HOG PRODUCTION IN COLORADO

By A. C. ALLEN, Extension Animal Husbandman

Colorado farmers have never raised enough hogs to supply Colorado markets with all the hogs that are needed in the trade territory. This year has shown a decided increase in hog production throughout the nation as a whole, yet Colorado shows a decrease. The hog cycle, which usually runs in 7-year cycles, has been disrupted because of drought and feed shortages.

Even in "off" years Colorado should produce not less than 500,000 hogs. There is perhaps no farm animal that better fits into the farming scheme than the hog. It may be produced on the irrigated or non-irrigated farm.

While corn is recognized as the basic grain in a hog ration, one does not necessarily have to have corn to grow hogs. Most any of the small grains when properly substituted will make a good hog feed whether fed alone or in combination, and can be substituted for corn. Millet or hershey is equal to corn pound for pound when ground. Wheat may be used for a hog feed and maximum gains obtained. Oats make an ideal grain for young hogs, though not as good in the fattening ration as most of the other small grains. Rye when fed alone is not palatable, and hogs will not make maximum gains on it. However, when rye is used in a mixture of other grains, very satisfactory results are obtained. The kaffirs and sorghums, very drouth-resistant crops, have proved excellent substitutes for corn in the hog ration. Barley, although it is not equal to corn pound for pound, is an excellent substitute and may be fed alone or in combination.

Too much attention, therefore, may be given to the corn-hog ratio and not enough to the price of other feeds and the amounts necessary to put a 200-pound hog on the market.

One should give some thought to the transportation of his grain crop. From 20 to 25 bushels of grain may be marketed as 200 pounds of pork. The freight costs will be much less and, as a usual thing, will return more profit to the farmer if marketed as pork than as grain.

There are occasional low spots in the market when hog production is not profitable, yet 8 out of 10 years hogs make a profit. That is much better than most businesses, and hog raising is a business. A simple mineral mixture, as given on page 11 of this bulletin, should be added to all rations.
A comparison of different feeds with corn shows that:
Wheat is equal or slightly better than corn when a protein supplement is added.
Barley is from 87 to 93 percent as good as corn when protein supplement is added.
Hog millet is from 97 to 100 percent as good as corn when protein supplement is added.
Rye varies with many different trials; some find it nearly equal to corn, other trials show it only 65 percent the value of corn. It is safe to say that for best results rye should be mixed with some other grain.
Grain sorghums, kaffir and milo feterita have about 91 percent the feeding value of corn when a protein supplement is added.
Sweet sorghum seeds are not as palatable as the other sorghums and usually have about 68 to 70 percent the feeding value of corn.
Atlas sorghum, a hybrid, however, when supplemented with alfalfa and tankage gives 94 percent the feeding value of corn.
Molasses, when not to exceed 10 percent of the grain ration, is as good as barley and worth slightly less than corn. An average of many trials shows that it will take about 400 pounds of corn and 40 pounds of tankage or other protein supplement to produce 100 pounds of pork.
Other grains will vary somewhat as to their feeding value when compared to corn, but will show a profit when fed to hogs and will enrich the land by leaving food nutrients on the farm rather than shipping them to market.
Feeding grains to livestock keeps fertility on the farm. Farm fertility must be given attention if crop yields are to be maintained and kept profitable. T. G. Stewart, extension soil conservation specialist, presents a clear picture of the problem on the following pages:

Alfalfa and sweet clover pastured with good brood sows and their thrifty litters or other livestock provide one of the easiest and most profitable methods of maintaining soil fertility. Any crop pastured is more soil conserving than if it is harvested and removed from the field. If farmers on irrigated land wish to build up their soil fertility, eliminate some hard work and the expense of harvesting a field of alfalfa, and at the same time make a profit, they will consider carefully the probable returns from a few good brood sows. Some farmers on non-irrigated farms may find that winter wheat or winter rye and sudan grass pastured by brood sows and litters will be the most profitable acres on the farm.
A 21-year experiment conducted at the Huntley, Montana, Experiment Station on irrigated land shows an average difference of 3 tons of sugar beets per acre in favor of pasturing alfalfa with hogs instead of harvesting it as hay.

During 17 years on the irrigated experiment station at Bellefourche, South Dakota, an average increase of 3 tons of sugar beets per acre in favor of pasturing 3 years of alfalfa with sheep was secured in comparison with harvesting the alfalfa as hay in 6-year rotations.

In 24 years of experiments completed in 1934 at the Scottsbluff, Nebraska, irrigated station, a simple rotation of oats, sweet clover pastured, and sugar beets 2 years, has averaged a net return per acre of $24.26, the second most profitable return from 32 cropping systems in the experiment.

