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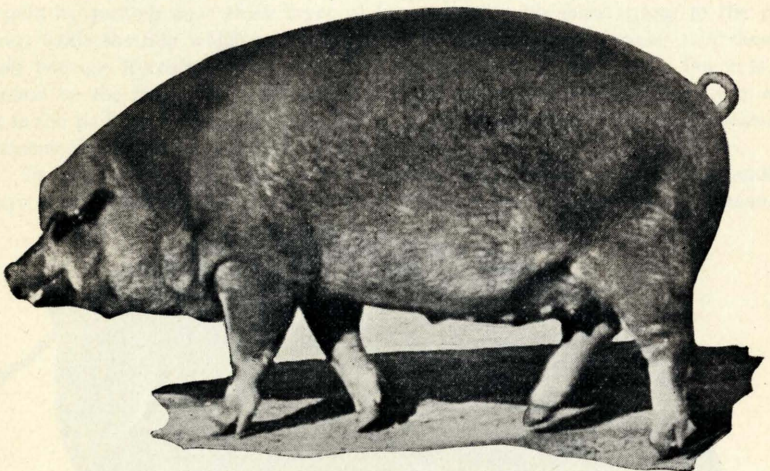
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Swine Production In Utah

HARRY H. SMITH



Grand Champion aged sow. Utah State Fair, 1929. Note well-arched back depth of body, and well-filled hams.

Utah Agricultural Experiment Station

UTAH STATE AGRICULTURAL COLLEGE

Logan, Utah

Swine Production In Utah¹

Harry H. Smith²

MODERN-TYPE HOGS

During the last 20 years there has been a marked change in the type of hogs from the short-legged, wide-bodied or "hot-blood" type to a longer, somewhat more narrow-bodied, "leggier" type. For development of size in hogs they must have (1) length and depth of body, (2) length of leg, and (3) large but not coarse bones. The long-bodied rather "leggy" pig grows rapidly and makes the larger hog. While the modern hog is still a lard hog, it is not as thick and broad as were its predecessors. It is logical to assume that the hog of the future will be required to make his gains more largely in growth on cheap roughages and less in fat on heavy grain feeding. It must also be noted that the hog which makes its gain by putting on a thick layer of fat probably will show a loss to the producer, while the hog which makes its gains by increasing its muscles will show a profit because it costs less to produce lean meat than it does fat. There is no demand on the market for the ultra-fat hog because lard is worth less after it is put in the pail than the packer pays for it on the hog; neither does the present-day consumer desire fat on meat purchased.

"A question is frequently raised, namely, why should a rather upstanding, rangy type of barrow be preferred when the low-set, compact type is demanded

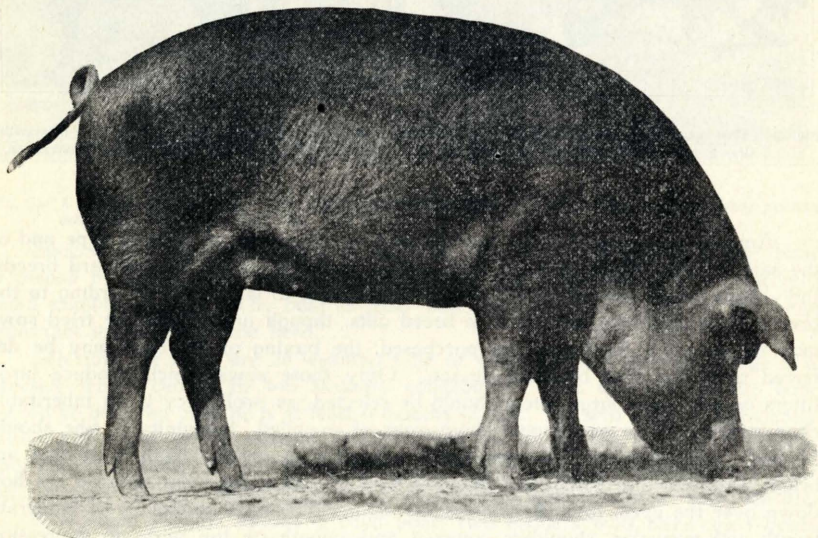


Fig. 1.—The type of gilt that grows into a profitable producing sow. Shows a wealth of bone and well developed hams. (Courtesy, Duroc Publishing Company.)

in the steer and wether? The answer is that hogs fatten more readily and to a greater degree than cattle or sheep. It is necessary to foster a blocky type in the latter animals, because as a rule a good finish at the desired age cannot be at-

¹Contribution from Department of Animal Husbandry, Utah Agricultural Experiment Station.

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tained without it. This is especially true of market lambs and baby heeves. The rather upstanding, rangy pig, of growthy type, if possessed of good feeding qualities and if properly fed, can be given a good finish at any weight above 150 pounds. It is acknowledged that an upstanding form and ranginess in the pig do not alone insure efficiency as a pork producer. He must have other essential points in type as well. Nevertheless, there is no inconsistency in demanding blockiness in beef cattle and sheep, and ranginess and a rather upstanding form in hogs."³

SELECTING THE BREEDING STOCK

Because they multiply so rapidly it is always advisable to start with pure-bred stock. Each year there will be a few outstanding individuals, which, if purebred, can be sold as breeding stock to other breeders or retained in the herd.

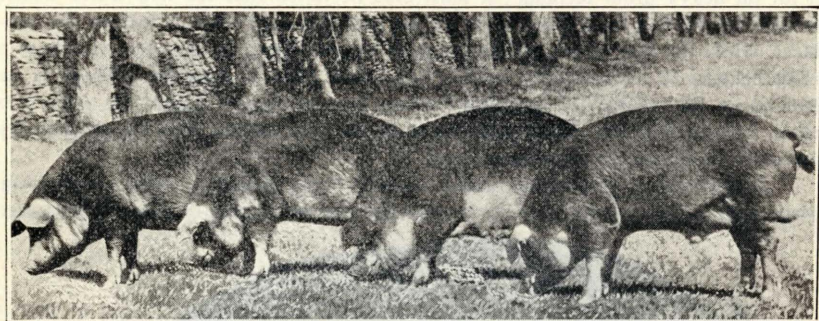


Fig. 2.—First aged herd Nebraska State Fair, 1929. An outstanding group of females with an outstanding sire, a good combination and one hard to beat. (Courtesy, G. G. Luthy, Duroc Research Association.)

Selecting the Sow

Animals purchased for the foundation herd should be of uniform type and of the same breed. Sows of good type can be found in all of the standard breeds. Individuals which are selected should be of medium to large size, according to the breed. It is generally advisable to breed gilts, though unbred gilts or tried sows may be used. If bred gilts are purchased, the buying of the boar may be deferred until the next breeding season. Only those sows which produce large litters or gilts from large litters should be selected, as prolificacy is an inheritable characteristic. The sow should show signs of so-called "femininity." She should be fairly wide between the eyes, have a head of moderate length, eyes that are bright, ears that are moderately thin and held in such a way that they do not flop down over the eyes, thus obstructing the sight. The neck should be of moderate length and muscular, shoulders compact and smooth on top with no depression immediately behind. The back should be well arched but not too broad. The legs should be strong and well-placed under the body, the pasterns should be straight and strong. The sides must be long, deep, and smooth. (Cover cut.) In the modern-type hog the ham is often lacking in fullness; for this reason, particular attention should be paid to the hams, which must be full, plump, and well-meated down to the hocks. Weak pasterns and bad feet on breeding stock are often the

³"Types and Market Classes of Livestock", by H. W. Vaughan. pp. 392-393. Second revision, 10th edition. R. G. Adams and Company, Columbus, Ohio, 1925.

result of the animals' being too small-boned. In purchasing foundation stock too much attention cannot be given to bone. The bone should be large but not coarse; the joints should be clean-cut. A clean-cut joint is one of the best indications of quality and strength. The female should have a neat underline with at least six well-developed teats on each side.

Selecting the Boar

If one has only a few sows but lives in a neighborhood where there are boars, it will usually be more economical to make arrangements to secure their services. It is often profitable for two or more farmers who have only a few sows each to own a boar in partnership.

