

Mimeographed Circular M-278

April, 1956

Performance of
Recommended Soybean Varieties
In Soybean Variety Tests, 1953-1955.

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Clark, Dorman, Ogden, and Lee are four outstanding soybean varieties for Oklahoma. This publication gives a brief description of each of these varieties and reports the average performance of several varieties. The varieties reported herein were screened from numerous strains in regional tests located at Bixby, Perkins, Murray State Junior College, Northeastern A. &M., and South Coffeyville (Tables 1, 2, 3,). Also, averages were obtained from experimental variety tests at Altus, Chickasha, Commerce, Muldrow, Stilwell, Stratford, and Varden and are included in the summary (Tables 1, 2, 3).

These results were obtained during three years with different climatic conditions. The 1953 season was considered good for soybeans at most locations, while in 1954 yields were extremely low as a result of a severe drought.

The 1955, yields were average at most locations but poor distribution of rainfall at Murray State Junior College, Northeastern A. &M. and Perkins resulted in low yields.

Figure 1 shows the general area of adaptation for each recommended variety according to their maturity date and performance. An arbitrary line is drawn to outline the general area where best performance is expected. The Lee variety with supplemental water may be extended into Southwest Oklahoma. The Western boundary for soybeans without supplemental water falls between the 30 and 35 inch rainfall line.

Clark

Clark is an early-maturing, high-yielding variety adapted to Area I in Figure 1. The results obtained from 1953 to 1955 are summarized in Tables 1, 2, and 3.

The authors wish to acknowledge the aid given by superintendents of special stations, growers, county agents and others who assisted in conducting the soybean tests. Special acknowledgment is also due Dr. E. E. Hartwig, Agronomist, U.S. D. A. at the Delta Branch Experiment Station, other personnel of the U.S. Department of Agriculture, and to other state agricultural experiment stations for furnishing many strains and varieties for testing in Oklahoma.

In eight tests during the past three years, Clark averaged 4.6 and 3.5 bushels per acre more than Wabash and Perry. Clark matured one day later than Wabash and four days earlier than Perry. Its height was two inches shorter than Wabash and six inches taller than Perry. The seed quality of Clark is superior to that of Wabash and Perry. Another agronomic character important in some localities is Clark's resistance to "Frog-eye" leaf spot disease.

In Northeast Oklahoma Clark may be planted with Dorman for extending the harvesting period. Clark may be harvested sufficiently early for fall-seeded crops.

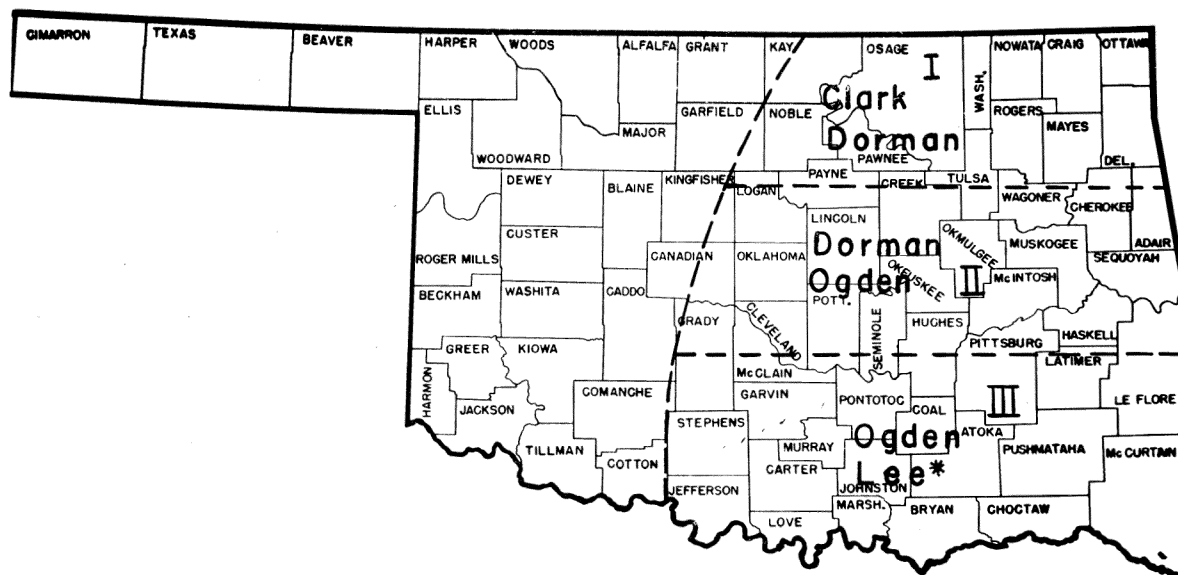
Clark is medium to tall in height with some branching. Clark has purple flowers and its pods are usually 2 or 3 seeded with tawny or brown pubescence. The plants also have a tawny pubescence which at maturity gives a characteristic golden-brown color. Clark seeds have good oil and protein content and are straw-yellow in color, nearly round, with a prominent black seed scar or hilum.

