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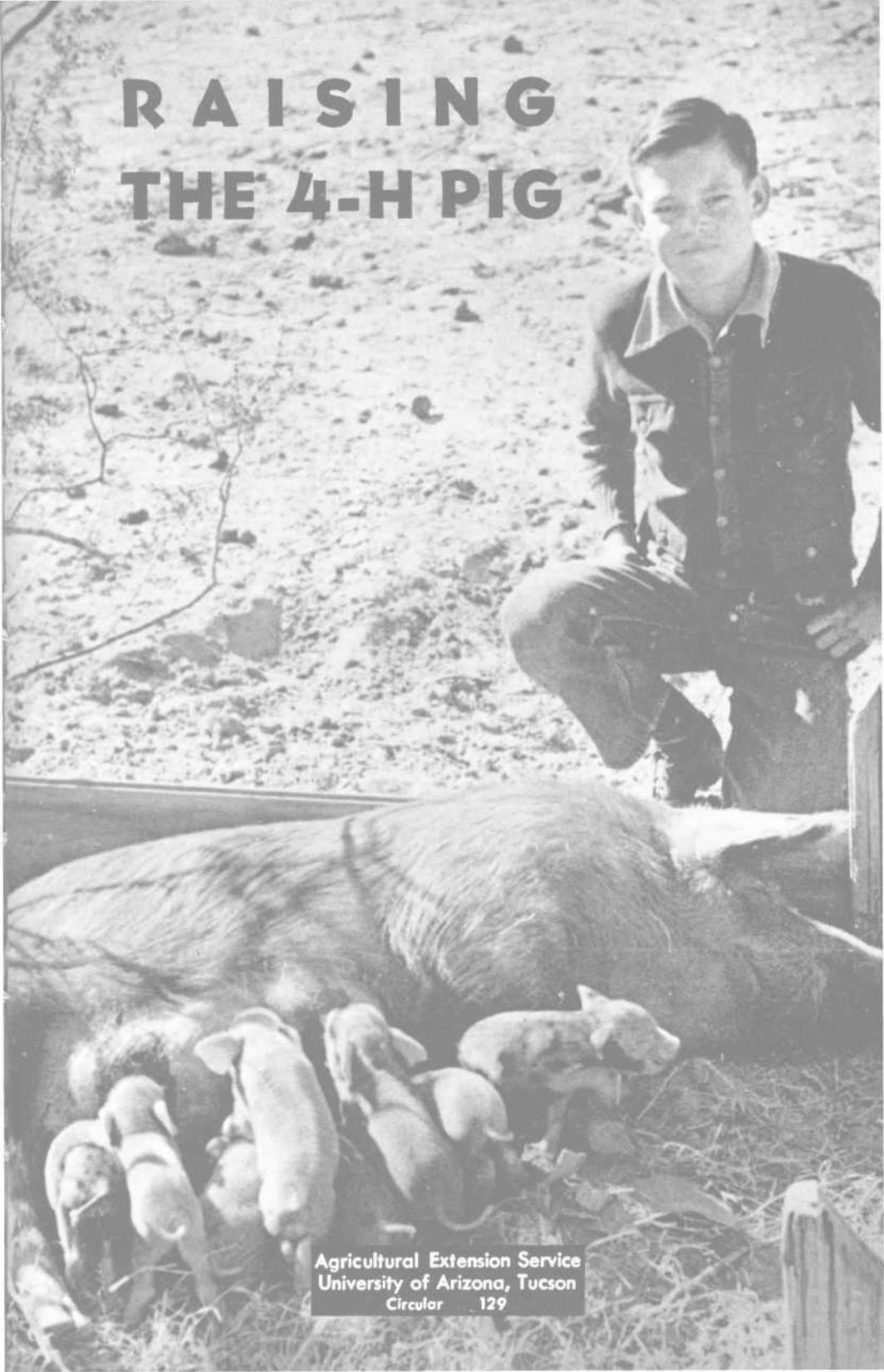
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RAISING THE 4-H PIG



Agricultural Extension Service
University of Arizona, Tucson
Circular 129



Best in Show

UNIVERSITY OF ARIZONA

College of Agriculture, Agricultural Extension Service

CHAS. U. PICKRELL, Director

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RAISING THE 4-H PIG

The purpose of this publication is to provide a guide for club members interested in a pig project. It considers the subject from two standpoints: The market pig; and the breeding pig.