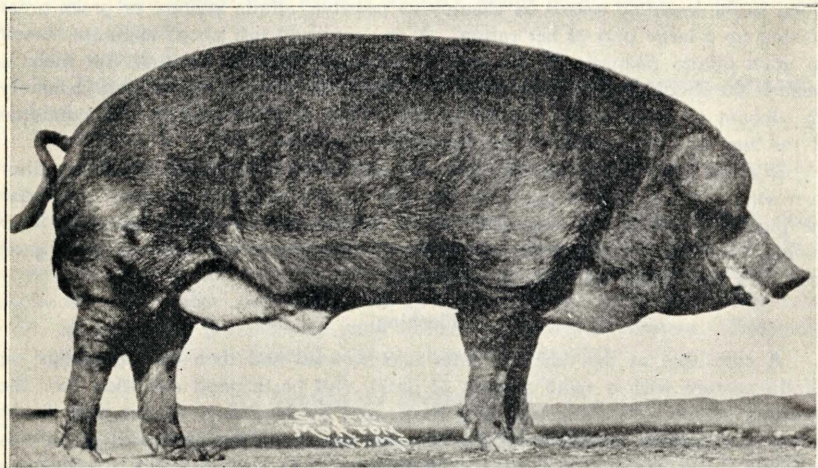


Fig. 3.—A boar showing real type. Note length, arch of back, depth of body, fullness of hams, strong pasterns and bone. (Courtesy, Colo. Agr. Exp. Sta.)

Special care should be used in selecting the boar. Where only one boar is owned he is the sire of all the pigs, while a sow influences only a relatively small number of pigs. The boar is truly half the herd and therefore the most important individual in the herd.

Selecting the herd sire at weaning time or when about 2 months of age is a practice which cannot be too strongly condemned. The selection of the boar should be deferred until he is at least 6 months of age. He will then be sufficiently grown and sufficiently developed so that it will not be difficult to make a reasonably good selection. Even when selected at this age, there is a possibility that he will not grow out as he should and therefore will be a disappointment when mature.

It is often possible to buy a tried boar; two farmers who have aged boars may find it to their advantage to trade. In buying an aged boar the best index to his value is the type of pigs sired.

In type and body conformation the boar does not differ from the sow. He must, however, show "masculinity" in a wide strong head, a good crest, and well-developed shoulders. This does not mean that he should be coarse and heavy in these parts. He will not show the quality and refinement that the sow does; however, coarseness and heaviness of shoulders is just as objectionable in the boar as it is in the sow. His sides should be smooth, his hams plump and free

from creases. He should have plenty of bone and his pasterns should be short and straight. The reproductive organs should be well-developed. A boar with only one testicle should never be used. His masculinity and general appearance should make him easily distinguishable from the sow at a considerable distance.

FEEDING THE BREEDING HERD

Feeding the Sow

Whether the sow is a gilt or an aged sow and whether she is expected to raise one litter or two litters a year determines the method of feeding following the weaning of the litter. If the aged sow produces a litter in the spring and is not expected to raise another litter until the following spring, she should be carried along to the breeding season as cheaply as possible, alfalfa pasture or green grass making up a large part of her ration. A dry sow will just about maintain herself on good alfalfa pasture. If the sow is noticeably thin at the time her litter is weaned she should have a little grain on pasture. It is impossible to state definitely the amount of grain which should be fed. This is determined by the condition of the sow and the quality of the pasture.

If a fall litter is desired, the sow can usually be bred on the third day after farrowing. If not bred at this time she will usually not take the boar until after the pigs are weaned. A thin sow, which is expected to raise a fall litter after having produced a spring litter, should be liberally fed so that she will be in good flesh (not fat) when the litter is farrowed.

Flushing

A sow, thin at the time her litter was weaned and then carried along on alfalfa pasture with a small amount of grain, will be in good condition for the breeding season. Flushing has long been used by herdsmen to put their flocks in the best possible condition for the breeding season. The number of germ cells produced by the sow at the heat period determines the size of the litter. Flushing is that practice of feeding the sow liberally so that she will be gaining rapidly at the time she comes in heat. This practice when followed immediately before breeding produces more germ cells with a resulting larger litter.

Feeding the Sow Previous to Farrowing

The question is often asked: When should one begin to feed the litter? The answer is to begin before the pigs are born. If the sow is to produce a large litter of strong, vigorous pigs, it is highly important that she be properly fed. A pregnant sow not only has her own body functions to maintain but she must also provide for the demands of her developing unborn litter. Therefore, she should be fed liberally at this time. The amount fed should be governed by her condition. She should be fed so as to remain in a good thrifty condition. Fat sows are prone to produce pigs which are not vigorous; they are also more apt to have difficulty in farrowing. Moreover, such pigs are clumsy and often kill many of their pigs by lying on them.

Thin and undernourished sows cannot do justice to their litter, and invariably they bring litters lacking in vitality. A thin sow is in no condition to nurse the litter; in fact, she undernourishes the pigs as well as making a physical wreck of herself.

Feeding the bred sow in the summer is an easy matter, provided good alfalfa pasture is available. The pasture furnishes minerals and the much-needed suc-

culence so necessary for keeping the digestive system in good condition. Some grain also will be necessary. This may be ground barley, corn, oats, or middlings. Alfalfa does not furnish enough protein of the proper quality; therefore, some tankage should be fed—about 4 pounds for each 100 pounds of grain. If skimmilk is available it should be used. It has not been definitely proved that sows on alfalfa need additional mineral matter, but it is certainly good insurance; and until more proof is obtained, either for or against the practice, it would seem advisable to provide a simple mineral mixture.

Whether a mineral mixture is provided or not, in this area, iodine should be fed to pregnant sows. This may be fed either in a mineral mixture or by dissolving 1 ounce in a gallon of water, giving each sow 1 tablespoonful on her feed each day. This method will provide about 2 grains daily, which is considered the correct amount.

The reasons for feeding iodine are:

1. The soil in most of the intermountain country is poor in iodine; therefore, the feeds which are grown here contain little iodine.
2. Animals fed rations lacking in iodine develop goitre.
3. Pigs are born with goitre and are often hairless. When born hairless, they die.

Feeding the pregnant sow during the winter is a much more difficult task. Overfeeding of grain is the one most common mistake made. A ration composed entirely of grain is not only the poorest but the most uneconomical ration that can be fed. Naturally, some grain must be fed, but to this grain ration should be added all the green, fine-stemmed leafy alfalfa the sow will consume. Skimmilk and tankage as well as a mineral mixture should be provided.

Feeding the Pregnant Gilt

Feeding the pregnant gilt is not materially different from feeding the mature sow, except that it is necessary to feed somewhat more liberally. This is especially true with the protein portion of the ration as the gilts have an extra duty to perform: Their own bodies are still growing, and this requires protein material. In addition, the foetus is also developing and this requires protein. The pregnant gilt should receive daily about 6 to 8 pounds of skimmilk when in the alfalfa pasture and slightly more in dry-lot. If tankage is fed, about 6 or 7 pounds for each 100 pounds of grain or alfalfa pasture and 10 pounds in dry-lot should be given.

Where the sows are kept in dry-lot, alfalfa hay fed in racks will greatly improve the ration. Where available, skimmilk will also be a valuable addition. Where skimmilk is not available, some tankage should be fed. If roots are available, sugar-beets, mangels, raw potatoes, or even better, cooked potatoes, may be fed. These should be fed preferably as a noon meal. This tends to keep the bowels loose and the system toned up.

During the month just previous to farrowing, the amount of protein should be increased. If tankage is being fed, the amount should be increased to approximately 10 pounds for the aged sow and to approximately 12 pounds for the gilt for each 100 pounds of grain.

Feeding and Caring for the Boar

Since the boar is the head of the breeding herd, his breeding condition is as important as is that of the entire sow herd. His feeding and care must receive consideration equal to that of the rest of the breeding herd.

The demands which are made on the boar should be understood and a ration given him which is in keeping with his needs. During the breeding season the mature boar demands a ration which is high in protein and minerals. Their loss during service amounts to considerable and must be supplied if his ability as a sure breeder is to be maintained.

During the breeding season the ration should be about the same as that for the pregnant sow. However, he should not be required to obtain too much of his feed from alfalfa pasture. Many practical breeders consider too much green feed detrimental to breeding abilities. A small amount of green alfalfa has a beneficial influence on the digestive system and furnishes much in the way of protein and mineral which the rest of the ration may lack. In the winter alfalfa hay of fine quality should be kept in a rack before the boar.

After the breeding season that ration given the dry sows will also be suitable for the boar. Care must be taken that the boar does not get too fat. He should be kept only in good condition, and his condition should govern the amount of feed supplied.

