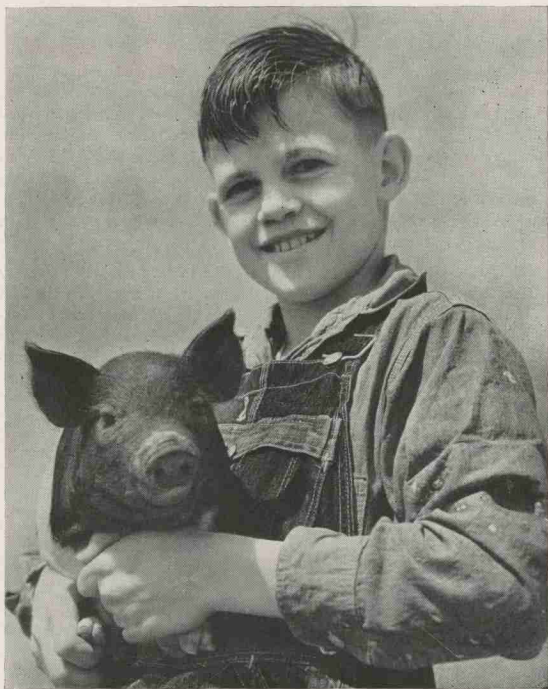


REVISED MAY, 1947

CLUB SERIES NO. 4

Swine Production Manual For 4-H Club Members



PREFACE

When you joined the 4-H Club, you became a member of one of the largest organizations of young people in the world which has taken as its goal to make the best better in all phases of farm and home life. You, as an individual member, are helping to determine what the future of the 4-H Club will be. Your club projects and your activities as a club member are a part of that organization. Your efforts are helping to determine what the local club will be, what your county organization will be, what your state organization will be, and what your national organization will be. Therefore, upon you rests a great responsibility, and you, as a club member, should do everything in your power to make club work bigger and better.

In the beginning, club work was established on the basis of project activity. It is still the basis of an yworthwhile program of club work. Through your project you should learn the better methods and approved practices; in it you will find the pride of ownership and if properly conducted a reasonable profit. Pig club work is conducted for the purpose of giving farm boys and girls an opportunity to learn how to feed and manage hogs for a profit. Your success in this respect will be largely determined by your interest, your attention to details, and your willingness to follow the suggestions of your County Agent in conducting and completing the project.

This publication has been prepared in order to give you the necessary information in successfully completing this project. It represents the best thought and the latest information available on the subject of pork production. It is our hope that you will use this information to the best advantage possible. If there is other information which you desire or questions regarding this project, your County Agent will be glad to furnish you with whatever information is available.

L. R. HARRILL,
State 4-H Club Leader.

Swine Production Manual for 4-H Club Members

By

JACK KELLEY, *Animal Husbandry Extension Specialist*

The swine project, as outlined herein, is planned for the 4-H Club Boy or Girl who would like to take a gilt at any time from weaning to eight months of age, or a mature sow, and produce a litter of thrifty pigs, by adopting methods used by successful swine growers. This manual also provides for club members who are not in a position to care for a brood sow but who can secure and feed properly one or more pigs from weaning age to market size. This plan does not require that the animals selected be registered. We believe it is advisable to select purebreds. However, if the club member cannot secure purebreds he may use the best hogs available.

It is suggested that this project be selected only by those club members who can secure a good type gilt, sow, or at least three thrifty weanling pigs, the necessary pasture, feed and equipment. The club member who selects this project and follows the instructions through to completion, using only thrifty animals, and practices the proper methods of sanitation, feeding, breeding, housing and management should receive a fair return for his labor and develop his knowledge of practical swine production. However, the profits made on this project will depend to a large extent on the following factors:

1. The type and quality of animals selected and produced.
2. The cost of producing home grown feeds.
3. Proper methods of sanitation, feeding, housing and management.
4. The number of pigs farrowed and raised.
5. The thoroughness of the work done by the club member.

