

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 second 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.

Usual Grain Crops Hogged Off.

THE Pacific Northwest is peculiarly adapted to the hogging off of crops. The wet season occurs during the winter months and the dry season during the summer. This gives a long period in which crops may be used in this way. The principal crops that are suitable for hogging down are wheat, field peas, corn and barley.

Wheat is generally used from the time the first spots in the field are nearly ripe, about the stiff-dough stage, until the stubble field is open or until field peas or some other crops are ready for use. It will be seen, then, that the season for using wheat is from four to six weeks. If used during a longer period there may be considerable loss from shattering, and the autumn rains in some localities may also damage the crop.

A soft variety of wheat with a smooth club type of head is best suited for hogging down. The club head does not shatter so readily as most other types. The true hard and bearded varieties, such as Turkey, are not suitable. The kernels become so hard and the beards are so severe on the hogs' mouths that they do not eat enough to make economical gains.

On the farm of W. H. Steen, Umatilla county, Oregon, 90 hogs pastured from July 17 to August 24 on 11 acres of ripe standing wheat, estimated to yield 15 bushels per acre, made an average gain in weight of 160 pounds per acre, worth \$14.40. In another instance M. E. Schrock, of Whitman county, Wash., pastured 109 head of hogs on 7 3/16 acres of standing wheat and 1 acre of pasture from July 30 to August 17. The hogs made a gain of 213 pounds per acre and gave a net value per acre of \$15.73. The net returns from 44 acres of wheat alongside, yielding 19 1/2 bushels per acre, were only \$8.04 per acre.

The field pea is one of the most satisfactory crops to harvest with hogs. The quality of feed furnished is of the very best, hogs are very fond of the mature peas, and under good management the crop is gathered with but very little waste. Most varieties of peas are comparatively large and difficult to cover. What is shattered usually lies on the surface of the ground until picked up later.

When Hogs Are Turned Into Field.

The hogs are turned into the field about the time the last peas are nearly mature. In most districts they may be used until about October 1, or until there is danger of the crop being damaged by wet weather. A protracted autumn rain falling upon a heavy crop that the hogs have not cleaned up may cause the peas to sprout. To prevent this the vines are sometimes burned as soon after the rain as they are dry enough. Burning the vines leaves the peas lying upon the surface of the ground. It is not necessary to burn the vines, however, if a movable fence is used and the hogs are made to clean up the crop in small areas that will last from two to three weeks each. Since ripe, mature peas are rich in protein, green succulent feed in addition to the peas will help to balance the ration.

Where corn is successfully grown it is an excellent crop to hog down. Carefully conducted tests at the Minnesota experiment station show that hogs waste no more corn in the field than when fed in lots, and that they gather it as clean as most men do in husking. Farm experience also bears out this conclusion. Corn is advantageously used from the time the ears are well glazed until the weather becomes unfavorable and the ground muddy. In some districts of the Northwest, where the rain-

fall is scant, corn can be hogged off far into the winter. There is slightly less waste if a movable fence is used and the hogs are not turned into more corn than they can consume in 15 or 20 days. Especially is this true when the ground becomes wet and muddy.

The Use of Barley.

As a crop to hog off, barley is used during the summer, autumn and winter. Because the beards, when dry and hard, are so severe on the mouth of the hog, the common beardless barley is generally used during the summer and early autumn. The bearded varieties usually outyield the beardless considerably, and for this reason the former are generally preferred for late autumn and winter use. There are some, however, who prefer the beardless varieties for all seasons.

If sown very early in the spring, beardless barley generally ripens about ten days or two weeks earlier than winter wheat. This makes it one of the first crops available for hogging off in the early summer. The hogs are turned into the field when the first patches are ripening, or when the kernels are in the stiff-dough stage.

Hogs do only fairly well on mature bearded barley when the beards are dry and stiff. After the autumn rains have softened the beards and kernels, however, they take it readily. For late autumn and winter use the bearded varieties are allowed to stand in the field until the fall rains have set in well. This usually gives plenty of time after harvest for the hogs to glean the stubble field. Blue barley, a bearded variety, is generally sown for late fall and winter use. When allowed to stand in the field it does not shatter and sprout nearly so easily as wheat or the so-called winter varieties of barley.

On a farm in Umatilla county, Ore., during November, 1910, 80 hogs were pastured 18 days and 98 hogs 10 days on 11.4 acres of barley on a steep hillside. The gain in weight averaged 230 pounds per acre, having a value of \$18.35 per acre. The estimated yield of barley was 21 bushels per acre.

Determining Area to Be Hogged Off.

