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Success with Soybeans

WILLIAM L. COLVILLE
Agronomist

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Success With Soybeans

D. L. GROSS

Although 1943 cannot be classed as a good year for soybeans, because of excessive weed growth and the late summer drouth, there were a good many farmers who came through with quite satisfactory yields. It is of interest to note the methods used by those who had good yields, and to learn if possible why others did not fare so well.

It is not the intention of this report to suggest that high yields will always result if good production methods are used, or that failures can always be eliminated by following any prescribed procedure. As with any crop, weather conditions, floods, hail, soil fertility, etc., will always be factors over which the grower may have little control.

On the other hand it is hoped that the examples cited herein will be an aid to those who have had limited experience with soybeans and who wish to grow an acreage of this crop in 1944. The following is a summary of survey reports obtained from 76 growers who grew soybeans in 1943.

The highest yield reported in the survey was obtained by J. J. Lydick, near Craig in Burt county. Mr. Lydick obtained a yield of 30 bushels per acre from 21 acres on cornstalk land that received no cultivation after the beans were planted. Seed bed preparation consisted of six diskings, 10 harrowings, and one rolling. The beans were planted on June 18 with a grain drill in rows 12 inches apart at the rate of 90 lbs. per acre. No weed growth developed on this field. Although these methods are unusual, they demonstrate the importance of weed destruction before planting. Planting as late as June 18 would likely result in frost damage in the fall in some years, unless a very early maturing variety were used. Mr. Lydick planted the Illini variety, which is one of the latest maturing of the varieties commonly grown in Nebraska.

Chris Knudsen of Nickerson, who had an average yield of about 27 bushels per acre on 27 acres, had one field of the Richland variety which yielded 33 bushels per acre. This was on fall plowed pasture land disked and harrowed twice before planting. The beans were planted on May 25 in 32" rows at the rate of 60 lbs. per acre. Mr. Knudsen used 14" furrow openers on his corn planter.

Mortinson Brothers of Wakefield grew 20 acres with a yield of 29.7 bushels per acre. They plowed their land in April and disked and harrowed it twice before planting. Planting was done with the corn planter in early June in 40" rows at the rate of 60 lbs. per acre. The beans were harrowed twice and given two cultivations.

Soybean championship honors should go this year to W. H. Mulliken of Nickerson who grew 150 acres with an average yield of 28.5 bushels per acre or a total production of over 4000 bushels. His methods were early spring plowing and harrowing, followed by sub-surface tilling just before planting. Cultivation consisted of two or three times over with the rotary hoe, and one regular cultivation. The land was in corn in 1942. Planting was done with the corn

planter at the rate of 60 lbs. of seed per acre in 40" rows. Planting this year was on May 24. Mr. Mulliken states that he has used this system for three years now with good success. He intends to plant about the same acreage in 1944.

A close contender for the championship would be Mr. Mulliken's son, Allan, also of Nickerson, who grew 38 acres with an average yield of 29 bushels per acre. Allan used the same methods as his father. He used the Dunfield and Richland varieties.

Next in line with good yields were Art Bliss of North Bend who produced over 1000 bushels of beans from his 52 acres; Dan Miller of Dorchester who grew 60 acres with a yield of 17 bushels; Edward Hansen of Ames with a yield of 17 bushels per acre on 45 acres; Peter Knudsen of Nickerson with 50 acres and a yield of 15 bushels; and Fred Johnson of Pender who grew 32 acres and obtained a yield of 19.5 bushels.

All of these men followed about the same general practices,—fall or early April plowing, followed by a number of tillage operations prior to planting time to destroy successive crops of weeds. None planted less than 60 lbs. of seed per acre, and all used the corn planter for planting fitted with bean plates. All planted in 40" or 42" rows except Mr. Johnson who planted his beans in 36" rows. The dates of planting varied from May 18 for Mr. Johnson to June 1 for Mr. Miller, except that part of Mr. Miller's beans were planted as late as June 20.