The first section is devoted to the market pig which should be the more desirable project for beginners. Not that it is less important, but rather that financial loss is less likely if one or two weaner pigs are fattened as a first-year project.

The project then may be expanded to fattening two or more pigs or to raising a litter. The second section is devoted to the latter type of project. In each section, brief statements are given as a guide. For more details, use the publications listed in the references.

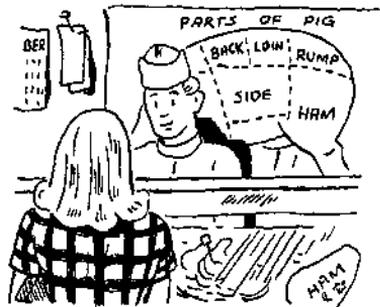
I. MARKET PIG

Selection

You should raised the very best pig possible in this project. The best is determined by market demands. Don't feel that because you may plan to fatten your pig for home use that you need not select what is considered to be the best type of pig. Select either a gilt or a barrow at about weaning time, but be particular and consider these points:

- (a) The market standards of conformation.
- (b) The characteristics of a good feeder.
- (c) Health and thrift.

Consider the market. At your local meat market, the butcher likes to show his customers a well-rounded ham—smooth, full and carried well down to the hock; because he knows that is what the customers will buy. You will note, too, that his customers demand smoothness, thickness, firmness, and even flesh in the sides, the shoulders, and the loins. Note other demands in the butcher shop and remember them when selecting your pig for fattening.



Market Choice

Naturally, you will want a pig that will gain the most with the least feed. Your management will have much to do with this, but certain characteristics of feeding must also be remembered in selecting your pig. The head is a good indicator. A broad, short head indicates that the pig is from selected breeding and should feed well, while a long head usually reflects "hit and miss" breeding and a combination of conditions that do not produce economical feeders. In a good feeder, the body should be deep but not out of proportion. Avoid the long rangy pig and also the "chubby" very fat type.



Weighing In

Health and thrift in your pig is indicated by the strength of the back and legs, brightness of the eyes, shine in the coat, and vigor in action. Select from a clean, well-bred litter in which pigs have been vaccinated for hog cholera.

Study a judging score card for fat barrows. It will be divided into a scale of points with 100 representing perfection. Score cards vary, but usually you will find that the body is credited with about one-third of these points, the hind quarters nearly one-fourth (usually 23 points), the fore quarters one-tenth, and the head and neck about eight points. General appearance (weight, form, quality, and condition) makes up the remainder of the score, or about one-fourth. Consider these factors and form a picture of your ideal finished product. When you have this "picture of perfection" well in mind, you are ready to select your weaner pig and start to work.

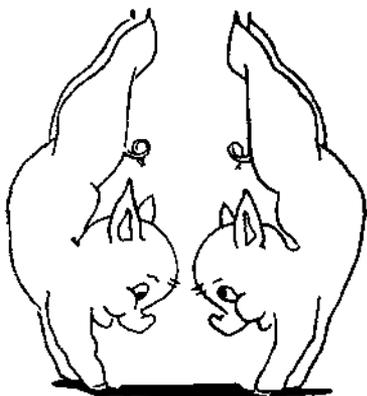


Shiny Coat

Equipment

In warmer parts of the state, some sort of open shelter which will keep the pen dry should be constructed while at higher elevations more shelter will be required for storm protection. Floor

space of shelters need not be great, but some provision for daily exercising (at least 15 by 15 feet) will be necessary if pasture is not available. There are many plans for hog houses published in various books and bulletins. Your needs will depend on your particular location, but build equipment that will last.



Exercise

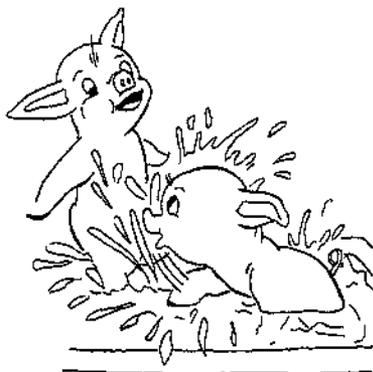


Snoozing in the Shade

Shade is a necessary part of equipment for summer, unless you have a naturally shaded area. A frame structure with brush or palm branches is effective and inexpensive. (See Arizona Experiment Station Bulletin No. 185, page 22).