Objectives

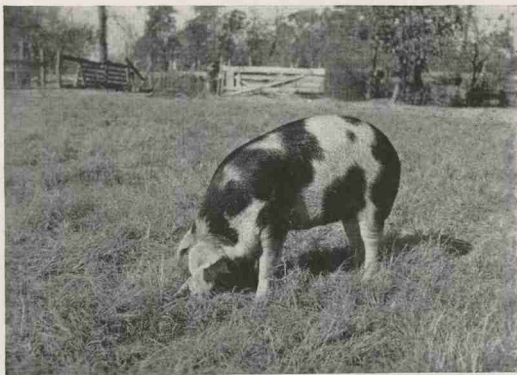
1. To teach club members through practical experience the methods used in successful swine production.
2. To produce a 200 pound hog at six months of age or earlier.
3. To illustrate the value of sanitation in controlling internal parasites.
4. To interest more club members in the production of thrifty pigs of the desired type and quality.

Requirements

1. Secure suitable equipment such as portable farrowing houses, self feeders, and troughs.
2. Arrange to have an ample supply of feed, water, clean pasture and shelter.
3. Secure a thrifty sow, gilt or sow pig for the brood sow project. Brood sow project to be completed when the litter of pigs is weaned at eight weeks of age.

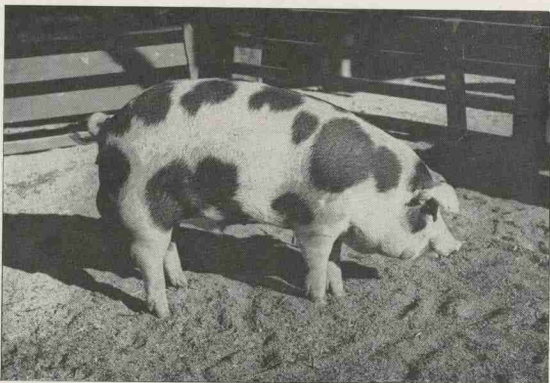
4. Secure three or more thrifty pigs of weaning age for the feeder project. Those club members who conduct a brood sow project should conduct a feeder project with the pigs after they are weaned. It is recommended, whenever possible, that at least three or more be included in this project. Feeder project to be completed when the hogs are butchered or sold.
5. Follow the instructions in this manual.
6. Project to be started when animals are secured. This is to be determined by the club member, county agent and local leader.
7. Keep an accurate record, and make a report to your county agent.

Selecting The Sow. A puerbred animal is recommended but it is not necessary for her to be registered. Any one of the following breeds may be used: Duroc, Poland China, Spotted Poland China, Chester White, Hampshire, Berkshire, Tamworth or Yorkshire. It is suggested that the club member secure a good individual of the breed that he likes best. The purchase of fancy breeding stock is not recommended because beginners should confine their efforts to production for home use or market until they have learned the things that it is necessary to know in order to produce hogs successfully. Select an animal that is anywhere from weaning to eight months of age, or a mature sow. In buying a pig select one from a large litter, farrowed by a good sow and sired by a good boar. The sow that you are going to use should have good length and depth, with a well arched back. Her legs should be strong with good feet and short, strong pasterns. She should have at least 12 teats. The heartgirth should be full and smooth, with no depression showing behind the shoulders.



Medium type Spotted Poland China sow, with broad back and loins, deep smooth sides, and well developed hams.

Selecting The Boar. The boar should be of medium type, should have a strong arched back, wide loins, deep smooth sides, and well rounded hams. He should have straight legs and strong short pasterns.



Medium type boar should have broad back and loins, deep smooth sides, and well developed hams.

Kinds of Feed Required. Corn or ground small grains is the main item of feed required. Other necessary feeds are tankage or fish meal, soybean oil meal, and cottonseed meal.

Pasture. Hogs of all kinds, including the boar, should have access to good pasture, such as small grain, lespedeza, soybean or alfalfa. During the winter in those sections where grazing is not accessible a green leafy legume hay should be put in a rack where the hogs can help themselves. This is especially necessary for pregnant brood sows. Alfalfa, soybean, clover, or lespedeza hays are suitable for this purpose.

