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4-H Club

Swine Projects &



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Cooperative Extension Work in Agriculture and Home Economics, F. E. Price, director. Oregon State College, the United States Department of Agriculture, and the State Department of Education cooperating. Printed and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914.

Revising of 4-H Club literature is being done operation with advisory committees composed of Club leaders, representatives of the industry in the bulletin, County Extension Agents and cases older 4-H Club members. There allisory comthe central staff specialists of the subject matter involved at Oregon State Clab department.

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4-H Club Swine Projects

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This publication provides for 4-H Club members a guide for two types of swine projects: (1) Breeding sow project. (2) Market hog

or pen of hogs.

Either one of these projects will give you an opportunity to learn something about the selection, care, and management of hogs. You will have a chance to develop an ability to accept retronsibility by having an animal of your own to care for. You will learn business ability by having an enterprise of your own. You will learn patience and kindness toward animals, the value of keeping good records, and perhaps most important of all, you will belong to a EH Club where you will learn how to get along with people and to develop still in leadership which you will use later in the. Your personal appearance, health, and ability to talk with individual people and to groups of people will also improve. You will learn other things important to useful living—and you will true fun it the same time.

In the pages that follow, the first discussion concerns the sow and litter project and the management and feeding practices that are

essential for successful raising of a litter of pigs

harket-hog project, which all probably be the best one for the beginner, not because it is less important, but because you can learn better by raising a partly grown hog before trying something new and more difficult with several hogs. In your first year, you might raise a gilt along with a barrow that is to be fattened for a show or to be used at home for the family meat supply. When this gilt becomes old enough, she may be bred and will

give you a project for your second year in club work.

¹ If you do not know the meaning of such words as "gilt" and "barrow" refer to the "Glossary of Terms" in the back of this bulletin.

Sow and Litter Project

Selection

The important thing to remember in your litter project is the demand of the consumer. Select your breeding hogs with this in mind. You should choose sows and boars of the same breed large, thrifty litters. If the gilt chosen is a "grade" animal instead of a purebred, be certain she is of the desired conformation application and select an excellent purebred boar. The project catalo built around a purebred sow, but having high-quality seding stock is desirable.

Points in selecting the sow:

- ▶ Refinement and femininity about
- ► Strong, slightly arched back loin.
- ► Smooth shoulders and long smooth sides.
- ► Full, firm, and deep ha
- ► Trim jowls.

ade from a large, healthy litter in a well-

- Te same breed as the sow.
- about the head.
- Strong, well-arched back and long loin.
- oth shoulders and long, smooth, deep sides.
- ep, smooth, firm hams.
- Straight, strong legs and pasterns.
- Quiet disposition and even temperament.

- ► Twelve or more teats.
- ► Freedom from disease or injury.
- ▶ Proper breeding age—at least eight months old.

Equipment

More equipment will be required in the litter project than in the feeder hog project. Here are some things that should be con-



tion from the weather to the in western Oregon where rain. You'll probably but to

be moved from place

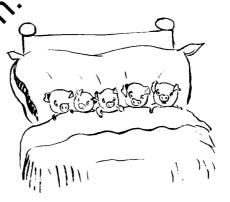
ground with each

be found illustrated

sidered: houses, feeders, troughs, waterers, and fences. Details and pictures of various kinds of equipment may be found in 'Hog Houses and Equipment,'' Oregon State College Extension Bulletin 727 available from the County Agent's Office. Office bulletin will describe more equipment than is necessary in Your particular locality.

you may deer to give more protection and litter than those club members weather is not so cold, but has more a portable house for one sow. This can be to keep your low and litter on clean factows. Various types of houses may alletin memoral above. There are also a different kinds of feeders and waterers

In his individual house you should build brooder that will be placed in one corner of the building to wirm the pigs in old, damp weather. More little pigs too at this time than any other. It is wise to grind the and mix it in the ration, but if this is not possible it is well to provide a reck where the sow may be for some hay along with her regular daily feed. Some of the other equipment which you



will need with your litter will be a pair of side-cutter pliers to clip off needle teeth on the newborn pig to prevent pigs from cutting

each other while they are fighting and stop them from injuring the udder of the sow. Take care not to splinter these teeth when cutting them, because infection may get into the pig's system. You will want iodine in your equipment box for disinfecting the navel on the newborn pig.

