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GROWING BARLEY

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INTRODUCTION

There is a place in Oklahoma for the production of more barley. This crop, if grown on ordinary soils, is a much surer feed crop than corn. It also requires less work than row crops. In the wheat growing sections no additional equipment is needed for growing it.

Barley has about ninety per cent the feed value of corn when ground.

Its lower cost of production, early maturing and drought resistant qualities make it a crop worthy of the attention of every person in the state producing feed for livestock.

TYPES OF BARLEY

When classified according to time of seeding, there are two general types of barley: fall-sown and spring-sown, or as they are sometimes called, winter barley and spring barley.

Winter barley will grow in localities farther north than will winter oats. It is not, however, at present a sure crop in all parts of Oklahoma, so a person should not attempt to plant a large acreage of this crop unless it has already proved to be adapted to his locality. Spring barley has given good results over the greater part of Oklahoma.

KIND OF SOIL

Barley grows best on a well drained loam soil. A clay loam is better than a lighter soil provided it is well drained. A sandy soil is not a good barley soil.

This crop is a shallow feeder and requires a soil that has a fair amount of fertility near the surface.

Barley will grow better than any other small grain on land that contains alkali. For that reason it can sometimes be grown on fields where wheat or oats would not be profitable.

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PREPARING THE SEEDBED

PLOWING

Reasons for Plowing. Tests made by experiment stations and the experience of many farmers have proved that a seedbed prepared by proper plowing will produce a higher yield than any other method.

There are four chief reasons why plowing benefits the land and makes a better crop.

First, plowing breaks up the ground and makes a good place for the roots of the plants to get a start.

Second, it turns up the soil and loosens it so that the soil bacteria can have a chance to work.

The average soil contains millions of little bacteria which are too small to be seen by the naked eye. These bacteria act on the plant food in the soil in such a way as to make it available for the use of a crop. They work best and increase most rapidly in a warm, well aerated soil. Plowing puts the soil in much better condition for the action of these bacteria.

Third, plowing helps to put the soil in such condition that it will take up and hold moisture better. As moisture is often the limiting factor in crop production in Oklahoma this point is important. The power that the soil will have to retain moisture depends to a large extent upon the treatment given after plowing which will be discussed later.

Fourth, plowing improves the ground by turning under weeds, stubble and other trash, and adding humus to the soil.

Humus, which is nothing more or less than decaying organic matter such as weeds, straw, etc., is the thing that is most needed in most Oklahoma soils. It benefits the land by making the soil easier to work and by causing it to hold moisture better during a dry season. Soils with plenty of humus are less likely to bake or become cloddy. Humus adds plant food to the soil. It not only does this, but it also acts on the food elements already in the soil and makes them into a form that can be used by the plants. It also helps to form a better home for the soil bacteria.

Time to Plow. The ground for spring barley should be plowed in the fall.

Fall plowing has many advantages.

It turns under the weeds and trash and gives them a chance to decay before spring.

It gives time for preparing a firm seedbed.

Fall plowing also destroys many insects by breaking up their winter quarters.

Plowing at that time of the year leaves the ground in condition to absorb the moisture that falls during the winter in the form of snow and rain.

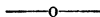
It is best to leave the ground rough during the winter and not harrow it immediately. The rough ground will catch the snow. It will not blow or wash as badly as land that has been harrowed down smooth.

The above directions do not refer to soils that blow badly during the winter months. Such soils should not be plowed until almost time to plant the crop.

If fall-sown barley is to be grown on wheat ground or a field that has just produced a crop of other small grain, the land should be plowed as soon as possible after harvest.

Depth to Plow. The proper depth to plow for barley is about the same as for wheat, from six to eight inches. It is best not to plow at the same depth from year to year, but to vary it somewhat so as not to form a hard layer or "plow sole" at the bottom of the furrow.

If the ground has been plowed shallow before, it should not be plowed too deeply the first year. The soil that lies below the part that was turned up by the plow does not contain much plant food that is in a form that can be used. For this reason it is best to plow only one or one and one-half inches deeper each year until the proper depth is reached.



