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HOG HEALTH MAKES WEALTH

by
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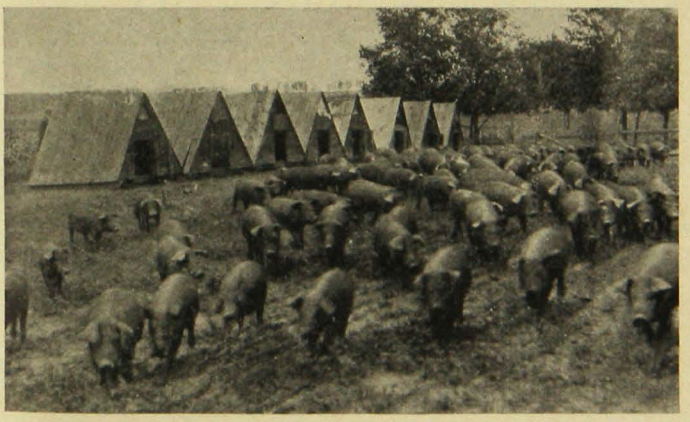

ON THE ROAD TO HEALTH

UNIVERSITY OF MINNESOTA
AGRICULTURAL EXTENSION DIVISION

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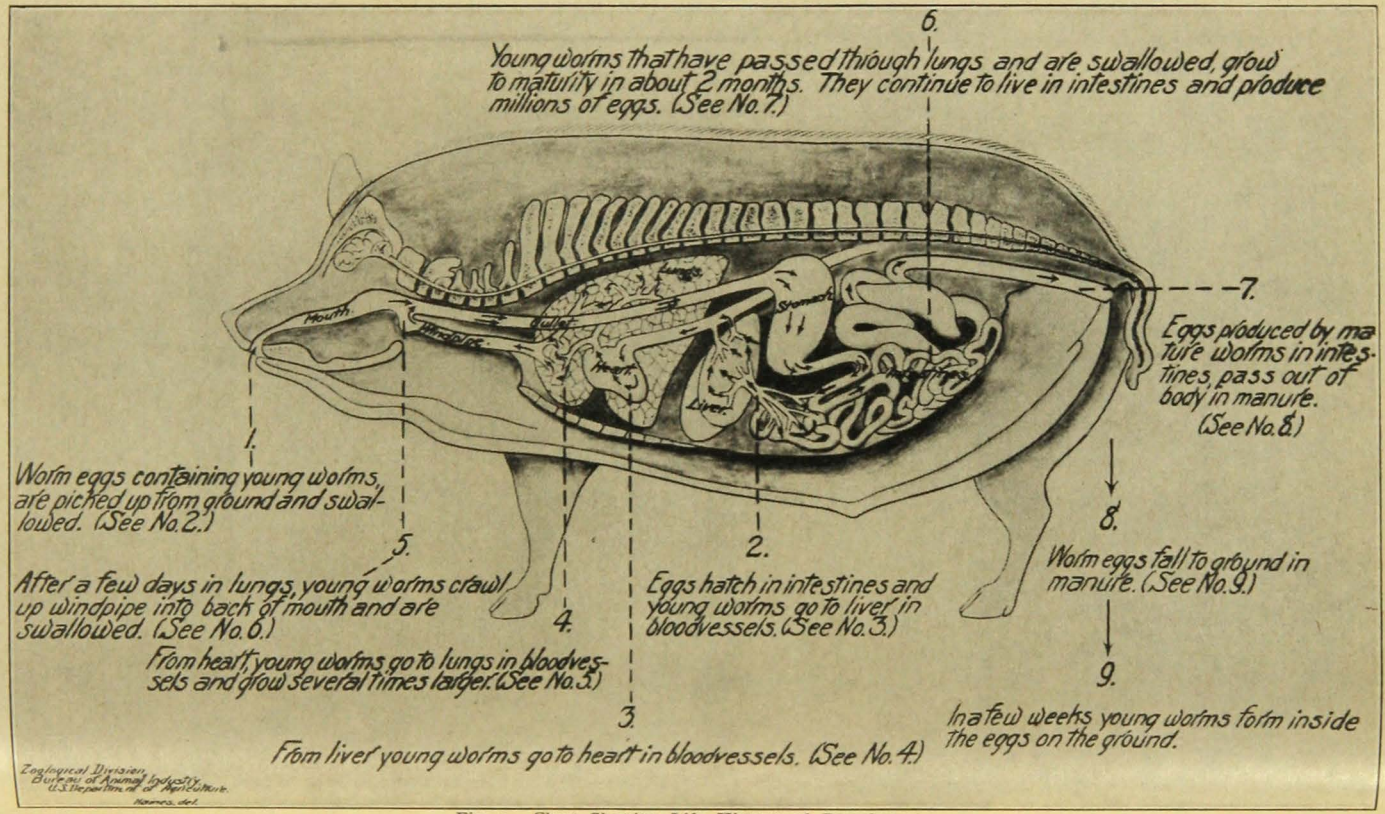