Pasture is important in raising a litter. It may be considered



equipment. The fence may be woven wire, boards, of electric. If woven wife is used, it should be 24 thickes high with one strand of barbes wire operop. Probibly the electric fence will be the chespest type of tence out can use in your project. Two strands of 12 tange smooth wire are witable. Have the wires about a foot apart with the bottom wire about six inches from the ground. In

any case, use a tight hog-propreduce best fitting your condition.

Breeding

When shall our gilt be bred? The answer will depend on section things such as weather, age, size and condition of gilt, feeds available, and the time you want the pigs farrowed. The time you intend to sell the pigs will determine the time you want them farrowed. Probably for this project you will want to farrow in the suring or you may want to use the two-litter system where you know both in the spring and fall. This is the cheaper method of raising hogs; however, you may be concerned with bad weather with the fall litter.



If your gilt is growthy and well developed, she may be bred at eight or nine months of age. A sow is said to farrow 114 days after she is bred; however, this period may vary from 112 to 115 days.

The boar and sow should be good condition at breeding time, not overfat. It is important that they be kept on a well-balanced ration including alfalfa hay or pastur ar to the sow in here.

So the sow in here is a solution of the sow in here. breeding time. These are factors for success in getting a larger litter from the sow.

Bring the natural sur

The sow should be gain. the boar she is bred to should but not fat. A clean dry bed, plenty on, and water are some of the principal Note the gestation period —from the time the

hydrates, proteins, fats, minerals, water for the hog's growth and developmen ling pigs will eat from 8 to 12 Some sample rations that may be

FEED	GILTS AND SUCKLING SOWS	Old sows
In drylot	Pounds	Pounds
Barley wheat of orn	75	77
aikage	10	8
Alfalfa med	15	15
Barley, wheat, or corn	93	95
Timage	7	5

Mix the feed in at least 100-pound lots. Meat scraps or tankage is essential in the ration so that the sow will produce strong, healthy

THIST



pigs. A pound of wheat bran may be substituted in the sow's ration about a week before she is to have pigs in order to give a laxative. Freedom from constipation will help to keep down the feverish condition at the time of farrowing. Reducing the amount of feed to about mehalf the regular ration of few days before farrowing is kepful. The sow may be given added exercise by placing her feed and water at the opposite end of the lot or pasture.

Farrowing

Care and management of sow and determine the success or failur of your Three of four days before your sow is due to favour in the farrowing house that has been chaned lye solution with 1 pound of water. Take a broom and hoe and remd and then scrub it thoroughly with t oisonous. Use it with care. The sow her with a mild soap and plenty get the sides and belly

complete deaned as well as the feet. In this process, we are trying to eliminate the common round worm that takes a bitter toll of profit from the hog industry

ach vear.

Shortly before the sow is to farrow she will be nervous and irritable; it is best to leave her alone at this time and let her have her pigs unless she needs help in delivering the pigs. After the pigs are born, they should be dried off with a sack; the mucous should be cleaned from the nose and the navel cord dipped in an iodine solution. If your sow has difficulties while farrowing, get the assistance of a veterinarian or a farmer

who has had a great deal of experience with hogs.

If you do not have an electric brooder, you may provide warmth for the young pigs by filling a gallon jug with warm water, wrapping it with burlap, and placing it in a box or barrel with the pigs around it. A heat lamp will also be of great help.

Suckling

The first milk, or colostrum, is very essential in the life or any young animal. You may have to help some of the smaller pige find a place on the udder the first time. After the pigs have maked the first time they will probably nurse every two or three hours for a few days.

If you are raising purebred hogs, you should ear-notch the pigs for identification at this time. You should also clip the needle teath and weigh the pigs.