So far, only the successful growers have been mentioned. How about those who did not do so well? Of the 76 who made reports, 15 had failures, or yields of less than 10 bushels per acre. Two of these lost most of their crop by shattering before they got to it with a combine. One planted on alfalfa ground and the crop dried out. Five had thin stands and weed competition; one lost his crop by hail. one sowed his seed broadcast at the rate of 120 lbs. per acre and got a yield of 7 bushels. One was flooded out. One planted 10 lbs. per acre. One planted 80 lbs. with the grain drill which gave him a poor stand and the weeds took his crop.

A majority of those reporting used reasonably good methods, but because of soil or weather conditions, did not get high yields. All yields reported by the 76 growers averaged 14.6 bu. per acre. If the total bushels produced by the reporting growers is divided by the total acreage reported, the weighted yield is 17.25 bushels per acre. This wide difference between the straight average and the weighted averages is accounted for by the fact that the more experienced growers had both the largest acreages and the highest yields. This indicates that experienced growers can grow soybeans successfully in Nebraska.

The method of planting as between using the corn planter or the grain drill, did not affect the yields greatly. Those fields planted with the corn planter yielded about one bushel per acre more than those planted with the grain drill in close rows. Those who planted 40 lbs. or more of beans per acre in 40" to 42" rows obtained a six bushel greater average yield of beans than those who planted less

than this amount. Those who planted over 80 lbs. of seed per acre in close rows with the grain drill obtained an average yield advantage of 5 bushels over those who planted less than this amount.

A comparison of variety yields indicated that other factors than variety seemed to predominate. The Richland variety grown by a few experienced growers did well. Tests at the Experiment Station at Lincoln and in outstate tests, show the Richland to be somewhat lower in yield than Illini and Dunfield except possibly for extreme northeast Nebraska or for late planting elsewhere. One can expect the Dunfield, Illini and Mukden varieties to be superior over most of eastern Nebraska. The Richland variety is adapted best to very rich land where other varieties tend to lodge. Because of its early maturity, Richland is a good one for late planting.

Comparing soybean yields with those of other crops on the farms considered in this survey, the following were obtained: Soybeans 17.25 bu., Oats 44 bu., Barley 35 bu., and Corn 46 bu. per acre.

At early 1944 market prices, the gross returns per acre are:

Soybeans....	at	\$1.86 x 17.25	= \$32.08
Oats.....	at	.73 x 44	= \$32.12
Barley.....	at	\$1.05 x 35	= \$36.75
Corn.....	at	\$1.02 x 46	= \$46.92

To give the same gross return at these prices, soybeans would need to yield 17.3 bu. to equal oats; 19.8 bu. to equal barley, and 25.2 bu. to equal corn. If soybeans are worth \$2.04 per bushel, and the price of the other crops are as stated, then a 20 bushel yield of soybeans would give the same gross acre return as 56 bushels of oats, 39 bushels of barley and 40 bushels of corn. Oats and barley can be produced somewhat more cheaply than soybeans, while the cost for soybeans and corn are more nearly the same. More careful tillage is necessary for soybean production. On the other hand the soybeans require less labor at harvest time than corn and the harvesting job comes at a time when other farm work is least pressing.

In summary, it might be said that the story of soybean production in Nebraska is one which emphasizes careful cultural practices. Experienced growers have proved that they can produce soybeans as profitably as other grain crops at present price relationships. On the other hand the inexperienced grower, as with any crop, can make many mistakes and at the end of the year might experience a loss rather than a profit. Growing the beans on fertile level land and following closely the production methods used by the most successful growers will tend to eliminate most of the failures. Growers are also urged to obtain thru their county extension agent, a copy of Nebraska Experiment Station Bulletin 339, "Soybean Production in Nebraska." This gives the results of experimental work with soybeans conducted over a period of more than 30 years.

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W. H. Brokaw, Director, Agricultural Extension Service, Lincoln, Nebraska