

# Pasture and Grain Crops for Hogs in Pacific Northwest

Contributed by Byron Hunter of the Board of Plant Industry, United States Department of Agriculture.

This is the third of a series of articles dealing with crops and systems of cropping for pork production, prepared by Mr. Byron Hunter, who is now state leader in charge of farm-management-field studies and demonstrations in the State of Washington, and employed cooperatively by the United States Department of Agriculture and the State College of Washington.

**I**F GROWN in rows and kept well cultivated, rape furnishes excellent green forage during the dry season when clover pasture is cut short by the summer drought. In growing rape in rows the land is prepared early and kept in good condition until planting time. The best results are secured by making three plantings on approximately April 1, 15 and 30. These three areas are then pastured alternately, the hogs being changed from one to the other. By thorough cultivation rape can be kept growing all summer. It is usually large enough to pasture with light hogs in 6 to 8 weeks after planting. Before brood sows and other grown hogs are turned on the rape, it should be large enough so that they will feed upon the leaves instead of biting off the stem or pulling up the plants. When the fall rains come, rape makes a vigorous growth and can be used until the ground is so wet that the soil is injured by the tramping of the hogs.

Summer pasture is also provided by sowing 1 bushel of oats and 4 pounds of rape seed per acre during the latter part of April or early in May. If

the rape allowed to grow until late in the fall, the rape furnishes good pasture from November 1 to April 1.

Vetch sown alone or with wheat or oats in corn at the last cultivation or in the early fall on spring-plowed stubble land furnishes pasture for hogs during the late fall, winter and early spring. One bushel of vetch and a bushel of oats or 40 pounds of wheat are used per acre. If sown alone, from 90 to 120 pounds of vetch seed are required per acre. The seed is either planted with a one-horse grain drill which runs between the rows of corn or it is sown broadcast from the back of a horse. A one-horse disk grain drill, which can be used for this purpose, is shown elsewhere. If the latter method is used, a hood is placed over the head of the horse to keep the grain from falling into the animal's ears. If sown broadcast, the last cultivation of the corn covers the seed.

If vetch and wheat or oats are sown in corn when "laid by" in July, the pasture is ready for use by October 1; if sown on spring-plowed stubble land in the early fall, it is ready about November 1. The pasture may be used during the winter and early spring. If other pasture is not available, these crops will also furnish excellent forage for hogs until late in June. Vetch is also sown alone in the fall and used during April, May and June.

Owing to the excessive winter precipitation west of the Cascade mountains, the ground is frequently so wet that the tramping of stock is very injurious to most soils. For this reason a grass pasture with a close, tough sod is very desirable for winter use. English rye-grass meets this need admirably. This grass forms a close sod that stands tramping well. It is one of the first grasses to begin growth in the

being used from the time it is in the stiff-dough stage, about July 10, until winter rains come. Hogs do exceptionally well on it after the rains have softened the kernels.

To furnish autumn pasture, one-half peck of wheat or a peck of oats is frequently sown with peas that are to be hogged off. In working upon the mature crop the hogs cause considerable of the oats or wheat to shatter out. Much of this is covered by the tramping of the hogs. When the first fall rains come it germinates and furnishes good pasture.

Corn is hogged down to good advantage in much of the territory west of the Cascade Mountains for about six weeks—that is, from the time the kernels are pretty well glazed and dented until late in the fall. After the rainy season is well begun the hogs get many of the ears down on the wet ground. This causes the corn to mold and spoil. For this reason it is not best to undertake to hog off too late in the season. In the Willamette Valley corn reaches the hogging-off stage about September 15. In the Rogue River Valley it is earlier and in northwestern Washington much later than in the Willamette Valley.

Thousand-headed kale is an excellent succulent winter feed for hogs. The mild winters of Western Oregon and Western Washington permit kale to stand in the field all winter. It is cut and fed as needed. Unless fed in a rack or on a clean floor, pigs waste a great deal of the kale by tramping it in the mud. Full directions for growing kale will be found in Farmers' Bulletin 271 of this department.

In order to raise squashes successfully the land is manured heavily during the fall or winter, plowed about March 1, allowed to lie for five or six weeks, and then, disked, harrowed and clod mashed until in good condition. From May 1 to 15 it is replowed. Just before the seed is planted, about May 25, the soil is again cultivated.

The squashes are gathered about November 1, stored in a dark place in the barn, and covered with straw to keep them from freezing. They keep better if gathered before the surface of the squash has been frozen. They are fed from approximately November 1 to January 15.

The mangel-wurzels, half-sugar beet, sugar beet and white French sugar beet are all used for hog feed. Beets may be stored either in pits or in bins in the barn, or fed from the field. Occasionally there is some loss from freezing if left in the field all winter. Usually, on the other hand, there is much to be gained by feeding from the field, because (1) beets make considerable growth during the late fall and winter, much of which is lost if they are stored; (2) when fed from the field the tops are utilized the same as the roots; and (3) it is much cheaper to feed from the field than to store them first and feed them later. Beets are fed whole.

Artichokes are planted in rows and cultivated in precisely the same manner that potatoes are grown. The tubers are cut into rather small pieces and planted a little thicker and a little earlier than potatoes.

Artichokes are utilized by turning the hogs into the field in the fall after the tubers have made their growth. If the hogs have been ringed, the ground is loosened up with a plow, enough tubers being plowed out at a time to last a week.

