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Swine Feeding

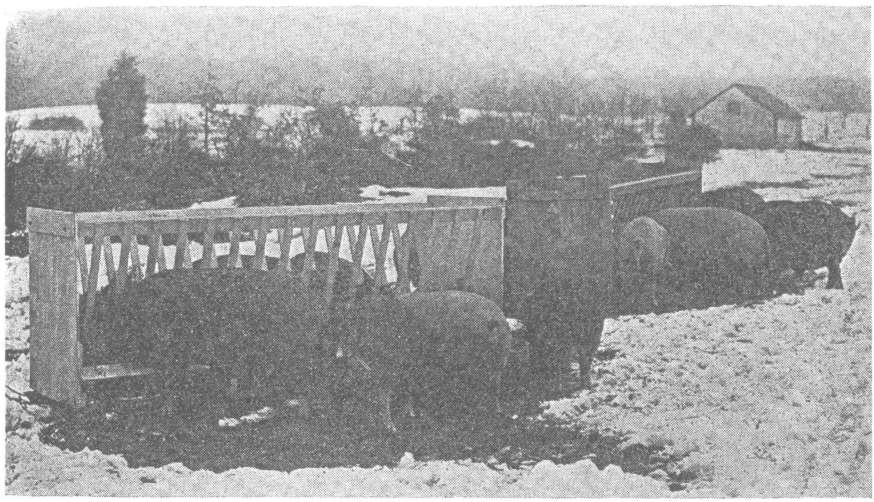

Fig. 1.—Brood sows eating legume hay on winter range.

By

HOWARD DAVISON
Extension Animal Husbandman, The Ohio State University

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Swine Feeding

Since the aim of most hog producers is to produce rapid gains and to have their hogs well finished, the bulk of the ration should consist of grain which is high in carbohydrates and fat. In addition, there must be enough protein and mineral in the ration to build the framework and muscle, and vitamins must be present so that the other nutrients are properly digested and assimilated.

The proportion of the above nutrients needed in a ration varies considerably with the age of the pigs, and in the case of brood sows it varies with age and condition, and whether they are pregnant or suckling a litter. It is possible to obtain the correct proportions of nutrients by using a variety of ingredients; therefore, the following factors should be considered in deciding between two or more feeds of similar composition:

1. Availability
2. Price
3. Ease of feeding
4. Equipment for feeding
5. Palatability.

Pasture or Dry Lot?

While it is generally known that a hog cannot make rapid gains on a ration high in fiber, it has been found that hogs fed on pasture make more rapid and more economical gains than hogs in dry lot. In fact, a saving of 25 to 30 per cent has often been noted in the amount of grain and high protein feed required. There are two reasons for this saving:

1. Hogs fed on clean rotation pasture are more healthy and are not so apt to be contaminated with parasites;
2. Good legume pasture contains nutrients not usually supplied in sufficient quantity in the average hog ration.

Legume pasture is high in protein, minerals, and some of the essential vitamins. Alfalfa alone or mixtures containing alfalfa are considered the best rotation pastures because of their high food value, their high carrying capacity, and their continuous growth throughout the year. Red clover is probably next in line and all of the clovers are good, with the possible exception of sweet clover. It is not as palatable and becomes dry and woody in early summer.

Rape is probably the best of the non-leguminous pastures and is quite high in protein. It has one serious drawback, and that is the danger of sun-burning. This is especially true with light skinned hogs.

Pigs should be kept on pasture during the suckling and growing period. Many men have found it advantageous to keep spring pigs on pasture until they are marketed. Fall pigs may be kept on pasture until cold weather really sets in, usually some time in December, when they are large enough to be brought into the feedlot without serious damage from parasites.

Rations for Brood Sows During Gestation

Brood sows have a special job and require a slightly different feed from fattening hogs. The ration may contain more roughage, or bulk, because excess fat is a handicap to brood sows. In addition, sows are developing a fetus which is largely muscle and bone, and this requires a feed containing plenty of protein and mineral.