Pigs like a constant supply of clean, clear water. This can be provided by the portable drum trough, shown on page 23 of Arizona Experiment Station Bulletin No. 185.

A wallow is not necessary and should be avoided unless it can be kept clean. The best type of wallow is a concrete type which will maintain about six to eight inches of clean water. The wallow should be cleaned at least twice a week.



Wallow Frolic

Feeding equipment constructed will depend a great deal on plans for future pig projects. In the references, you will find plans for good types of equipment which will pay for itself if the project is to be carried on over a period of years. If only

one or two pig projects are planned, then only a small amount of equipment need be constructed.

Types of feeding equipment that should be considered are feeding troughs, self-feeders, and possibly hayracks. Whatever equipment you use, build it well. You can't proceed with a half-done job. You alone must decide what equipment you have and what you must have, but some equipment should definitely be used. The idea of just throwing the hog some slop does not pay.

Feeding

(a) Kinds of Feed

In feeding, our objective is to raise 200-pound pigs with least cost in feed stuffs. To do this it is necessary to supply the right kinds of feed in the right proportion.

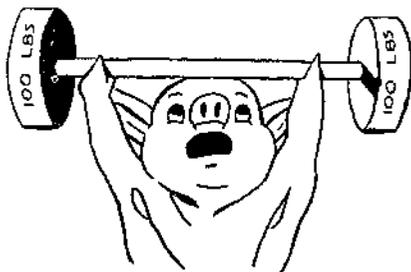


Energy Food

Heat and energy producing feeds are fats and carbohydrates. Carbohydrates include sugars and starches. Grains contain high percentages of carbohydrates. Barley, corn, wheat, hegari, milo, kaffir, oats, and rye are examples.

Tissue or muscle building feeds are those classed as proteins, which are nitrogenous compounds. Proteins are particularly important in the ration of growing pigs. Grains contain only small amounts of proteins, so that it is necessary to supply other feeds in addition to grain to get sufficient proteins.

Commercial 60% tankage and meat scraps, cottonseed meal, alfalfa hay and pasture, linseed meal, fish meal, skim milk, and buttermilk are all good sources of proteins. Better results are obtained if a mixture of two or three of these protein concentrates is included in the ration.



Muscle Building

Cottonseed meal cannot be safely fed as more than five percent by weight of the ration.

Bone growth is dependent on minerals in the ration. Calcium and phosphorus are most important to bone development. A well-balanced ration including tankage, meat scraps, skim milk, or other animal products will not usually require mineral supplements. If minerals are needed, a mixture of ground limestone, steamed bone meal, and common salt will supply calcium and phosphorus. Alfalfa, clover, and other legumes also contain calcium and phosphorus.

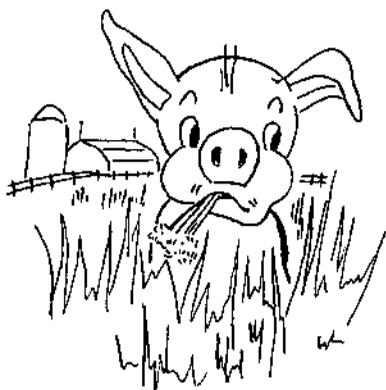
Vitamins are essential to health and growth of pigs. They will be supplied in sufficient amounts by a reasonable amount of sunlight and leafy green plants; therefore, pigs on pasture usually get enough vitamins.

(b) Rations

The ration is the amount of feed an animal will eat in a 24-hour period. A ration must contain the proper mixture of carbohydrates, proteins and minerals to provide energy and build tissues and bone or growth. Be sure that the ration contains salt, or that salt is before the pig at all times. Never change your ration suddenly; any changing should be gradual.

To determine the ration, consider the amount and price of feeds available. In Arizona, barley or hegarí is usually easier to get than corn. It is also more economical. Skim milk may be plentiful enough in some places to use as a protein supplement while elsewhere it will be scarce. Do not try to raise your pigs on grain alone, skim milk alone, or on garbage alone. Garbage can be used, but it should be used as a part of your ration rather than as the only feed.

