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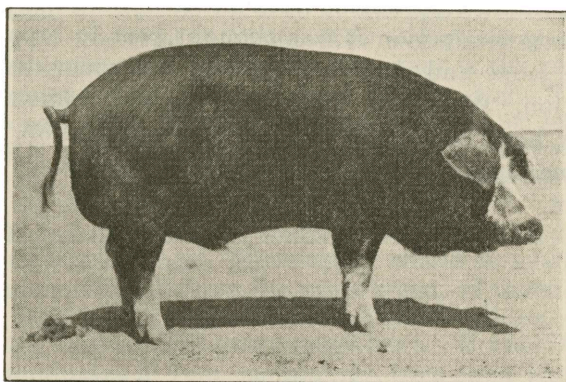
EXTENSION SERVICE

Fort Collins, Colorado

PRINCIPLES OF PORK PRODUCTION

By

D. A. JAY and B. W. FAIRBANKS



**Joe's Big Bob Wonder, 425947, Grand Champion,
Poland-China boar, International Livestock Exposition,
Chicago, 1921.**

CO-OPERATIVE EXTENSION SERVICE IN AGRICULTURE AND
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FOREWORD

This bulletin was started with the object of giving information that would assist the boy or girl in pig club work. With the increased interest in hog production it was thought best to broaden the scope and publish a bulletin for wider distribution. While the individual pig and individual sow have been dealt with in this publication, the same principles will apply where several sows are kept.

PRINCIPLES OF PORK PRODUCTION

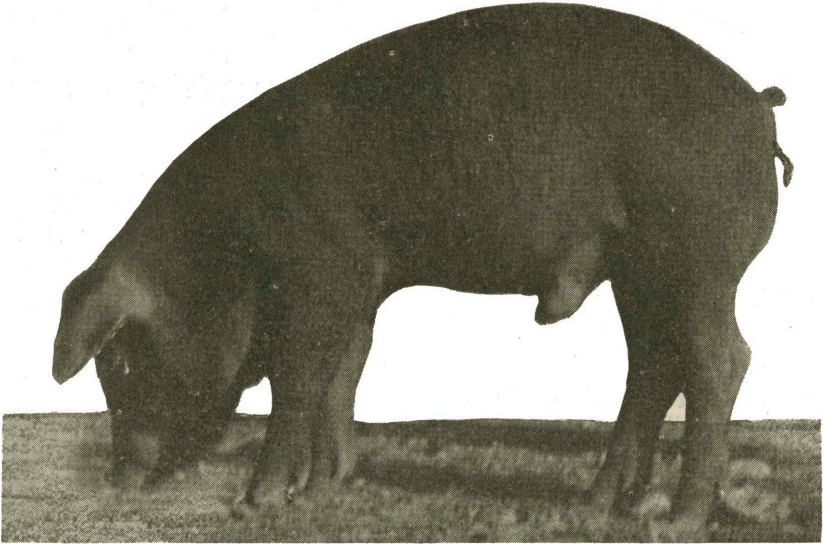
By D. A. JAY and B. W. FAIRBANKS

When starting in the production of hogs, one has a vision of the pig to be purchased, of the care and feed it will receive, the growth it will make, and the prize it should win at some fair next fall. The realization of this vision depends greatly upon the selection of the pig. There are several things to keep in mind in the selection of the pig. The County Club Leader, County Extension Agent, or some practical, experienced, hog man should be consulted.

Type of Pig to Select: There is a certain type of pig that will grow rapidly and fatten well on feed, while the opposite type will not do so well. Study closely the illustration on page 4; notice the length of the pig and the strong, arched back which forms a curve from the tip of his nose to his tail. Notice his smooth shoulder, smooth, deep side, and full ham. The illustration also shows his big bone, straight pasterns and good feet. If a pig does not stand up well on his toes at the age of six to ten weeks, they will grow worse as he grows older and gets heavier. A well-arched back indicates a heavy loin, and that is the region of one of the highest-priced cuts of meat in the hog. The smooth, straight, deep sides indicate a good quality of lean-streaked bacon, which is the highest-priced cut of pork. The well-rounded ham need not be mentioned, for everyone knows what it means to have a big slice of ham.

What Breed to Select: It matters not what breed you select. Get the kind you like best. However, it would be much better for all in the community to have the same breed. If there are Poland-Chinas in your community, produce Poland-Chinas. Then grow out your pig better than your neighbor's. If the Duroc-Jersey breed predominates in your community, then raise Duroc-Jerseys. Almost any breed of hogs is good if you are particular to select a good individual.

Care and Management: Even before the pig has been selected, a comfortable home should be arranged for it. The care and comfort of the pig is just as important as the feed it eats. There will be some cool weather when first starting with the pig. A shelter that will furnish a warm, dry bed is necessary. Cold, damp sleeping quarters with lots of draft are not healthy, and the pig cannot grow well until these unhealthy conditions are eliminated. Prevent cold, damp winds causing drafts over the hogs. Pneumonia often results from such conditions. In the hot summer weather the pig needs a shade. Hogs cannot sweat like a horse, and are unable to stand the hot summer sun. Where there are no trees for shade, a few gunny sacks can be stretched



