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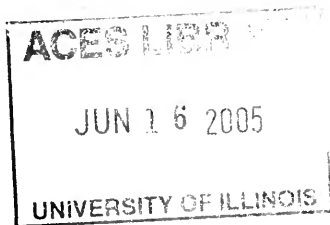
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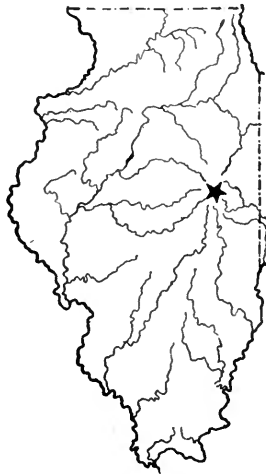


UNIVERSITY OF ILLINOIS
Agricultural Experiment Station.

BULLETIN NO. 97.

MARKET CLASSES AND GRADES OF
SWINE.

By WILLIAM DIETRICH.



URBANA, NOVEMBER, 1904.

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MARKET CLASSES AND GRADES OF SWINE.

BY WILLIAM DIETRICH, ASSISTANT IN SWINE HUSBANDRY.

INTRODUCTION.

In selling hogs to the local buyer or shipper, the farmer is very often at a decided disadvantage because he cannot interpret market reports to the full extent of their meaning, and therefore either does not get what his hogs are worth or loses a sale by asking too much for them. Believing that the producer of swine can be helped to a better understanding of the market end of the business, it was thought that an attempt to explain how swine are classified and graded on the Chicago and other markets would be of benefit to the average farmer. The regular shipper who visits the market frequently and the large farmer who accompanies his stock to market have excellent opportunities to become acquainted with stockyards expressions, and therefore the market reports as they refer to the various classes and grades of swine. It is primarily for the benefit of those who do not have this opportunity that this work was undertaken.

The necessity of an explanation of the classification is clearly evident. The very great difficulties, however, of such an undertaking are not so evident. The weight, condition, and quality of hogs coming to the market vary between wide limits, and, in general, make up markedly different classes and grades. Owing to the varying opinions held by different people who have to do with the handling of hogs on the market, and the activity of the market for certain classes compared with the dullness of the market for other classes, the limits of these different classes are somewhat variable. The boundary lines may be shifted one way or the other, depending on the activity of the market for one class and the dullness of the market for the other class, e. g., light hogs may be in great demand, but not very plentiful, and heavy hogs may be plentiful, but not in very great demand; then the boundary line between light and heavy hogs would be slightly raised so that the demand in the light-hog class could be filled with hogs from the lower limits of the heavy-hog class. The difficulties of the task are further augmented in describing animals of the various classes with varying condition and quality so that they are clear to the reader. It is a comparatively simple matter to bring out animals to represent certain types and to illustrate with them the classes and grades to which they belong. But to describe on paper these concrete objects with such abstract differences as quality,

without the object itself, is by no means an easy task. On account of the restlessness and lowness to the ground of swine, it is difficult to secure good photographs of them, but having secured them, they are very helpful to familiarize the reader with the different classes and grades.

Another difficulty that confronts one is the lack of uniformity in terms used in different market reports. Some of the terms thus used are not characteristic of what the names represent, and others are too broad in scope.

In an effort to present the subject so as to conform as nearly as possible to the true relation of things and in such a manner that it can be understood by the average reader, the classification given in the following pages has been evolved. It must not be understood, however, that this is simply a theoretical classification. It is in fact the real classification used in the Chicago and other stockyards, although not strictly observed in market reports or absolutely followed in practice by buyers and salesmen. Very often it is much abridged without any inconvenience to those familiar to the trade.

In small market centers the classification is not so complete, because the market demands are not so exacting nor the supply so abundant. As far, however, as the classification is carried out in American hog markets it is in accord with the classification herein given.

This bulletin is the result of a personal and extensive investigation on the Chicago and other markets, both in the United States and Canada, where every possible courtesy was extended by the packers, stockyards officials, government inspectors, and especially by buyers, speculators, and commission men. Grateful acknowledgment is gladly made for assistance rendered by them in the preparation of this bulletin.

