             |
| Hood        | 30.0              | 10-28           | 2.0          | 34        | 1.7          | 17.3           | 44.7         | 17.0     | 1.0             |

\* Difference required for significance: .05 = 4.7 bu.

Table 3.- Soybean Performance Test - Princeton, 1964-65

| Variety     | Yield<br>Bu/Acre | Date<br>Matured | Lodg-<br>ing | Ht,<br>In. | Seed<br>Qual | G/100<br>Seeds |
|-------------|------------------|-----------------|--------------|------------|--------------|----------------|
| Clark       | 29.7             | 9-17            | 2.5          | 41         | 2.6          | 15.6           |
| Clark 63    | 30.2             | 9-17            | 1.0          | 42         | 1.9          | 13.3           |
| Kent        | 36.0             | 9-25            | 1.0          | 38         | 2.8          | 16.2           |
| Scott       | 35.9             | 10-7            | 2.0          | 46         | 3.2          | 14.5           |
| Hill        | 35.9             | 10-5            | 3.5          | 39         | 2.3          | 15.4           |
| Hood        | 36.5             | 10-21           | 3.0          | 40         | 1.7          | 16.2           |
| Ogden       | 37.9             | 10-22           | 3.0          | 43         | 2.0          | 17.5           |
| Lindarin 63 | 22.9             | 9-11            | 2.0          | 29         | 3.5          | 15.5           |
| Shelby      | 27.3             | 9-16            | 2.5          | 40         | 2.5          | 15.8           |

Table 4.- Soybean Performance Test - Princeton, 1965

| Variety     | Yield*<br>Bu/Acre | Date<br>Matured | Lodg-<br>ing | Ht,<br>In. | Seed<br>Qual | G/100<br>Seeds | Protein<br>% | Oil<br>% | Purple<br>Stain |
|-------------|-------------------|-----------------|--------------|------------|--------------|----------------|--------------|----------|-----------------|
| Clark       | 19.9              | 9-19            | 1            | 42         | 2.2          | 11.0           | 41.7         | 20.7     | 1.8             |
| Clark 63    | 22.1              | 9-17            | 1            | 44         | 1.8          | 10.5           | 41.0         | 21.5     | 1.8             |
| Kent        | 26.5              | 9-28            | 1            | 40         | 2.5          | 12.0           | 42.3         | 19.8     | 2.0             |
| Scott       | 30.5              | 10-6            | 2            | 47         | 2.3          | 12.5           | 40.4         | 19.9     | 2.0             |
| Hill        | 33.4              | 10-8            | 3            | 40         | 2.5          | 15.0           | 39.9         | 18.0     | 1.0             |
| Hood        | 34.5              | 10-26           | 3            | 42         | 1.3          | 17.0           | 41.6         | 18.9     | 1.0             |
| Ogden       | 33.3              | 10-26           | 3            | 45         | 2.0          | 15.5           | 42.3         | 18.4     | 1.0             |
| Lindarin 63 | 19.3              | 9-12            | 1            | 35         | 3.0          | 11.0           | 42.4         | 21.9     | 1.0             |
| Shelby      | 21.2              | 9-16            | 2            | 40         | 2.0          | 12.0           | 42.1         | 21.1     | 1.0             |

\*Difference required for significance: .05 = 3.9 bu.



Table 5.- Soybean Performance Test - Mayfield, 1965

| Variety  | Yield*<br>Bu/Acre | Date<br>Matured | Lodg-<br>ing | Ht,<br>In. | Seed<br>Qual | G/100<br>Seeds | Protein<br>% | Oil<br>% | Purple<br>Stain |
|----------|-------------------|-----------------|--------------|------------|--------------|----------------|--------------|----------|-----------------|
| Clark    | 19.8              | 9-10            | 0            | 36         | 2.0          | 12.9           | 43.5         | 18.6     | 1.0             |
| Wayne    | 23.6              | 9-10            | 1.2          | 38         | 2.0          | 14.7           | 43.2         | 19.5     | 1.0             |
| Clark 63 | 20.0              | 9-10            | 0            | 40         | 2.0          | 12.3           | 43.4         | 18.5     | 1.0             |
| Kent     | 19.1              | 9-30            | 1.7          | 38         | 2.3          | 12.8           | 43.6         | 18.3     | 1.0             |
| Scott    | 15.0              | **              |              | 29         | 3.0          | 12.5           | 44.5         | 18.2     | 2.0             |
| Hill     | 20.5              | **              |              | 29         | 2.3          | 15.5           | 43.3         | 18.6     | 2.3             |
| Hood     | 26.0              | **              |              | 34         | 2.0          | 20.3           | 45.8         | 18.7     | 2.0             |
| Ogden    | 26.9              | **              |              | 33         | 2.7          | 18.1           | 46.2         | 17.2     | 2.0             |
| Shelby   | 24.8              | 9-10            | 1.2          | 40         | 2.0          | 12.5           | 43.6         | 19.0     | 1.0             |
| Lee      | 29.4              | **              |              | 33         | 2.0          | 14.2           | 46.6         | 16.8     | 2.0             |

\* Difference required for significance: .05 = 4.1 bu.

\*\* Harvested October 27 and stored.