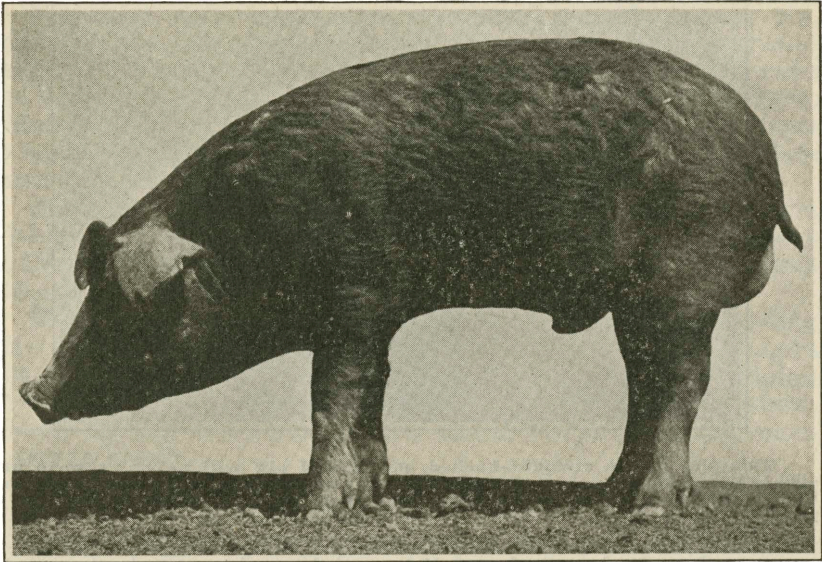
This pig, at eight weeks of age, has the right type. He shows length, height, strong arched back, plenty of bone and lots of style and——

over some posts. This keeps the sun off and will let the breezes through underneath to keep the pig cool. A shallow tank about ten inches deep, filled with water, furnishes a nice place to wallow in summer and keep cool, but the pig must not be required to drink the water he has wallowed in. A little dip or crude oil poured into this wallowing tank will keep the lice off, and keep the pig's skin in a healthy condition. This is much more sanitary than a mud-hole. While the wallowing tank is a good thing, it is not a necessity.

The feeding trough or self-feeder should be made so that the pig can eat in comfort. It is much easier to eat from a trough three or four inches deep than from a trough six or eight inches deep. Feed will be easily wasted from a trough less than three inches deep.

By placing the feed troughs or self-feeders on level ground away from uneven places, it makes it easier for the pig. If the ground gets wet, and a big hole is rooted away near the watering trough, the pig cannot drink well, and may not get enough water. Plenty of pure, fresh water is necessary.

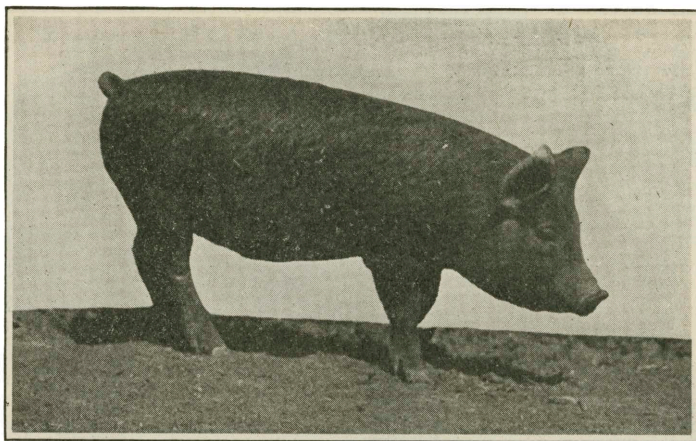
The size of the pen must be regulated by two things: The amount of grass in it, and enough room for the pig to exercise. Exercise is necessary in developing muscle. A pig fed in a small pen never grows large, but just gets fat and chuffy. Short, fat, chuffy pigs never win many prizes at the fair, nor sell very high on the market. Quite frequently poor feet develop from being fed in a close pen where sufficient exercise cannot be had.



—has developed into a big 276-pound hog at eight months of age, continuing with the good type and style.

Occasionally the enclosure already fenced does not have any alfalfa or other grasses, or it is already in use by other animals of the farm. This would necessitate the building of a new pen. It might be advisable to build a movable fence. Then the pen could be set up in one corner of the alfalfa meadow and moved whenever the pasture gets short. Eight or ten panels could be easily and cheaply made. This makes a durable and practical fence, and can be quickly set up and taken down, or can be used for other purposes on the farm.

Feeding the Pig: Feed is the most important factor in developing pigs. There is not much danger of "over-feeding" if judicious feeding is practiced. First, nature has provided that our animals should make their greatest and cheapest growth during the season when the plant life furnishes abundant, green, succulent feed. Hence, it is advisable that plenty of grass be furnished. Alfalfa furnishes the best pasture for pigs. Where alfalfa is not available, clover or bluegrass, or even rye sown for pasture is good. It is a proven fact that pigs, like boys and girls, need a variety of feed. Pigs make greater and cheaper gains where grains like corn, barley or wheat, and tankage or skim milk, are fed along with the alfalfa pasture. No one feed is sufficient when fed alone, but when several are fed in combination, they produce good results. Pigs at weaning time will eat about one pound of grain for every twenty-five pounds of live weight, and gradually increase the amount of grain up to about six or seven pounds



This short, low, straight-backed, pot-bellied pig will never grow to any size or dress out a high proportion of good cuts of meat when grown out and butchered. This pig is two weeks older than the one shown at the top of page 4.

per one hundred pounds of live weight, when ready to go to market.