Do not give the sow any feed in the first 24 hours after the high are born, but supply her with plenty of Jean, freel water. Give the

sow expended or two of feed the de after the pigs are how and their increase the feed each by to get her back of jull feed when the pigs are about ten days old. Many detailed information concerning farrowing and rare at farrowing time is available in the bulletin "Swine Production in Oregon" (Oregon State College Station Bulletin 523) available from the County

Agent. If the sow is put back on full feed too quickly after she farrows, she may produce too much milk which will cause the pigs to scott, or she that have udder trouble that will dry her up completely. If the weather permits, move the sow and litter to clean patture when to pigs are a week to ten days old.

By the time the pigs are three weeks old they will begin to eat from the rough with their mother. If you wish to hurry this development creeps may be provided. The pigs may be fed by themselves in a trough or self-feeder. A creep is needed if a sow is self-fed. You will find a diagram of the creep in the Equipment Bulletin mentioned previously.

Weaning

The pigs may be weaned at about eight weeks of age. Little weaning difficulty will be experienced at this time if the sow's feed has been sufficiently reduced and the pigs have been fed liberally.



If the sow's ration is not cut down, udder troubles may develop. Remove the sow rome ne pen and leave the pigs in the place they are accurrented to running. They know where the feed and water is in their old home, and the sow will be able to find them in her new surroundings.

Salvation of boar pixshould take place at three to four weeks of age. You should secure assistance in performing this of how the pay be divising the salvation.

operation. Remember, regardless of how it may be done, a disinfectant and cleanliness are important. The whole process of castration will make a good demonstration and your out members might visit your farm when the operation takes place. Let each club member castrate a pig under direction of the club cader or county agent.





Filth and unsanitary conditions are responsible for most of the hog losses in Oregon. The McLean County system of hog sanitation is a good one to follow. The essential points are these:

- Scrub the farrowing house with lye and boiling water as previously discussed.
- ► Clean the sow thoroughly before she goes into the farrowing pen.
- ► Haul the sow and pigs to clean pasture where no hogs have been for at least 2 years.
- ► Keep pigs on this pasture until they are ready to market.

Hog cholera and certain other swine diseases which are caused by virus or germs are spread only by direct contact with the particular organism, but the resistance of hogs to any disease is much reduced if sanitation is not practiced. Keeping your lot and equipment clean is not too great a task if you clean daily. Cholera is not a major factor in Oregon at the present time; in other states, however, it has to be controlled by vaccination. If your hogs become sick call a veterinarian.



The most common internal parasite of nogs is the large found worm. External parasites are lice and mange mines. The worms may be treated with sodium fluoride a some of sodium fluoride in 6 paradis of dry feed. Feed this mixture dry for one day the lice internange may be controlled by spraying or happing the logs with DOT or Lindane. Follow the directions on the container.

Water

Vater is extremely important in hog raising. Have a clean, sturdy trough with no leaks. Do not depend on ditch water as it may carry parasites and diseases from some hog lot further up the stream. The use of a float valve in the trough from a pressure water system is very suitable for supplying clean water to your sow and litter.

HOW DO YOUR HOGS GRADE ?

U.S.D.A. GRADES

THESE MARKET HOGS

THESE CARCASSES YIELD

CHOICE NO. I





% Carcass Wt. Total of 4 Lean Cuts* 495 Fat for Lard** 192 Bellies 15.5 Miscellaneous 15.8

100

CHOICE NO. 2





% Carcass Wt. Total of 4 Lean Cuts* 46.5 Fat for Lard** 22.4 Bellies 16.1 Miscellaneous 150 100

CHOICE NO. 3

THIS most current information of sold less than the principal of the parties of t





% Carcass Wt. Total of 4 Lean Cuts* 43.5 Fat for Lard** 25.7 Bellies 16.7 Miscellaneous 14.1 100



% Carcass Wt. Total of 4 Lean Cuts* 53.0 Fat for Lard** 15.4 Bellies 14.7 Miscellaneous 16.9 100

MEDIUM

^{*} Lean Cuts are hams, loins, picnics and Boston butts. ** Fat for Lard includes fat trimmings, fat backs and clear plate.

