



Harvesting in Tennessee

HARVESTING OATS AND PLANTING LEGUMINOUS CROPS IN THE SOUTH

By G. H. Atwood of the IHC Service Bureau

It is now time to plan for the harvesting of our oat crop. If we do not own a good mowing machine, or better still, a good binder, now is the time to buy one. The cradle is too slow and the waste when using a cradle is enormous.

One binder will harvest from 80 to 100 acres—eight acres per day. One or more farmers in every neighborhood should own a good binder. The binder will generally pay for itself in one season.

A mowing machine will often do the work for several farmers in a neighborhood. Where one farmer cannot afford to buy a mower for his own use, several farmers can purchase one. One farmer will often find it profitable to own a mower or binder and work for his neighbors at a reasonable price.

Now is the time to get our mowers and binders ready for work. Let us sharpen the sickles, oil the bearings and test the machines on the grass before our oats are ready to cut. It is also advisable to have an extra binder tongue, a knife, and several extra wings and arms for the reel ready beforehand for repairing breakages.

We should harvest our oat crop early. Cutting should begin as soon as about 75 per cent of the field has turned yellow—just as soon as all the grain is in the dough stage. Oats should not be cut while wet from dew or rain.

There should be a thrasher in every neighborhood for threshing all kinds of seeds such as oats, wheat, rye, barley, kafir corn, sorghum, grass seed, beans, and peanuts.

Many farmers will find it profitable to own a thrasher for use on their own farms and they can at the same time be of great service to their neighbors by threshing for them at a reasonable price.

The oats should be threshed as soon as possible, but should not be threshed when grain is wet from either rain or dew.

Store oats in bulk and not over three feet deep. Bure and examine grain daily for at least three weeks and turn with shovel. If there are any indications of heating.

The packed, crusted soil should not be exposed to the sun's rays a single day after oats are cut. We should use a disk harrow and make the surface for two or three inches as fine as possible for a cowpea, soy bean or peanut crop. By the use of the disk harrow, we can thoroughly prepare several acres of stubble land every day for these crops. At this season of the year we are usually very busy and are often unable to spare the necessary time to break the stubble land with a plow.

These leguminous crops are valuable on account of the nitrogen and the humus-making organic matter they contain. When they are harvested to be fed to live stock, nearly half the nitrogen and humus-making materials are left in the roots and in the bottom of the stems and in the leaves, and other portions of the plants not obtained in gathering the crops. The results of the Calhoun, La., experiment station show that one acre of Spanish peanuts grown on poor pine land contained 192 pounds of nitrogen; an acre of cowpeas, 108 pounds; and an acre of soy beans, 190 pounds. These crops made from two to three and a half tons of feed stuff, richer in food elements than wheat bran. When such feed stuff can be grown after oats and fed to stock without serious loss of fertilizing value, is there any excuse for cultivating poor land and for having poor livestock?

The advantages of growing cowpea crops are briefly summarized by the Louisiana experiment station as follows: First, the cowpea is a nitrogen gatherer; second, it shades the soil in the summer, keeping it in a condition most suitable to the most rapid nitrification and leaves it friable and loose and in the best possible condition for future crops; third, it has a large root development, and hence pumps up from a great depth and a large area the water, and with it the mineral needed by the plant; fourth, its adaptability to all kinds of soils—stiff clays to the most porous sand, fertile alluvial bottoms to barren upland; fifth it stands the heat and hot sunshine of hot climates; sixth, its rapid growth enables us to grow two crops on the same soil; seventh, when sown thickly, it shades the soil effectually, smothering out all weeds and grasses, and thus serves as a cleansing crop; eighth, it is the best preparatory crop known to the southern farmers—every kind of crop grows well after it; ninth, it furnishes a most excellent hay and a most excellent food in large quantities for man and beast.

The following is a summary of Farmers' Bulletin, No. 326: "In 1905 the farm described in this bulletin produced one-fourth bale of cotton and fifteen bushels of corn per acre. In

1906, after a crop of cowpeas, it produced one-half bale of cotton and thirty-four bushels of corn to the acre. After cowpeas and an application of 300 pounds of commercial fertilizer, nearly three-fourths of a bale of cotton to the acre; and after cowpeas and clover continuously for two years, one bale of cotton per acre.

This moving machine, thrasher and hay press made it possible to utilize the cowpea grown on this farm not only for feed and seed but also as a source of considerable revenue. The mowing machine, the thrasher and the hay press will make the cowpea one of the most profitable crops that can be grown.

The following is a summary of Farmers' Bulletin No. 372: Where intensive farming is followed, the soy bean is the best annual legume to grow for forage in the southern part of the cotton belt. The soy bean whether used as hay, grain, or ensilage is a very valuable live stock feed. Soy bean hay is practically identical in feeding value with alfalfa and yields from two to three tons per acre.

Soy-bean grain is more valuable than cotton seed meal as a supplementary feed in the production of pork, mutton, wool, beef, milk and butter. A bushel of soy beans is at least twice as valuable for feed as a bushel of corn. As the grain is hard, it is usually desirable to grind it into meal for feeding. This is best done by mixing with corn before grinding to prevent gumming the mill.