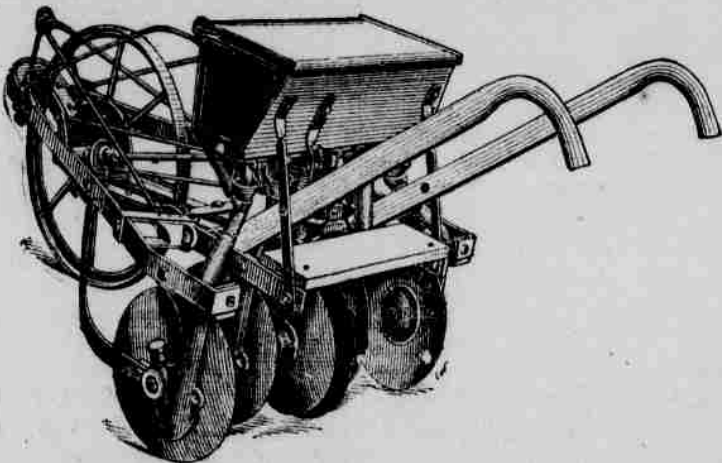
The soil best adapted to the growth of artichokes for hogs is the sandy land along the watercourses. They can be hogged off on such land without seriously injuring the soil during the entire winter. The heavier soils are frequently badly puddled by the tramping of the hogs during wet weather. This can be counteracted by liberally applying coarse fresh manure or straw just before the hogs are turned into the field in the fall. By manuring heavily and working the ground early in the spring, artichokes may be grown on the same land for several years. They are sometimes allowed to volunteer, the land being plowed, worked down, and the crop permitted to come from the tubers left in the soil. This is not good practice, however, it being much more profitable to plant them in rows, so that they can be cultivated.

Objection is sometimes made to artichokes on account of the difficulty of getting rid of them when it is desirable to grow some other crop on the land. They may be eradicated by sowing the land to clover, clover and rape, or clover and oats, and pasturing with sheep or cattle during the summer. If no stems and leaves are allowed to grow, no tubers will form. Close pasturing for one season will eliminate artichokes.

## Crops for the Wheat Belt.

The wheat belt of Eastern Oregon, Eastern Washington and Northern Idaho presents a great variety of agricultural conditions. The elevation above sea level varies from 1,000 to as much as 3,000 feet. The annual precipitation also varies from approximately 10 inches to 25 inches. In some of the more arid districts, where the altitude is low, the soil is frequently so light that it is subject to blowing and drifting. In the districts where the precipitation is heaviest, on the other hand, the soil is a dark, fertile, silt loam. Owing to these variations crop production varies widely in the wheat belt. For convenience in discussing the cropping and feeding systems which may be used for hogs, the wheat belt is divided into (1) the subhumid or moister districts and (2) the arid and semiarid districts. There is no distinct line of demarcation between them, for they gradually blend into one another.

Store pumpkins and squashes in a room where the temperature never falls below 50 degrees. The storing place must be dry.



A One-Horse Grain Drill Used for Planting Grain Between the Rows of Standing Corn.

sown too early in the spring the rains pack the soil so hard that the rape does poorly. Oats and rape pasture is used from the time the growth is 5 or 6 inches high until winter begins. When hogs are pastured on rape and oats they do not work on the latter very much (unless the pasture is grazed closely) until the oats are nearly ripe. In stripping the ripe grain from the straw considerable is dropped on the ground and covered by the tramping of the hogs. The grain that is covered in this way germinates when the fall rains begin. Both the oats and rape then grow vigorously and make excellent fall and winter pasture.

Winter pasture is also provided by sowing rape with oats intended for hay or grain. When sown in this way the rape grows but little until after the oats are harvested and the autumn rains have begun.

One of the most satisfactory ways of providing summer pasture is to sow rape and clover together late in May or early in June. For the details of this method, see Farmers' Bulletin 271 of this department.

From 3 to 4 pounds of rape seed per acre are sometimes sown in corn during July, just before the last cultivation. If the corn is planted on a well-prepared seed bed and kept thoroughly cultivated, so that the soil will remain moist, the rape usually germinates in about five days. It then furnishes excellent green succulent forage during the autumn while the corn is being hogged off. If the corn crop is husked or cut and removed from the field and

spring and one of the last to cease growing in the fall. A rye-grass pasture of grass, vetch and grain is used autumn until the following July. During the summer drought, growth practically ceases. If kept grazed rather closely, the pasture will last for years.

A permanent English rye-grass pasture may be started by sowing from 10 to 15 pounds of seed per acre with oats or wheat in the early spring or fall. The grain crop is either threshed or cut for hay. The grass is then ready for grazing the following autumn after being sown. A permanent pasture may be started also by sowing the grass seed with vetch, oats, or wheat on stubble land in the early fall. The mixture of grass, vetch and grain is used for pasture the following winter and spring. The second year the pasture is a close grass sod that will stand grazing when the ground is wet.

Winter wheat sown in the early fall for a grain crop furnishes excellent pasture for hogs during February, March and April.

Hogs make rapid and economical gains on wheat until the chaff becomes thoroughly dry. If they are then supplied with green feed, they will do much better. If peas are not available for hogging off during August and September, wheat may be used until the autumn rains begin. Spring wheat may also be grown to take the place of the peas.

If no winter wheat is available to hog off, its place may be filled with beardless barley. In fact this crop may take the place of corn and peas as well,

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