Good pasture and the leaves of green colored legume hays contain Vitamin A, which is necessary to keep the hogs in a healthy condition.

Brief mention is made here of pastures in order to avoid repetition. All the rations suggested in this manual are intended for use with green feed.

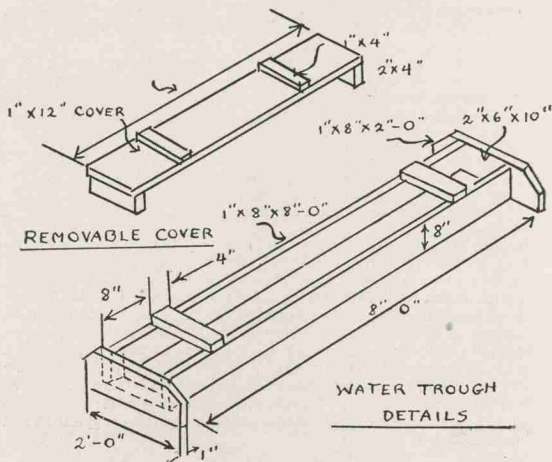
This good soybean pasture saves feed and promotes health in growing hogs.

Minerals. These are very important and a supply should be kept in a dry place where every hog in the herd can get to it at any time. Growing pigs need minerals to build bones, pregnant sows need them to build bones for the unborn pigs, and the boar needs them to maintain the bones in his body. The club member should keep a constant supply of minerals available in a separate compartment of the feeder. Do not mix minerals with the feed. The following mineral mixture is suggested: Ground Limestone 10 pounds, Steamed Bone Meal 5 pounds, Common Salt 2 pounds.



Hogs on Soybeans

Water. A constant supply of pure, fresh water should be furnished. An automatic waterer, and a trough, can be made with a small outlay of money and time. Automatic waterers, similar to those used in dairy barns, can be purchased from a hardware store and attached to the side of a barrel. One end of a flat bottom trough can be pushed through the fence and the entire top of this trough can be covered with a board, except for a 6 inch space at the end for the hogs to drink. The hogs cannot turn either one of these waterers over and they cannot lie down in the drinking water. Thus it will not be necessary to furnish an extra supply of water to be wasted or contaminated.



Flat-bottom water-trough with cover to keep hogs from getting in it.

Feeding The Gilt from Weaning to 100 Pounds. The easiest and most effective way to feed the gilt during this period is by the self feeder method. Keep shelled corn in one compartment of the feeder, mineral mixture in another compartment, and tankage or fish meal in a separate compartment. High grade tankage and fish meal are both very satisfactory protein supplements. The cost per unit of protein should determine which to use. Cottonseed meal, and soybean oil meal are good protein supplements and give excellent results when mixed with fish meal or tankage. The feeding of cottonseed meal or soybean oil meal without some protein from animal sources is not recommended.

Fish meal or tankage may be fed as the only protein supplement to corn with good results, but a mixture of either of these protein feeds with cottonseed meal or soybean oil meal gives superior results. If cottonseed meal is available on the farm we suggest that it be used. If it is necessary to buy the cottonseed meal it will pay to buy it when the cost of a ton of cottonseed meal is less than 60 per cent of the cost of a ton of fish meal or tankage. To illustrate: If tankage or fish meal is worth \$100.00 per ton, the use of cottonseed meal will cheapen the cost of grains if it can be bought for \$60.00 or less, per ton. Multiply the cost of a ton of fish meal or tankage by 60 and the result will be the amount you can afford to pay for a ton of cottonseed meal.