Limited quantities of certified Clark are now available for 1956. Sufficient amounts should be available for general distribution in 1957.

Dorman

Dorman is a medium-early, high-yielding variety adapted to Areas I and II in Figure 1. The variety has been tested since 1949 in Oklahoma. The results of the first four years are summarized in Experiment Station Bulletin No. B-413. The results of the past three years are summarized in Tables 1, 2, and 3. In 18 tests, Dorman averaged 2.1 bushels per acre more, matured four days earlier, was six

Figure 1 Areas of Adaptation of Recommended Soybean Varieties



* Lee can replace Ogden in lower half of Area II and can be grown with supplemental water in southwestern sections.

inches shorter, and consistently possessed higher seed quality than S-100. Dorman (18 tests) averaged 1.9 bushels per acre more than Dortchsoy 67 (14 tests). It also matured a week earlier and was superior to Dortchsoy 67 in seed quality. Dorman tends to shatter less readily and is less susceptible to bacterial leaf diseases than S-100 and Dortchsoy 67.

Dorman plants are medium in height with heavy foliage and medium sized stems which dry out uniformly at maturity. The flowers are white along a main stem and pods are usually 2 or 3 seeded with gray pubescence. The plants have gray pubescence which at maturity gives a grayish white appearance. Dorman holds its seed well under most conditions. The seeds are yellow having good quality and high oil content. The seed scar or hilum is light brown in color.

Three hundred and twenty-one acres of Dorman were approved for certification in 1955. This should plant approximately 14,000 acres to certified seed in 1956.

Ogden

Ogden is a medium-late variety with good forage qualities adapted to Areas II and III in Figure 1. Ogden has been tested in Oklahoma since 1943. Results of the first nine years are reported in Experiment Station Bulletins No. B-347 and No. B-413, and the results of the last three years are summarized in Tables 1, 2, and 3.

In 18 tests, Ogden averaged 22.3 bushels per acre, matured October 23, averaged 30 inches in height and has shown good lodging resistance and seed quality. The heavy foliage of Ogden helps to control late season weeds. Under dry conditions Ogden shatters readily.

Ogden is medium in height, with an upright, bushy type of growth. It has purple flowers, gray pubescence, and 2-3 seeded pods. Ogden seed have greenish-yellow seed coat. They are large, nearly round and have a dark brown seed scar or hilum. Discrimination against the greenish seed coats of Ogden is growing.

Ogden is one of the oldest recommended soybean varieties for Oklahoma and certified seed are available for general distribution.

Lee

Lee is a new, medium-late, non-shatter, disease-resistant soybean variety adapted to Area III and the lower half of Area II in Figure 1. Lee has been tested in Oklahoma since 1951. The performance of Lee for the past three years is summarized in Tables 1, 2, and 3.

The yield and oil content of Lee is very similar to Ogden. The forage qualities of Lee are similar to Ogden except under disease conditions it would be superior to Ogden. Both Ogden and Lee have produced average yields higher than the later-maturing varieties Jackson and Roanoke. Lee matures 3-6 days later than Ogden and has averaged three inches shorter in height. It is superior to Ogden in

seed holding, seed quality and resistance to major soybean diseases. It is resistant to the diseases bacterial pustule, wildfire, frogeye, and purple seed stain and is more tolerant to root knot nematode than Ogden. Both Ogden and Lee have moderate resistance to target spot.