HARROWING AND DISKING

About a week before seeding time, the fall plowed ground should be harrowed.

If there was a reasonable amount of rain or snow during the winter with considerable freezing and thawing, the clods will be broken up and a firm seedbed formed.

In that case a good double harrowing will sometimes put the ground in good condition. However, a double disking followed by a good harrowing will usually make a much better seedbed.

Ground on which winter barley is to be planted should be harrowed as soon after plowing as possible for it is usually in the best condition to work down at that time. A good plan to follow is to harrow each day's plowing before quitting work at night. It usually takes only a short time and is well worth the extra trouble that it causes.

If a man has a large amount of land to prepare for fall sowing, it will pay him in many cases to disk the ground immediately after cutting the previous crop. At this time the soil is usually in good condition to work. By disking it a dirt mulch is formed which will hold the moisture until he can get to it with the plow.

PREPARING CORN LAND FOR BARLEY

Where spring barley is to follow corn, it is a common practice to disk the ground and sow the crop without further preparation. While this plan works in most years, it usually pays to plow the stalk land in the fall. The same is true of land that has been planted to cotton, grain sorghums or other row crops. In most cases, especially with cotton, it is a good idea to go over the field with a stalk cutter before plowing and cut the stalks into pieces that can be better mixed with the soil so that they will decay more rapidly and a firmer seedbed can be formed.

Where winter barley is to follow corn, very little preparation is needed if the corn has been well cultivated and is free from weeds and grass.

In that case the barley is seeded between the rows with a one horse drill. Sometimes a small harrow is drawn down the rows before drilling.

Where the corn has been cut for fodder or silage, the ground can be disked before sowing the barley.

The same method should be used in sowing barley after any other row crop.

As a usual thing, small grains in Oklahoma do not yield as well when seeded in this manner after a row crop as they do on land that has been prepared by early plowing.

SEED

Selecting the Seed. Nothing but the best seed should be sown. It always pays to sow pure seed of a variety that will grow well under local conditions or has grown well under similar conditions.

If a person wants to try a new variety, it is usually best for him to sow only a few acres the first year so that he can compare it with the kind that he has been growing.

The seed should be all of one variety so that all heads will mature at the same time and thus avoid trouble and loss in harvesting.

The seed should also be free from all foreign material, especially from weed seeds. A good fanning mill should be used to clean the barley before planting.

If there is any danger of smut, the seed should be treated as directed in Circular No. 66, "Control of Grain Smuts".

Testing Seed. Most barley that is grown under normal conditions and is not damaged in storage will germinate, or sprout, all right. It is safer, however, to test the seed.

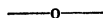
The best way to test barley is to take samples from several parts of the bin, mix them together and then count out one hundred grains. In counting them, a person should not try to pick out either the good or the bad ones but should take them just as they come, good and bad.

A piece of blotting paper should be placed in a plate. The paper is moistened and the one hundred kernels placed on it. Another piece of moistened blotting paper is placed over the grain and a plate inverted over it. If the blotting paper cannot be obtained, several pieces of soft paper such as newspaper will do.

The paper should be moistened with warm water (not hot) every night and morning and kept in a warm place for seven days. At the end of that time, the top plate and paper can be removed and the number of sprouted grains counted.

If all of them have started to grow, the seed will very likely all grow when sown in the field.

If, on the other hand, only half of the grains have sprouted the barley should not be used for seed. If, however, as might be the case, the seed was pure and of a good variety, the seed may be sown, but twice as much should be used.



SEEDING

Date of Seeding. The best results are usually obtained from spring barley when it is sown early. A safe rule to follow is to seed it immediately after oats. The exact date will vary according to the locality and the season.

Winter barley should be sown at about the same time as wheat.

Rate of Seeding. The rate of seeding barley varies with the locality. From four to six pecks per acre are the usual rates for the various parts of the state.