The following rations are suggested to be fed to pigs on alfalfa pasture:

1	2	3	4
Corn, 90 lbs.	Corn, 70 lbs.	Corn, 40 lbs.	Corn, 50 lbs.
Tankage, 10 lbs.	Tankage, 10 lbs.	G. Oats, 40 lbs.	Barley, 40 lbs. (gr.)
	Shorts, 25 lbs.	Shorts, 10 lbs.	Tankage, 10 lbs.
		Tankage, 5 lbs.	

Pick out the ration that contains the cheapest feeds in your locality; then mix these feeds well, and feed at least twice a day all that they will clean up at a feed. Regularity in feeding is essential. Feed at the same hour every morning and every evening. A pig is very regular in his habits. If you are fifteen minutes late, the pig will be up to the feed trough, squealing for you to bring its feed. It will be rather impatient, but eliminate a crack on its snout or a kick in the ribs, as these will not produce growth.

If fed in a self-feeder, each feed should be put in separate compartments. If skim milk is available, give the pig all it will drink in addition to the above feeds, and cut down a little on the tankage.

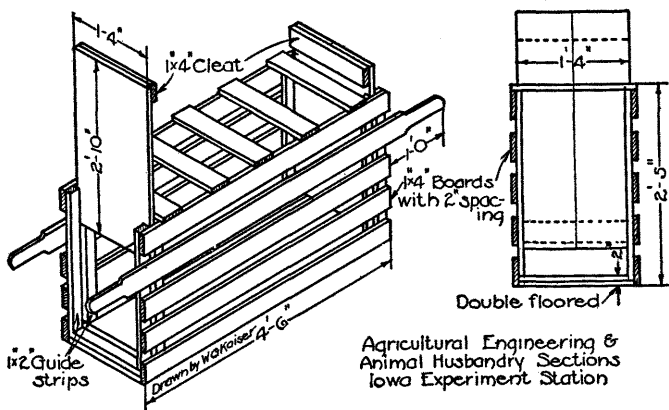
Water, clean, pure, and plenty of it, is an absolute necessity. Drinking from stagnant pools, or from running streams that come from your neighbor's pasture, may spread disease, and should never be allowed. Water should be kept in a clean, cool place, and always available, so the pig will never have to go thirsty. Arrange the watering trough so the pig cannot upset it or wallow in it.

Minerals: Salt should always be kept available for the pig, and kept in a dry place. A little charcoal or wood ashes should keep the pig in a good, healthy condition. If ear corn is fed, rake the cobs in a pile two or three times a month and burn them. When they have burned to a nice charcoal, just before they burn to ashes, sprinkle the fire with water. This keeps the premises clean, and makes a good charcoal for the pig to eat.

Showing the Pig: If the pig was a good prospect to begin with and has been properly developed, the battle for supremacy at the fair is half won. There are several little details that need attention before entering the show.

Manners make a good impression. A pig that is used to being driven with a hurdle and will stand as you want it for the judge's inspection, makes a good impression on the judge. This training should begin at home a few weeks before going to the show. Handle the pig in a quiet manner, and it will be tame and much easier to handle.

The style and carriage the pig shows when walking in the ring can be helped by keeping its feet trimmed. Untrimmed feet not only cause weak pasterns and a poor walk, but also cause the back to sag. The trimming can be done quietly when the pig is lying down. This should be done early, and as frequently as necessity demands. If not done until just before showing, it may cause temporary lameness.



Handy hog crate for 200-pound hog (Circular 69, Iowa Exp. Sta.).

Wash the pig with good tar soap to clean the hair and skin, and brush the hair with some oil to give a glossy appearance. Trim the rough, shaggy hairs on the ears and tail (leave the brush on the tail) to add neatness and attractiveness.

A handy crate should be made ready to transport the pig to the fair. The illustration on this page gives dimensions of a convenient crate for a two-hundred-pound pig. In addition to the

ordinary hog crate, this one has handles to aid in carrying the pig, and it opens at both ends. The pig will not have to back out, but can walk out the front end when ready to unload. Make the ends tight, as this helps to brace the crate.

All hog men consider a light-weight hand hurdle a necessity in handling hogs at a fair. On this page is a good illustration of a practical, handy hurdle.



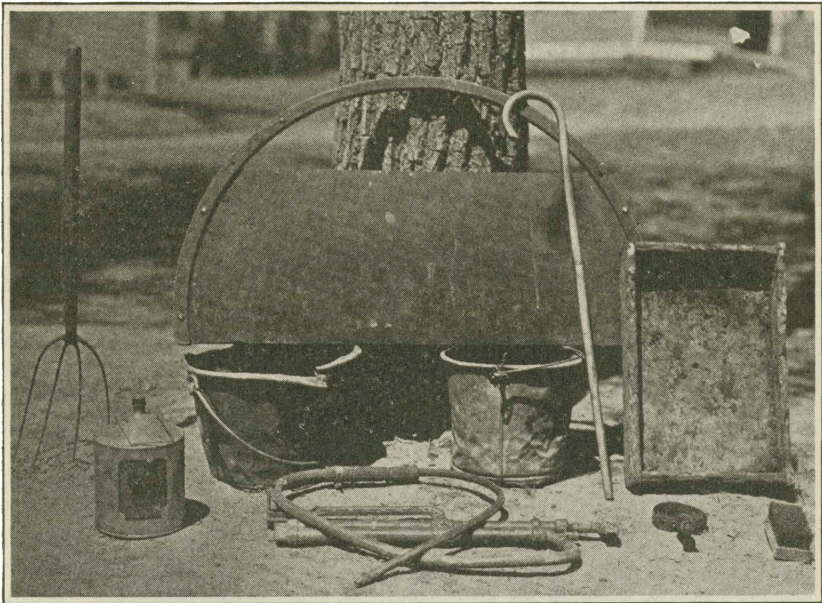
The proper way to handle a hog is with a hurdle. Occasionally a light cane or stick is advantageous.