Fig. 1. Chart Showing Life History of Roundworm

Control of the roundworm is easy if life history is known. Follow the arrows and read each statement that explains the diagram.

MINNESOTA farmers are losing thousands of dollars annually by raising hogs under unsanitary conditions. A careful study shows that about a third of all pigs farrowed die before they are weaned, another third are stunted and unprofitable, and about a third are profitably grown to maturity. Farmers who raise pigs in a sanitary way find that they raise from 20 to 30 per cent more than in the old way. They also report healthier, thriftier, and more uniform pigs that make larger gains on less feed and in a shorter time.

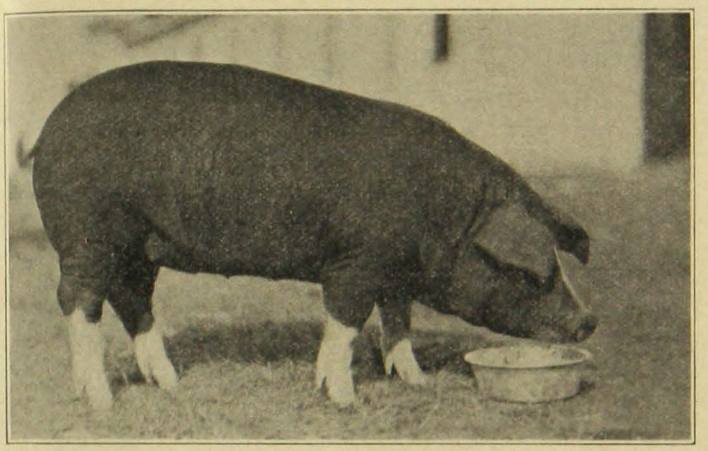
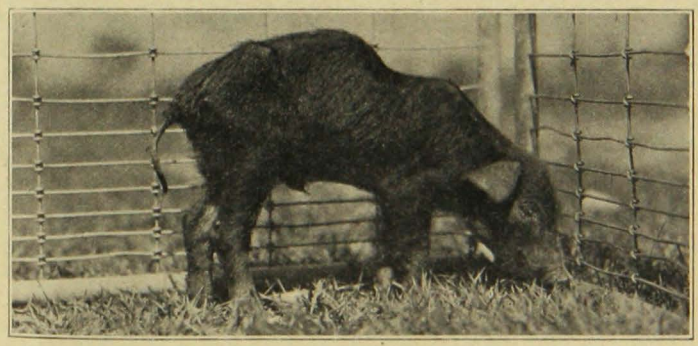


Fig. 2. My Owner Believes in "Swine Sanitation"



No. 3. My Owner Does Not

Approximately four million hogs are produced annually in Minnesota. Because the average number of pigs saved to maturity is about five to a litter, 800,000 sows are needed. If the average number per litter could be increased to seven, 225,000 fewer brood sows would be needed. At the present prices of feed, $10 is a conservative estimate of the value of the feed that one sow will eat from breeding to weaning time; hence, by this reduction, more than $2,250,000 would be saved on feed alone.