All but two of the cuts presented herein were made from photographs taken expressly for this bulletin, and no time or expense was spared to obtain photographs which should be both clear and illustrative of what they represent.

Before taking up the discussion of the market classification it is necessary, in order to get a better conception of the subject in hand, to take up a general consideration of the hog of the United States leading up to the development of the

FAT OR LARD HOG.

To show the importance of the United States in the swine industry of the world, and thereby its influence in developing type, it is only necessary to state that it produces two-fifths of all the hogs in the world. In round numbers, according to the latest statistics obtainable, the United States has 47,000,000 hogs; Germany, 17,000,000; Russia, 11,000,000; Hungary, 7,000,000; Canada, 3,000,000; Spain, 2,000,000;

Roumania, 2,000,000; Poland, Belgium, Denmark, Australasia, and the Netherlands, each 1,000,000. All other countries, together with those above enumerated, have enough to make 117,000,000.

As to the distribution of hogs in the United States, we find that in the year 1901-'02, there were packed in the western states, including Ohio, Kentucky, and the states to the west, 25,411,676 hogs. During the same year there were packed in the eastern states, including New York, Pennsylvania, and all states to the east, 2,749,000 hogs. Considering that Chicago alone ships 1,000,000 hogs to the east annually, it is very evident that the states of the Mississippi Valley play a very important part in the swine-growing industry of the world. The type of hog produced here is familiar to all stockmen of the United States. Unlike the bacon hog of England, Denmark, and Canada, the most valuable parts of this animal are the hams, back, and shoulders, consequently these parts are developed at the expense of the sides, and the result is a hog that is diametrically opposite to the above mentioned bacon hog, viz., one that has a broad back, wide and full hams and shoulders, also a heavy neck and jowls, with a large proportion of external as well as internal fat.

The question that naturally presents itself in this connection is, why is there such a difference between these different types of hogs when they are all used for meat production? This question is all the more striking when we stop to consider that all the breeds of beef cattle and mutton sheep in all the principal countries of the world are practically of the same form. If not yet of precisely the same form, they are all being developed toward the same ideal. It is true that there is a great difference between beef cattle and dairy cattle, but they serve different purposes. In one instance, the production of meat is of primary importance; in the other, milk and butter are produced at the expense of meat. Considering that the fat or lard hog furnishes fat in the form of lard, and the dairy cow furnishes fat in the form of butter, there might be a slight comparison between the two. But on the other hand, the fat or lard hog is grown primarily for the meat produced from his carcass, consequently both in this respect and in his form, the fat or lard hog resembles the beef steer. Then why the difference between the two above mentioned types of hogs?

Most of the hogs of the United States as shown above are grown in the corn belt, consequently this section of the country has taken the lead in the development of swine of the fat or lard hog type, and has determined their characteristics. When the United States was settled, swine, of course, were brought over from Europe, but conditions here, and especially in the corn belt, were very different, and the character of the hog was changed to meet the demand as it developed under the different conditions.

There are three principal reasons for the development of the fat or lard hog:

1. The abundance and relatively low price of corn.
2. The home demand for cured meats.
3. The foreign demand for cheap meats.

(1) Corn is a plant native to America, and in the corn belt can be produced with much less cost than can any of the other grains. It is very natural then that it should be used almost exclusively as a feed for swine. It is a feed that is comparatively rich in carbohydrates and much lacking in protein. Carbohydrates are used in the animal body for building up fat and to furnish the fuel that is used in the production of physical energy. Protein is that part of a food material that is rich in nitrogen and is used principally to build up muscle or lean meat. Feeds such as middlings, peas, skim milk, etc., are rich in this constituent. Now, since corn is the principal source of feed for swine in the United States, it is only the natural consequence that its hogs are of the fat or lard hog type.