What to Take to the Fair: A feed trough four inches deep, ten inches wide, and eighteen inches long, is convenient. Do not use your neighbor's trough, or any old last-year's trough at the fair, nor loan your trough to your neighbor, as this is a good way to get disease. Take two buckets along—one to carry water and feed, and the other, an old bucket, to use in washing and cleaning the pig. A brush is also necessary to clean up the pig. Take a can of oil along to brush over the pig after it has been washed. A fork is necessary to clean out the pen. Usually the Fair Association furnishes straw, but find out before you go, so that some can be taken along if necessary. Enough straw is needed to keep the pig clean, and it should be dampened enough to prevent dust.

At the Fair: In showing the pig, be prompt in driving it to the show ring as soon as the class is called. Keep the pig quiet and standing in an attractive position all the time. One boy at the State Fair walked over and sat on the ringside fence while

the judge was looking at his pig, so his pig did not show at its best, and lost the prize. Only a few can win the prizes at the fair. Those who have the best pigs and have developed them best, will win. **To those who win: Be modest about it, for you may get beaten next year. To those who lose: Take the defeat honorably, and resolve to do better next year.**

The fair is one of the greatest educational institutions that we have for the study of animal form and type. Ask the judge after



This shows the necessary articles that should be taken to the fair.

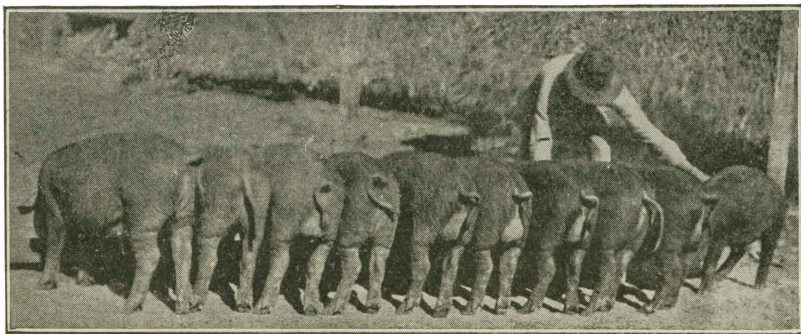
he has finished his work, to criticize your animals, and discuss with him the hog business in general. It will be found that most of the judges are willing to aid and assist to the full extent of their ability. Watch the other fellow, and "keep your eyes open and your ear to the ground" for new ideas.

The best boars of the community will be at the fair. Choose a boar to which you will want to mate your gilts, and make arrangements with the owner for the service of his boar.

Selecting the Boar: The very best boar possible should be selected to mate with the gilt. The boar is to a very great degree responsible for the quality of the litter produced. Many mate the sows to poor boars, and expect to get pigs which are just as good as the mother. This is a mistake. Select a boar of good type and of good breeding.

Special attention should be given to the selection of a boar which will be best suited to mate with the gilt. It is a popular opinion that if the sow is deficient in one point, the boar should go to the opposite extreme in the same point. If a sow is objectionable in the shoulders by being too coarse and heavy, it is thought that the boar should be very fine and delicate in the same point. This is a mistake. Select a boar which is good in the points in which your sow is deficient, but it is not necessary to select a boar which goes to the opposite extreme. In the mating of two extremes, perfection will never result. An older boar is to be preferred to a younger one. The offspring of the old boar can be studied, and his breeding powers known and not guessed. An active old boar is even a surer breeder than a younger one.

Where there are enough sows to justify the purchasing of a boar, he should be selected not only for his outstanding individuality, but with the idea that he will have the ability to sire pigs like himself. Notice the similarity between Gordon's Wonder Boy on page 16 and his son, Joe's Big Bob Wonder, on the cover page. Here is a boar, good enough to win Junior Champion at the National Western Stock Show and had the ability to pro-



The "Terrible Ten" Duroc Jersey litter, showing type and a particularly uniform litter.

duce a son good enough to win Grand Champion at the International Stock Show. A boar should not only sire a good pig occasionally, but sire a uniform lot of pigs as shown on this page.

When to Breed the Gilt: When the gilt has grown out large and stretchy, and has reached an age from eight to twelve months, she may be bred. Breed the gilt so that the litters will be farrowed in March or April, or in September or October. To have the pigs come at this time is an advantage in showing. January pigs must show against September pigs, and July pigs would have to show against March pigs. In some places in Colorado the weather may be too inclement to have the pigs come in March, so April, under such conditions, would be better. By the gesta-

tion table below, one can tell when to breed to have the pigs come at the desired time. A record should be kept of the time of breeding, so that the exact date of farrowing will be known, and proper preparations can be made. One service at one heat period is ample. A gilt comes in heat every 21 days, and usually stays in about three days. Normally, a gilt will carry her young from 112 to 114 days.

GESTATION TABLE FOR SWINE

Sows Bred	Should Farrow	Sows Bred	Should Farrow
Nov. 5.....	Feb. 27	May 7.....	Aug. 29
Nov. 10.....	Mar. 4	May 14.....	Sept. 5
Nov. 17.....	Mar. 11	May 21.....	Sept. 12
Nov. 24.....	Mar. 18	May 28.....	Sept. 19
Dec. 1.....	Mar. 25	June 4.....	Sept. 26
Dec. 8.....	April 1	June 11.....	Oct. 3
Dec. 15.....	April 8	June 18.....	Oct. 10
Dec. 22.....	April 15	June 25.....	Oct. 17
Dec. 29.....	April 22	July 3.....	Oct. 24

Note: Farrowing may vary a few days either way.