McLean System Prevents Worm Infestation

A system of raising pigs to avoid worm infestation, worked out by the United States Bureau of Animal Industry, so reduces the amount of infestation that little or no damage is done by the worms. This system was tested in many farms in McLean County, Illinois, and has been so successful that it has become well established in all hog-producing centers. Because of the success there, it is called the McLean County System of Hog Sanitation. It not only prevents losses from worms but also more or less completely prevents various conditions that may be termed filth diseases—bull-nose, sore mouth, and certain forms of diarrhea. It is not to be depended upon as a preventive of hog cholera, hence when this system is followed hog-cholera immunization should be continued in accordance with approved methods.

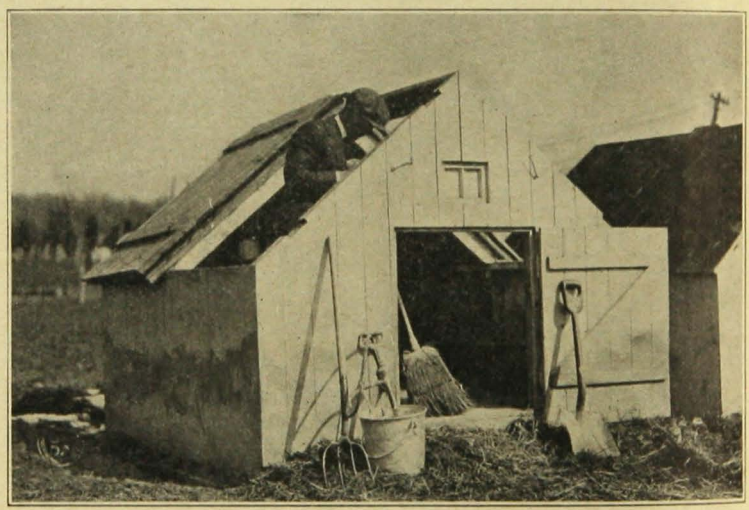


Fig. 4. Cleaning and Disinfecting the Farrowing House (U. S. Dept. of Agr.)

Four Rules Necessary in Sanitation

1. Clean the hog house and scrub it with boiling lye solution.
2. Wash the sows' sides and udders with soapy water before farrowing.
3. Haul the pigs to pasture.
4. Keep the pigs on clean pasture.

These four requirements to prevent infestation from worms and necro are simple, but necessary if the pigs are to be kept in good health and thrift. If any one of these steps is neglected, the pigs may become infested. They are preventive measures and must be observed until pigs are about four months old. After that age they are reasonably resistant to infestation from worms and necro.

Cleaning the house.—Just before the sows are due to farrow, the first step is thoroly to clean out the house. Take out all movable partitions; remove all litter, dirt, and dust from floors and walls, using shovel, hoe, or scraper. Following this, wash all partitions, floors, and walls with boiling hot lye solution. The boiling hot water kills worm eggs and destroys germs, and the lye loosens the dirt. (One pound of lye to 30 gallons of water is recommended.) Water must be boiling hot. It may be heated in a large kettle such as is often used to heat water at butchering time. Many farmers have stoves in hog houses, others set up oil stoves temporarily, while still others heat the water in the house. An old broom makes a good scrubbing brush. Keep all hogs out of the clean pens until the washed sows are put in them.