A mowing machine or a binder can be used to harvest the soy bean. A binder can be used only with the tall varieties. The threshing can be done with a grain thrasher by using blank concaves and running the cylinder much lower than for small grain. The growing of soy beans after oats and on other land and the use of mowing machines, threshers, and hay presses means rich land, fat stock, and more prosperous times.

The fact that Spanish peanuts will produce good crops on comparatively poor land when well fertilized and cultivated should encourage us to grow them as a substitute for a large part of the corn and hays usually fed to all kinds of stock. Professor Duggar at the Auburn, Ala., station found an acre of Spanish peanuts on poor gravelly land produced 600 pounds of live weight of hogs. This was after the tops had been cut with a mower and saved for hay. The growing of peanuts after oats will add much to the fertility of the soil, promote the raising of good livestock, and add to the bank account.

Planting cowpeas and soy beans in rows about 30 inches apart saves seed and brings greater returns in yields of seed and hay. The experiment station results show that the increase in both seed and hay obtained when the seed is drilled is more than sufficient to pay for the additional expense in drilling and cultivating the crop.

Plant the cowpeas, soy beans and peanuts on the level and cultivate on the level with a disk harrow, a spring tooth harrow, a one or two-horse cultivator or a heel sweep. We can then cut two or three rows at one time with our mowing machines.

We should grow more oats and other small grain crops, and leguminous crops to enrich our lands and furnish feed for more good livestock; and use more labor-saving machinery such as mowing machines, hay rakes, tedders, binders and hay presses.

BURNING STUBBLE

Frank Connolly, of Brant, Alta., writes as follows: "There is a difference of opinion here as to whether burning stubble before plowing, or grass before breaking, is a benefit or detriment to the soil."

We never advise the burning of stubble on land that is not unusually fertile. Of course under certain circumstances it is best to burn the stubble and get it out of the way, but when one burns a ton of straw he is practically losing \$2.39 worth of fertilizer and this does not take into consideration the value of this straw as humus in the soil.

The best way to prepare your land would be to plow in the fall and then to harrow in the spring before using the drill, but of course as this is impossible now, the only thing you can do is to prepare your land as well as you can this spring before seeding time.

Where the stubble is very heavy, indicating that the land is unusually fertile, and in your particular case, it probably would be the best thing to burn the stubble, as it prevents the land warming up early in the spring, and it also reduces the danger due to drought. But the best way, if the stubble is not heavy, is to plow the land and follow the plow with a land packer. This will re-establish the soil capillarity; then if you form a dust mulch by using the peg tooth harrow, it will prevent the evaporation of soil moisture.

ROTATION OF CROPS

Reply to a Michigan Correspondent

"I am growing sugar beets and my land seems to be decreasing in production. What rotation can I use?" In some localities it has been found that beets do best following alfalfa, corn and small grains. A very good rotation is as follows: First, wheat; second year, beets; then clover for two years, last crop being plowed under; then potatoes, and the rotation repeated. If alfalfa can be grown in your locality it is a good plan to include this in the rotation.

In Montana the best rotation for beet raising is as follows: Wheat, clover, oats, sugar beets, barley and peas. In Utah the following rotation gives good satisfaction: First year, sugar beets; second year, peas and oats for forage; third year, sugar beets; fourth year, oats, seeded to alfalfa; fifth year, alfalfa.



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DISEASES OF CUCUMBERS

Reply to C. V. Fox

"I have trouble with my cucumbers dying too early. They get some kind of yellow spots in the leaves and the vines die before they get done bearing. I have been using Bordeaux mixture. I used blue stone. Is this the same as copper sulphate? When should lime be added to the soil?"

The disease attacking our correspondent's cucumber vines is known as "downy mildew," a parasitic fungus. Bordeaux mixture is the best remedy you can use; but this will have no effect if the fungus has gained considerable headway. Bordeaux mixture should be made as follows:

For young plants—3 lbs. copper sulphate, 6 lbs. lime to 50 gallons of water. When the plants get older, use 4 lbs. copper sulphate, 8 lbs. lime to 50 gallons of water.

Blue stone is the commercial name for copper sulphate.

The beneficial element in lime is calcium, and it should be applied on soils that are acid in nature. On soils that are not in this condition, lime will be of little or no benefit. The acidity of the soil may be determined by the use of litmus paper, which may be obtained at almost any drug store. Press the moist soil around the blue litmus paper for ten or fifteen minutes. If the paper is now red or pink in color it will indicate that your soil is acid.

There are eight or ten different kinds of commercial lime, but where it is possible to obtain finely ground limestone, this is the most desirable form to use. It supplies the necessary calcium, and yet the action on the vegetable matter is not as severe as it is with other forms of lime.

We regret to say that the Service Bureau does not have Farmers' Bulletins for general distribution, but you will be able to obtain these by writing the U. S. Department of Agriculture, Division of Publications, Washington, D. C.

If we can be of further service at any time, we will be pleased to hear from you.

To The Tax Payers of Louisburg

This is the month to list your taxes. Please come to the Clerk's office and list same at once. Those who have not paid their taxes for 1911, will please do so at once.

R. H. Davis, Clerk

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