Feed and Care During Gestation Period: This period from breeding until the date of farrowing, which is known as the gestation period, is one of the most important times in the life of the gilt. The size and vigor of the pigs will depend largely upon the care and attention which she receives during this period. A well-balanced ration, good shelter and shade and the opportunity for taking plenty of exercise must be given.

Grains or concentrated feeds and enough roughage, such as alfalfa hay, to distend the digestive organs and prevent the gilt from constantly craving food are required. Corn, barley or kafir, properly supplemented with tankage, middlings, oil meal, skim milk, etc., may be fed in various combinations. Such carbonaceous feeds, as corn, barley, or kafir, produce too much fat, and the gilt will have difficulty at farrowing time. Such grains must be supplemented with feeds high in protein and mineral matter, such as tankage, middlings, oil meal, skim milk, etc. Skim milk is especially valuable as a supplement to corn.

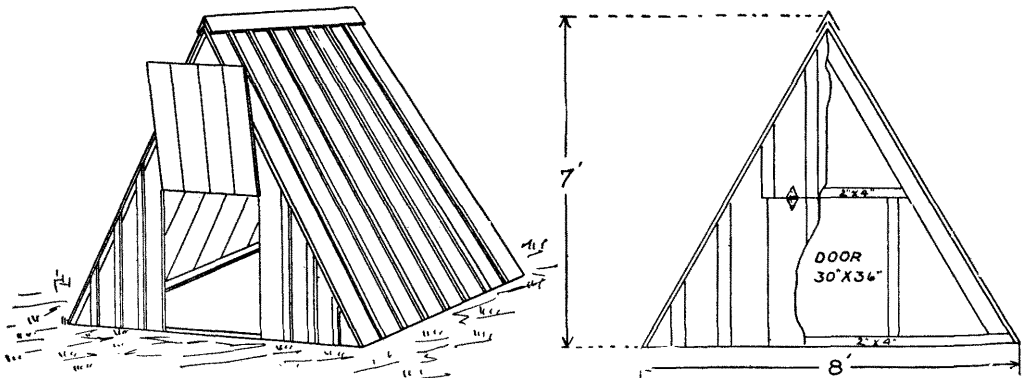
The amount of grain which should be fed depends upon the condition of the gilt. She should be fed enough grain to gain in size and weight, but not particularly in fat. In addition to pasture, the gilt should receive about one pound of grain mixture for each twenty-five pounds of live weight.

Alfalfa hay is particularly good for the pregnant gilt, as it has plenty of bulk and furnishes enough protein and mineral matter to nourish the developing litter without a tendency to fatten. The hay should be of good quality and fine texture. There is no period in which pasture is so essential as in the gestation period. In addition to furnishing food for the gilt, it induces her to take plenty of exercise. Ground oats and wheat bran may be given. Feed these in a thin, watery slop, with the chill taken off.

Great care should be taken that the gilt does not become constipated. Any tendency in this direction should be corrected by feeding such laxative feeds as wheat bran, oil meal, or the finer parts of legume hay. Gilts that are given sufficient exercise along with the above-mentioned feeds, will not need a cathartic. If necessary, Epsom salts should be given. A dose is one to three tablespoonsful, depending upon the gilt's age. The gilt should not be neglected until just a few days before she farrows. All through her gestation period her physical condition should be watched, and the gilt kept under close observation.

A gilt that has had plenty of exercise during her gestation period can be expected to have a large number of healthy pigs, with very little trouble in farrowing them. Some method must be devised to cause the gilt to take exercise. Some Pig Club boys water their gilt in one place, feed it in another, and have the gilt's sleeping quarters in another, all some distance apart. If there is no other way to make them take exercise, they must be driven.

Preparation for Farrowing: A clean, well-sheltered pen connected to a small run lot, if possible, should be provided. A guard rail or fender should be made on the inside of the pen, by putting lumber six or seven inches from the sides, and seven or eight



A desirable hog house; comfortable, practical, cheaply and easily built.

inches from the floor. This will prevent the sow from laying down close to the wall and crushing some of the pigs. These guard rails should be put in temporarily, as they take up room, and are not needed after the pigs have attained some size. A bedding of straw is required. Too much bedding will endanger the pigs, as they might become entangled and crushed by the sow, or possibly smothered.

The sow should be placed in this pen at least two or three days before she farrows, and care taken not to disturb her. Her feed should be cut down to a thin slop. A pound of wheat middlings a day would be the maximum feed.

At Farrowing Time: A sow which has been properly fed and is comfortably situated in good, clean, and dry quarters, free from drafts, will have little or no trouble at farrowing time. The common troubles or difficulties in farrowing are: Weak or dead pigs, pigs chilled, sows refusing to own pigs, sows eating their pigs, and sows crushing pigs. These troubles can be largely prevented by proper care and management. Extra precautions may have to be taken in March and April, as the weather is usually cold, damp, and generally disagreeable. Cold drafts blowing on the pigs are apt to cause pneumonia. In September a clean, quiet place which offers some protection from the cool nights, is satisfactory.