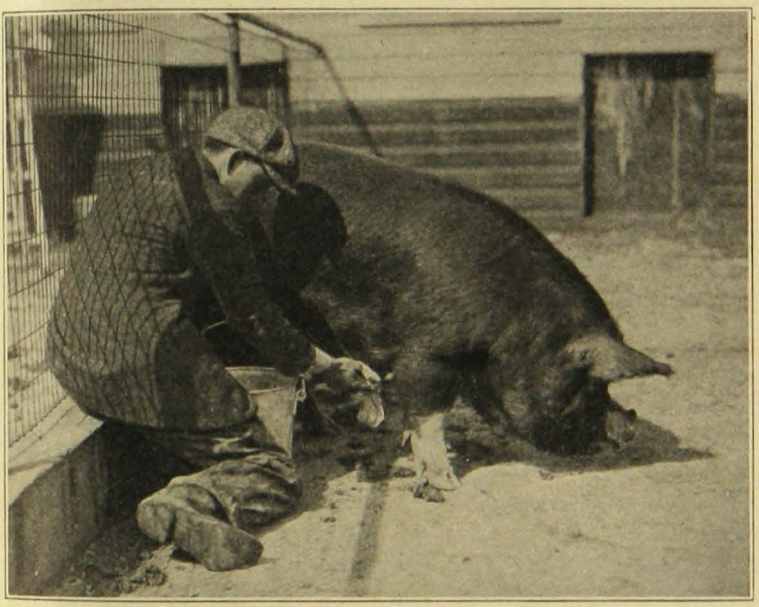


Fig. 5. Washing Sow's Sides and Udder Before Farrowing (U. S. Dept. of Agr.)

Washing sows.—Wash sides, udders, and feet with lukewarm soapy water before allowing the sows in the clean farrowing pens. This removes worm eggs and disease germs, which may be carried in the dirt that adheres to the flank and udder. This washing will prevent the pigs from getting worm eggs from the udder when they first suckle.

Hauling the pigs to clean pasture.—Haul the pigs and sows to clean pasture not used for hogs since the field was last plowed. If they are driven, worm eggs and disease germs may be picked up from the old lots or runs. Hauling is easy if one has a convenient crate and a stoneboat, a sled, or a low-wheeled wagon.

Keep pigs on clean pasture.—Keep pigs on clean pasture until at least four months old. Do not allow them to run in the old hog lots. Many farmers furnish their pigs with clean pasture, but allow them the run of the old hog lots. Old hog lots are all more or less contaminated by their droppings. After pigs are four months old, or weigh about 100 pounds, they are less liable to suffer worm infestation.

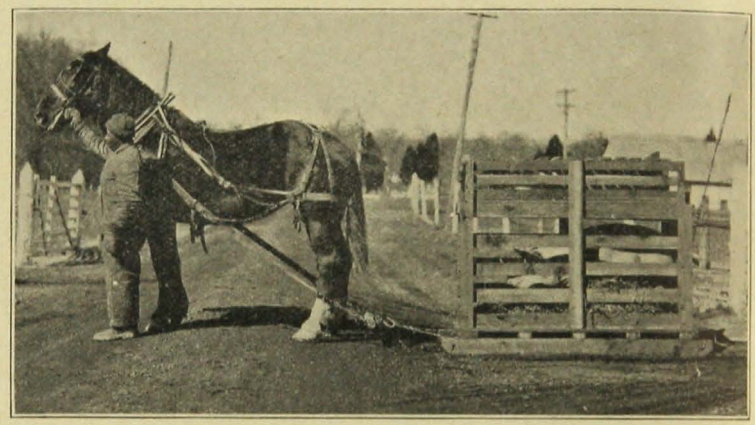


Fig. 6. Modern Transportation from Pen to Pasture (U. S. Dept. of Agr.) No chance for contamination enroute.

Worms Cause Heavy Losses

Dr. B. H. Ransom, of the Bureau of Animal Industry, United States Department of Agriculture, says: "The common intestinal roundworm or ascarid is one of the most injurious of the various kinds of parasites that infest the pig. It causes digestive troubles, retards growth and development, and in other ways interferes with the well-being of pigs, especially the younger animals. Furthermore, scientific investigations have shown that this parasite can cause a great deal of damage otherwise than merely as an intestimal parasite. In its early stages of development in the pig, and while still too small to be seen by the naked eye, the worm travels in the blood stream from the intestine to the lungs and then back to the intestine by way of the windpipe and esophagus. This curious journey (Fig. 1) requires about 10 days for its completion, after which the young worm settles down in the intestine and grows to maturity in about 2½ months. If many of the young worms take this trip at the same time, as often happens, the injury that results is likely to be serious.