Keep your pig on clean alfalfa pasture, if at all possible, until it has reached the age of five or six months. An excel-



Alfalfa Pasture

lent protein supplement for pigs of this age is skim milk used as part of the ration. Be sure the milk is from tuberculosis-free cows. If alfalfa pasture is not available alfalfa hay may be used. On pasture, allow about four pounds of skim milk per day, and on dry lot, about six to eight pounds. (Milk weighs about $8\frac{1}{4}$ pounds per gallon, or roughly one pound per pint). Grain such as barley, or hegari (ground) fed in a self-feeder will be used at the rate of about two pounds per

day at first, then gradually increased. Use old barley because newly harvested barley sometimes causes a digestive disturbance. Your ration then would be two pounds of grain, gradually increased; four pounds of skim milk and alfalfa pasture. If dry alfalfa is used, let the pig have all it will eat and allow six to eight pounds of skim milk.

Other suggested mixtures are as follows: (If the self-feeder is not used, allow feed on the basis of about two pounds of grain per day at weaning, increasing gradually to about four pounds at 120 pounds, and then all they will eat.)

<u>While the pigs are growing up to about 100 lbs.</u>	<u>If the pigs are on dry lot</u>	<u>If the pigs are on alfalfa or pasture</u>
Grain	80% by weight	85% by weight
Tankage—50%	10% by weight	10% by weight
*Cottonseed meal—25%) Trinity	5% by weight	5% by weight
Alfalfa Meal—25%) Mixture	5% by weight
Grain	90% by weight	92% by weight
Tankage	5% by weight	5% by weight
*Cottonseed Meal	2½% by weight	3% by weight
Alfalfa Meal	2½% by weight

*Soybean meal can be substituted for cottonseed meal.

Sanitation

Sanitation is important in any livestock project, and it is most important in a pig project. It is said that intestinal parasites and

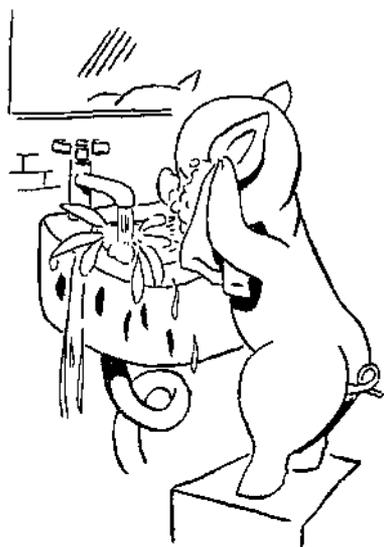
filth borne diseases are responsible for most hog losses in Arizona. These losses can be controlled by sanitation alone. There are, of course, infectious diseases among hogs in Arizona which require preventive sanitation, too; but remember, most losses are caused by intestinal parasites and filth borne diseases which can be controlled by sanitation alone. Disease organisms and parasite eggs thrive in dirty, wet, dark and crowded quarters. Avoid these conditions.

Practice cleanliness — clean pigs, clean lots, clean pastures, clean feeding equipment and clean water. See that your lot and quarters are dry and well drained. If there is moisture in any portion of the lot, your pigs probably would make a wallow of it. If you are to provide them with a wallow—provide them with one that can be cleaned, and cleaned at least twice weekly. A cement wallow is the best type.

Don't place your hogs in a dark, dingy corner. Let them have the benefit of the sunlight, but provide for them some sort of an open shade for the summertime. Do not crowd pigs, even if you



Germ Free



Cleanliness

have only one pig be sure to provide enough space. Practice sanitation daily so that it does not become a burdensome, unpleasant task for the week end. You will find it much easier to keep clean as you go along on your project than to clean up accumulations of a week or more.

In considering diseases, or any disorder in pigs, remember these two things:

(1) **Sanitation is important.** A healthy pig is capable of ward-

ing off most diseases. To be healthy, your pig must be properly fed and must be kept under sanitary conditions.

(2) **Consult a veterinarian when necessary.** If your pig is worth anything at all, it is certainly worth a few dollars to call a competent veterinarian when any disorder arises that you cannot diagnose and properly treat.



Call the Vet

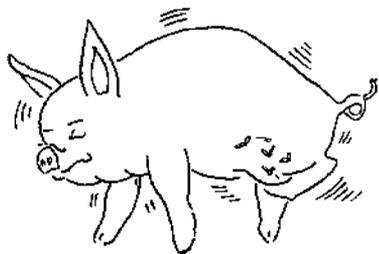
Hog cholera, erysipelas, swine flu, swine enteritis are prominent among infectious diseases which may be found in Arizona. Hog cholera is easily prevented by vaccination, but the vaccination should be administered by a competent veterinarian. In

selecting your pig for this project, try to select one which has been vaccinated for cholera. Erysipelas, swine flu, and swine enteritis are all infectious and can be contracted in the most sanitary hog lot in the state, but such is not usually the case. If your pig becomes listless, has a dull coat, loses the brightness of his eyes, there is something wrong with him—call a veterinarian.