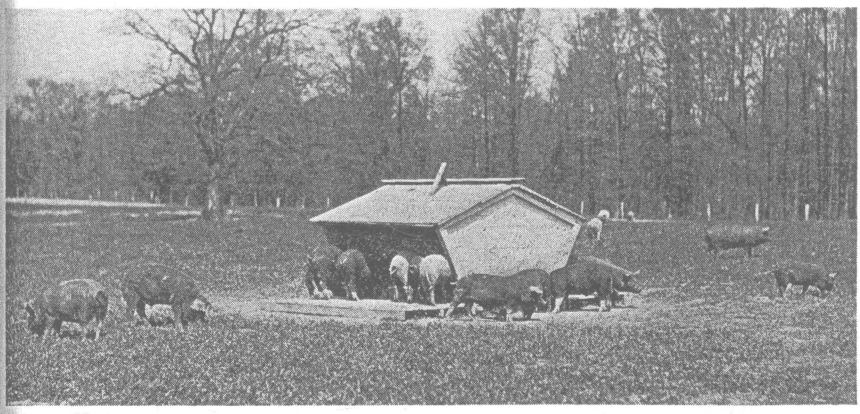


Fig. 2.—Self-feeders are commonly used for market hogs.

Summer Rations.—An excellent ration for brood sows during the summer gestation period can be made by turning the sows on good legume pasture and feeding just enough grain to keep them in medium flesh. This should be safeguarded for young sows and gilts, however, by supplying ¼ pound of protein supplement per sow per day during the last 6 weeks of the gestation period, and also supplying a good mineral mixture in a self-feeder.

Winter Rations.—Legume hay should be the foundation of a good winter ration. Either of the following rations will prove satisfactory:

Ration No. 1	Ration No. 2
Good leafy alfalfa hay in racks, free choice	50 pounds yellow corn
1 bushel yellow corn	25 pounds oats, wheat, or middlings
1 bushel oats	14 pounds ground alfalfa
10 pounds mixed protein supplement	10 pounds protein supplement
	1 pound mineral
	100 pounds

It is quite common for the corn to be fed as ear corn. In that case the small grain and alfalfa are ground and mixed with the protein.

Hand-feed brood sows so that the amount can be varied with the condition of the sows. As a general rule, mature sows will eat about 1.35 pounds of feed per day for each 100 pounds live weight, while gilts will eat 1.85 pounds of feed per day for each 100 pounds live weight.

Sows and Pigs During Suckling Period

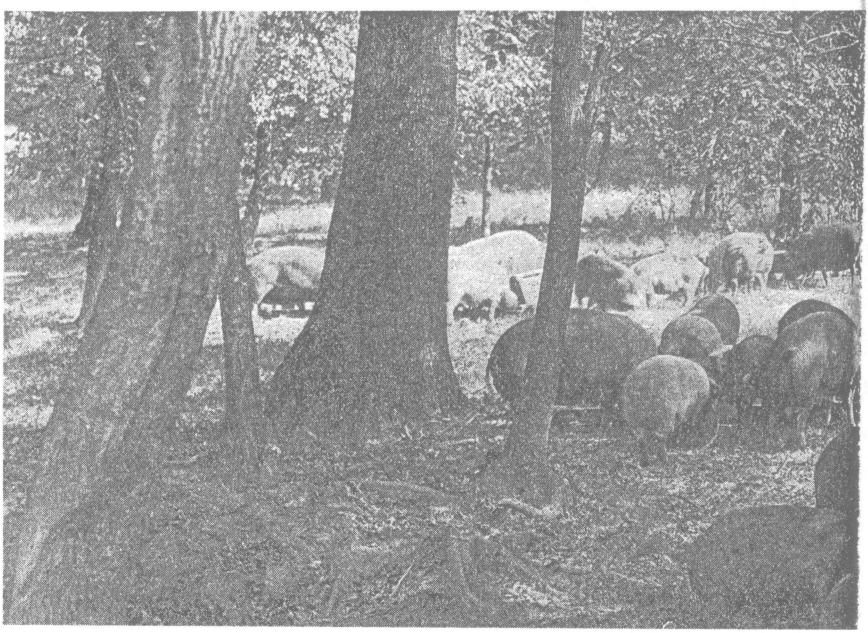
Sows should be hand-fed for the first 10 to 12 days after farrowing. At that time they may be put on a self-feeder, provided they are nursing a good sized litter. The pigs will start eating at about 2 weeks of age, and they may use the same ration as the sows. An excellent ration for sows and pigs is made as follows:

65 pounds cracked corn
20 pounds medium ground wheat
15 pounds 40 per cent protein supplement

Pigs from Weaning to 100 Pounds

This period is often called the growing period. The ration should be higher in protein and mineral than in the fattening period, so that the pigs will grow rapidly and economically.

