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Facts About Soybeans In Colorado

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Facts About Soybeans in Colorado

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The soybean is a native of eastern Asia. It is grown for hay or dry beans, and some varieties are used for human food, either as pod or dry-bean products.

The oil content of beans grown at Fort Collins averaged about 20 percent, and the protein content around 37 percent. Soybean oil is in great demand and it is the principal commercial product of soybeans. Soybean meal, a high-protein livestock feed, also has an increasing demand. For efficient production, processing plants should be available near where the beans are grown, to process the beans into oil and meal.

Competing Crops.—For hay, soybeans will not yield with alfalfa under irrigation. They have to be cut before the beans ripen. The large leaves increase the difficulty of producing and saving a high-quality hay. When harvested as dry beans, soybeans have to compete on a cash basis with pinto beans, which have been pegged by the Federal Government at a price of \$4.60 for No. 2 beans per **hundred pounds**, compared to \$1.60 per **bushel** (February 1942) for soybeans. The average yield of soybeans under irrigation has been about 1,200 pounds per acre. In one test under dry-land conditions, soybeans failed three times in 6 years.

In another test at Akron, covering the 9-year period between 1933 and 1941, inclusive, soybeans yielded 169 pounds per acre, while pinto beans averaged 174 pounds. Production by individual years is shown in the table:

Yield at the U. S. Dry Land Field Station, Akron, Colo.

Variety	Years Grown									Ave.
	1933	1934	1935	1936	1937	1938	1939	1940	1941	
Black Eyebrow soybeans (pounds per acre)	252	0	450	150	54	0	0	306	312	169
Pinto beans (pounds per acre)	450	6	288	144	0	54	0	246	378	174

Seedbed Preparation

The seedbed should be firm and well prepared. Fall plowing or early spring plowing, followed by packing, is desirable. The seedbed

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should be harrowed and leveled before planting. One or two cultivations are desirable before planting, to take care of weeds or volunteer grain. For dry land, summer following the year before is excellent preparation for soybeans.

Method of Seeding

Irrigated Land.—When planted in rows for grain, soybeans should be sown in 20-inch rows, seed being dropped about 3 or 4 inches apart in the row. A beet planter and cultivator can be used with the narrow rows. A corn planter with bean plates, or an ordinary grain drill with several spouts closed, can be used for planting 30 to 36-inch rows. If a hay crop is desired, soybeans can be drilled in with a grain drill.

Dry Land.—Soybeans may be planted with the lister, or with a corn planter equipped with bean plates and a furrow opener. Listed soybeans may be damaged by crusting in the lister furrows, and better results should be expected from surface planting or shallow furrows, providing sufficient surface moisture is available.

Rate of Seeding

The rate of seeding varies with the variety (size of seed) and the method of sowing. When sown in rows, from 20 to 40 pounds of soybeans are necessary per acre for irrigated land, and 10 to 15 pounds per acre for dry land in 42 to 44-inch rows. When planted in close drills for hay, about 100 to 150 pounds of soybeans should be used.

Date of Seeding

Irrigated Land.—Soybeans should be planted about corn-planting time. Under conditions similar to those at Fort Collins the earlier seedings, April 20 to May 1, gave the best results. In the southern part of the State earlier dates may be used. However, soybeans should not be planted until danger of killing frosts is past, and not after the middle of May. After this date the yield of soybeans decreases materially.

Dry Land.—The best results have been obtained at Akron from plantings made from June 1 to June 15.

Varieties to Plant—Yield at Fort Collins, Colo.

Variety	Years grown	Yield Pounds per Acre	Color
Scioto	4	1,254	Yellow
Minsoy	4	1,142	Yellow
Illini	4	1,137	Yellow
Manchuria	4	1,299	Brown saddle
Mukden	3	1,232	Yellow

For crushing, **Scioto** and **Minsoy** are the recommended irrigated varieties, while **Manchuria**, a brown-saddle variety, may be grown for feed. No varieties have been sufficiently outstanding at Akron to be recommended over others at this time.

Inoculation of Seed

Soybeans should be inoculated with the soybean strain of legume bacteria before planting. This is especially necessary if they have not been grown in the field before. Bacterial cultures may be obtained from commercial seed companies at a small cost. In treating soybeans, care should be taken not to soak the beans. Sprinkling a water mixture of the bacteria on the beans is advised. If treated this way, they can be planted immediately without drying.

Irrigation

The best results are obtained from furrow irrigation. Soybeans should be irrigated two or three times. Care should be taken not to over-irrigate since soybeans are very sensitive to over-irrigation. Small and frequent irrigations, when necessary, are recommended rather than heavy irrigations at longer intervals.

Stages to Harvest Soybeans

Under Colorado conditions the highest yields were obtained when the majority of the leaves had turned yellow and some of them had dropped. The pods at this stage had nearly all turned brown. No appreciable loss in fat or protein content was noticed if the beans were harvested slightly earlier. Soybeans harvested after maturity often shatter badly and, therefore, the yield is decreased.

Harvesting Methods

The seed crop may be harvested with the grain binder and handled in the same manner as any other grain crop. The shorter varieties can be handled to advantage with a mower equipped with a bunching or windrowing attachment; they can be cocked from the bunches. Rather high, small cocks should be used. If soybeans are cut with the binder, care should be taken to keep the tension loose so that the bundles will not mold under the twine. Long shocks rather than round shocks should be used in curing soybeans. It is also possible to harvest the beans with small combines, and this method has the advantage of saving labor and handling of the bean vines.

Soybeans can be easily threshed, when properly cured, with the usual type of bean thresher. In the principal soybean-growing sections, soybeans are being successfully harvested with the combine, either before or after being cut.