"When the lungs of a young pig are thus invaded by numerous young worms, the pig often shows symptoms commonly known as thumps, and may die of pneumonia. Probably most of the cases of thumps in little pigs are caused by worms, tho the characteristic

thumping cough in young pigs has sometimes been attributed to an overfat condition, or cold weather with resulting lack of exercise. Pigs that survive a severe invasion of the lungs by the young worms frequently do not recover fully and fail to grow and develop at a normal rate. Bacterial complications, often with pus production, sometimes follow the invasion of the lungs by the young worms, and share the responsibility for stunted growth of pigs.

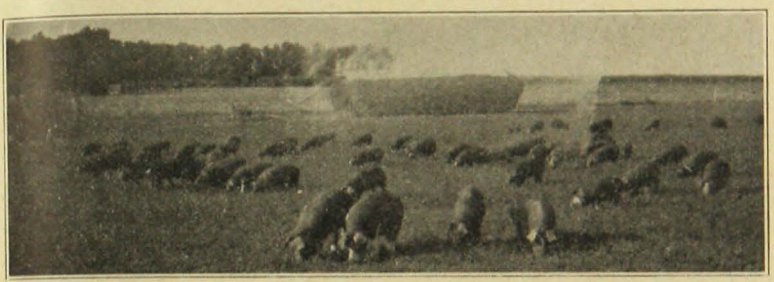


Fig. 7. Four Months Old and Past the Greatest Danger of Infestation (Farm of Paul Peters, Sherburn, Minn.)

"Investigations and experiments have also shown that pigs are most susceptible to infection and suffer most seriously from the infection during the first few weeks of life. As they grow older they become more resistant, have fewer worms, and suffer less from both the young worms in the lungs and the older ones in the intestines. Little pigs, therefore, require special protection."

It is when the pigs are stunted and runty that most men begin to treat them for worms. From the history of the worms one will know that the biggest damage has already been done and most treatments are usually of little or no avail. For this reason one must concentrate all his efforts on preventive measures.

Movable Hog Houses Becoming Popular

Movable hog houses are becoming popular, and are common on most successful hog farms. Several types of movable, heated, farrowing houses have proved satisfactory and helpful in solving the sanitation problem. Some farmers are not using their permanent farrowing houses. they have their sows farrow in individual houses on clean ground. If these houses have been used before, they also must be scrubbed with hot lye solution. Plans of different types of houses are shown later.

A good precaution is always to wash the sows before farrowing, even if they have been on pasture. Farrowing fall pigs in individual hog houses on clean ground is highly recommended. If farrowed in late August or early September, they will be past the age of greatest susceptibility to worms before time to put them in winter quarters. Fall sows of the previous year are good for early fall farrowing.

Permanent Hog Lots Dangerous

Continually concentrating large numbers of hogs on the same ground will cause trouble from disease. Whenever possible it is desirable to change hog lots every year. Old lots should be plowed and seeded before being used again. A well drained part of the farm should be selected for the hog lots. They may be so arranged that the pastures are rotated and new runs used each year.

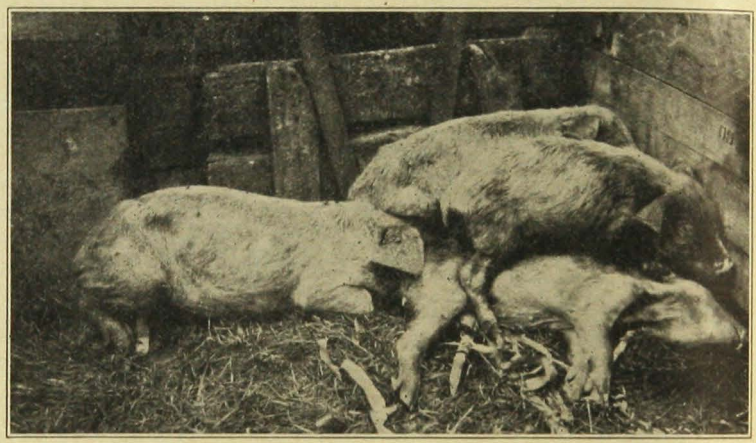


Fig. 8. Will They Ever Get to Market?