As the date of breeding is known, the approximate date of farrowing can be figured, and this fact alone will be responsible for the saving of many pigs, as the attendant will be prepared. If the weather is cold, a jug of hot water may be placed in a barrel half full of straw, with a blanket thrown over the top. As the pigs are farrowed, they may be placed in the barrel, and chilling to death may be prevented. When all have come, they may be put to the sow to suck.

If the mucous covering the pigs at birth is preventing the breathing, it should be removed from the nostrils with a wisp of straw. If the sow is very restless, the pigs could be put in the barrel described above. This would eliminate some danger from crushing, which the guard rail could not prevent. They may be returned to the sow when she has quieted down.

The feeding of a ration containing heat-producing feeds, and lacking in protein and mineral matter, insufficient exercise, or general discomfort of the sow, will cause her to eat her pigs. Proper feeding and comfortable quarters will prevent this vice.

If the sow is not having any trouble in farrowing, and the newly-born pigs are all right, do not disturb them.

After Farrowing: Most of the troubles occurring after farrowing are due to too much feeding or wet bedding. Too much feeding causes a fevered condition in the sow's udder, and the pigs die of scours. The wet bedding is often the cause of sore teats, sore tails on the pigs, and both the sow and pigs are liable to catch cold.

After the sow has farrowed, withhold all feeds for twenty-four hours. The first feed may consist of a thin, warm slop of wheat middlings and water or skim milk. After the second day, an ear of corn a day might be added. The feed can be gradually increased in amount, until the sow is on full feed. This will usually take from ten days to two weeks.

The ration after farrowing should be heavier and more concentrated than it was before farrowing. It should be made up of milk-producing feeds. An ideal ration would be to start out

with wheat middlings as was mentioned above, with corn or barley added gradually until, at the time of weaning, one-half of the middlings has been replaced by the barley or corn. Skim milk is also an excellent feed for sows suckling pigs, and it works well with wheat middlings. If wheat is obtainable, it may be used in place of the corn or barley, but usually wheat is too high in price. Such feeds as corn, barley, or wheat, must be supplemented with skim milk, a small amount of tankage, or a run of good early pasture.

Liberal feeding is of prime importance. Remember the sow must eat enough to nourish her own body, as well as supply an abundance of milk for the growing pigs. Feed the sow all that she will clean up twice a day. In feeding the sow, one is feeding the pigs, and when the pigs are young, the cheapest and most economical gains can be made.

The Suckling Pigs: During the first two or three days after farrowing, watch the pigs very closely for scours, and other pig troubles. Upon the second day they should receive some exercise. Usually the sow will take her litter out, but if she does not, she and her litter should be driven out for a short time each day. If they are upon pasture, they will usually take exercise without any provocation.

The pigs are wholly dependent upon their mother for the first two or three weeks. After this time they will begin to hunt feed on their own account. At first it will be noticed that they will eat from the sow's trough, and pick up scattered feed. A pig creep should be provided in one corner of the lot, in which they may go and eat by themselves. Dry middlings and shelled corn, or 8 parts of middlings and 2 parts of tankage, may be scattered in the troughs in the creep. Either ration is satisfactory. At first they will eat but little, but in a month's time they will be taking enough to materially help their gains. All that pigs will eat at this time will be a saving upon the feed needed by the sow to convert into milk.

The average litter will make a gain of approximately three pounds per day. It requires eleven pounds of milk to produce one pound of gain, or thirty-three pounds of milk to produce three pounds of gain. One gallon of milk weighs eight and four-tenths pounds. Four gallons of milk will then weight thirty-three and six-tenths pounds. If the pigs are gaining three pounds daily, the sow will have to produce four gallons of milk daily. Feeds to produce milk are: Skim milk, alfalfa pasture, shorts, middlings, bran, tankage, ground oats, ground barley, etc.

Weaning the Pigs: The first few weeks after weaning is a critical time in the pig's life. Proper care and management will mean profit, while improper care and management will mean loss. If the subject matter under "The Suckling Pigs" has been followed, the pigs should be able to take care of themselves. They should have been taught how to eat grains.

The age at which to wean depends upon the size and vigor of the pigs, and the feeds and their amounts available. There is a right time to wean, and if they are weaned too late, the sow is unnecessarily weakened, and if they are weaned too soon, the pigs will not do well. If there is plenty of feed, especially skim milk, and the pigs are strong and robust, they may be weaned at eight weeks. If they are not strong, it would be well to wait for a few weeks longer.

Take the sow away from the pigs at once, and never return her. This leaves the pigs in their accustomed quarters. For the first few days, watch the sow and litter closely. Put the sow far enough away so that she cannot hear her pigs. Feed her a limited amount of grain ration of dry corn for two or three days, as this will tend to dry her up.

The fundamental principle in feeding weaned pigs is to keep them with keen appetites. Feed just as much as they will clean up readily, and keep increasing the amounts gradually as the pigs grow. Feed at least twice a day and feed regularly. These are the two essentials. Abrupt changes are to be avoided, as digestive troubles may result.