Exercise for the Boar

Often the boar is kept in a small pen with little or no exercise. This practice is highly detrimental to his breeding qualities. To keep in good physical condition and to be able to maintain a vigorous condition of breeding thrift, the boar must have proper exercise, which is just as important as good feeding. If exercise cannot be supplied in any other way, the boar should be taken from his pen each day and driven around for a half hour.

FARROWING

The care, feeding, and management which the sow has received during the breeding season and her period of pregnancy will largely determine the results at farrowing. A sow which has been properly fed and has had sufficient exercise should experience no difficulty at farrowing time.

A few days previous to farrowing the sow should be removed from the main herd to a well-cleaned pen with a guard rail properly placed. (Directions for cleaning the pen and the sow are given under the heading of sanitation.) At this time the grain ration should be reduced to about half, and enough bran, or bran and shorts, or some linseed oil meal added to substitute for the grain which has been removed. This will insure her bowels being kept in proper condition. Any tendency toward constipation is dangerous, and every precaution should be taken to avoid it.

Guard Rails

Guard rails are highly important. They should be placed 8 inches from the floor and should extend about 10 inches from the wall. These will save many pigs and prove to be a good investment.

With all preparations made, the attitude of the attendant should be one of "watchful waiting". Close watch should be kept at all times, but no help should be given if none is needed. However, if trouble develops such aid as is necessary should be given. During cold weather it is advisable to remove the pigs as they are born, dry them with a gunny sack, and if there is danger of their chilling place them in a box or barrel half filled with straw in which has been placed a few warm bricks or a jug filled with hot water. If one's presence annoys a sow the

pigs may be removed with a long-handled shovel or a 6-tined fork. After farrowing, the pigs should be put back with the sow and every effort made to get them to suck.

The sow should have no feed for the first 24 hours after farrowing, but because of her feverish condition should be given all the water she will drink. If the weather is cold, the water should be warmed enough to remove the chill.

The first feed given should be a thin bran mash. The ration should be gradually increased until by the seventh or eighth day after farrowing she is getting a full ration which will be about the same as it was before being changed immediately preceding farrowing.

The afterbirth should be removed and either burned or buried. If a sow is allowed to eat the afterbirth, it is possible that she will develop the habit of eating her pigs. However, if a sow is properly fed previous to farrowing, she probably will not develop the "pig-eating" habit.

Needle Teeth

Examination of the mouths of the young pigs at the time of birth generally reveals the fact that they have small black needle-like upper and lower teeth, called "wolf teeth". It is advisable to remove these teeth during the first 12 hours after birth. Otherwise, the pigs may injure each other as well as injure the sow's teats and udder. For removing these teeth, a small pair of cotterkey cutters may be used; they can be purchased at any hardware store and are as good as any special more expensive instrument. Care should be taken to make a clean break; if a laceration is made iodine or mercurichrome should be applied to prevent infection.

Marking Litters

If pigs are raised for market only, there is little need of marking the litter, although it may be useful if some breeding gilts are to be selected. In this case

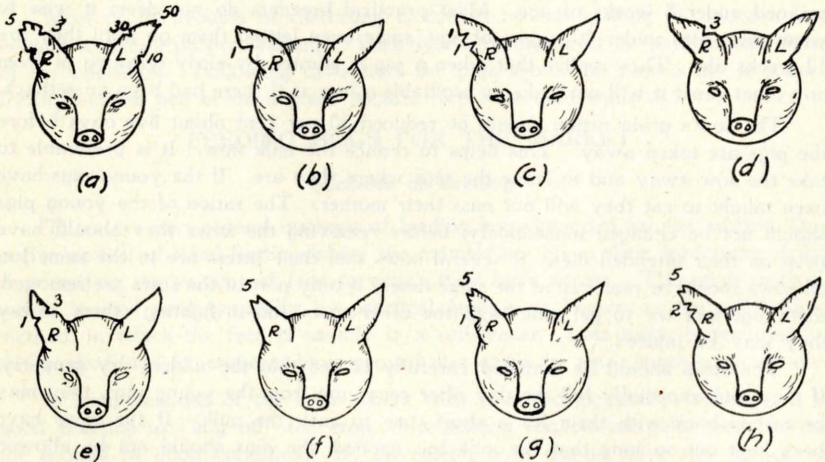


Fig. 4.—A simple and satisfactory system of ear-marking. "A" to "H", inclusive, indicate how the notches are cut for numbering different litters. "B" indicates how Litter No. 1 may be notched. Each pig has one notch in the lower side of its right ear and belongs to Litter No. 1. In Litter No. 2 each pig has two notches in the lower side of the right ear, as in "C". In litter No. 3 each pig has one notch in the upper side of its right ear, as in "D". Litter No. 4 has a notch in each side of its right ear, as in "E". Litter No. 5 has a notch in the tip of the right ear, etc.

it is advantageous to know their dams. If purebred hogs are produced it is necessary to have some system of keeping track of pigs from different sows. This is usually done by one of the several systems of ear-marking. A simple and yet satisfactory system of ear-marking is shown in Figure 4. "A" shows the system now in use at the Utah Agricultural Experiment Station for marking litters of pigs. The notches in the ear should be cut with an instrument especially designed for the purpose.

Litters are usually numbered in order, as they are farrowed, the first litter of the year being No. 1, the second litter No. 2, etc.

FEEDING THE SOW AND THE LITTER

While suckling the litter, the sow should be on a full feed of grain, and if possible she should be on pasture, preferably alfalfa. If she has a large litter and is a good milker she will lose in weight regardless of how well she may be fed.

By the time the litter is 7 or 8 days old the sow will be on full feed and will be producing her maximum amount of milk. This milk will be sufficient feed for the young pigs until they are about 2 weeks old. By this time they are taking an interest in their mother's feed. They should be further encouraged by supplying some additional feed for them. This is often done by fencing off a corner, leaving a place where the pigs can go through to a trough in which grain, skim milk, or buttermilk has been placed. Care should be taken not to overfeed young pigs. The mother's milk still remains their principal source of feed, supplemented by other feeds as soon as the pigs will take them.

Weaning

There is a difference of opinion regarding the age at which pigs should be weaned. Unless there is some good reason for doing so, they should not be weaned under 8 weeks of age. Most practical breeders do not deem it wise to wean their pigs under 10 weeks of age, some even letting them go until they are 12 weeks old. They realize that when a pig is stunted by early weaning or from any other cause it will not make as profitable a hog as if there had been no setback.

The sow's grain ration should be reduced 50 per cent about five days before the pigs are taken away. This helps to reduce the milk flow. It is preferable to take the sow away and to leave the pigs where they are. If the young pigs have been taught to eat they will not miss their mother. The ration of the young pigs should not be changed immediately; before removing the sows they should have been on their intended diet. If several sows and their litters are in the same lot, all sows should be removed at the same time. If only part of the sows are removed, their pigs will try to get milk from the other sows and in fighting them away they may be injured.

The sows should be watched carefully to see that the udders dry properly. If they look especially full the day after removing from the young pigs, they may be turned back with them for a short time to suck the milk. If the sows have been kept out so long that the milk has spoiled, the pigs should not be allowed to nurse as spoiled milk often causes digestive trouble. Usually, however, no difficulty will be encountered if the feed has been reduced before turning the sows into a dry-lot. The udder shrinks in a few days, after which the sows can be turned out on green grass.

CASTRATION

Since boars sell at a discount, those male hogs intended for market must be castrated. This operation is a simple one which every hog raiser should understand. The best time for castrating is when the pigs are about 10 weeks old, although it may be performed any time before the pig reaches a weight of 100 pounds. After this the animal may become a "stag" on the market and is docked accordingly. For best results a good sharp knife is necessary. Under ordinary circumstances an ordinary jack knife may be used; however, a regular castrating knife should be used if there are many hogs to castrate.

There are two methods for holding the pigs: (1) Where the pig is small the pig may be held by the hind legs with its back toward the holder and with its head pointing toward the ground. (2) The other method is to place the pig on its left side, with the helper's knee on the pig's neck; by holding the hog's right foreleg with the right hand and the right hind leg with the left hand, drawing the right hind leg forward, the operator is allowed plenty of freedom. Care must be taken in catching and holding the pigs so as not to injure them.