The sooner you receive competent advice, the less will be your loss.

Intestinal parasites are not likely to be troublesome if your pig lot is kept sanitary, but it is possible that parasite eggs existed in the lot from which you selected your pig. In that case, perhaps your pig should be wormed, but do not worm him until you have determined definitely that worms exist. Have samples of his droppings analyzed by the state laboratory to determine just what type parasite eggs are found. (For further discussion of diseases, see *Farmers' Bulletin No. 1437*, page 34.)

External parasites, such as lice and mange, are easily controlled by dipping or spraying, or by using some sort of a hog oiler. Remember that when oil sprays are used, pigs should be kept out of the sunlight for several days. (Further reference for dipping or spraying — USDA Yearbook, 1942, Keeping Livestock Healthy, pp. 743 and 738.)



Dip, Spray or Oil

Sanitation must be practiced as a preventive, not as a cure for diseases. Your pig always should be kept in clean, dry, warm quarters. Do not wait until he becomes ill before you build such equipment, for a pig, once sick, is hard to cure. Remember sanitation should be practiced always as a preventive, rather than a cure.

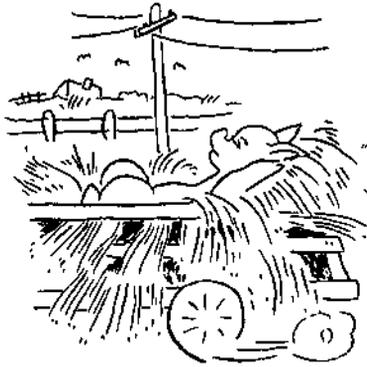
Fitting and Showing

The properly-fitted pig for the show ring will be thoroughly clean, well groomed, and in good condition. You are striving for the picture of perfection which you had in mind when you made your selection at the beginning of this project. How closely you approach your picture of perfection is a measure of how well you have succeeded in your project. Of course, you cannot expect to have perfection itself, but in the show ring do not fail to display all of the good points.

Daily handling, or at least frequent handling, is good practice. Not only does the pig become accustomed to handling and to the performance that will be expected in the show ring, but also exercise is provided for the legs and development of wind.

You should teach the pig to stand correctly, to turn, and to remain quiet. Frequent washing, occasionally with tar soap and water, is a good practice as is occasionally brushing the hair with oil, particularly near show time. Trimming the feet will allow the pig to stand up on his toes. All of this comes under the heading of "handling", which will contribute to the showing your pig will make.

At the show, be on the job. Be ready when your class is called. Remember courtesy and good sportsmanship always. If you have



Off to the Show

trained your pig well it will appear in the ring on its toes at all times with the back well arched. These are two very important basic considerations in the show ring. You may have to ship your pig to the show—at least hauling in a pick-up, trailer, or some similar means will be necessary. Whatever the means, be sure it is in good order. There should be no projecting nails to scratch, no holes in the floor and the surroundings should be clean. Slick

truck bottoms should be covered with two inches of dry sand to make a firm footing for your pig. If shipment is for a considerable distance, you may want to build a shipping crate so that you can be more certain on these points.

When you are hauling pigs it is never necessary to crowd or beat them. In show rings crowding, beating, or other acts of impatience will reflect against you as a showman. In shipping to market, crowding and beating will injure the flesh and will be reflected in the price you get.

Marketing

Perhaps there will be a sale at the fair where you show your pig, and if so, this is the best place to market. In any event, try the local market first—either local market day, local fair or local butcher shop.



Top Dog

II. SOW AND LITTER

Selection

The important thing to remember in your litter project, as in fattening your barrow or gilt, is the demand of the consumer. Select your breeding hogs with this in mind:

You should choose purebred gilts (or sows) and boar of the same breed, and they should be selected from large, thrifty litters. If for any reason the gilts chosen are well graded up instead of purebred of the desired breed, be certain that they are of the desired conformation and then be doubly certain to select an excellent purebred boar.

Points to look for in the sow:

Refinement and femininity about the head.

Strong, slightly arched back and loin.

Smooth shoulders and sides.

Full, firm, and deep hams.

Strong, straight legs and short pasterns.