Experimental work and farm experience are sufficient to prove that yields are higher following pastured crops. High crop yields per acre are not the cause of bankruptcy among farmers, though it appears that there may be too many acres, and bumper crops throughout the nation may bring fewer dollars to farmers than smaller crops.

Perhaps troublesome surpluses can be blamed on low-yielding acres which occasionally produce a fair crop under favorable conditions. There is not much use in planting crops on fields that will not produce sufficient yields and quality products which, when sold at prices that a world market may dictate, do not pay the cost of production. It is better to sell cheap hogs off the farm than cheap bushels of wheat because less fertility is removed, and hog pasture improves the soil.

Sows and pigs do better on pasture and help to maintain soil fertility.
Farmers who continually raise and sell crops away from the farm will eventually become bankrupt because of the depletion of organic matter and fertilizing elements in the soil, resulting in low yields. The exception is the operator who may be lucky enough to move regularly from one good farm to another.

It is an expensive process to rebuild the fertility on run-down fields; therefore, those who follow many of the present farm operators are apt to become bankrupt. The most economical way of rebuilding fertility is to grow alfalfa or sweet-clover pasture in a rotation and add manure plus a little commercial fertilizer to the fields when cultivated crops are grown.

Costs of commercial fertilizers in the form of ammonium sulfate, treble superphosphate, and muriate of potash to replace the nitrogen, phosphoric acid and potash removed by crops which are harvested and sold from the farm, are indicated in the following table:

**Costs of fertilizers** per acre to replace the nitrogen, phosphoric acid, and potash removed in crop production:

<table>
<thead>
<tr>
<th>Crop</th>
<th>Yield per acre</th>
<th>Costs to Replace</th>
<th>Total per acre</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Nitrogen</td>
<td>Phosphoric Acid</td>
</tr>
<tr>
<td>Alfalfa</td>
<td>4 tons</td>
<td>$21.62</td>
<td>$2.34</td>
</tr>
<tr>
<td>Barley</td>
<td>70 bu.</td>
<td>7.02</td>
<td>1.57</td>
</tr>
<tr>
<td>Oats</td>
<td>70 bu.</td>
<td>5.03</td>
<td>1.06</td>
</tr>
<tr>
<td>Corn</td>
<td>50 bu.</td>
<td>5.15</td>
<td>1.06</td>
</tr>
<tr>
<td>Wheat</td>
<td>30 bu.</td>
<td>4.04</td>
<td>0.85</td>
</tr>
<tr>
<td>Field Peas</td>
<td>25 bu.</td>
<td>2.33</td>
<td>0.99</td>
</tr>
<tr>
<td>Rye</td>
<td>20 bu.</td>
<td>2.40</td>
<td>0.45</td>
</tr>
<tr>
<td>Hog Millet</td>
<td>20 bu.</td>
<td>2.40</td>
<td>0.48</td>
</tr>
<tr>
<td>Kafir Grain</td>
<td>20 bu.</td>
<td>2.27</td>
<td>0.35</td>
</tr>
<tr>
<td>Milo Grain</td>
<td>20 bu.</td>
<td>2.17</td>
<td>0.48</td>
</tr>
</tbody>
</table>

*Prices 1938 f. o. b. Denver: ammonium sulfate, $46.60 per ton; treble superphosphate, $49.75; muriate of potash, $35.00 per ton.

When crops are fed to livestock, approximately 90 percent of the fertilizing elements contained in the crops remain on the farm in the form of manure. Through feeding concentrates or other purchased feed, in addition to home-grown products, it is possible to maintain fertility for many years. Relatively small purchases of commercial fertilizers, together with manure that can be obtained from feeds and crop residues on the farm, will also maintain fertility.

**Hogs “Easy” On Fertility**

It would cost only $1.71 to replace the nitrogen, phosphoric acid, and potash contained in the body of a fat hog weighing 1,000 pounds, or 1.7 cents per pound. These fertilizing elements in 1,000 pounds of fat lamb would cost $2.94 to replace. A 1,000-pound fat steer contains these elements valued at $4.02.
Big litters timed for late summer or early fall sale usually find the most profitable markets.

Many farms in Colorado have improved in productivity since the breaking out of sod, due to the careful rotation and livestock feeding that have been practiced. The unfortunate fact is that for each farm or ranch on the upgrade, there are three on the down-grade. Any clear-thinking individual will have to conclude that the outgo

Grain and pasture make an ideal combination for raising hogs.
of fertility exceeds the input on three-fourths of Colorado’s 63,644 farms, and the result will be lower average yields within 25 years.

