

OKLAHOMA SOYBEAN SEED - HOW GOOD?

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Do Oklahoma farmers plant high quality soybean seed? The importance of planting high quality seed to produce a good crop is widely known. But many Oklahoma farmers continue to penalize themselves by planting poor-quality, weed-infested seed. They often spend their time and money in the proper preparation and fertilization of their land, then waste or lose any advantage gained through the use of inferior seed.

The average soybean yield for Oklahoma has not been as high as it should be. The potential for better yields in Oklahoma is good. Soybeans are relatively new as a major cash crop, and many farmers are growing them with little experience and knowledge of the proper farming practices they should follow. The use of an adapted variety of high seed quality is one important practice.

Because of this the question arose "Just what is the quality of seed Oklahoman's are planting?" To answer this question a soybean planter-box survey was conducted in the spring of 1966 through the cooperation of the Oklahoma Crop Improvement Association and the OSU Extension Service.

Fourteen Percent of Acreage Surveyed

Fourteen counties were selected with emphasis on the major soybean producing areas as is shown in Figure 1. The County Extension Director submitted the names of soybean growers in his

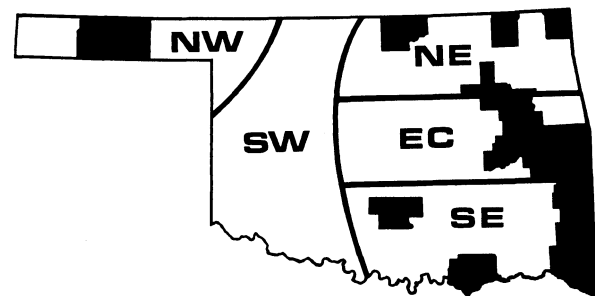


Figure 1. Fourteen counties were selected with emphasis on major soybean areas.

county to the OCIA office, from which the appropriate number of names were selected at random for sampling. The number of samples collected from each county was based on the intended planting acreage reported by the State Crop Reporting Service. The County Extension Director then collected samples just prior to planting or at planting time from each grower selected for his county.

A two-pound sample was collected from each grower, and a questionnaire was completed regarding his seed and planting procedure.

One hundred and seventy-seven samples were collected, representing 15 varieties and 21,925 acres, or 14 percent of the total Oklahoma soybean acreage for 1966.

Our Survey:

The varieties planted and percentage

of the acreage planted to each was as follows:

TABLE I

Variety	% of Acres
Lee	61.2%
Hood	9.5%
Hill	7.6%
Clark	7.3%
Scott	3.0%
*Others	11.4%

* Represents ten varieties

Fifteen Percent Planted Certified Seed

Eighty percent of all seed was from non-commercial sources, with 73 percent being the farmers own seed and 7 percent his neighbor's seed. The remaining 20 percent was commercial seed with 17 percent purchased from seed dealers and 3 percent from elevators.

Fifteen percent of the growers planted certified seed on 11.5 percent of the acreage planted. Forty five percent of growers indicated their seed was one year from certified seed; 24 percent was two years; 16 percent was three years and 15 percent was four or more years from certified seed.

Sixty-eight percent of the growers, representing seventy-six percent of the acreage, planted seed with no analysis tag attached.

Ninety Percent Planted Cleaned Seed

Ninety percent of the growers, representing 92 percent of the acreage, planted cleaned seed. The seed dealer cleaned 48 percent; elevator cleaned 45 percent, and the farmer cleaned 7 percent of the samples.

New Seed Purchased:

Twenty-nine percent of the farmers indicated they purchase new seed every year, whereas 19 percent purchase every two years, 25 percent purchase every three years, 12 percent purchase

every four years and 15 percent purchase new seed in other ways.

When new seed is bought, 35 percent indicated they always purchase certified seed and 56 percent indicated they sometimes buy certified seed.

Inoculated and Treated:

This survey showed that 46 percent of the acreage was planted with inoculated seed and 11 percent was planted with treated seed. The need of inoculation will vary because of previous crop history of the land. Seed treatment is always a cheap insurance for a good stand, especially if the germination percentage is low.

Planting Rates and Dates:

The majority of farmers in each area of variety adaptation are planting from 40 to 60 pounds per acre as is shown in Table II. Seventy-nine percent are within this range from the Northeast area, 63 percent from the East Central area and 27 percent from the Southeast area.