Two rows of normal teats of at least six in each row.

Even temperament and quiet disposition.

Descending from a large, healthy litter of well-bred herd.

Points to look for in the boar:

Purebred and of the same breed as the sow.

Masculinity about the head.

Strong, well-arched back and loins.

Smooth shoulders and sides.

Deep, smooth, firm hams.

Straight, strong legs and pasterns.

Quiet disposition and even temperament.

Disease and injury free.

If the boar is being purchased, select one at least six months of age, so that any weakness will have had a chance to develop, but do not plan to use him until at least eight months of age. Also look over his sire and dam, and any of his pigs if he has been tried.

If the boar is being selected for servicing only, bring him to the sow in her natural surroundings—don't take the sow to him.



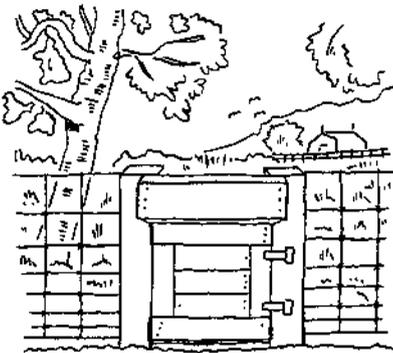
Sweet

Equipment

More equipment will be required in the litter project than in the feeder pig project. Here are merely mentioned some things

that should be considered. Details and pictures can be found in any of a number of publications: USDA Farmers' Bulletin, 1437, for instance. Often the plans describe more elaborate equipment than is necessary for parts of Arizona, so allow for your local weather conditions.

Pasture is important in raising the litter and may as well be considered with equipment. You should by all means have some pasture if you plan to raise a litter. The fence around your pasture can be woven wire, wooden plank, or electric. You may have the pasture well fenced, or you may have the fencing problem to consider, and in either case, each of the three types has advantages that may fit your situation.



Fenced Pasture

A farrowing house of some sort should be provided. (See the plans on page 17 of "Swine Production in Arizona"). A feed trough and floor, likewise, is desirable. A combination, as the one shown on page 21 of "Swine Raising in Arizona," is very good. If hay is to be fed with or without pasture, a hay rack may be built.

You may want to creep feed your pigs while they are sucklings. This will call for a creep and a self-feeder, both of which are discussed in "Swine Raising in Arizona," and in USDA Farmers' Bulletin, 1437.

In considering equipment, you should also remember a box or a basket for warming new born pigs, side-cutting pliers to nip "wolf teeth," and such tools and medical supplies as will be required for castration, vaccination, and other steps in the care of your pigs to weaning.

Breeding to Farrowing

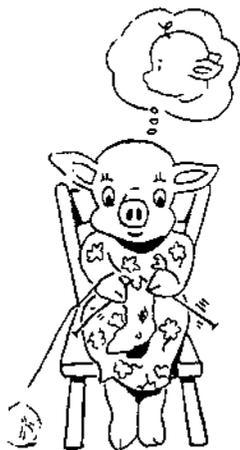
If your gilt is growthy and well developed, she can be bred at eight or nine months of age. It is best not to try two litters a year until a sow is two years old, even though you may be located in a section of Arizona where weather conditions are favorable to this practice. The first question then is when should your gilt be bred? The answer will depend on several things such as weather, age of the gilt, feeds available, condition of gilt, and when you want to farrow. Probably for this project, you would want to farrow in the spring, or perhaps, if you have more than one gilt, you would want one to farrow in the fall and the other in the spring.



Let Me Call You Sweetheart

A sow is said to farrow 114 days after she is bred; usually this period will vary from 112 to 115 days. Sow and boar alike should be in good condition when bred, but not overly fat. It is important, too, that they be kept on a well-balanced ration including alfalfa hay or pasture prior to breeding time.

The time from breeding to farrowing is very important to the results of your litter project. Suitable feed and exercise are two things to continually keep in mind. Feeds should consist of a variety and should include grain, tankage (or fishmeal, linseed meal, or similar protein) and alfalfa pasture or hay. Exercise can be provided by having water and hog houses at the opposite ends of the lot from the feeding troughs.



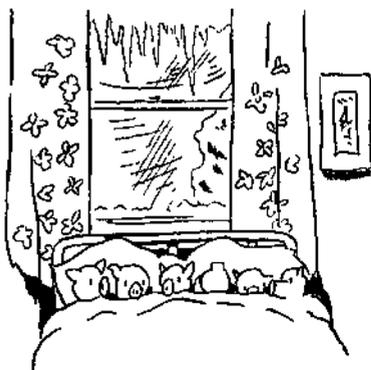
Porky or Petunia?