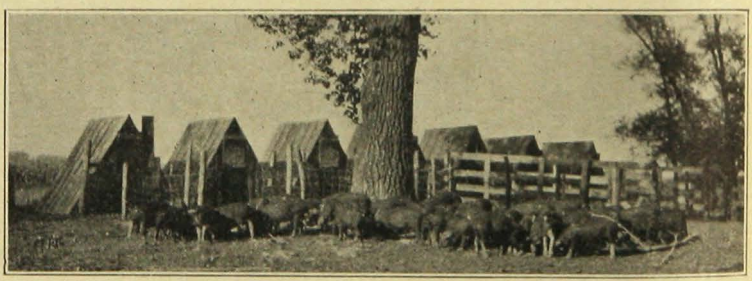


Fig. 9. Well on Their Way to Market

Water, Feed, and Shelter Needed

"The sanitation system is simple enough, but who is going to carry water and feed to pigs out on pasture?" is a common question asked by hogmen. These are problems that must be met. Farmers who have given the system a trial say they have been well paid for the extra work through their increased profits.

Water supply.—Where the pastures are close to the farmyard, and the slope of the ground will permit, water may be piped through ¾-inch pipes on top of the ground direct from the farm well or tank. When the pasture is some distance from the farmstead, it is sometimes

possible to dig a shallow well. Many wells have been dug with a post auger equipped with extensions. If used for a long time the hole may be lined with tile. On sandy soils, wells have been made by simply driving in a sand point. Where fields are tiled, a well can usually be dug below the level of the tile and a supply of water obtained for at least part of the season. On many farms, water has to be hauled in barrels or in tanks. Usually enough feed to last several days may be hauled out at one time and left in the wagon-box or put in self-feeders. A waterproof cover for a wagon may be had for a few dollars.

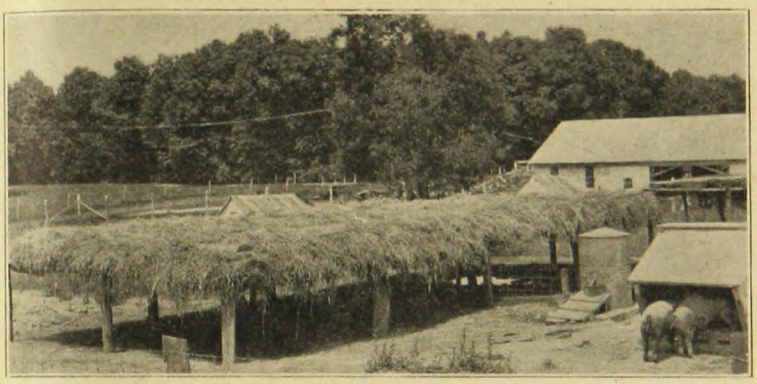


Fig. 10. Cheaply Constructed Worth-While Equipment (U. S. Dept. of Agr.)

Shelter and shade.—If natural shade is not available, some shade or shelter must be provided. The sides of many individual hog houses may be propped up to furnish shade while the pigs are small, but this is not adequate when they are larger. It is advisable to erect inexpensive shades or shelters to protect the pigs from the intense heat of summer days, as well as to provide shelter from the cold in early spring and late fall. A good shade may be made by setting in regular fence posts, placing support rails over them, and brush or coarse sweet clover on top. Straw or coarse hay may be used on top of this. Shades should not be built too close to the ground because a higher shade allows a better circulation of air beneath.

