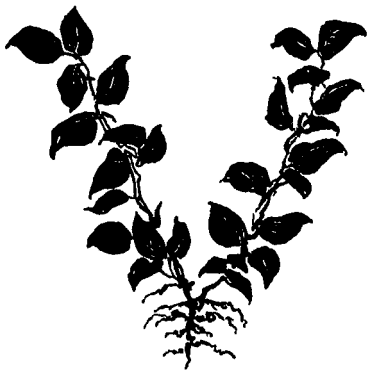
AGRICULTURAL EXTENTION SERVICE

PAMPHLET 104

HARVESTING, STORING AND MARKETING SOYBEANS

EXTENSION PAMPHLET 104 AUGUST 1942

harvesting storing and marketing SOYBEANS



Minnesota farmers have met the government's request for increased acreage of soybeans, and now they are ready to harvest their record 2½ million bushel crop. However, before soybeans are made into oil for our war production program, farmers must still face the problems of harvesting, storage, and marketing. This pamphlet gives a few hints how to meet these problems effectively.

★

UNIVERSITY OF MINNESOTA
Agricultural Extension Service
U. S. DEPARTMENT OF AGRICULTURE

HARVESTING

Harvest at Right Time

For seed production, combining may start as soon as the pods and stems are dry and brittle.

If a binder is used, beans may be cut somewhat earlier but the plants must be mature, the seeds must be hard, and the leaves should have fallen. Cut and shock beans when they are a little tough to prevent excessive shattering.

Early maturity is essential to production of good quality beans.

Soybeans should not have more than 14 per cent moisture at threshing or combining time because a higher moisture content may cause the seeds to heat and mold, often resulting in serious loss.

For hay production, begin cutting with a binder when the lower leaves are yellow and the pods are well formed.

Combining Most Satisfactory

Combines save time and labor thus lowering the cost of harvesting. They operate closer to the ground and harvest more of the lower pods than the grain binder. An Illinois study showed an average harvesting loss of 9.0 per cent when the combine was used compared with a 19.3 per cent loss with the binder.

Binders are satisfactory, however. Most of the soybeans harvested for seed in Minnesota are cut with the binder.

After cutting place the bundles, two and two, in medium-sized shocks, and then leave them in the field until dry and arrangements are made for threshing.

The main objection to cutting beans with the grain binder is that the operation is hard on sickles and canvases and requires considerable patience on the part of the operator.

Plan Now for Harvesting

In many communities farmers who own combine harvesters and those who plan to hire combines should arrange for harvesting now before the crop is ripe. There may not be enough machines to go around unless careful arrangements are made. Late harvesting may cause severe lodging and some shattering. In most seasons there are not over 25 to 30 days suitable for combine harvesting.

Thresh When Slightly Damp

Common threshing machines can be used with good results. Be sure to lower the speed of the cylinder by 300 to 450 revolutions per minute, without checking the speed of the other working parts. To reduce the speed of the cylinder, it may be necessary to add a larger size pulley or increase the size of the pulley already on the machine.

Ordinarily remove most or all concaves. One row may be left in if necessary.

Thresh soybeans when slightly damp as when brought in from the field early in the morning or toward evening. Soybeans will then thresh better and split less.

Avoid split and cracked beans as much as possible because they reduce the market grade.

Test Beans for Moisture

Soybeans frequently contain more than 14 per cent of moisture at threshing or combining. It may be safe to store beans with 14 per cent but unsafe at 15 or 16 per cent.

Make moisture determinations immediately after threshing. Many elevators are equipped to run moisture tests. If facilities are not available, experienced threshermen or grain men can determine rather closely whether or not the beans are dry enough to store. The straw and pods should be dry and brittle.

Beans with a high moisture content cannot be stored safely unless dried artificially.

Late planted beans and late varieties are very likely to contain a high moisture content at the time of harvest.