Before performing the operation, the knife should be thoroughly sterilized with an antiseptic. The operator first takes hold of the scrotum over the lower testicle and works it out until the scrotum is fully distended. Beginning at a point on the scrotum far enough forward to insure good drainage of the wound, he makes a quick incision, cutting through the outer and inner skins of the scrotum, thus exposing the testicle. The pressure of the left hand forces out the testicle, which is grasped by the left hand and drawn slowly from the body. At the same time the cord is scraped with the knife in the direction of the body. If the cord is not severed after scraping a half dozen times it may be cut off at the point where it emerges from the scrotum. The other testicle is removed in the same way. An antiseptic should be applied to the wound. A weak solution of creosote dip is recommended. The same method is used in castrating old boars. It is advisable, however, to use an emasculator for severing the cord.

Most of the trouble in castrating is caused by not making the incision low enough to insure proper drainage. Particular attention must be paid to this phase of the operation. Following castration, the pigs should be placed in a clean, freshly bedded pen or on a grass pasture free from mud wallows.

FEEDING HOGS FOR THE MARKET

Methods of Feeding

There are two general methods of feeding hogs intended for the market: One is the method of hand-feeding where the animals are given their feed twice daily, thus limiting the amount of feed to which they have access. The other method, which is used most generally by practical feeders, is known as the self-feeding method, in which the feed is usually in a self-feeder. Less work is required by this method, and experiments have proved that gains are made more economically.

In some sections of the state where corn is raised especially for hogs, it is good practice to "hog off" the crop, thus making economical gains and leaving the ground in good condition. If convenient, hogs should have the run of an alfalfa field and at the same time supplied daily with about 0.25 pound of tankage for a 100-pound pig and 0.5 pound for a 200-pound pig. If they do not have access to an alfalfa field, tankage may be kept in a self-feeder in the field. **However, the amounts of tankage eaten will be about double,**

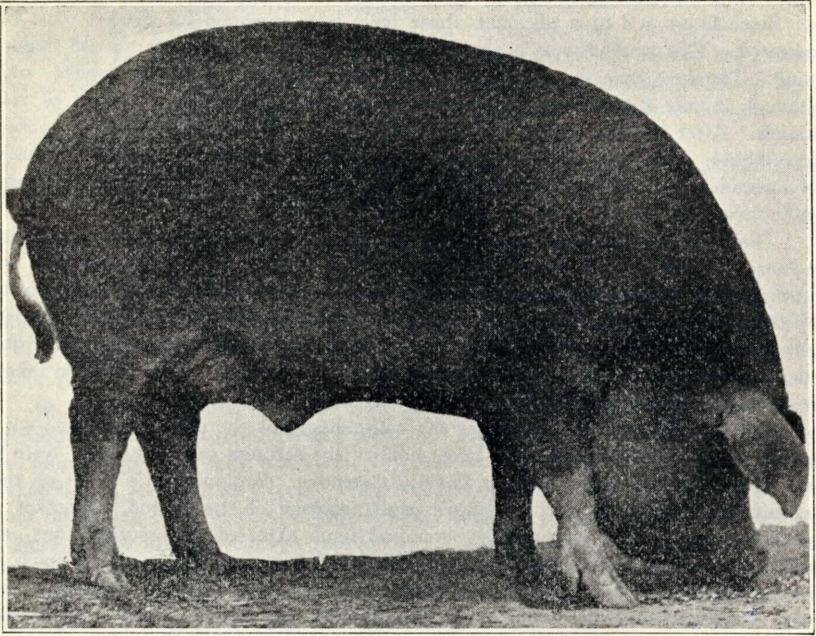


Fig. 5.—A well-finished market barrow. Note finish and smoothness. (Courtesy, Duroc Publishing Company.)

There are two systems of handling pigs from the time they are weaned until they are ready for market. One system is to carry the pigs along on alfalfa pasture with just enough grain to keep them thrifty and growing (about 2 per cent of their body weight) until they reach a weight of 75 to 100 pounds. They are then put on a full feed and fattened for market as quickly as possible. This system is used principally when feed is scarce during the first part of the feeding period. By following this method the pigs can often be carried until a new crop has been harvested. In using this system the pigs must not be allowed to become too large before the fattening process starts, or it may be necessary to carry the hogs to a larger size than is desired before they are fat enough for the market.

A second method of handling feeder pigs is to feed them all they will eat from the time they begin to eat grain (before they are weaned) until they are ready for market (when they weigh from 200 to 235 pounds). The pigs are thus ready for market sooner; there is also less death risk; and the market price is usually higher in July and August.

There are a number of factors, such as the amount of feed on hand, cost of feed, and time of marketing, which will determine the method used.

FEEDS

The present-day hog is far removed from his wild ancestor. He has changed in size, shape, and appearance. In fact, he has changed in practically every respect, save one. It is doubtful if the hog's body requirements and food habits

have materially changed. In the wild state he was omnivorous and selected a mixed diet of seeds, forage, animal matter, and mineral material. These his body still requires. Man has attempted to rear him under artificial conditions without supplying some of these requirements, but without success. The dictates of nature are strong, and anyone wishing to make a success of the hog business will do well to study the requirements of the hog which are his by nature.

The question is often asked: What is the best ration? There is no "best ration" for all conditions. A ration which is best in one section might prove too expensive for use in some other section.

It is safe to say, however, that farm-grown feeds should be made the basis of the ration. It is doubtful if hogs can be produced economically where all feeds must be purchased.

The two grains raised in Utah which are most suitable for hog feeding are barley and wheat. Oats are too bulky to be used satisfactorily as a fattening feed for hogs. Corn is used to some extent in certain sections of the state, when grown in a limited way.

Barley

In Utah barley is the grain most generally used as a hog feed. Experiments have shown that where barley is of good quality and is fed ground it has from 90 to 95 per cent the feeding value of corn. For hogs, barley and all small grains must be ground. Experiments indicate that soaking is a poor substitute for grinding; in fact, in some instances the feeding value apparently has been decreased by soaking, and in no instance has there been enough gain to pay for the extra work. Grinding of barley for hogs will increase its feeding value from 30 to 40 per cent.

Wheat

Wheat as a rule is not fed to hogs; however, in years when wheat prices are low more value may be realized from the crop if fed. Wheat has a slightly higher feeding value than corn, being higher in protein and nitrogen-free extract, but is slightly lower in fat. The expense of grinding, however, must be added to the cost of wheat, which gives it about the same feeding value as corn. Wheat should be coarsely ground or rolled. When ground fine it makes a sticky mass in the pig's mouth. When ground fine it should be fed as a medium thin slop. Sometimes wheat is fed soaked. "Soaking wheat is a poor substitute for grinding," according to Henry and Morrison⁴, "as it makes but little saving over feeding the dry whole grain."

Oats

Having less than half the value of corn, oats are too bulky to be of value for fattening hogs. However, for breeding animals they are valuable if rolled or ground. Oats are also valuable to feed to young animals which are being developed for the breeding herd. However, unless the hulls are sifted out, oats should not be fed to very young animals.

Tankage or Meat Meal

Tankage or meat meal is a product of slaughter houses and rendering plants and is made from dead or condemned animals. It is made by subjecting the meat to high temperature under pressure, completely sterilizing it. It is high in well-balanced protein, being second in quality only to skim milk and buttermilk.

⁴Henry and Morrison. "Feeds and Feeding", p. 635. (18th edition) Henry-Morrison Publishing Company, Madison, Wisconsin, 1923.

Tankage is also high in minerals, especially in calcium and phosphorus. It is not only valuable for feeding fattening pigs but is just as valuable for breeding stock.

Tankage contains a high percentage of protein—about 60 per cent. Since it is more or less expensive, it should be carefully fed. Because of its richness in protein only a small amount should be fed and then in combination with the grains in order to have a balanced ration for fattening hogs. For pigs weighing about 100 pounds, when in dry-lot about 10 pounds of tankage to each 100 pounds of grain is required. For pigs just weaned about 12 pounds is necessary for each 100 pounds of grain. Recent experiments show that a mixture of protein supplements gives better results than where a single supplement is fed. A mixture of equal parts of tankage (containing about 60 per cent protein) and cottonseed meal has been found to be superior to tankage alone. When fed in these amounts, cottonseed meal is not injurious to hogs.

Skimmilk and Buttermilk

On many farms where there is a surplus of skimmilk its proper utilization sometimes becomes a problem. It is not generally recognized that skimmilk and buttermilk are a protein supplement of the highest type. There is no single protein feed which will give as satisfactory gains as will skimmilk when fed to pigs being fattened in dry-lots.