For the information of the club member the following protein supplement mixtures may be used to good advantage, where self-fed with corn:

Number 1

		To Make 100 Pounds
Fish meal or tankage	1 part	50 pounds
Cottonseed meal	1 part	50 pounds

Number 2

		To Make 100 Pounds
Fish meal or tankage	1 part	34 pounds
Cottonseed meal	1 part	33 pounds
Soybean oil meal	1 part	33 pounds

We do not recommend the grinding of corn for pigs because the cost is usually more than the increase in value from grinding. The increased value from grinding corn is usually not more than 7 per cent and this would equal a toll of about one-fourteenth to one-fifteenth. However, if the club member wishes to feed corn mixed with oats, rye, wheat, or barley it will be almost necessary to grind the corn in order to thoroughly mix it with these grains. According to experiment station records the value of barley is increased about 17 per cent and the value of oats is increased 25 per cent or more by grinding. If the club member wishes to feed a mixture of corn and any of these other grains, through a self feeder, the following mixtures are suggested. (These grain mixtures should be fed with a protein supplement and a mineral mixture):

Number 1

		To Make 100 Pounds
Ground corn	3 parts	75 pounds
Ground oats or rye	1 part	25 pounds

Number 2

		To Make 100 Pounds
Ground corn	2 parts	67 pounds
Ground wheat	1 part	33 pounds

Number 3

		To Make 100 Pounds
Ground corn	1 part	50 pounds
Ground barley	1 part	50 pounds

When skimmilk, or buttermilk, is available either may be used to replace part or all of the cottonseed meal, tankage or fish meal mixture. With corn, wheat, barley, rye, or either one of the above mixtures, self fed on good pasture a ration of three pounds of milk per head per day will furnish sufficient protein.

Feeding the Gilt from 100 Pounds to the Age of 8 or 9 Months. Gilts should not be bred until they are at least 8 months old. Those that develop slowly should not be bred until they are about 9 months old.

When gilts reach a weight of about 100 pounds self-feeding should be discontinued and hand feeding should begin. During this period of growth the gilt should be fed enough to keep her developing in a normal manner.

She should not be kept too fat, but she should carry enough flesh to keep her in a normal, thrifty growing condition. Good pasture and minerals should be furnished.

Feed each gilt one-half pound of fish meal or tankage or protein mixture Number 1 or Number 2 daily. Feed this dry, preferably in the morning. Four to six pounds of skim milk per head daily may be used to replace the protein mixture. In addition feed enough corn, wheat, or barley to keep her in good flesh. Some individuals will require more than others, and this will have to be determined by the club member.

Feeding Bred Sows and Gilts. It is suggested that the bred sow or gilt be fed in the same way as outlined for the gilt from 100 pounds to eight or nine months of age. Feed enough grain to keep her gaining gradually in weight. Pasture is especially important at this time and in the winter Vitamin A should be supplied in the form of good quality, leafy legume hay, if pasture is not available.

Do These Things Before The Baby Pigs Arrive

It is important that the club member realize that there are certain things to do before the baby pigs arrive and those who make these preparations before the arrival of the pigs are usually rewarded with increased returns.

Establish a Supply of Green Feed on a Clean Field. Green feed is essential for the sow, to enable her to properly nourish the new pigs. In the early spring we suggest rye, oats, barley or crimson clover which were seeded in September. Crimson clover can be grown alone or in combination with small grains. The clover is very good and will furnish grazing until sometime in May. Soybeans, of the Tokyo or Biloxi varieties, planted in rows and cultivated twice will furnish excellent grazing during the summer. Plant the beans as soon as danger of frost is over. When they are 8 to 10 inches high they are ready to be grazed. The pigs will eat the leaves off and new ones will form.

Prepare a Good Farrowing House. A good farrowing house of the A type or shed roof type with a guard rail will pay for itself in number of pigs saved. If the house has been used before, give it a thorough cleaning with scalding water and lye, and vigorous use of shovel, hoe and broom. Use 1 pound of lye to 30 gallons of water. When the house is dry, bed it with clean, dry bedding. Use short bedding, even if it has to be cut or chopped. Little pigs will get tangled up in long straw. Wheat or rye straw make good bedding. Short stemmed hay and shredded corn stover are good. Oat hay is objectionable as it retains moisture and becomes foul very easily. Use enough bedding to make the sow comfortable. A few days before farrowing time put the clean sow in the clean field where the green feed is growing, and give her a chance to get accustomed to the house and new surroundings.