(2) In the earlier history of the United States, very few, if any, of the frontier sections had railroad facilities, so could not import fresh meats; neither had they facilities for local production of meats. Then, again, these places, and especially the lumber camps, used a great deal of meat, and it had to be of such a nature that it could be hauled long distances on wagons and be capable of long storage after reaching its destination. The most satisfactory meat for this purpose was mess pork. There are two reasons why fat salt pork was better than lean salt pork. (a) Fat pork does not become so salty on being pickled as does lean pork. It is not so thoroughly penetrated by the salt, therefore is more palatable after long storage than is lean pork, which also requires a larger quantity of salt, and is not so well preserved as is the fat pork. (b) Fat pork was better both from the employer's and from the consumer's point of view, because on account of its fatty nature, it contains two and one-fourth times as much energy per unit of weight as does lean pork, therefore making a cheaper article on the bill of fare, also furnishing sufficient energy to the laborer who was toiling hard in cold winter weather.

(3) There was a foreign demand by the poorer class of people for cheaper meats than could be supplied by their high priced bacon industry. This cheaper meat could be supplied in the form of fat pork made from low priced corn, and at the same time could be furnished at a profit.

From these various causes it is clearly evident that the fat or lard hog of the United States was produced not only because he could be produced more cheaply than the bacon hog, but also because there was a demand for just such a hog.

The following is the classification of swine as used on the principal markets:

CLASSES.	SUBCLASSES.	GRADES.						
PRIME HEAVY HOGS, 350-500 lb.		PRIME.						
BUTCHER HOGS, 180-350 lb.	{	HEAVY BUTCHERS, 280-350 lb.	{	PRIME.				
		MEDIUM BUTCHERS, 220-280 lb.	{	GOOD.				
		LIGHT BUTCHERS, 180-220 lb.	{	PRIME.				
PACKING HOGS, 200-500 lb.	{	HEAVY PACKING, 300-500 lb.	{	GOOD.				
		MEDIUM PACKING, 250-300 lb.	{	COMMON.				
		MIXED PACKING, 200-280 lb.	{	INFERIOR.				
LIGHT HOGS, 125-220 lb.	{	BACON. {	{	ENG., 160-220 lb.	{	CHOICE.		
				U. S., 155-195 lb.	{	LIGHT.		
		LIGHT MIXED, 150-220 lb.	{	{	{		{	FAT.
							{	CHOICE.
							{	GOOD.
							{	COMMON.
LIGHT LIGHT, 125-150 lb.	{	{	{		{	GOOD.		
					{	COMMON.		
PIGS, 60-125 lb.	{	{	{		{	INFERIOR.		
					{	GOOD.		
					{	CHOICE.		
ROUGHs.						COMMON.		
STAGs.								
BOARS.								

MISCELLANEOUS.

- ROASTING PIGS, 15-30 lb.
- FEEDERS.
- GOVERNMENTS.
- PEN HOLDERS.
- DEAD HOGS.

PRIME HEAVY HOGS.

By the term "prime heavy hogs," is meant a prime heavy fat-back hog, weighing from 350 to 500 pounds, the extreme of the fat or lard hog type. Plate 1, page 424. (For meaning of prime, see discussion under "Butcher Hogs," page 425.)

With the tendencies of the market working toward the lighter hogs, there are not very many of these heavy hogs at present coming to market; however, there are still enough to make a market class. The fat meat of these hogs is classified separately, and finds a market in Germany, France, and in some parts of Spanish America. Such cuts as "clear backs" and "clear bellies," which are composed of the clear fat without any admixture of lean meat, are made from hogs of this class.



PLATE I. PRIME HEAVY HOGS

BUTCHER HOGS.

Butcher hogs as a class are principally barrows. Other things being equal, barrows sell more readily and at better prices than do sows. In a drove of butcher hogs there may be present a few good sows without detracting from the value of the drove. Good young sows, as a rule, are kept on the farm for breeding purposes, and poor young sows and old sows will not take on the finish required in the butcher hog class.