According to Henry and Morrison⁵ when tankage costs \$60 a ton and corn is 85 cents a bushel, skimmilk has a value of 35 cents per hundred pounds.

It is thus evident that skimmilk has a very real value as a feed. To balance the ration for pigs just weaned and which are being fattened in dry-lot, 4 pounds of skimmilk to each pound of grain is sufficient. As they grow older the proportion of skimmilk to balance the ration is decreased. Pigs weighing 50 to 100 pounds require 2.5 to 3 pounds of skimmilk for each pound of grain; pigs weighing 150 pounds require 2 pounds; and pigs weighing 200 pounds will need about 1.5 pounds of skimmilk for each pound of grain.

For pigs running on alfalfa pasture these amounts should be reduced to half. It should also be stated that the limited experimental evidence on this subject indicates that not as satisfactory results are secured from skimmilk where it is fed on alfalfa pasture as where it is fed in dry-lot.

Buttermilk may be substituted for skimmilk and has the same feeding value. It should be remembered, however, that buttermilk which comes from creameries often contains wash water from the churns. The value of the buttermilk will be proportionately decreased.

Whey

Whey is a by-product in the manufacture of cheese. It is low in protein, but the protein which it does contain has been found to be of high value. Because of the high value of this protein surprising results have been obtained. Experiments have shown that where even young pigs have access to all the whey they can drink they do not need any other animal protein. However, they do need more protein than is furnished from the whey; this can be obtained from linseed oil meal, shorts, or some other vegetable source. Pound for pound, whey has about one-half the feeding value of skimmilk.

⁵*Ibid.*, p. 644.

Shorts or Middlings

Shorts or middlings are by-products in the manufacture of flour and are one of the most popular commercial feeds. They are fairly high in protein, containing about 13 per cent; however, this protein is of poor quality and does not supplement efficiently the protein of the grains. For this reason they usually give better results when fed as the protein supplement to pigs which are being run on alfalfa pasture. Where hogs are being fed in the dry-lot shorts or middlings are more efficient in supplementing the protein of alfalfa than they are in supplementing the protein of the whole grains. Although high in phosphorus, shorts when fed to animals in the dry-lot and where no animal protein is available, the ration will be much improved by adding alfalfa hay of good quality. It would be even more preferable to add some tankage or skimmilk. Shorts usually sell at a price which makes them uneconomical as a protein supplement as compared to tankage, skimmilk, or buttermilk.

FORAGE CROPS

In Utah there are several plants that can be grazed by hogs, but because of the many superior advantages of alfalfa this discussion is confined to this crop alone.

Alfalfa Pasture

Alfalfa pasture is of so much importance in hog production that its use may mean the difference between a profit or a loss. "Few facts in swine feeding have been so clearly proved, both by scientific experiments and in the common experience of successful farmers, as the high value of pasture or forage crops for all classes of swine⁶."

Alfalfa pasture is valuable for all classes of hogs because it contains in liberal amounts the necessary nutrients used in building up the tissues of the growing body. Protein, which is furnished abundantly, properly supplements the farm-grown grains which should be the basis of the ration. Alfalfa also contains in liberal amounts those minerals, especially lime, needed by the animal for the growth of its bony frame work. It also contains all of those vitamins which have been found recently to be absolutely necessary for the growth and well-being of an animal.

Since alfalfa is so efficient in furnishing these several nutrients, and since only half as much expensive protein in the form of tankage or skimmilk needs to be purchased, gains are made much more economically. When pigs are on alfalfa they are under ideal conditions as far as sanitation is concerned. They remain thrifty, are free from parasites, and get the proper amount of exercise, so essential to their health.

IF THE MAXIMUM PROFIT IS TO BE EXPECTED IN THE PRODUCTION OF HOGS, ALFALFA MUST BE USED TO THE FULLEST EXTENT.

The number of hogs which can be carried on an acre of alfalfa will be governed by the size of the hogs, other feeds fed, the stand of alfalfa, and the frequency of irrigation. Almost one-third more hogs can be carried on an acre of alfalfa if the pasture is divided, with half used at one time. The grazed half can be watered, thus getting a good start while the other half is being grazed.

⁶Henry and Morrison, "Feeds and Feeding": p. 664 (18th edition) Henry Morrison Company, Madison, Wisconsin, 1923.

Alfalfa Hay

With the exception of water, alfalfa hay contains the same elements as does green alfalfa. However, the digestive system of the young pig is not constituted to utilize large amounts of dry roughage of even the best quality. If pigs are forced to eat too much alfalfa hay there will be a decrease in their gains. Their stomachs become filled with bulky feed and they are not able to eat enough concentrates to make satisfactory gains. For young growing pigs the ration should not contain more than 5 or 6 per cent alfalfa. This much, however, will improve the ration by furnishing some protein and minerals, and especially those vitamins which are likely to be absent in winter rations where no skimmilk is fed.

In the feeding of aged animals conditions are different. Because of their better developed digestive systems older animals are able to handle fairly large amounts of alfalfa hay. A large part of the ration may thus be composed of this material.

Alfalfa hay may be ground and mixed with the other feeds or it may be fed in a rack placed in the pen. Fed in a rack it must be of the best quality, fine-stemmed, leafy, and green or the hogs will eat little of it. Where hay of good quality is fed the hogs will consume it in rather large amounts.

The amount of grain which should be fed to breeding animals having access to alfalfa hay will depend on the condition of the animal.

PRECAUTIONS IN FEEDING

It should be remembered that in feeding any of the milk products—skimmilk, buttermilk, or whey—they should be fed each day in the same degree of sweetness. It makes no difference whether they are fed sour or sweet, but they cannot be fed sweet one day and sour the next without causing trouble. Buttermilk which comes from the creamery where it has had wash water run into it will naturally have a lower feeding value. Whey and buttermilk often are held at creameries in open tanks. During warm weather these liquids become loaded with flies and are teeming with millions of bacteria. Such feed obviously endangers the health of any animal.

Another danger of feeding milk by-products which have passed through a public creamery is the chance that some cows in the territory may have tuberculosis. All the milk going into a creamery is mixed, and a little of the milk from each cow in the territory is taken back to the farm. For this reason patrons using creamery by-products should insist on pasteurization.

Cottonseed meal, which is high in protein, is a popular feed with livestock men. It is well liked by hogs but is extremely dangerous if fed in too large amounts. Cottonseed meal has been successfully fed as a part of the protein supplement. If used, however, it must be fed with care.

MINERALS

Because of conditions under which hogs are often raised, they are much more apt to suffer from a lack of mineral matter than are other farm animals. Especially is this true of those hogs which are kept in pens and are fed on grains. Several minerals are required for the proper functioning of the body, but those which are most liable to be lacking in the ration are calcium and phosphorus, which are used in fairly large amounts in the production of the skeleton. Grains contain little calcium, and for this reason pigs raised on grains only, usually have small, weak bones. This accounts for many of the broken bones, especially broken legs, which occur in handling hogs in shipping.

In the past breeders have taken little note of the importance of mineral matter in the rations of their livestock. This may be because little was known of the mineral requirements of animals until recently. The importance of mineral matter in a ration is shown by the fact that if feed from which all mineral matter has been removed is fed, animals receiving such feed will actually die more quickly than if no feed at all is given.

Sodium chloride (common salt) is another mineral which hogs often lack. Hogs do not require as much salt as do other classes of livestock; nevertheless, it should be supplied regularly. Hogs are susceptible to salt poisoning; thus, those hogs which have not had access to salt must be slowly accustomed to it.

"In a trial by Evvard at the Iowa Station⁷ pigs allowed free access to salt made better gains than those receiving no salt or others getting allowances of one-sixty-fourth, one-thirty-second, or one-sixteenth ounce per head daily."