A—Type Farrowing House

Give the Sow or Gilt a Bath. A few days before farrowing scrub the sow thoroughly with a brush or rough cloth, using soap and warm water to remove dirt and worm eggs, paying special attention to the udder. Do not neglect her feet. Then put the clean sow into the clean pasture. After the sow has dried off give her a thorough application of old cylinder oil in order to control lice and mange. The sow should be kept in the shade after oiling to prevent blistering.

How to Feed the Sow Before Farrowing. Continue the usual ration until about 24 hours before farrowing time, when the feed of the sow should be reduced at least one-half. At this time give the sow a thin slop made of shorts or middlings.

Do These Things at Farrowing Time. This is a critical time, and if the sow is nervous or excitable, it is much better to leave her strictly alone. If she is quiet and gentle, and does not resent your presence, it is possible to save some pigs which otherwise might be lost. In cold weather, the pigs should be kept from freezing until they are dry and warm. Line a box or basket with an old quilt or other cloth material, and place in the center a jug of hot water wrapped in cloth to protect the young pigs. The box or basket should be covered lightly to hold the heat. As the pigs arrive, dry them thoroughly and place them around the jug of hot water. If the farrowing period lasts more than two or three hours, the first pigs farrowed should be allowed to nurse the sow, after which they should be returned to the receptacle containing the jug of water. When all are farrowed, place the pigs to the sow and let them nurse, then put them back in the box or basket.

In about an hour put the pigs with the sow again and if she accepts them, they will probably need no further attention. Do not leave the pigs with the sow until farrowing is complete and she indicates she is ready to accept them.

The farrowing house should have a feeding pen in front as wide as the building and extending in front for six or eight feet. The sow should be fed and watered outside, and she will go out to deposit her droppings. This will help to keep the bedding from becoming foul and there will be less danger of mashing the pigs.

A pig is born with four sharp teeth in each jaw. Sometimes the pigs puncture the udders of the sow when nursing, causing her to jump and probably injure the pigs. In some cases a sow will even refuse to let the pigs nurse after the udders have been punctured. The pigs may cut each other around the face, making an opening for infection.

The eight sharp teeth should be cut at farrowing time. The correct method is to cut them smooth with a pair of small, sharp side cutting pliers, being



**Cutting the Baby Teeth Before the Pigs Nurse Will Help to Prevent Injuries
by Young Pigs**

careful not to injure the gum. Do not attempt to pull or break the teeth as this will cause injury to the gum. Cut these teeth before the pigs are put with the sow to nurse.

How to Care for the Sow and Pigs for the First Two Weeks. During the first twenty-four hours after farrowing give the sow plenty of lukewarm water, but no feed. After twenty-four hours feed a small amount of slop made from middlings. Increase the feed gradually and about the third or fourth day she may have some corn. Then it is possible to start feeding the sow the same feed she had during the gestation period, increasing the amount gradually. When the pigs are about ten days to two weeks old the sow should be on full feed.

During the first ten days examine the pigs closely before each feeding for the appearance of white scours or diarrhea. If this trouble appears, reduce the feed of the sow, and if whole oats are available feed her some of them. Prepare some lime water, by adding a large handful of hydrated lime to one gallon of water. Stir this lime water thoroughly. When the lime settles to the bottom drain off the water and give it to the sow to drink. Also bathe the sow's udder and teats with some of the lime water.

Do These Things After the Sow Is on Full Feed. When the sow is on full feed put corn and the protein supplement in a self-feeder in separate compartments and allow her to eat all she wants. Keep the bedding changed and give her access to the mineral mixture and plenty of clean water.