Lee is similar to Ogden in plant type having purple flowers and 2-3 seeded pods. The plants and pods have tawny or brown pubescence. Lee seed have good oil and protein content and are small, yellow in color with a black seed scar or hilum.

Lee should be ready for general distribution in 1957, However, a limited amount of seed is available for the 1956 planting.

TABLE 1. --- Average Yields of Several Soybean Varieties, 1953-1955.

	Yield (Bushels per acre)			
	1953	1954	1955	Average
	<u>Early Maturity</u>			
Clark	24.8(1)	7.3(1)	25.7(6)	23.3(8)
Wabash	17.0(2)	7.7(1)	21.6(5)	18.7(8)
Perry	31.5(3)	6.9(1)	18.5(3)	19.8(8)
	<u>Medium Early Maturity</u>			
Dorman	21.3(6)	5.6(2)	25.6(10)	21.8(18)
S-100	20.1(6)	5.4(2)	23.0(10)	19.7(18)
Dortchsoy 67	18.7(4)	6.6(4)	26.4(6)	19.9(14)
	<u>Medium Late and Late Maturity</u>			
Ogden	28.2(3)	6.4(3)	25.0(12)	22.3(18)
Lee	22.5(3)	7.9(3)	24.7(12)	22.0(18)
Jackson	31.7(1)	2.9(2)	21.8(7)	19.3(10)
Roanoke	20.7(1)	4.6(3)	18.6(3)	12.7(7)

* Numbers in parenthesis represent the number of tests for a given variety.

TABLE 2. --- Agronomic Characteristics of Several Soybean Varieties Tested, 1953-1955.

Variety	No. Tests	Maturity (date) <u>1/</u>	Plant Height (inches) <u>2/</u>	Lodging (score) <u>3/</u>	Seed Quality (score) <u>4/</u>	Seed Per Pound (number) <u>5/</u>
<u>Early Maturity</u>						
Clark	8	9-17	31	2.0	1.9	3065
Wabash	8	9-16	33	1.3	2.4	3263
Perry	8	9-21	27	1.0	3.1	3128
<u>Medium Early Maturity</u>						
Dorman	18	9-28	29	1.5	1.9	3489
S-100	18	10-2	37	1.5	2.3	3227
Dortchsoy 67	14	10-5	30	1.8	2.9	3877
<u>Medium Late and Late Maturity</u>						
Ogden	18	10-23	30	1.6	2.1	2945
Lee	18	10-26	27	1.5	1.8	3463
Jackson	10	11-1	39	1.6	1.7	3128
Roanoke	7	10-30	36	2.9	2.2	3287

1/ Maturity for a given variety is the date when 95 percent of the pods are dry and most of the leaves have dropped.

2/ Average length from the ground to the top extremity at the time of maturity.

3/ Lodging score ranges from 1.0 with almost all plants erect to 5.0 with almost all plants down badly.

4/ Seed quality score ranges from 1.0 for very good to 5.0 for very poor.

5/ The mean of three 100-seed samples for each test were converted to the number of seed per pound.

TABLE 3 --- Average Oil and Protein Content of Ten Soybean Varieties in Regional and Experimental Variety Tests, 1953-1955.

	No. Tests	Oil (%)	Protein (%)
Clark	6	21.2	40.0
Wabash	6	21.0	40.8
Perry	6	21.8	40.8
Dorman	9	20.3	40.6
S-100	9	18.7	42.3
Dortchsoy 67	4	20.7	39.9
Ogden	13	19.9	42.1
Lee	10	20.1	40.5
Jackson	5	19.2	41.8
Roanoke	4	19.2	41.5

* Adapted from U.S. Regional Soybean Laboratory Reports. Results of the Cooperative Uniform Soybean Tests, 1953, 1954, 1955. Oil and protein content for experimental variety tests at Verden and Chickasha were run by R. M. Lucas with Chickasha cotton oil Company in 1955.