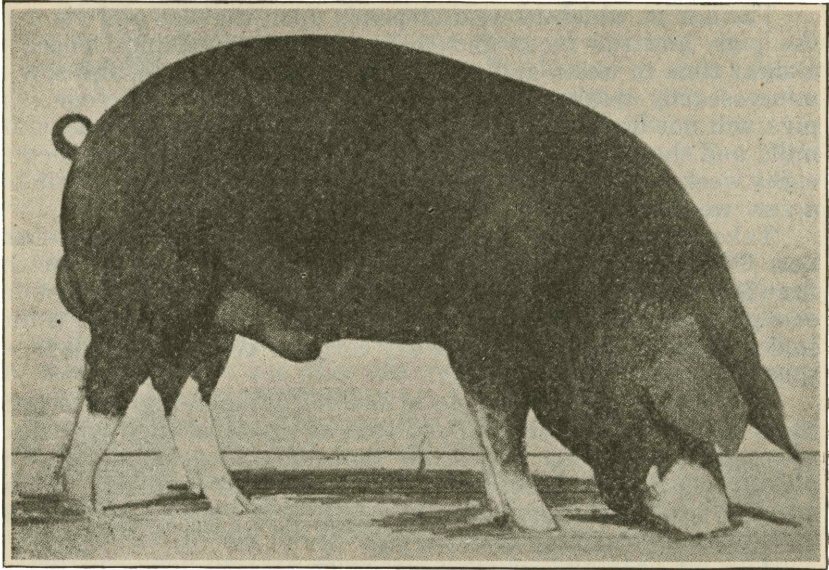
A word of caution is necessary. The pigs at this age have very greedy appetites, and they are very apt to gorge themselves, which will result in pot-bellies. Feed often, but never all that they would like to eat. Green feed, such as an alfalfa pasture, is needed, and is of great value.

Culling and Castrating: Only a small number of the litter should be saved for breeding purposes. If there are a few outstanding sows or boars, they should be kept growing. A growing ration should be fed to produce bone and muscle, as we want our breeding animals large. Only those that conform to the type mentioned in the first of this bulletin should be retained to breed. The pigs undesirable for breeding purposes should be fattened before they get too large, as the present market demands the light-weight finished hog.

It is necessary to castrate the boars. If this is done at an early age it is not so injurious to the pig. If done too early, the testicles are small, and the operation is tedious. About eight to ten weeks is the customary age to castrate. The operation is easy to perform, but hard to describe. Get some practical hog man or a veterinarian to show you, then it is easy to castrate the remaining ones yourself.

Fattening: The handling of pigs for fattening may be divided into two periods. The first may be called the growing period, during which time the object is to develop a strong frame and a good digestive system. The second may be called the fattening period, during which time the pigs are fattened for the market.

On page 5 will be found a discussion of growing of pigs. After sufficient growth has been made, and the pigs have devel-



Gordon's Wonder Boy, 332697, Junior Champion, National Western Stock Show, Denver, 1920. This illustration shows good Poland-China type. He is the sire of the boar shown on the cover page.

oped room for vital and digestive organs, they may be put upon a fattening ration. At this time they should be weighing from eighty to one hundred pounds.

The fattening period should be about sixty days in length, so that the pigs will not be too fat for present-day requirements. At the end of this period, the pigs should weigh between two hundred and two hundred and fifty pounds, which is a handy market weight. Do not be satisfied with gains less than one and one-half pounds per head per day. Some Pig Club boys have realized daily gains of two pounds per head. The fattening hog needs but little exercise. Small pens will suffice. The pigs should have large quantities of water and plenty of mineral matter, as has been previously recommended.

Fattening hogs need a variety of feeds to make the best and cheapest gains. The gains which may be used for fattening are corn, barley, wheat, kafir, milk and other fat-producing feeds. Corn, barley and wheat will give about the same average results, while the other grains will give somewhat lower results. All of these grains should be fed ground, with the possible exception of corn.

For fattening purposes, corn or barley are to be preferred. These feeds are carbonaceous in character, and must be properly supplemented. The same is true of wheat, kafir, milo, etc. When these feeds are properly supplemented, a ration is obtained which

is appetizing, suited to the pig's digestive system, and further, contains the proper amount of nutrients to meet the requirements of the pig.

There are several satisfactory supplements, but skim milk and tankage head the list. From nine pounds to twelve pounds of skim milk per pig per day may be fed in addition to a full grain ration. This will make a ration of about three parts of skim milk to one part of grain. If the tankage is used as a supplement, one and one-half pounds per pig per day would be sufficient. This would make a ration of about eight parts grain to one part tankage. With tankage-fed hogs, a little more grain will be required than with skim-milk-fed hogs.

There are other feeds beside skim milk and tankage, which may be used as supplements to the grains mentioned above. One of these is wheat middlings. When middlings are fed, they comprise from one-fourth to one-third of the grain ration. If skim milk is abundant, tankage need not be purchased. If middlings are very cheap in price, they might be used more economically in place of the tankage. Wheat bran is too bulky for swine, and its general use for dairy cows makes it too high in price. Roughages, such as alfalfa hay or clover, have little value in the feeding of the fat hog. The fattening hog can make economical gains in "hogging down" corn or the smaller grains, and the practice may be advocated.

Feed all the pig will clean up twice a day. The following rations are suggested for pigs on pasture:

No. 1
Corn, 95 lbs.
Tankage, 5 lbs.

No. 2
Corn, 70 lbs.
Shorts, 26 lbs.
Tankage, 4 lbs.

No. 3
Corn, 1 part
Skim milk, 2 parts

Judging Hogs: There are two methods of judging swine, namely, (1) Score-card judging, and (2) comparative judging.