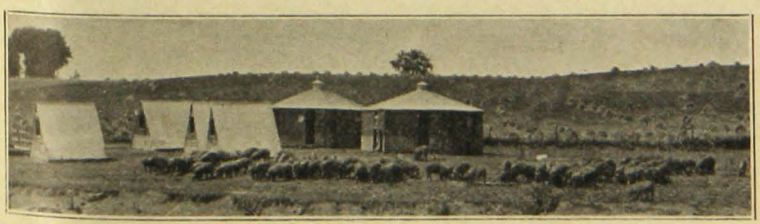


Fig. 11. Farrowing Houses That Are Placed on Clean Ground Each Year (Farm of J. J. Quiring, Mountain Lake, Minn.)

Pastures Necessary to Produce Profit

Pastures are so important in swine production that they often make a difference between profit and loss. Many kinds of pastures may be used. Alfalfa, sweet clover, clovers, and rape give best results in Minnesota. Experiments show that pigs farrowed early and crowded for the early market are usually the most profitable. It is therefore advisable to full-feed the early farrowed pigs. If the pigs are not full-fed even on the best of pastures, it is desirable to feed at least 2 or 3 pounds of grain for each 100 pounds live weight. Less than this will not keep pigs in a healthy growing condition. In addition, one of the great advantages of hog pastures is that pigs can be kept more healthy and thrifty than on old hog lots. Pigs make cheaper gains on pasture because forage crops are succulent and are rich in protein and minerals. Pigs fed on pasture require less grain to make 100 pounds of gain than those fed in dry lots. Forage crops reduce the amount of protein feed needed, as the plants contain a liberal amount of protein and ash, the nutrients in which farm grains are deficient.

Minnesota Farmers Approve System

Hundreds of farmers who have carefully followed the sanitation system of raising pigs would not return to the old way.

Nelson Brothers, of Westbrook, Cottonwood County, in commenting upon their results with the swine sanitation system, made the following statement: "We divided our herd of sows almost equally. Twelve sows were handled as usual in the old hog lots. Eleven sows were handled under the sanitation system. When we vaccinated, about June 20, we had 72 pigs from the 12 sows and 87 from the 11 sows, an average of 6 pigs saved with the old system and 8 with the new system. This gave us an advantage of over 30 per cent in favor of sanitation. We are having considerable trouble with "necro" and worms with the old plan and no trouble with the sanitation system. The pigs are bigger, more thrifty, and more uniform under the new plan."

Fig. 12. 212 Thrifty Pigs from 26 Sows
(Farm of S. Johansen, Rushmore, Minn.)

J. J. Quiring, of Mountain Lake, Minnesota, in comparing the 1926 pigs raised under the old system with the 1927 pigs raised under the sanitation system, gave the following facts: "Last year I had 99 pigs at vaccination time and this year I have 140 from the same number of sows. I have no runts and no sign of worms or necro in my 1927 pigs. My pigs average 40 pounds more at the same age on the same feed. Sanitation alone is responsible for the results."

H. W. Poole, Faribault County, says: "Before being forced to use the sanitation system of raising hogs, my losses had reached 50 per cent. During the last four or five years, since using that system, I have raised over 1200 hogs and my losses have been less than 5 per cent."

"Even tho your place may not be infested with worms or necro, you invite infestation by using the same pastures and yards each year," writes J. W. Stevenson, Winnebago, Minnesota.