Butcher hogs are commonly used for the fresh meat trade. They may be slaughtered and consumed at home, may be shipped and slaughtered in the east, may be slaughtered locally and the meat consumed locally, and may be shipped east, or even to foreign countries. About 25 percent of the hogs coming to the Chicago market annually are of this class. They range in age, with good care and heavy feeding, from about six months for the light butchers to one year for the heavy butchers. With less intensive feeding the age will be greater for hogs of the various weights.

The class of butcher hogs is subdivided into three subclasses, as follows:

Heavy butchers, 280-350 lb.

Medium butchers, 220-280 lb.

Light butchers, 180-220 lb.

Except in weight, these three subdivisions are practically the same.

Hogs of this class are graded on the market as follows:

Prime heavy butchers, plate 2, page 426.

Good heavy butchers, plate 3, page 428.

Prime medium butchers, plate 4, page 429.

Good medium butchers, plate 5, page 430.

Common medium butchers, plate 6, page 430.

Prime light butchers, plate 7, page 431.

Good light butchers, plate 8, page 431.

Common light butchers, plate 9, page 432.

PRIME BUTCHERS.

Hogs that will grade as prime butchers, either heavy, medium, or light, must be perfect in quality, ideal in form, and must show much evidence of ripeness in condition as well as maturity.

Prime.—The term “prime” in a general way means the best of the class, but in a more specific way in stockyards’ vernacular, it has a meaning of its own. To grade as prime, a hog must show marked evidence of ripeness and maturity. The two must go hand in hand. A hog may be mature without having been fed so as to show that bloom of condition that is necessary for a prime hog, or he may have been as well fed as possible and not be sufficiently mature; consequently he would not grade