TABLE II
Planting Rates By Area In Percent Of Acres Planted

Lbs./Acre	North-east	East Central	South-east
30-40	9.0	27.0	25.0
41-50	35.0	40.0	10.0
51-60	44.0	23.0	65.0
61-70	10.0	4.0	0
71-	1.0	6.0	0

The recommended date of planting for Oklahoma is from May 10 to June 10. Eighty-one percent of the farmers in the Northeast, 62 percent from the East Central and 58 percent from the Southeast were within this recommended range as is shown in Table III.

Row Spacing:

Many farmers from each area are planting near the recommended row spacing of 40 inches as is shown in

TABLE III
Date of Planting By Area in Percent Of
Growers Sampled

Date	North- east	East Central	South- east
Prior to May 10	10	3	0
May 10 to June 10	81	62	58
After June 10	9	35	42

TABLE IV
Row Spacings By Area in Percent Of
Acres Planted

Row Spacing (inches)	North- east	East Central	South east
0-10	2.0	1.0	0
11-20	3.0	12.0	0
21-30	7.0	9.0	10.0
31-40	85.0	75.0	90.0
41-50	3.0	3.0	0

Table IV. Eighty-five percent in the Northeast, 75 percent in the East Central and 90 percent in the Southeast planted between 31 and 40 inches.

Laboratory Analysis:

The average percent pure seed was quite high for all sources of seed as is shown in the following table.

TABLE V
Percent Pure Seed and Source of Seed

Source of Seed	% Purity
Self	96.93%
Another Farmer	96.00%
Seed Dealer	98.61%
Elevator	98.57%

The commercial seed processors held a slight advantage in percent purity.

There was very little difference in the average percent germination between the sources of seed as is shown in the following table:

TABLE IV
Germination and Source of Seed

Source of Seed	% Germination
Self	87.2%
Another Farmer	89.5%
Seed Dealer	89.4%
Elevator	90.3%

In Summary:

When compared to minimum certification seed standards only 51 percent of the soybean seed samples in the survey could be classified as good seed.

Lee was the most popular variety of soybean used in Oklahoma.

The majority of the seed planted was home-grown.

Fifteen percent of the growers planted certified seed.

Sixty-eight percent of the growers used seed with no analysis tag attached.

Ninety percent of the growers used cleaned seed, of which 93 percent was cleaned by commercial cleaning sources.

When purchasing new seed, 35 percent indicated they always purchase certified seed.

The cultural farming practice used were reasonably good with almost 50 percent inoculated seed. The majority of growers planted near the recommended rates and dates of planting, and used the optimum row spacings for best yields.

The average percent pure seed and germination was surprisingly high, but there were still many samples far below optimum for best planting conditions.

Soybean seed costs in relation to other production cost factors are very low as indicated in Figure 2. Fertilizer, machinery, insecticide, etc. repre-

sent 51 percent of the total soybean production costs. Land, labor and capital represent 43 percent of the total cost, while planting seed represents only 6 percent.

The planting of good seed is the first step to profitable soybean production. Particularly is this true with soybeans since area of adaptation and uniform maturity significantly affect yield and quality.

CERTIFIED SEED is good seed. It assures varietal purity and freedom from excess mixtures of unwanted seed and inert matter.

The grower of soybeans has greater assurance of receiving maximum returns per dollar invested in his crop by following the practice of planting certified seed of an adapted variety.

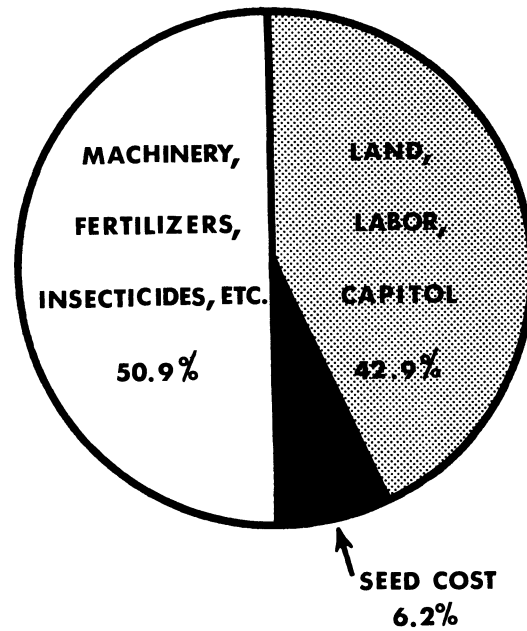


Figure 2. Seed cost is a very small part of the investment but can be most important for top production.