About four days before farrowing time, clean the farrowing house well, place plenty of bedding straw in it, clean your sow well and put her in it. She may be nervous and irritable at this time and should not be overfed for a few days before and after farrowing.

Farrowing

Care and management of your sow and pigs at farrowing time

may determine the success or failure of your project. It is important that some one be on hand to give any needed assistance. As the pigs arrive they should be thoroughly dried, the mucous should be removed from about their noses, and the navel cord should be tied. If weather is cold, a warming basket, or box should be provided to protect them. They should be allowed to suckle every one



Like Bugs in a Rug

or two hours when they are kept away from the sow.

The eight tusk-like needle teeth should be cut off with side cutting pliers before the pig is placed with the sow to nurse.

Sometimes this is put off until the day after farrowing, but it should be done soon. It is not advisable for several persons to work around the sow when farrowing as it only will cause her to become more nervous. Gilts farrowing for the first time may have trouble and should be watched very



Needle Teeth

carefully and given assistance promptly.

After farrowing, clean up well so that there will be no remnants for the sow to eat and no mess to harbor filth and disease.

Feed and Care of the Sow and Litter

Hogs use more concentrates and less roughage by comparison than do other types of livestock. Hogs are usually kept to make use of "surplus" feeds; that is, feeds that might otherwise be unused or not used to best advantage. Such feeds may not contain all of the necessary nutrients, though, and it would be as wasteful as not feeding them at all as to feed them without considera-

tion of feed requirements. Hogs, especially the sow and litter, require a well balanced ration of grain, pasture, and a protein supplement such as tankage, fish meal, skim milk or soybean meal.

In making use of available feeds on the farm, care should be taken to plan the use in advance so that sudden changes in the ration can be avoided. For instance, if garbage is to be used in the ration and you expect the supply to change at any time during the feeding period, plan to replace the proper nutrients gradually. A sudden change in the ration well may cost you all you have gained in feeding these "surplus" feeds to your hogs.

If the weather is favorable the sow and pig should be placed on clean legume pasture by two weeks after farrowing. Alfalfa pasture is recommended in Arizona. If more than one sow and her litter are turned out to the pasture a wide variation in age of the pigs should be avoided.

Full feed for sows is important at this time. If the sow has a normal-sized litter she should have nearly all the feed she will clean up twice a day or she should be fed with a self-feeder. The ration should account for proteins, minerals, and vitamins.

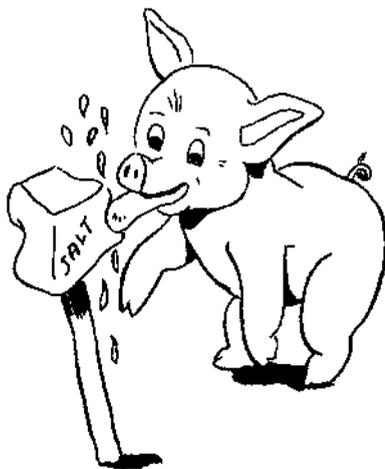
On alfalfa pasture, a good ration is:

Grain—90 parts

Tankage—7 parts

Cottonseed Meal—3 parts (Soybean meal can be used)

If for any reason alfalfa pasture and tankage are not available,



Salt Pork

ground limestone and bone meal should be included. Salt should be supplied at the rate of about one-half pound for every hundred pounds of concentrate. Pigs will start taking grain at about three weeks of age. This should be made available by creep feeding either by trough or self-feeder. At about five to six weeks, some protein can also be provided in the creep.

Castration of pigs should take place at from three to six weeks of age. You should secure competent assistance in performing

this operation, and remember that regardless of how it may be done, a disinfectant and cleanliness are very important.

Vaccinate for hog cholera at an early date, also. Read page 34 of "Swine Production" (USDA Farmers' Bulletin, 1437) concerning vaccination. Do not vaccinate for hog cholera except under guidance of a competent authority.