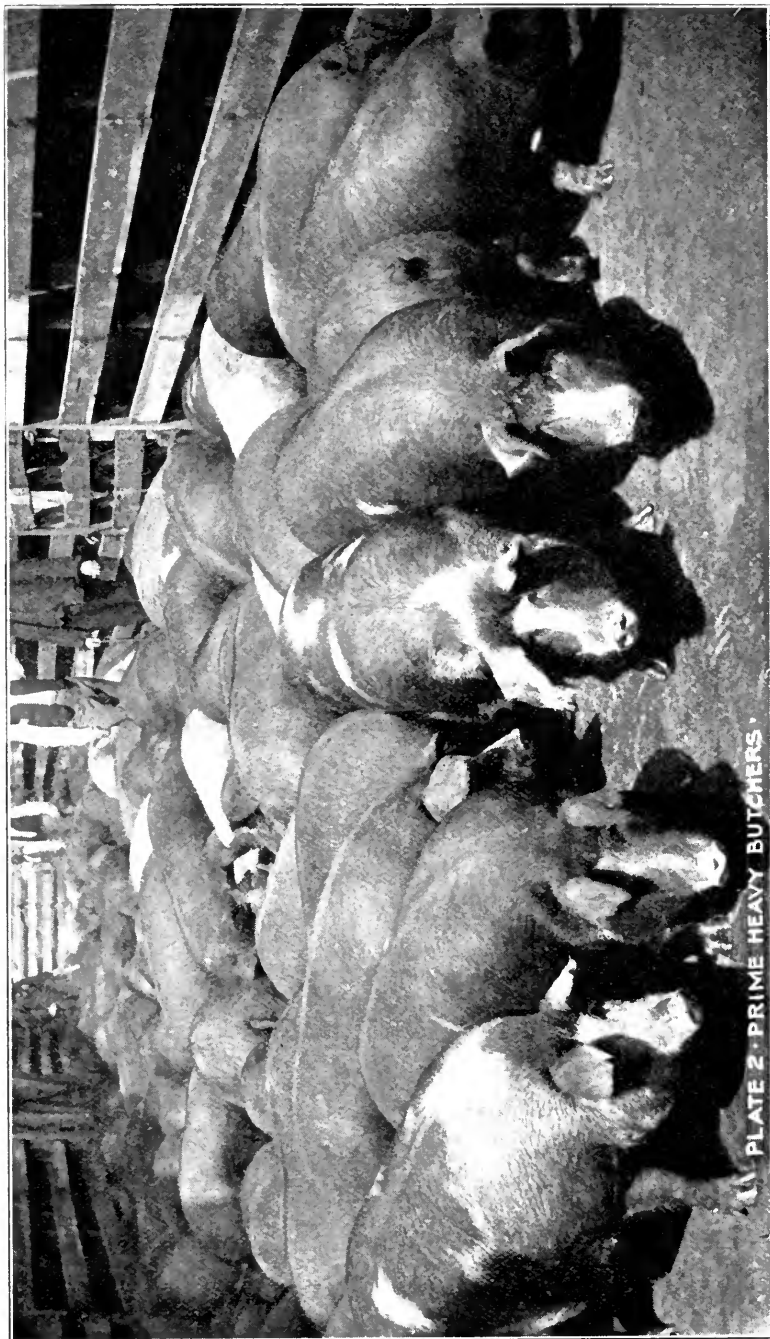


PLATE 2 - PRIME HEAVY BUTCHERS'

as prime. The high state of finish required for a hog of this grade is brought about by liberal grain feeding to maturity. Maturity in general means that condition at which development is complete. In a more specific sense in the realm of swine feeding it may be given an additional meaning, viz., that stage in the process of feeding where growth ceases under a given system of feeding and the animal takes on the form and appearance as well as the high state of finish of an ordinarily well-fed mature animal. This may be at different ages and weights, thus giving us prime heavy hogs and prime, heavy, medium, and light butchers, ranging in weight from 500 down to 200 pounds.

Quality.—By quality is meant the characteristic that is indicated by a medium sized, fine, clean-cut head without any surplus fat or wrinkles of skin; medium sized ears of fine texture; hair that is fine, straight, and silky, and lies close to the body; skin that is smooth, pliable, and free from wrinkles; tail that is smooth, nicely tapering, and not too large; bone that is fine, firm, and free from undue coarseness at the joints as indicated in the legs; shoulders that in the case of boars have not too large development of shields; and by a symmetrical, smooth development throughout the entire body. In short, such points of refinement in form and features as are characteristic of well-bred swine.

Form.—The form of a prime butcher hog is that of an ideal fat or lard hog, viz., broad back, wide and well-filled hams and shoulders, short, heavy neck, heavy jowls, and short legs. The hog must have these parts well developed, and at the same time be symmetrical, smooth, and compact. Together with this form there must be an indication of quality, such as goes only with good breeding and good feeding.

Condition.—Condition is a greater factor than either form or quality in determining the grade to which a fat hog belongs. By condition is meant the degree of fatness. Prime butcher hogs must be well covered with a thick layer of fat on the outside of the carcass, be well rounded out at the rump, thus making a socket in which the tail is set, be well filled out on neck up to the face, have a broad, fat back with much fat on sides and on belly, and be well filled in flanks and in twist. Besides this, they must be free from flabbiness, and show a firm, even, and symmetrical development. Plates 2, 4, and 7, pages 426, 429, 431.

GOOD BUTCHERS.

Hogs of this grade, though not as good as the prime butchers, are still very good representatives of the porcine family in a high state of development. Compared with prime butchers, the good butchers may be slightly deficient in form, or a little lacking in quality, or maturity, or may be lacking somewhat in condition. The deficiency may be in any one or in all of these characteristics; if in only one, it may be more marked,



PLATE 3. GOOD HEAVY BUTCHERS

and if in all, it must be only slight in each to permit the hog to still grade as a good butcher. Plates 3, 5, and 8, pages 428, 430, 431.

COMMON BUTCHERS.

These are found only in the medium and light butcher classes. Taking hogs as a whole, as they come to the yards the common butchers are still of the better grades. There is not the difference between these and prime butchers that there is between "common rough steers" and "prime steers" in the grades of beef cattle. The common butcher hog is one that shows considerable evidence of having been well fed, and possesses compactness, smoothness, and firmness. Frequently, however, he is not a mature animal, and is considerably more deficient in form, quality, and condition than the prime butcher hog. Plates 6 and 9, pages 430, 432.