STORAGE

Safe storage is very important. Moldy, rancid, and rotten beans have little or no market value. Mature beans containing 12 to 14 per cent of moisture can be handled much the same as dry grain.

If beans must be threshed or combined with a moisture content that is unsafe for farm storage in bulk, either spread the beans thinly and air dry by turning with a shovel or run them through an artificial dryer.

Store beans in a dry, well-ventilated bin or building. A cement floor, unless well insulated, is not safe.

Where stored in large deep bins, watch the beans very carefully and turn them if they show signs of heating. They may remain cool and sweet during the cold weather and soon spoil on the approach of warm weather. Small quantities may be spread out on a dry floor and placed where there is good circulation of air.

Beans Require Strong Bins

A bushel of soybeans weighs about 60 pounds and occupies 1¼ cubic feet. A bin will, therefore, hold four fifths as many bushels as there are cubic feet of space.

Strong, well-built structures are required for storing large quantities of beans. Wood floors should be tight, well supported, and 12 to 18 inches above the ground. Outside walls must be strong and well braced to take care of outward pressure.

Where temporary storage must be resorted to, the storage bin should be strong with a tight floor well up off the ground and well covered to prevent rain from getting in. Good circulation of air is important.

MARKETING

As with common grains, soybeans are sold on the market according to "Official Grain Standards" for soybeans. Elevator managers are familiar with grade requirements and can assist growers in marketing their soybeans.

Yellow soybeans are most in demand and most commonly grown in Minnesota.

Grade No. 2 yellow soybeans must weigh 54 pounds per bushel and must not contain over 14 per cent moisture, 15 per cent splits, 3 per cent damaged kernels, and 2 per cent foreign material.

Sample grade includes soybeans which are musty, sour, in the process of heating or hot, with commercially objectionable foreign odor, and may contain stones or cinders.

Immature beans with a very high moisture content which cannot grade above sample grade might well be utilized on the farm for livestock feed.

From present indications many acres of beans may not mature for seed this year. Late immature beans have a low oil content with poor oil quality.

Make Hay of Late Immature Beans

If beans are not likely to mature before a killing frost, harvest them for hay. This may be done with the binder before the leaves have fallen.

A binder equipped with a power take-off generally operates more satisfactorily when cutting soybeans for hay. The bundles should not be made too large as they dry out slowly and may mold at the band. After the bundles are well wilted they should be shocked and allowed to dry.

Good results have been obtained by feeding from the bundle. When properly cured, soybeans make an excellent quality of hay.

Commodity Credit Corporation Loans

The Commodity Credit Corporation has authorized the making of loans on farm-stored soybeans or the purchase of soybeans stored in approved warehouses.

Approved varieties for loan or purchase include Minnesota Manchu, Wisconsin Manchu No. 3, Mukden, Habaro, Richland, and Minsoy. The approved varieties are all yellow.

To be eligible for a loan the beans must be stored on the farm, must grade No. 3 or better, moisture content must not be over 14 per cent, and the beans must be produced in 1942. Beans grading sample because they are weevily, musty, sour, heating, or have objectionable foreign odor are not eligible.

The basic loan values for No. 1 and No. 2 yellow soybeans shall be $1.65 per bushel for high oil content and $1.55 per bushel for medium oil content. A storage credit of 5 cents per bushel of mortgaged soybeans delivered to the Commodity Credit Corporation may be earned.

To be eligible for purchase, beans should be stored in or delivered to an approved warehouse, must grade No. 4 or better, must be produced in 1942, and must not be musty, sour, or in poor condition.

For further information contact your County Agricultural Extension or AAA office.

UNIVERSITY FARM, ST. PAUL, MINNESOTA

Cooperative Extension Work in Agriculture and Home Economics, University of Minnesota, Agricultural Extension Division and United States Department of Agriculture Cooperating, Paul E. Miller, Director. Published in furtherance of Agricultural Extension Acts of May 8 and June 30, 1914. 25M—8-42