The ration used for brood sows and pigs during the suckling period can well be continued, although various substitutions may be made. Barley may replace a part of the corn, and is worth from 90 to 95 per cent as much as corn by weight. Oats or middlings may replace the wheat in the ration, although neither is worth quite as much by



weight. Wheat is worth about 15 per cent more than corn during this period, while oats and middlings are worth about the same as corn, and should be limited to no more than one-fourth of the total ration.

Fattening Hogs

The most common practice in feeding hogs over 100 pounds is to give them all the ear corn they will eat, with a protein supplement in a self-feeder. The kind of protein supplement will be discussed under that topic (see page 6).

The corn may be shelled and fed in a self-feeder, or other feeds may be substituted for the corn. Their value as replacements is given in the table below:

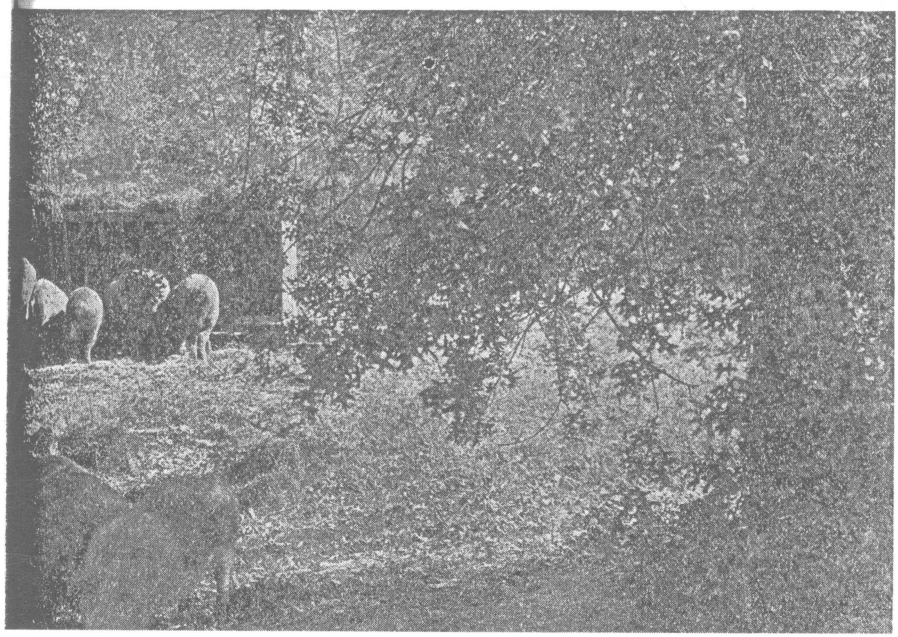
Substitutes for Corn on a Weight Basis.

Feed	Value given in percentage
Ground wheat	100 – 105
Hominy feed	100
Ground barley	90 – 95
Ground rye	90
Wheat middlings	75 – 85
Ground oats*	60 – 80

* Oats have a wide variation in weight and quality.

Small grain should always be ground when fed to hogs, but there is little or no advantage to grinding the corn. Gains will be slightly faster and cheaper, but not enough to pay for the cost of grinding. Do not grind any feed too fine, as it lowers the palatability.

Those feeders wishing to grind and mix all of their feed during the fattening period will find that when hogs are on legume pasture



1 pound of 40 per cent protein supplement may be mixed with 10 pounds of grain for hogs weighing from 120 to 150 pounds. For heavier hogs, it can be reduced to a proportion of 1 to 12. Hogs fed in dry lot will require about 25 per cent protein.

Protein Supplement

There is a great deal of difference of opinion on the relative value of animal and vegetable proteins. Experimentally it has made little difference in rate of gain as long as the hogs are on good legume pasture, provided additional mineral is supplied in rations containing only vegetable protein. Therefore, when hogs are on legume pasture,

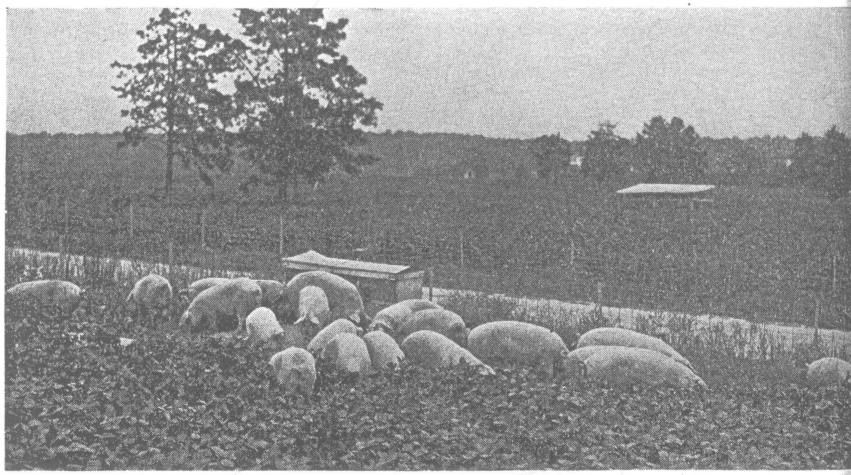


Fig. 4.—Hogs on legume pasture make faster and cheaper gains.