In different markets and different market reports various terms are used to represent all or part of this class of hogs. Some of the names that are commonly used are "heavy shipping," "selected," "mediums and butchers," "mediums and heavies." The term "heavy shipping hogs" cannot consistently be used for this class, as the same kind of hogs are used for home consumption. By "shipping hogs" are meant hogs that are bought in a market like Chicago and shipped elsewhere to be slaughtered. This term may include hogs of several different classes and grades. "Hog shippers," as used in market reports, means men who buy hogs on the market and ship them out again to some other market. The term "mediums and heavies" is a term that means hogs of medium and heavy weight, and may have reference to hogs in two entirely different classes.



PLATE 4 PRIME MEDIUM BUTCHERS.



PLATE 5 GOOD MEDIUM BUTCHERS

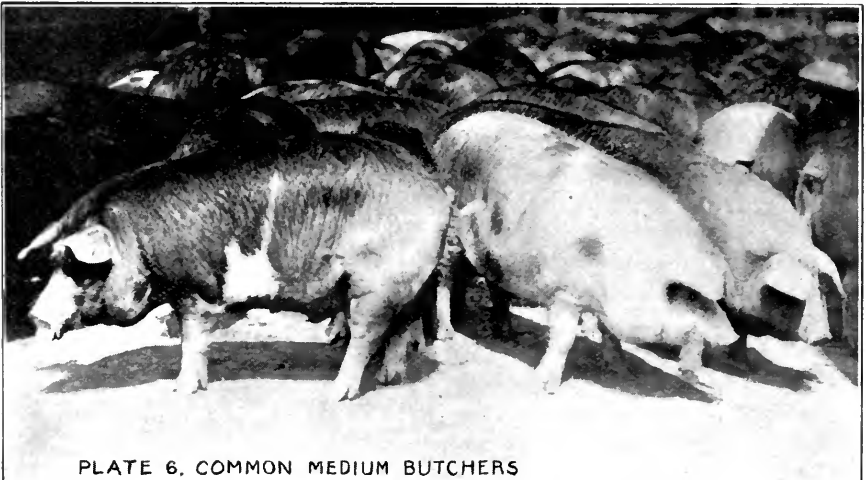
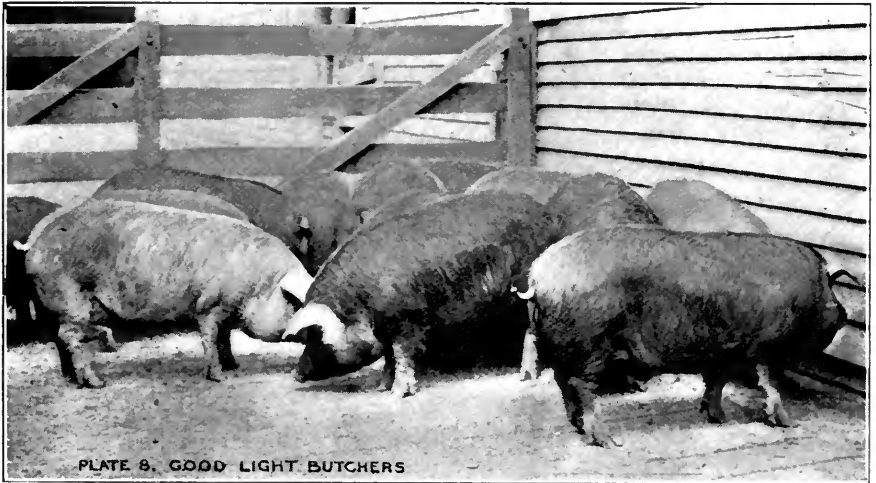


PLATE 6. COMMON MEDIUM BUTCHERS





PACKING HOGS.

As a whole, the hogs of this class are of a poorer grade than are the butcher hogs, and it is here that we find old brood sows and all other hogs, except the poorer classes, such as roughs, boars, and coarse stags, that are heavy enough for this class and not good enough for the butcher hog class.