When the Pigs Are Between Four and Five Weeks Old Castrate the Boars. When castrating the pigs should be dry and clean, not muddy. After castrating they should be kept from mud holes and other contaminated places until the incision heals.

Wean the Pigs When They Are Eight Weeks Old. Do this by building a fence around the self-feeder, leaving an opening large enough for the pigs but too small for the sow. In a few days the milk flow will cease, when the sow may be put in another pasture. If the sow's udders fill up after she has been taken away return her to the pigs and allow them to nurse. When the pigs have finished nursing take the sow away again.

How to Handle the Pigs After Weaning. After the pigs are weaned, continue them on the self-feeder. If you wish to save any gilts for brood sows take them off the feeder when they wish 100 pounds and handle them as suggested in the first part of this manual. Those that are to be marketed, or kept for home use, should be continued on the self-feeder until disposed of.

How to Handle the Sow After the Pigs Are Weaned. When the milk flow has completely stopped put the sow on full feed. When she comes in heat, breed her for the next litter, and handle her as suggested in the first part of this manual.

Management of the Boar. It is assumed that very few 4-H Club members will keep a boar in connection with a project, however, the following suggestions regarding the care of the boar are offered.



Nursing Sows with Pigs at Self-Feeder

The boar should not be confined in a small pen. Give him the run of a good-sized pasture or lot. Put his house at one end of the lot and feed him in the opposite end, in order to make him take exercise. Feed him corn or other grain and $\frac{1}{4}$ to $\frac{1}{2}$ pound daily of protein supplement. A small quantity of oats is good for the boar. Keep a mineral mixture before him at all times. Keep his bed dry and clean and provide a comfortable, well ventilated house for him.

Never allow boar to run with the sows during the breeding season. His pasture or lot should not adjoin the lots where the breeding sows or other hogs are kept. One service to a sow is sufficient. A young boar should not be allowed to serve more than one sow a day, but a vigorous aged boar may be permitted to serve two sows a day, one in the morning and one in the evening.

If possible, it is a good idea to feed the boar a liberal amount of a thick slop of middlings, all he will clean up night and morning, during the breeding season. In addition feed some corn, or oats, and a small quantity of tankage or fish meal. Cottonseed meal may be mixed with the tankage or fish meal, in equal parts.

If the boar is too heavy for the sows, a breeding crate should be used. Ask your county agent to show you how to build a breeding crate, if one is needed.

Sanitation. The pig enjoys clean surroundings. He lives in filthy places because we force him to do so. Pigs should never be farrowed in an old hog lot. Provide a clean field, on which no hogs have ranged since it was cultivated, and have the pigs farrowed there. Never allow them to go into an old hog lot. Keep them on clean land until they weigh 100 pounds, or until they are at least four months old. Round worms and other internal parasites will do less damage where sanitation is practiced.

Make your plans ahead of time and have a green crop growing for the sows and pigs to graze. Arrange for the pigs to have a supply of grazing until they are finished and ready for the market.

Records

Remember an accurate record will tell a true story. Do not guess and do not depend on your memory. When you buy feed, or a pig, or when you dispose of any pigs for home use or by sale, make the proper entry while it is fresh in your mind. When your project is complete, deliver this record book to your County Agent. He will mail it to State College, for analysis of your record. The book will be returned to you. Your County Agent will also make suggestions for improving your feeding and management practices. It is our aim to help you adopt methods that will enable you to grow hogs profitably; therefore, we urge you to give us an accurate record. If you will do your part, we believe we can help you.

When to Weigh the Pigs

The Club Member should weigh the entire litter at birth and on the day the pigs are weaned. Each litter should be ear marked at farrowing time as this is essential for pigs that are to be registered. This will make it possible to weigh each litter separately at weaning time. The weights should be entered in Your *Record Book*.

Your Record Book

Keep your 4-H Pig Record Book handy at all times and make the entries of feed, costs and weights in their proper places as they occur.

NORTH CAROLINA STATE COLLEGE OF AGRICULTURE AND ENGINEERING
OF THE
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