feed either tankage, meat scrap, fish meal, soybean oil meal, linseed oil meal, or a mixture of two or more of them. Even a relatively high percentage of cottonseed meal can be included under those conditions.

Dry lot feeding of pigs up to 100 pounds does show a decided advantage for mixing animal and vegetable protein. Any of the following rations will give good results and the lead pencil should be used to determine which mixture to feed.

Ohio Experiment Station

24 pounds	Tankage, meat scrap, fish meal or a mixture
40 pounds	Soybean oil meal
8 pounds	Cottonseed meal
20 pounds	Alfalfa meal
8 pounds	Mineral
100 pounds	

Trinity or Trio-mixture

50 pounds Tankage
25 pounds Linseed oil meal or soybean oil meal
25 pounds Alfalfa meal
100 pounds

Purdue—Supplement "C"

20 pounds Tankage or meat scrap
20 pounds Fish meal
40 pounds Soybean oil meal
10 pounds Cottonseed meal
10 pounds Alfalfa meal
100 pounds

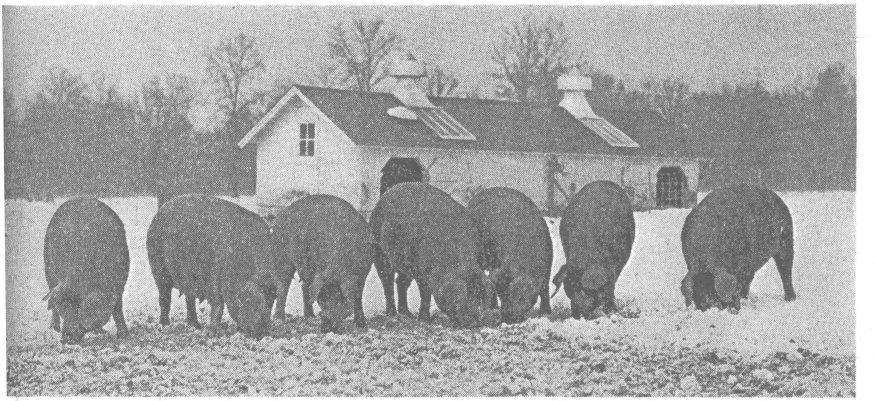


Fig. 5.—Feeding brood sows on winter range. Feeding at a distance from the shelter will force sows to take exercise.

Value of Soybeans for Hogs

The question is often raised concerning the possibility of feeding soybeans to hogs. It is not usually advisable because of the following reasons:

1. They are worth about 17 per cent less than soybean oil meal pound for pound.
2. Unless cooked, they are not palatable to hogs. They must be ground and mixed with the other feeds to make sure the hogs receive enough protein.
3. When fed in sufficient quantity to balance the ration they will produce soft pork.

Minerals

The mineral elements most usually lacking under Ohio conditions are calcium and phosphorus. Under some rather extreme conditions there has been evidence of a lack of a few other elements, but this is not general. For several years the Ohio Agricultural Experiment Station has had excellent results with a very simple mixture. It is made up as follows:

20	pounds Iodized salt
40	pounds Pulverized limestone
40	pounds Special steamed bone meal
100	pounds

The Ohio Station advocates the mixing of the mineral with the protein supplement, as can be noted in the ration given under that discussion. If a protein supplement does not contain added mineral, the mineral mixture should be kept in a self-feeder so that the pigs can have it free-choice. This is especially true when vegetable protein is the major part of the high protein feed.

When vegetable protein is used exclusively in dry lot feeding it may be wise to use a slightly more complex mineral mixture such as:

19.00	pounds Iodized salt
38.00	pounds Pulverized limestone
38.00	pounds Special steamed bone meal
4.00	pounds Ferrous sulfate (copperas)
0.30	pound Copper sulfate
0.70	pound Manganese sulfate
100.00	pounds