The pig is the most efficient meat producer. He will make more pounds of meat per bushel or per 100 pounds of grain fed than any other farm animal. He is early maturing and because of his prolificacy one may soon get in the hog business. With good stock, on clean grounds to prevent disease, and intelligent feeding, one may easily produce 200-pound pigs at 6 months of age. As a usual thing, late summer or early fall are the best markets and production can be so timed to get hogs marketed To Meet Market at that time. March pigs fed liberally—a self feeder is excellent—whether on pasture or in the dry lot, can be ready for market in late August or September when market prices usually are higher.

There is no longer a premium paid on lard. Many vegetable oils for cooking have come on the market until there is not the demand for lard there used to be. Therefore, we must give attention to the market demand for the type of hog produced.

The hog that will produce more lean meat in proportion to the fat is in demand by the packer. The consumer wants a lean strip of bacon, a pork chop without too thick a layer of fat, or a ham that does not show too much fat. The type of hog desired will finish at 175 to 220 pounds, within 6 months of age, and top the market. Gains on hogs after they have reached 225 pounds are more expensive than those put on before that weight is reached. The market price is higher on hogs under 225 pounds than on those over. More hogs can
Pasturing alfalfa and sweet clover with good brood sows and their litters is a profitable farm practice.

be marketed with the same amount of grain if they are marketed fat at lighter weights and more money will be received for them.

If only one litter is raised per year, it is best to get an early litter and feed it liberally and well. If two litters are raised, get an early spring litter and an early fall litter and plan to get the fall litter on the market in March or early April.

If properly handled there need be very few disease problems with hogs. Most hog diseases are filth-borne diseases. By using sanitary methods such as rotation of hog lots, using clean pastures and cleaning out the farrowing quarters, most diseases can be eliminated. Hog cholera can be prevented by vaccination and is a means of insurance against this disease.

Production and Feeding Schedule on Irrigated Farms

It is not necessary to be in the hog business on a large scale in order to make money. Little equipment is needed and this need not be of a permanent nature.

Sows or gilts should be bred early in November. They should then receive plenty of good third or fourth-cutting alfalfa hay with just enough grain to keep them in rugged condition. Feed Sows Carefully. They should not be allowed to become too fat. The grain ration may be a mixture of corn or barley 4 parts, oats 4 parts, and tankage 2 parts. They should have well-bedded sleeping quarters and plenty of good clean water.
At farrowing time give clean water with the chill taken off and no grain for 24 hours after farrowing, then a thick bran or shorts slop with very little grain at first. Increase gradually to a full feed in 10 to 14 days. As soon as possible, if possible, put them on alfalfa or sweet-clover pasture with a grain ration—corn or ground barley 6 parts, oats 1 part, shorts 2 parts, tankage 1 part. Watch the condition of the sows and feed just enough to keep their milk at maximum production and sows in good condition. In place of tankage a mixture of high-protein feeds may be used—tankage 50 pounds, cottonseed meal 25 pounds, alfalfa meal 25 pounds.

During the suckling period after almost 3 weeks, a creep should be made for the pigs where they can get to a mixture of grains—corn or ground barley 10 parts, shorts 4 parts, tankage 1 part, rolled or ground oats 2 parts.

After weaning, pigs that are going to market may be fed with a self-feeder or hand-fed either corn, ground barley, or wheat or a mixture of these grains using 10 pounds of grain and one of tankage. Pigs so raised should weigh 180 to 200 pounds at 6 months of age.

Gilts to be used for replacement in the breeding herd should be separated out before they become too fat. Feed them about 2½ pounds of grain daily for each 100 pounds of live weight—corn or

The self-feeder helps to produce economical pork.
ground barley 6 parts, oats 4 parts, tankage 1 part, and pasture if possible.

Note.—If skimmilk is available, 10 pounds of skimmilk will replace 1 pound of tankage.

Production Schedule On Non-Irrigated Farms

The same care should be given as described in the foregoing chapter, though other grains may be used that are adaptable to non-irrigated farming. Proso or millet will substitute for corn, pound for pound in the ration.

Any of the kaffirs or sorghum grains may be ground and used in place of barley or corn. Rye, if available, should not constitute more than 25 percent of the grain ration. Should alfalfa or sweet-clover pasture not be available, use fall rye, sudan grass, or other pasture. Pasture is not an essential, but it is a big help in keeping down production costs and when so used does keep up fertility.

Keep before the hogs whether on irrigated or dry farms a simple mineral mixture at all times. The following has given good results:

Steamed bonemeal .................. 40 parts by weight
Ground limestone or sugar-factory calcium carbonate .......... 40 parts by weight
Common salt ...................... 20 parts by weight