Depth of Seeding. The seed should be placed in the ground deep enough to come in contact with moist dirt. Fall-sown barley usually must be sown more deeply than the spring varieties. Care should be taken not to place the seed too deeply in the ground in the spring when the soil is moist and cold or a poor stand may be the result.

Method of Seeding. In sowing barley a person should use a good drill, one

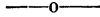
that will distribute the seed evenly, plant it all at the same depth, and cover it uniformly.

There are three general types of grain drills: hoe drills, shoe drills, and disk drills.

The hoe drill does good work in clean ground but clogs badly in land containing stalks or other trash. It is also harder to pull than a disk drill.

The shoe drill is easier to pull and does not clog as badly in trashy land as the hoe drill.

The disk drill pulls easier and clogs less in trashy land than either of the other two types. However, it does not work as well on stony land as the others.



PASTURING

In localities where it can be grown successfully, winter barley makes an excellent pasture for livestock during the fall and winter months.

Stock should not be allowed on the ground when it is muddy, or they will destroy many of the plants and will "puddle" the soil so that it will bake during the dry months that are almost sure to come.

As soon as the crop begins to make a good growth in the spring, the stock should be taken off.

A person should also be careful not to have too many animals pasturing on his field, as close pasturing will damage the crop.



HARVESTING

Methods of Harvesting. The binder is usually used for harvesting barley in Oklahoma. It should be adjusted so as to tie a good, tight, medium-sized bundle, so as to avoid loss in thrashing or stacking.

Time to Harvest. Barley should be cut when the straw and heads are a golden yellow color and the kernels are in the hard dough stage. If cut too green, the kernels will shrivel and lose their color.

Shocking. Barley should be shocked soon after cutting so as to prevent damage from rain.

The shocks should be built so as to stand up well during a storm.

If the straw is still slightly green, the shocks should be small so as to give it a chance to dry out without becoming moldy.

Write to the Extension Division, Oklahoma A. and M. College, for a copy of Circular No. 94, "Saving the Small Grain Crop." It gives many valuable suggestions for shocking and stacking bundle grain.

Stacking. If the barley cannot be thrashed within three weeks after harvest, it will pay to stack it. Stacking protects the grain from damage by the weather, and also removes the crop from the field so that it can be plowed early for a fall crop.

Care should be taken to build the stacks so as to shed water and stand up in wind storms. Unless a person is a good stacker, it will pay to hire an experienced man to do this work, for much grain is lost in some years on account of poor stacks.

THRASHING

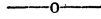
Where the thrashing is done from the shock, the grain should be fully dried.

All barley will go through a "sweat" either before or after thrashing. Most shock-thrashed grain goes through this stage in the bin. If it is not dry at the time of thrashing, it may heat too much in the bin when in this stage.

In thrashing stacked barley, care should be taken not to thrash during the sweating process.

It is always best to see that the separator is well cleaned before starting so that there will be no danger of having weed seed, other grain, or inferior barley from a neighboring farm mixed with the grain. A good plan to follow is to feed out the first load, so as to keep the rest from being mixed, for most of the seed left from the crop previously thrashed will come through the machine with the first load.

While the thrashing is going on, it is a good idea to watch the separator to see that all the grain is removed from the straw and that none of the grain is being blown over into the stack.

**PUBLICATIONS AVAILABLE**

Barley is frequently injured by the chinch bug, and occasionally by the green bug and the hessian fly. Smut also causes much loss. Rusts do considerable damage but at present there is no sure way of combating this trouble. Early seeding and the use of early maturing varieties are recommended.

As an aid in controlling insects and diseases and saving grain, the following may be obtained free by writing to the Extension Division, Oklahoma A. and M. College, Stillwater, Oklahoma:

Circular No. 30—The Green Bug.

Circular No. 59—The Chinchbug.

Circular No. 66—Control of Grain Smuts.

Circular No. 78—The Hessian Fly.

Circular No. 94—Saving the Small Grain Crop.

The following may be obtained from the Division of Publications, United States Department of Agriculture, Washington, D. C.: Farmers' Bulletin No. 968, "Cultivation and Utilization of Barley."

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