Market Hogs

Selection

The market pig may be selected at weaning time. The best pig is determined by the market demand. Do not feel that because you plan to fatten your pig for home use you need not senct the best type. Select either a gilt or a barrow at weaning time. Be particular and consider these points:

- ► Market standards of conformation
- ► Characteristics of a good feeder
- ► Health
- ► Size for age

A rule to follow in buying a weaner ply is to pay up to one third of the value of the market hog.

Market Standard

Market standards of conformation a reimportant At the present time market hogs are graded into Choice No. 1, Choice No. 2, Choice No. 3, Medium, and Caix: A Choice No. 1 here one that weighs about 200 pounds and is leatly finished and aries just enough fat to marble the learnment well and product a minimum amount of lard. The Choice No. 2 hog is one that has about the same conformation as the Choice No. 1 but does carry some additional lard; more than in necessary to proper marble the meat. The Choice No. 3 hog is one that Carries are necessive amount of lard. A Medium hog is premished, and a Cull hog is nothing but a feeder hog. These hogs and carcasses are illustrated in the picture in the center of this balletin.

Characteristics of a Good Feeder

Characteristics of a good feeder are important to you from the standpoint of Economical production. You want a pig that will gain the most of the least feed. Your management will have a lot to do with this; however, certain characteristics of feeders must also be remembered in selecting your pig. A broad head that is well propertioned indicates that the pig is from selected breeding and should feed well. In a good feeder, the body should be deep, but not out of proportion. Avoid a long, rangy pig and the very short, fat type. Health and thrift in your pig are important. These traits are shown

by the strength in the back and legs, by the brightness of the eyes, by the shine of the hair, and by the step and action. Selection should be made from a healthy, well-bred litter in which the pigs have been raised on clean ground.

The Perfect Pig



Study the judging score card for market hogs. It is divided into a scale of points with 100 representing perfection. Score cards will vary, but usually the body is credited with about a third of the points, the hams one fourth, the fore quarters one-tenth, and the head and neck about eight points. The general appearance, such as weight, form, quality, and condition, make up the remainder of the score. Consider these factors and term in your own mind a pionts of the perfection in mind, you of ready to select your easer pig and ready to seart to work.

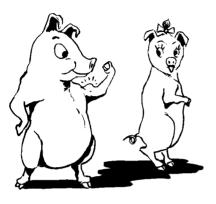
Provide a constant supply of clean value at all times for your hogs. Several different types of waterers are shown in the Hog Equipment Bulletin; one of the automatic type is preferable. A hog wallow is not necessary and a direct wallow is an excellent place for the breeding of disease and paralites which will decrease the efficiency of your hos

Equipment

Feeding equipment you will need in your hog project will debend on he number of hogs you are feeding at the present time and our future plans. If you are feeding one hog, a small trough is all that is pelessary; however, with two or more hogs you may be sire to have a self-feeder that will decrease the amount of labor. This equipment may be purchased; however, you can build the feeders and troughs very quickly and economically from lumber around the farm. If you build equipment, do a good job and build havell so that it may be used later. Provide some type of shade as protection from the weather. A pen 15x15 feet square is necessary for each hog.

Feeding

Your objective is to raise a 200-pound hog with the least cost and feedstuffs. To do this, it is necessary to supply the right amount



of feed in the right proportion. Your hog will gain from a pound to a pound and a half a day under good management and feeding conditions. Pigs will gain more economically at a younger age than up toward six months of age; at the older age they are autting on more fat which requires more feed per poind of gain than does the muscle and bone structure. It is most elonomical to feed market hogs to a weight of 10% of 225

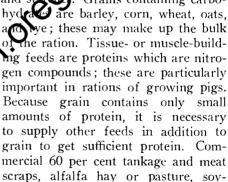
pounds. Purchase your supply of feed when there is a in plus of feed on the market—that is, in the summer when the grains are being harvested. Purchasing feed early present a storag problem, but saves you money in the loss on.

The use of antibiotics in hog feeding has proved successful in young pigs and pigs that are etuned; it is no advisable, however, to use antibiotics in the ration after the boxs weigh 75 pounds.

to use antibiotics in the ration after the bogs weigh 75 pounds.