Pigs are usually weaned at from eight to 10 weeks of age. If self-feeders are used, a good system is to cut the sow off feed about three or four days before she is to be removed but allow the pigs to continue feeding by creep. Similarly, the sow's feed

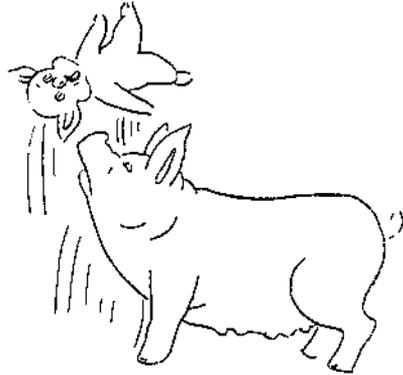
can be cut down if hand feeding is practiced. This will reduce the milk flow so that there will be less danger of caked udder when the sow is removed.

Sanitation

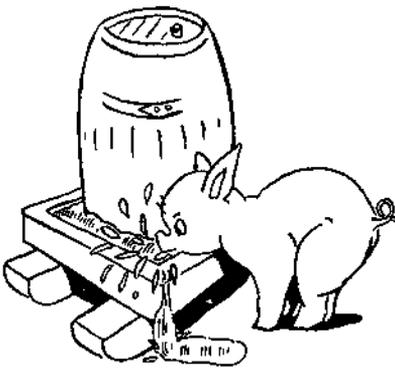
Read again the comments on sanitation referred to under the discussion of the Market Pig. All that applies to the market pig applies doubly to the litter. Filth and unsanitary conditions are responsible for **most** of the hog losses in Arizona.

Hog cholera and certain other swine diseases which are caused by virus or germs are contracted only by direct contact with the particular organism, but the resistance of hogs to disease is definitely lowered if sanitation is not practiced. It is not too great a task to keep your hog lot and equipment clean if you clean it **daily**.

Study the McLean County system of sanitation outlined on pages 25 and 26 of Arizona Experiment Station Bulletin No. 185 (4) and follow it closely whenever it applies, especially at farrowing time.



Weaning



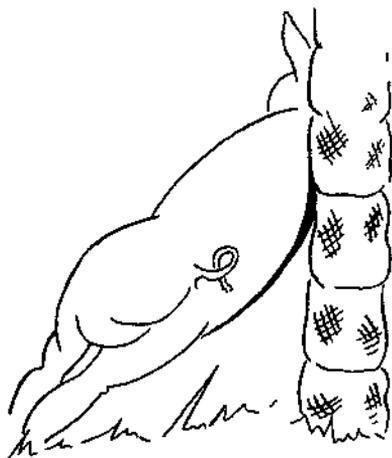
Clean Watering Trough

Your watering system is important to sanitation. Have a clean sturdy trough with no leaks. Do not depend on ditch water running through the lot.

You will have sanitation if you provide:

1. Clean housing, clean equipment and a clean lot.
2. Dry housing, and dry, well-drained lot.
3. Enough direct sunlight, but also shade in summer.
4. Plenty of space.

Diseases can be controlled if you vaccinate for hog cholera and other infectious diseases under supervision of competent authorities and if you remember that you will save money by calling a competent veterinarian as soon as you detect sickness in your hog lot.



Sanitary Measures



Vaccination

Internal parasites can be controlled by the practice of sanitary measures. External parasites causing trouble are chiefly lice and mange and they can be controlled by spraying or dipping with crude petroleum.

Butchering and Preparing the Meat

After weaning, your pigs will be either retained for a breeding herd, fattened for market, or fattened to butcher. It is good economy to take care of your own pork needs on the farm.

To do this you should know about butchering, curing, and canning. There are many important steps to these procedures, and they are explained in considerable detail in USDA Farmers' Bulletin No. 1186, "Pork on the Farm." It is suggested that you secure and study this bulletin before you butcher.

A few important points to know and understand are:

Take the pig off feed but let him have all the water he will drink for 24 hours before slaughter.

Thorough bleeding is important. Learn to "stick" and bleed properly.

Do not run or disturb the animal unnecessarily before slaughter.

Chilling is important. If you butcher in warm weather, some arrangements should be made for chilling from 34° to 36° F. within 24 hours.

Have proper equipment and have it clean.

Learn to cut the carcass properly.

Keep the meat clean.



To Market, To Market

REFERENCES

- (1) Morrison, "Feeds and Feeding" 20th Edition
- (2) USDA Year Book 1942—"Keeping Livestock Healthy"
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- (4) Stanley, Bell, and Rigden, "Swine Raising in Arizona"—Agricultural Experiment Station Bulletin No. 185
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