Table 6.- Soybean Performance Test - Hickman, 1965

| Variety  | Yield Bu/Acre |      | Lodg-<br>ing | Ht,<br>In. | Seed<br>Qual | G/100<br>Seeds | Protein |      | Oil  |     | Purple<br>Stain |   |
|----------|---------------|------|--------------|------------|--------------|----------------|---------|------|------|-----|-----------------|---|
|          | 1964-65       | 1965 |              |            |              |                | %       | %    | %    | %   | %               | % |
| Clark    | 25.7          | 28.8 | 2.0          | 33         | 3.0          | 14.0           | 44.5    | 18.1 | 18.1 | 1.0 | 1.0             |   |
| Wayne    | --            | 28.2 | 1.0          | 30         | 3.0          | 16.7           | 41.2    | 18.8 | 18.8 | 1.7 | 1.7             |   |
| Clark 63 | 26.7          | 24.4 | 1.5          | 32         | 3.0          | 15.3           | 44.4    | 19.5 | 19.5 | 2.0 | 2.0             |   |
| Kent     | 26.2          | 25.8 | 1.2          | 32         | 3.0          | 15.9           | 45.4    | 19.5 | 19.5 | 2.0 | 2.0             |   |
| Scott    | 29.8          | 27.7 | 1.3          | 37         | 3.0          | 15.0           | 44.3    | 19.1 | 19.1 | 3.0 | 3.0             |   |
| Hill     | 30.8          | 27.4 | 2.3          | 33         | 2.2          | 12.3           | 42.2    | 17.2 | 17.2 | 1.0 | 1.0             |   |
| Hood     | 28.5          | 25.4 | 1.5          | 37         | 1.7          | 15.0           | 44.4    | 17.9 | 17.9 | 1.0 | 1.0             |   |
| Ogden    | 30.2          | 27.5 | 1.3          | 38         | 2.2          | 14.5           | 45.0    | 16.1 | 16.1 | 1.0 | 1.0             |   |
| Lee      | 26.8          | 26.5 | 1.7          | 33         | 1.5          | 12.5           | 46.0    | 15.4 | 15.4 | 1.0 | 1.0             |   |
| Dorman   | 30.5          | 26.8 | 2.3          | 38         | 2.7          | 13.6           | 43.0    | 17.9 | 17.9 | 1.0 | 1.0             |   |
| Bragg    | ---           | 23.3 | 2.5          | 48         | 2.0          | 14.9           | 43.1    | 14.7 | 14.7 | 1.0 | 1.0             |   |
| Jackson  | ---           | 22.7 | 1.7          | 46         | 2.0          | 13.3           | 42.9    | 16.8 | 16.8 | 1.0 | 1.0             |   |
| Rebel    | 15.6          | 17.8 | 2.2          | 46         | 2.3          | 14.9           | 46.4    | 14.8 | 14.8 | 1.0 | 1.0             |   |
| Hampton  | 9.4           | 13.4 | 2.7          | 38         | 2.0          | 15.1           | 41.8    | 16.9 | 16.9 | 1.0 | 1.0             |   |
| Semmes   | ---           | 19.5 | 1.8          | 41         | 2.0          | 12.2           | 46.0    | 15.5 | 15.5 | 1.0 | 1.0             |   |
| Dare     | ---           | 27.8 | 1.5          | 35         | 1.3          | 12.4           | 40.4    | 18.8 | 18.8 | 1.0 | 1.0             |   |

LSD for 1965 = 5.5 bushels

Table 7.- Soybean Herbicide Test -Henderson and Hickman, 1965

| Treatment             | Henderson<br>Bu/Acre*-Clark 63 | Hickman<br>Bu/Acre* - Hood |
|-----------------------|--------------------------------|----------------------------|
| neck                  | 20.0                           | 18.3                       |
| giben                 | 27.0                           | 27.3                       |
| ernam - incorporated  | 21.1                           | 25.9                       |
| redbeads              | 24.1                           | 20.9                       |
| reflan - incorporated | 19.9                           | 20.2                       |
| orox                  | 28.9                           | 26.2                       |
| ranap + CIPC          | 25.6                           | 24.8                       |
| amrod                 | ---                            | 21.9                       |

Not significant statistically.

Table 9.- Soybean Arasan and Molybdenum Tests - Henderson, 1965

| Variety         | Arasan<br>Bu/Acre | Molybdenum<br>Bu/Acre |
|-----------------|-------------------|-----------------------|
| Clark untreated | 26.7              | 35.9                  |
| Clark treated   | 33.9              | 33.7                  |
| Hood untreated  | 30.3              | 32.4                  |
| Hood treated    | 35.2              | 30.5                  |

Difference required for significance: .05 = 4.4 bu.

Table 9.- Soybean Rate-of-planting-Fertilizer Test, Henderson, 1965

| Variety            | Number of viable seed per foot of row |      |      |      |      |      |
|--------------------|---------------------------------------|------|------|------|------|------|
|                    | 6                                     | 6*   | 9    | 9*   | 12   | 12*  |
| Bushels per acre** |                                       |      |      |      |      |      |
| Clark 63           | 32.5                                  | 28.9 | 27.8 | 34.0 | 30.0 | 30.7 |
| Hood               | 28.3                                  | 31.4 | 28.1 | 30.1 | 28.7 | 29.2 |

\* 200# 5-20-30 special

\*\* No significant differences.

4M-2-66