Judging by a score card is the scoring of a hog by a card which places a relative numerical value upon each point. Its purpose is to teach the parts of a hog, and the importance placed upon each part. Naturally, those parts given the highest numerical value should receive the greatest amount of attention in judging. This training is useful and very important to the beginner. Following is a score card for breeding hogs:

**SCORE CARD USED BY ANIMAL HUSBANDRY DEPARTMENT
COLORADO AGRICULTURAL COLLEGE**

	Perfect Score
Weight—Estimated....., actual.....	6
6 mos., 175 lbs.; 9 mos., 275 lbs.; 12 mos., 365 lbs.	

Form and Constitution—60 Points

TYPE—Large type, long bodied, bone strong, underline not lower than knees and hocks in young animals.....	8
HEAD—Medium size, wide between eyes, sufficiently long, not coarse or heavy, jowls smooth, firm.....	4
NECK—Thick, full, smooth with shoulders.....	2
SHOULDERS—Wide but smooth and compact.....	3
CHEST CAPACITY—Deep, wide between fore legs, large heart girth, full back of shoulders.....	7
BACK AND LOIN—Broad, large, strongly arched, no depression back of shoulder top, thick fleshed, ribs well sprung.....	12
SIDES—Deep, full, smooth, filling out well between shoulders, hams, underline straight.....	7
RUMP—Long wide, continuous with arch of back not drooping, carrying width well back.....	2
HAMS—Full, firm, and smooth, deep in twist, wide.....	8
LEGS—Strong, straight and well set, bone strong, but clean, upright on toes and pasterns.....	7
Total on Form and Constitution.....	60

Fatness or Condition—12 Points

COVERING—Well covered with deep, even, smooth, firm fat on back and loin, ham, sides and shoulders, indicating ability to transmit good fleshing to offspring.....	12
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Quality—10 Points

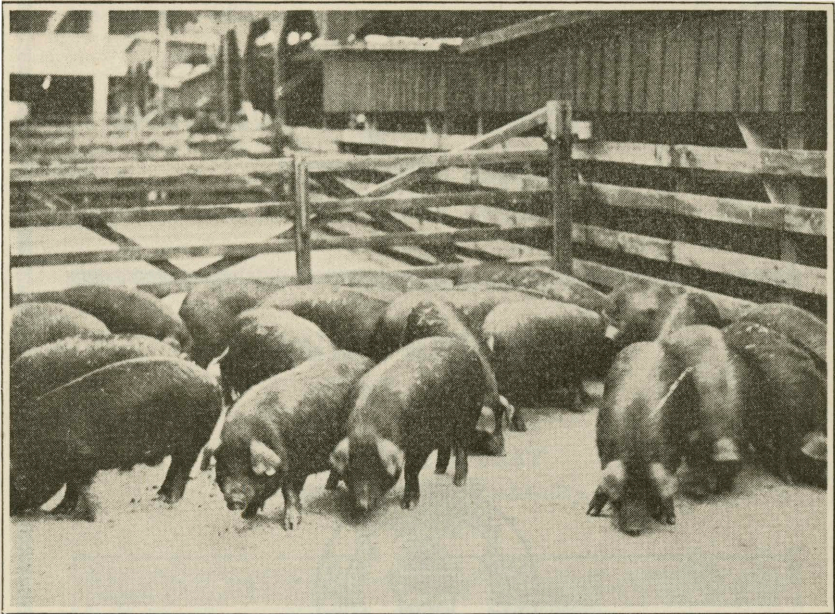
FLESH—Smooth, firm, even, no wrinkles.....	4
SKIN AND HAIR—Skin mellow, smooth, healthy; hair fine and straight, free from swirls and coarse bristles; ears fine.....	3
GENERAL APPEARANCE—Compact, smooth, bone not too heavy or coarse.....	3
Total on Quality.....	10

Breeding Characteristics—12 Points

BREED TYPE—True to type of breed in form, color, head, etc., grade sows showing distinct evidence of good breeding.....	5
MASCULINITY OR FEMININITY—Boars strong and masculine; sows, lengthy, roomy, moderate, refinement of head and neck, mild disposition, good teats.....	4
VIGOR—Strong, active temperament, walk easy and graceful, eyes bright and clear, ears well carried.....	3
Total on Form.....	12
GRAND TOTAL.....	100

DEDUCTIONS—For any extreme deformity or deficiency, blindness, over-fatness, variation from type, broken pasterns, etc., deduct from total 5–15 points, or disqualify altogether.

Final Score.....



This carload of hogs, fed by Club boys of Boulder County, won the Grand Championship, carlot club class, at the National Western Stock Show, Denver, 1922. These hogs sold at auction for \$12.00 per hundredweight, or \$1 per hundredweight over the Grand Champion carlot of the show. Hogs on the open market sold at \$8.00 per hundredweight at that time.

Judging by comparison is the studying of several animals and then placing them in the order of their merit; as first, second, third, etc. In judging contests, four animals comprise a ring. After the placings have been made, oral or written reasons are given. It is one thing to be able to place a ring, and another to be able to give your reasons for the placing. The latter is the acid test of a good livestock judge.

In judging, get a method. It is not particular as to what method; the important thing is to have one and follow it constantly. The following is offered as a suggestion:

1. Stand away from the animals and study their general form and type. Observe the back and its arch, the length and depth of the body, size of bone, the feet and legs, etc. Usually an easy top will be seen or an easy bottom, or the ring will divide itself into two pairs.

2. Next study the animals closely and in detail. Remember what has been said previously in this bulletin concerning type. Also, remember the points of the score card, and study carefully those parts which are given a high number of points.

Constant study and practice makes the good judge. Talk animal form, read animal form, and think animal form, and your ability to judge swine will be greatly improved.