Heat- and vergy-producing feeds or fats and carbohydrates.

Carbohydrates include sugars and starba. Grains containing carbo-



been of meal, linseed oil meal, and fish meal and skim milk are all good sources of protein. Best results are obtained if a mixture of two or more of these protein concentrates are included in the rations. Cottonseed meal cannot be fed safely at more than 5 per cent by weight of the ration.

Bone growth depends on minerals in the ration. Calcium and phosphorus are most important in bone development. A balanced ration including grain, tankage, meat scrap, and skim milk or other animal products will not usually require mineral supplements. Alfalfa, clover, and other legumes also contain calcium and phosphorus. If extra minerals are needed, use a mixture of equal parts by weight of ground limestone, steamed bone meal, and iodized salt. Mix his in the ration at the rate of 1 pound to 100 pounds of feed.



Vitamins are essential for health and growth of pigs; they will usually be supplied in sufficient alrounts by a reasonable amount of sunshine, leafy green plants, and animal protein feeds. Pigs on pasture usually get enough vitamins.

A ration is the amount of fact that an arrive will eat in a twenty-four hour period. A balance action contains proper unxture of our bohydrates proteins lats, virginins, water, and minerals to provide energy and mild tissues and hour.

Never change your raion suddenly; an changes should be gradual. To determine the ration consider the amount and price of feeds available. In Oregon barley is usually easier to get than corn and is usually cheaper. Skim milk may be plentiful enough in some areas to use as a protein supplement, but elsewhere it may be scarce. Do not try to raise your nog on grain alone, skim milk

alone, or garbage alone. Garbage can be used, but it should be used as a part of your ration rather than the only feed. It should be cooked.

Keep your hogs on clean pasture if at all possible until they have reached market age. If pasture is not available, alfalfa hay may be provided. Grain may be fed in a selffeeder or may be hand fed. If

we are hand feeding, the hog will eat from two to four pounds of feed per hundredweight each day. Grain such as corn, barley, or wheat should be coarsely ground before it is fed. If a self-feeder is used, mix the grain and protein supplement before putting it into the feeder. Some sample rations that might be used are as follows:

Feed	WITHOUT PASTURE	WITH PASTURE
Ration A	Pounds	Pounds
Grain	. 85	90
Tankage	. 10	10
Alfalfa	. 5	^
Ration B		\(\rangle\)
Grain	. 80	
Tankage	. 10	\)'
Soybean Meal	. 5	/. Y
Alfalfa Meal	. 5	V

Substitutions might be made in these rations according to price. For example, meat meal or meat scrap might be substituted for unkage if it supplies protein more chearly. Barley pray be chear than wheat.

is important in any live took project, es

Sanitation is important in any live took project, especially in a hog project. Internal parasites and fith borne diseases are responsible for most hog losses in Oregon. These losses may be controlled by

DIP

sanitation. There are, of course, infectious diseases among hogs in Oregon which require preventive sanitation. Disease organisms and parasite eggs thrive in dirty, wet, dark, and crowded quarters. Avoid these conditions. Practice sanitation. Clean pens, clean pigs, clean pastures, clean equipment, and clean water make healthy hogs.

See that your lot and quarters are dry and well-drained. If there is water standing in the lot, your hog will make a wallow out of it. This is a good place to breed diseases. Let your hogs have the benefit of sunlight, but provide shade for them in the summertime. Do not crowd the hogs. Even if you have only one hog, be sure he has enough space. Practice sanitation daily so that cleaning the pens does not become a burdensome, unpleasant task for the weekend. A healthy hog is capable of warding off most diseases. To be healthy, your pig must be properly fed and must be kept in clean surroundings.



Erysipelas, flu, enteritis, and atropic rhinitis are among prominent infectious diseases of hogs found in Oregon. These diseases may be contracted in hog lots in the state. Hog chalera is not a serious matter at the present time, but may be at some later date.

has a dull cott, and loces the brightness of his eye, there is something wrong with him—call a veternarian. The sooner you receive good advoe, the less will be your lose.