The importance of alfalfa pasture in hog-feeding cannot be too frequently stressed. Its importance is again referred to by Henry and Morrison⁸:

"If pigs are on such pastures as alfalfa, clover, or rape, good results will be secured without the addition of any mineral supplement except common salt. Indeed, if plenty of skim milk, buttermilk, tankage, or fish meal is fed to balance the ration, there is no definite proof that there is any advantage whatsoever in adding a mineral supplement to furnish additional calcium or phosphorus where swine are on good pasture. Likewise, if brood sows are fed well-balanced rations in winter, including legume hay and also a protein-rich feed of animal origin such as skim milk or tankage, there is no conclusive evidence that there is any benefit from adding supplements to furnish more calcium or phosphorus. Where less ideal rations than these are fed either to pigs or to brood sows there may be an advantage in adding mineral supplements supplying calcium and perhaps phosphorus also. For example, in a trial by Evvard at the Iowa Station, pigs fed corn and a mixture of 40 parts of linseed meal, 40 parts of corn germ meal, and only 20 parts of tankage made slightly more rapid and economical gain when such mineral supplements as ground limestone or spent bone black were supplied in addition. One of the primary reasons why forage crops are so indispensable in pork production is that they are, in general, rich in mineral matter, especially lime, in addition to being rich in protein of good quality. In view of the limited amount of data on mineral requirements of swine at present, it is probably wise to supply a simple and cheap mineral mixture for all swine not on pasture, except perhaps when they are fed excellent well-balanced rations, including calcium-rich feeds, such as skim milk and tankage and also legume hay".

At the present time there are many mineral mixtures on the market—many of them are expensive, out of all proportion considering the minerals which they contain, and many of them are elaborate mixtures containing much material probably not needed at all. If any particular mineral is needed the farmer himself can usually supply it more cheaply by feeding some air-slaked lime, steam bone meal, and wood ashes. A home-made mixture will give just as good results as will an expensive commercial mixture and in many instances is much cheaper.

Goitre and resulting hairlessness in pigs can be cured by adding sodium iodide or potassium iodide to the ration.

Some simple mineral mixtures which will probably meet most of the requirements for hogs in Utah are given below:

⁷Henry and Morrison, "Feeds and Feeding": p. 603 (18th edition) Henry-Morrison Company, Madison, Wisconsin, 1923.

⁸*Ibid.*, Footnote 7.

Ration 1:

Salt	33 lbs.
Bone meal	33 lbs.
Ground limestone (good quality).....	33 lbs.
Potassium iodide or sodium iodide.....	.05 lb.

Ration 2:

Salt	50 lbs.
Wood ashes	50 lbs.
Potassium iodide or sodium iodide.....	.05 lb.

DEVELOPING YOUNG ANIMALS FOR THE BREEDING HERD

In selecting gilts for the breeding herd only those animals of outstanding merit should be selected. They should show exceptionally good type and conformation. No others should be chosen. Only those boars which can be registered should be saved. Feed and care is exactly the same for boars and for gilts. Selection of animals should be made at weaning time. As these animals grow older and their individual characters develop, it will be necessary to make another selection.

Young breeding animals should be fed to develop stretch, size, and bone, but should not be allowed to become fat. Over-feeding has ruined many good breeding animals. They must be kept growing and thrifty. Good alfalfa pasture should constitute a good part of their ration. About 2 pounds of grain for each 100 pounds of weight will usually be sufficient. About 5 pounds of tankage for each 100 pounds of grain should also be given them. Where the pigs are being fed in dry-lot, they should be given enough grain to keep them growing normally and all the green, fine-stemmed alfalfa which they will eat. It is recommended that this feed be kept before them in suitable racks. About 10 pounds of tankage for each 100 pounds of grain fed should also be given. If skim milk is available, it should replace the tankage. A mineral mixture should also be kept before them at all times.

The gilts and boars are fed in different feed lots.

Breeding Age of Gilt

At what age should a gilt be bred? This does not depend so much upon her age as upon her development. A well-developed and growthy gilt may be bred at 8 months of age; however, one which is not so well developed should probably not be bred before 10 or 11 months of age.

Gilts, underdeveloped at time of breeding, may have difficulty at farrowing time, may produce small and weak litters, and do not make good growth after weaning their first litters. After producing her first litter in the spring a gilt should not be bred to produce her second litter in the fall. She should be about 2 years old before producing her second litter. A gilt needs for growth all of the time between weaning her spring litter and being bred in the fall. After two years she can produce two litters a year, if desired. A good sow, producing strong litters and feeding them well, should be retained in the breeding herd as long as she continues to be a good producer. This is often 7 or 8 years, and sometimes longer.

Breeding Age of Young Boar

A boar should not be used as a rule for breeding before he is 1 year old. However, a well-developed boar 9 or 10 months old, if properly handled, may be

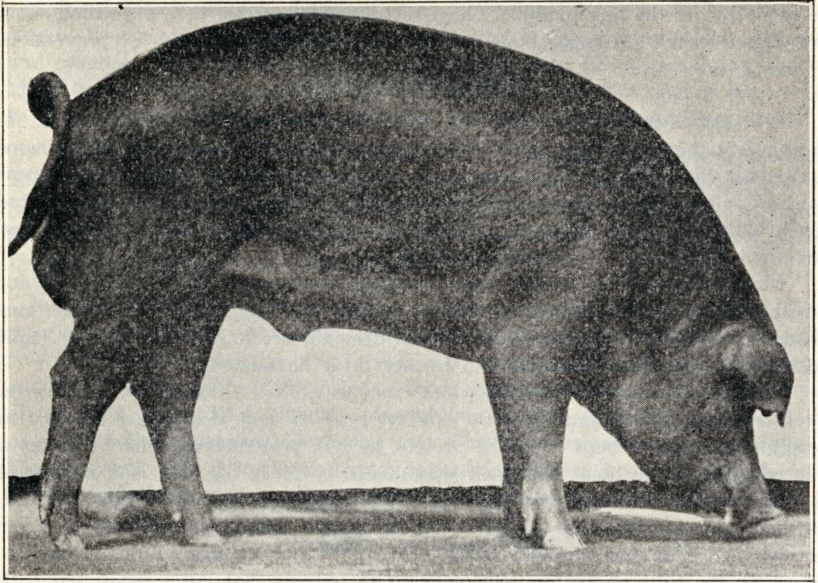


Fig. 6.—Junior Champion Duroc boar, Nebraska State Fair, 1929. The type of pig that grows fast and reaches a marketable weight quickly and economically. (Courtesy, Duroc Publishing Company.)

used with a few sows. However, no more than one or two services a week should be allowed.

WATER

A supply of clean, fresh water is as essential for hogs as it is for other farm animals. This highly important fact is probably more often neglected than any other. The usual method is to pour water twice a day in a foul, dirty trough. This does not give the hog as much water as it needs. Neither should the pig be expected to obtain its water-supply from a filthy, dirty mud-hole or pond. If running water is not available, an automatic watering device should be used. The hog should have fresh water available at all times.

"PIG-EATING" SOWS

Some sows acquire the unnatural habit of eating their own pigs. The exact cause is not known, although it is generally thought to be the result of some nutritional deficiency. This pernicious habit may be formed if the sow is allowed to eat the afterbirth. **THE AFTERBIRTH SHOULD ALWAYS BE REMOVED AND BURIED.** The ultimate cause is probably a craving for mineral matter and some animal protein. When properly fed sows seldom become "pig-eaters". Protein can be furnished in the form of tankage or skimmed milk. "Pig-eating" is a habit which, if once acquired, is seldom broken; sows with this habit should be sent to market. If such a sow is kept over to farrow a second litter, especial care should be taken to see that she is properly fed. Her bowels should be kept loose previous to farrowing; to accomplish this, it may be necessary to administer

salts. After farrowing, each pig should be rubbed lightly with kerosene; too much kerosene causes the hair to slip. These recommendations for the "pig-eating" sow are offered merely as suggestions and are not absolute guarantees of prevention.

MARKETING HOGS

A livestock market will take any kind of animal and find a place for it. It is apparent, however, that some classes and grades of livestock are much more acceptable than others. The same types of animals are not always in greatest demand on the market; this is often confusing to producers and to those not in close touch with the market situation. These seasonal changes in market demand are governed largely by the supply available.

Market demand is erratic, often changing over night. Obviously, it is not possible to conduct the breeding business so that the demands of the market can always be supplied. In general, the market demands are fairly regular, with slight fluctuations, and there is no way to foresee these fluctuations.

Packers take most of the hogs which come to market, although the producer is often criticized for not producing the "packer type" of hog. If a packer is asked to describe the type of hogs which he prefers, he will probably say that he wants a hog which is fine in bone, has great smoothness, is full in the ham, and in general is a little blockier in form than the type usually produced by the average breeder. Without question, the type preferred by the packer should be adhered to as far as possible. The fact remains, however, that the packer offers little or no premium for the type he prefers as compared to a somewhat more rangy pig with medium to large bone. There is thus little incentive for the producer to attempt to meet the demands of the packer as regards type of market hogs. Large, stretchy breeding stock have an advantage in prolificacy; their pigs have advantages in thriftiness, health, and economy of gains which more than counterbalance the meager premium sometimes paid for market-top hogs.