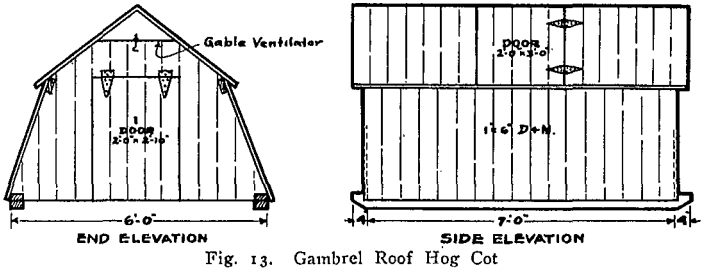


Fig. 13. Gambrel Roof Hog Cot

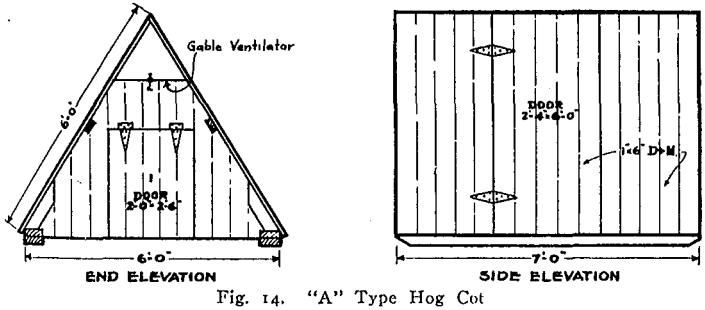


Fig. 14. "A" Type Hog Cot

This was the first year Mr. S. Johansen, Nobles County, tried the McLean County system of sanitation. He raised 212 thrifty pigs from 26 sows, an average of more than 8 pigs. He is so pleased with their thriftiness that he could not be induced to go back to the old method.

Robert Bird, of Fairmount, Minnesota, is an enthusiastic advocate of the sanitation system of raising hogs. In the spring of 1927, Mr. Bird raised 55 pigs to maturity from 6 gilts. The 55 pigs averaged 211 pounds in 180 days of age.

Paul Peters, of Sherburn, Minnesota, had 18 sows farrow in the spring of 1927. He raised 133 pigs, or more than 7 to the litter. Every one of his pigs was healthy, thrifty, and free from worms and necro. Mr. Peters attributes his success to the sanitation system followed.

Plans were prepared by Division of Agricultural Engineering. Blue prints showing details of measurements may be obtained from the Mailing Room, University Farm, St. Paul, Minnesota.

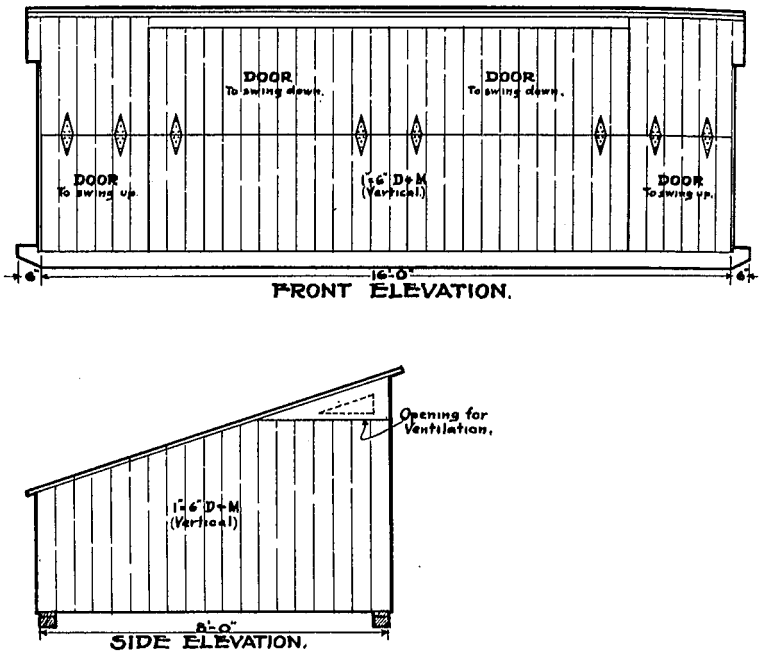


Fig. 15. Movable Hog House (Two Pens)

Farmers who follow swine sanitation will:

1. Save more pigs per sow.
2. Raise more pork from fewer sows.
3. Eliminate runts.
4. Increase rate of gains and produce earlier market weights.