Internal parasites are not likely to be troublesome if your hog lavis kept sanitary, but this possible that parasite eggs existed in the lot from which you selected your wanter pig External parasites such as lice and mange are asily controlled by lipping on spraying. Contact your county agent for the latest recommendation. Your pig should always be kept in Dean, dry warm quarters. Do not want total he becomes sick before you build such equipment, for the the pig is sick, he is hard to cure.



CHI,



Marketing

Perhaps there will be a sale at the fair where you show your hog. This may be the best place to sell him. If you have a litter of hogs, take them to the stockyards or a local action and see how the marketing of thestock takes place. One very desirable place to market your hog project is in the family food supply.

Fitting and Showing,

The properly fitted and trained hog for the showling will be thoroughly clean, well groomed add in good condition. Start training when the hog is young. Practice rucking him taily with a cane. Teach him to move at the touch of the cane, by pacing the cane on the side of the head touching him behind a move forward, and placing the cane in front of the face to step him. Do not fail to display all of the good points of your nog. Daily handling is a "must" to properly train a hog. It displays needed exercise.

Giving your hog a bath will Greats a method of making him gentle and setting him used to people. Wash your hog several times before the show, gree him the last bath the day before the show. Remarker the inside of the ears, head, legs, and belly. Cleanliness

is an essential in the show ring and in your showmanship contests.

You should teach the hog to stand correctly, to turn, and to remain quiet. Frequent brushing of the hair will give brightness to the coat. Trimming the feet will allow the hog to stand properly on his feet. This should be done at least a month ahead of show time to get away from any lameness that might develop.

You may have to ship your hog

to the show. At least, hauling in a pick-up or some other means may be necessary. There should be no projecting nails to scratch the hide and no holes in the floor; the surroundings should be clean. Slick truck beds should be covered with dry sand to make firm footing for your hog. Do not haul your hog when he has a full stomach. Do not feed him at the regular feeding period before shipping.

Care of the hog at the fair is very important. The amount of feed your hog consumes should be reduced to prevent any digestive disturbances. Also, exercise your hog daily to keep him it good

condition while at the show.

You may want to clip the long hairs on the outside of the ears. Also, clip the hair from about half of the tail next to the hog. Always leave the switch on the end of the tail. Oil may be used on dark-colored hogs in the show ring. Use a light mineral oil spread on a rag, and use it very lightly. A mild bleach may be used to remove stain from white hogs.

While at the show be on the job. Be ready when your class is called. Remember journess and good sportsmanship always. If on have trained your byg well, he will

appear in the slow ring along at all times with his back well arched.

Do not strike your beg with beane or whip as hogs bruise easily; breise reduce the market value of the carcass. Whipping a hog in the slow ring also shows your lack of ability as a hog showman

Bummary

To complete a successful hog project, you must like to work with twine. Not very club member can have hogs as a project since some space compment, and money are necessary for a successful project.

Cleanliness and a balanced ration are very important in raising hogs combination of these will decrease death losses from unhality hogs.

A club member must have a clean, well-groomed hog to make a good display at the fair. Practice courtesy always.

Glossary of Terms

Antibiotic. A chemical substance used in feeds to kill harmful bacteria in the digestive tract.

Barrow. Young castrated male hog.

Boar. Male hog used for breeding.

Castrate. Remove sex organs of male hog.

Creep. A small pen into which the pigs may go to feed but the sow cannot enter.

Disinfectant. A material for killing germs.

External. Outside the body.

Farrow. Sow giving birth to pigs.

Grade. Any animal not purebred.

Gilt. Female hog before she has a litter.

Gestation. The period for breeding to farrowing

Internal. Inside the box.

Parasite. Something that lives upon another

Purchred. Any animal of purch breeding whose cancestors are recorded on a breed association records.

Ration Veed required for a 24 hour period.

Sanitation. Being clean and free of diseases.

cor. Losso, watery mure.

Sow. Muture female log.

Vuccinal. Injurishmer the skin a substance such as hog cholera

Vianer. Pig about weaning size and age.

Wean. We away from sow.