In order to reduce the waste to a minimum, the area of each crop hogged off must be thoroughly cleaned up. Owing to the variation in crop yields and the quantity of grain that hogs of different sizes will consume, it is not always easy to determine the acreage of each crop to be used in this way. Suppose a portion of the main winter-wheat crop is to be fenced and hogged off from the time the grain is just past the stiff-dough stage, say July 10, until the stubble field is open, August 15. What area of the winter wheat shall be set aside to be used in this way? This may be determined in two ways, as follows:

(1) When the first spots in the field are nearly ripe or when the kernels have just passed the stiff-dough stage, measure and fence a small trial area, enough to last the herd of hogs for only a few days. From July 10 to August 15 is 36 days. If a trial area of one acre lasts the herd 6 days, as many acres of wheat must be reserved as the number of times 6 is contained in 36, or 6 acres.

(2) By the second method, the yield of the crop per acre and the quantity of feed that the herd of hogs will consume per day are estimated. Suppose that the yield of wheat is 30 bushels, or 1,800 pounds, per acre and the herd of hogs will consume 400 pounds of wheat per day. If 400 pounds of wheat are consumed in one day, an acre, or 1,800 pounds, will last 4.5 days. If one acre lasts 4.5 days, 8 acres will be required to last 36 days, i. e., from July 10 to August 15.

The quantity of wheat that the herd of hogs will consume per day can be determined quite accurately by weighing their feed for a few days just before they are turned into the field. In the case of growing hogs, they will consume a little more each day as they grow older.

The Area of Grain to Hog at One Time.

Crops are hogged off in two ways: (1) By subdividing the field with a movable fence into small areas that will last the hogs from 10 to 20 days and (2) by turning the hogs into the entire field in the beginning.

No data are at hand showing which of these methods is more economical.

While both are used in the Pacific Northwest, the latter is the one generally practiced. Where crops are used in this way during the late fall and winter in the more humid portions of the wheat belt and west of the Cascade Mountains, where the autumn rains are frequently heavy, the area should probably be limited so that it will be cleaned up in 15 or 20 days. In the arid and semi-arid districts or when used during the dry season in the more humid localities, there is probably no good reason why the area hogged off should not be all that the hogs will clean up nicely during the season. Much larger areas doubtless can be hogged off on sandy or gravelly soils than on clay soils that become sticky when wet.

Crops Suitable for Pasture and Hogging Off.

The three Pacific Northwestern States to which this bulletin is primarily applicable may be divided into three distinct agricultural districts: (1) Western Oregon and Western Washington—that portion of these two states lying west of the Cascade Mountains, (2) the wheat belt, and (3) the irrigated valleys. Because of their great variation in topography, elevation, rainfall, soil, temperature, etc., these three districts present a wide range of agricultural possibilities. For this reason the crops that may be used in economical hog production in each area are discussed separately.

Crops for Western Oregon and Western Washington.

The moist, mild climate of this district makes it possible to provide an abundance of cheaply grown forage for hogs throughout the entire year. The number of crops which may be used for this purpose is very great.

If intended for late fall, winter and early spring use, a pasture should not be grazed during the autumn, in order that a large amount of forage may accumulate. This is necessary with almost all winter forage crops, for growth practically ceases when winter begins. The during the autumn is grazed during the forage that is allowed to accumulate winter.

It must be understood also that there are times during the winter when most soils west of the Cascade Mountains become so wet that the tramping of the hogs does a great deal of injury by puddling the soil. For this reason it is generally considered best to remove the hogs from the pasture when a heavy rain falls. This is not always necessary, however, as, for example, on sandy soils and pastures with a close grass sod.

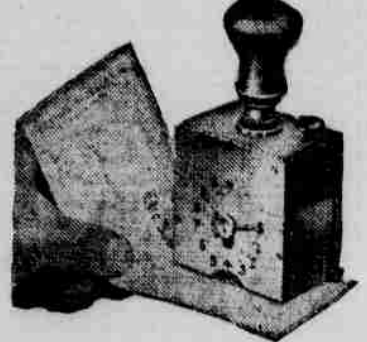
Of the legumes, red clover for well-drained soils and alsike for wet lands are generally the most satisfactory. The clovers make their maximum growth during the months of April, May and June. When the summer drought comes on, the quantity of forage produced gradually decreases. If a clover pasture is utilized to its fullest capacity during the spring and early summer, it is necessary to provide additional green feed for the dry season. This may be done by grazing the clover meadow during the summer after removing a crop of hay.

Alfalfa is not used so generally as clover for hog pasture west of the Cascade Mountains. It has been tried in many localities with varying degrees of success. It has given best satisfaction on the sandy or loamy soils along the watercourses where the water table is at least 4 feet below the surface. Alfalfa is highly successful in the Umpqua and Rogue River Valleys on irrigated and subirrigated land. Under conditions favorable to its growth, it produces an abundance of feed from early spring until late in the fall.

Grass stains may be removed by saturating the spots with kerosene, rolling tightly and leaving a short time. Then rinse out the kerosene and wash with warm soapsuds, rubbing as necessary.

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