Studying the Market

The federal government sends out daily market reports to anyone interested. These reports contain much valuable information pertaining to receipts, selling price of the different classes of livestock, and general market conditions. Farmers should receive these reports regularly and study them carefully. Many farm papers and breed journals contain market reports and discussions which are read and studied by the progressive and well-informed producer of market animals.

Visiting the Market

The workings of a livestock market are often puzzling. However, the system is simple and easy to understand. An occasional half-day spent at a livestock market in company with a commission man or some representative of the stockyards company will be time well spent. It gives one an insight into one of the greatest business enterprises in the world, namely, marketing livestock, and this should be advantageous to any producer.

JUDGING

"The practical livestock man must be a good feeder, a devoted caretaker, a skillful breeder, and must know how to buy and sell to advantage; but most important of all, he must be a good judge."

⁹William W. Smith, "Elements of Livestock Judging": p. 1. J. B. Lippincott Company, Philadelphia, London, Chicago, 1927.

To be a good judge one must first of all have a clear mental picture of what constitutes a good animal. In other words, there must be a clearly defined ideal. It must be known what constitutes an ideal animal. This is learned only by study and practice. The conception of the ideal animal must be corrected and checked many times. Seeing a grand champion Duroc-Jersey boar but once is not enough to fix in the mind of the amateur judge the ideal type of the Duroc-Jersey breed.

Keen observation is not only an asset to the livestock judge but a necessity. This faculty must be well-developed. Many mistakes made by judges are the result of faulty observations. Observation is a natural faculty but must be trained by systematic use. One must learn to make observations accurately and quickly. Proficiency is attained only with practice.

Judgment, as well as observation, is a natural faculty which improves with practice. For anyone attempting to breed livestock, it is important that judgment be well-developed. A judge must be able to make comparisons, weigh the evidence, and reach logical and just conclusions. Even though there is a good mental picture of the ideal animal and accurate observations of each individual are made, because of faulty judgment, the wrong individual may be selected—due wholly to bad judgment. Good livestock judges are made and not born. They are made by developing the natural characteristics with which they are endowed.

Judging Lard-Type Hogs

Following is given a brief discussion of judging, which fits, in a general way, any of the lard type of hogs. However, in judging hogs of any type it must be remembered that each breed has certain breed characteristics, such as color, shape of face, set of ear, etc., which distinguishes it from other breeds. A thorough knowledge of breed characteristics is necessary for any qualified judge of breeds. All breeds, however, have many common characteristics, and it is to these that particular attention is given.

Type

In type, the modern lard hog is long, deep, and of moderate width. He stands on strong, well-shaped legs of moderate length.

Quality

Any breeding animal should show a certain amount of refinement, as indicated by fineness of ear, hair, general smoothness, and clean-cut joints. However, quality should not replace ruggedness, size, or amount of bone. A too-refined animal is almost as objectionable as is one somewhat lacking in this desirable attribute.

Sex Characteristics

The female shows a "feminine" and matronly" appearance. She should give every indication of being a breeder and a producer.

The boar should exhibit strong male characteristics. He will be somewhat larger than the sow, the head and neck will be stronger and show a boldness which does not exist in the female. In short, he exhibits strong masculine characteristics which stamp him as a strong, vigorous individual, capable of leading his herd.

SCORE CARD FOR BREEDING ANIMALS

Perfect Score

- 6 Head:** Medium length, good width between the eyes, slightly dished.
 Objections—Coarse, narrow between the eyes, face straight or decidedly dished.
 In the Berkshire breed the face should be short, broad, and decidedly dished. In the Hampshire, the face should be rather long, narrow, and nearly straight.
- 2 Ears:** Medium in size, moderately thin, set well apart, dropping or straight according to the breed. Ears should not be heavy or break close to the head.
- 2 Neck:** Short, thick, deep, free from creases, blending smoothly with the shoulders.
- 2 Jowl:** Full, firm, smooth, not loose or flabby, coarse or wrinkled.
- 6 Shoulders:** Width in proportion to the rest of the body, smooth and compact over the top, not extending above line of back.
- 12 Chest and Heart Girth:** Deep, full, good width between fore legs, girth large.
- 15 Back and Loin:** Strong, well-arched, moderately uniform width, square spring ribs.
- 10 Sides:** Long, even, deep, smooth, firm, free from creases or wrinkles. Full between shoulders and hams.
- 4 Belly and Flanks:** Belly broad, full, neat, underline straight, teats prominent, numerous, well-placed, flanks low and full.
- 10 Ham and Rump:** Hams deep, wide, full, firm, meated well down to the hocks. Rump same width as loin, slightly rounding from loin to root of tail.
- 9 Feet and Legs:** Legs medium length, set well apart and squarely under the body. Bone of good size. Pasterns straight and strong, toes close together.
- 1 Tail:** Set well up, medium size, tapering, from root to end, inclined to curl.
- 3 Coat:** Fine, straight, smooth, fairly thick, covering body well except belly. Bristles are objectionable as are also swirls, coarse, curly, or very thin coats.
- 2 Color:** Typical color of the breed.
- 8 Size:** Young boars and gilts should be well-grown for their age. Mature boars should weigh not less than 800 pounds and mature sows not less than 600 pounds.
- 3 Style and Action:** Animals should be graceful, active, gentle, and easily handled, neither awkward nor sluggish.
- 2 Condition:** Animals should carry enough flesh to show that they have the ability to lay on fat.
- 3 Symmetry:** Symmetry of an animal depends on the blending of the individual parts. In a symmetrical animal the different parts seem to be made one for the other. There is a harmonious blending of all parts.

SANITATION

Many diseases and parasites attack hogs. Unsanitary hog lots and houses do not produce disease germs and parasites but they do harbor them. Filth of all kinds is a breeding place for harmful disease germs. Hogs wallow in filth and are unclean only when their quarters do not permit them to be otherwise. There

are serious losses each year from diseases and parasites, especially among young pigs. Young pigs should be prevented from becoming infected with parasites and disease germs, if such prevention is possible. Sanitation is the best means of combatting disease, thus preventing diseases and parasites getting a hold on animals while young and when least able to withstand their ravages.

In the cornbelt, where hogs are raised on a more economic basis than in any other section, it is to be noted that hogs are allowed to run out on pasture and are never shut up in small pens. Their owners realize that there is no economic profit in keeping hogs closely confined. However, in the newer hog-growing sections in the west, there seems to be an apparent tendency to keep hogs in small pens. Such pens naturally become filthy and the hogs do not develop as they should under these adverse conditions. They should be moved from the small pigsty back of the barn out to the open and given a well-drained lot, a dry bed, and the run of an alfalfa field. This is a most important step in profitable hog production and should be closely followed if economic success is to be attained.

A system of hog sanitation was started a few years ago in McLean County, Illinois, which has come to be known as the McLean County System. This method has proved so efficient in preventing disease that it is now in general use throughout the cornbelt, and farmers using the system have found that it is highly profitable. This system of hog sanitation, known as the McLean County System, consists of carefully cleaning out the farrowing pen by scraping the floor and wall with a hoe or shovel to remove all the dried manure. The pen is then scrubbed out with boiling water to which lye has been added at the rate of 1 pound of lye to 10 gallons of water. This mixture has a caustic effect and is one of the most practical means of destroying the eggs of the round worm, the eggs of which are not destroyed by any of the common disinfectants. The pen is then bedded lightly with **short** straw. Long straw should not be used as young pigs may become entangled in it. A few days before the sow is ready to farrow, she is brought in and given a bath with soap and luke-warm water to remove any worm eggs or other parasites which may be clinging to her. After this bath, the sow is placed in the pen prepared for her, where she is left for two or three days following farrowing. The young pigs are then put into a basket and the sow into a crate; they are hauled on a sled or stone boat to an alfalfa pasture, preferably one which did not have pigs on it the previous year. Clean shelter should be provided. The sow and young pigs should remain on the alfalfa until the pigs are weaned, at which time the sow is removed. Where the McLean County method has been followed, results have been most satisfactory and the efforts of the breeders have been well repaid.

HOUSING AND EQUIPMENT

For profitable production the proper housing of hogs is as important as any other one thing. In some sections there is a notion that anything is good enough for a hog. As a matter of fact, no animal on the farm requires more protection in way of a good bed and sunshine than does the hog. It is also true that the hog can be efficiently housed with less cost than other farm animals.

There are two types of hog houses in common use—the central and the individual or colony type of house. The central house is more costly to build; it contains several pens and because of its size is permanently located. The individual type of house has many points to recommend it and is regarded by many successful hog men as more desirable than the central house. The individual

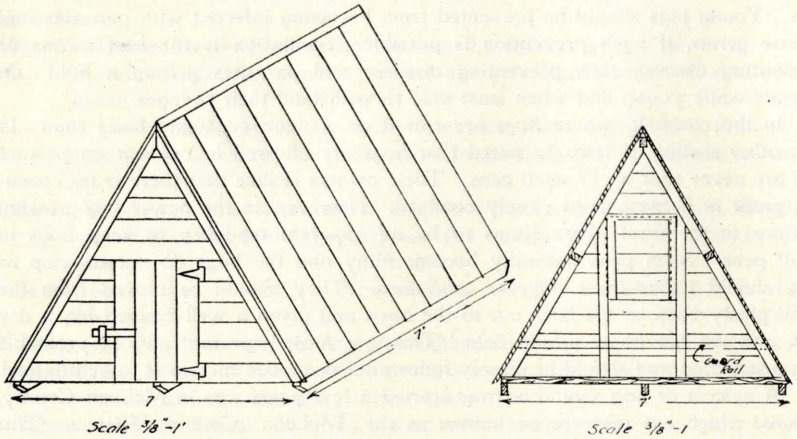


Fig. 7.—The "A" type hog house is economical to build and easy to keep clean. The guard rail is not necessary except when used for farrowing.

type is built commonly in two styles—the "A" type and the box type. The "A" type, being the easier and cheaper to build, is the one most generally used. These individual houses may be built either with or without a floor. It is more difficult to keep them sanitary with a floor, and without a floor the pigs often root up the ground. The general practice, however, is to build them without floors. This practice also saves considerable expense. In winter these houses may be banked on the outside with straw or other material and made reasonably comfortable.

If it is extremely cold at the time a sow farrows, a lantern hung in the top of the house will increase the temperature. A sack or a piece of canvas hung over the door in cold weather will shut out much of the cold and still allow the animal to pass in and out at will.

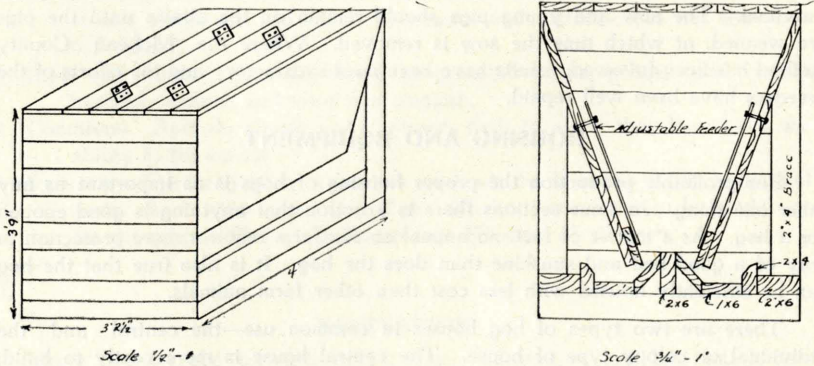


Fig. 8.—The self-feeder reduces labor and increases gains.

The Self-feeder

During the last ten years the self-feeder has been one of the most important developments in swine feeding. It is a device which holds a large quantity of feed and automatically supplies it to the hogs at all times. A self-feeder may have several compartments, so that different feeds can be fed and so the hogs can help themselves to any preferred feed. A two-compartment feeder, for feeding grain, and a protein supplement will usually be adequate. Another small compartment may be added for feeding minerals. The two principal advantages of self-feeders are: (1) Saving of labor and (2) larger gains per hundred pounds of feed. The disadvantages are: (1) It may become clogged; (2) there is danger that the herdsman might not give as close supervision to the animals as he should. The feeder should not be filled and then forgotten; it must be inspected often and regularly to see that it is properly functioning.



Fig. 9.—The automatic waterer offers the best solution to the watering problem; it provides an abundance of fresh water for hogs at all times.

Alfalfa Rack

If alfalfa is not fed in some kind of a rack it will be trampled in the mud, with a resultant waste. A rack, as illustrated in Figure 10, has been found to give satisfactory results.

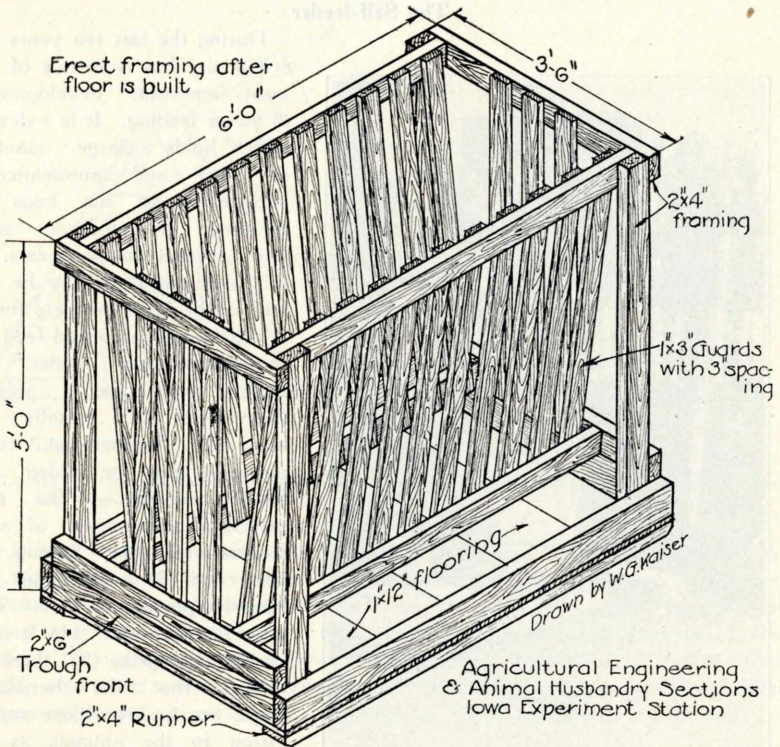


Fig. 10.—Alfalfa rack. If kept in an alfalfa rack during the winter, alfalfa will be eaten in satisfactory amounts. However, the alfalfa must be leafy, fine-stemmed, and of good color. Third or fourth cutting is usually best for hogs. (Courtesy, Iowa Agr. Exp. Sta.)

SUMMARY

The modern-type farmer will produce the modern-type hog. He will use due care in selecting, managing, and feeding his breeding stock. He realizes that the farrowing period and the few days following are critical times in the life of the young pig. He fully appreciates the fact that he must not be lacking in attention toward them at this time.

Hogs produced for the market should be so fed and so cared for that they will require only minimum time and feed to reach an acceptable market weight.

For hog production to be most profitable in Utah, home-grown grains and alfalfa must be fully utilized.

A good breeder is a good judge as well as a close student of the market.

Sanitation is a determining factor in successful hog production.

CONTENTS

	Page
Modern-Type Hogs	3
Selecting the Breeding Stock	4
Selecting the Sow	4
Selecting the Boar	5
Feeding the Breeding Herd	6
Feeding the Sow	6
Flushing	6
Feeding the Sow Previous to Farrowing	6
Feeding the Pregnant Gilt	7
Feeding and Caring for the Boar	7
Farrowing	8
Guard Rails	8
Needle Teeth	9
Marking Litters	9
Feeding the Sow and Litter	10
Weaning	10
Castration	11
Feeding Hogs for the Market	11
Methods of Feeding	11
Feeds	12
Barley	13
Wheat	13
Oats	13
Tankage or Meat Meal	13
Skimmilk and Buttermilk	14
Whey	14
Shorts or Middlings	15
Forage Crops	15
Alfalfa Pasture	15
Alfalfa Hay	16
Precautions in Feeding	16
Minerals	16
Developing Young Animals for the Breeding Herd	18
Breeding Age of Gilt	18
Breeding Age of Young Boar	18
Water	19
"Pig-Eating" Sows	19
Marketing Hogs	20
Studying the Market	20
Visiting the Market	20
Judging	20
Judging Lard-type Hogs	21
Type	
Quality	
Sex Characteristics	
Score Card for Breeding Animals	22
Sanitation	22
Housing and Equipment	23
The Self-feeder	25
Alfalfa Rack	25
Summary	26