This is the class of hogs from which, as the name indicates, the packing industry has received its name. The side pork from these hogs is used principally in the various processes of curing. It is made into mess pork, short cut mess pork, dry salt sides, and the hams and shoulders are cured. About forty percent of the hogs coming to the Chicago market annually are of this class. They range in age upwards of about nine months. A 200-pound packing hog is usually an older hog than a 200-pound butcher hog. He has not been fed in the manner necessary to make a butcher hog, consequently has required more time to attain a given weight.

This class of hogs is subdivided into three subclasses, viz.:

Heavy packing, 300-500 lb.

Medium packing, 250-300 lb.

Mixed packing, 200-280 lb.

Heavy packing includes the heavy hogs of this class and medium packing the lighter hogs. Mixed packing is a subclass that is somewhat characteristic in itself. This is representative of hogs as they come to the yards from local buyers in the country, and represents hogs of different classes as well as different grades, as the name indicates. There may be heavy packing, medium packing (medium meaning medium in

weight, not in quality), some light hogs, and even a few butcher hogs in the drove. Such droves of hogs are frequently seen on the market. In fact, a great many come in this way, and are simply called mixed packing, and in some cases mixed hogs, and sold to the packer without sorting. In such cases the sorting is done after slaughtering, when the carcasses are being cut, the heavy ones being sent one way and the lighter ones another.

This kind of hogs must necessarily sell at a slight disadvantage. A mixed drove of hogs, even if they are composed of good individuals, never looks as well as a drove that are all of the same size, and of course they sell to some extent on their appearance. If a commission man will sort up such a car of hogs and sell them in their various classes, he will always have a few of one class in a lot by themselves that will not sell so well as would a larger drove—a drove sufficient to make a carload.

It is this class of hogs principally, viz., mixed packing, that furnishes a field for operation to the speculator. He buys several carloads of these mixed packing hogs and sorts them into their various classes and resells them. By so doing he gets enough of a class to make carload lots with which to fill shipping orders or with which to attract the eye of a local buyer, and thereby sell his hogs at a profit.

The speculator is a desirable adjunct to all great central markets. He helps to create competition, to tide over dull times in the market by taking some of the surplus hogs and selling them on days when hogs are more scarce. It is true that the shrewd speculator sometimes makes considerable profit in his operations, but very often the speculator, by means of his plunging business methods, pays more for a drove of hogs than is offered by other buyers. He has the advantage in that all the hogs he handles pass through his hands as his private property, and he can grade them both as to grade and as to numbers so that they will sell to the best advantage. This the commission man cannot always do, because he would not have enough of a grade to make an attractive drove.

The grades of packing hogs are as follows:

Good heavy packing, plate 10, page 434.

Common heavy packing, plate 11, page 436.

Inferior heavy packing, plate 12, page 437.

Good medium packing, plate 13, page 437.

Common medium packing, plate 14, page 438.

Inferior medium packing, plate 15, page 438.

Good mixed packing, plate 16, page 439.

Common mixed packing, plate 17, page 440.

Inferior mixed packing, plate 18, page 441.



PLATE 10. GOOD HEAVY PACKING

GOOD PACKING HOGS.

The grades in this class, either heavy, medium, or mixed packing, are rather difficult to describe. Being a mixture of several different kinds of hogs, the terms good, common, and inferior may have several interpretations. There may be a lot of old sows that bear evidence of once having had pigs, but are fitted in very high condition. They are very good in form, quality, and condition, but having performed maternal duties, they are not capable of so high a finish, and consequently cannot be classified with butcher hogs. These, then, are good packing hogs, either heavy or medium, according to weight. Again, there may be a drove of barrows that are not well enough developed and are too much lacking in form, quality, and condition to go into the butcher hog class, but still bear marked evidence of being of the fat hog type and breeding and these are graded as good packing hogs. Then again, there may be a mixture of sows and barrows quite varying in quality and condition, but still bearing sufficient evidence as a whole of good breeding, form, and quality to grade as good packing hogs. Plates 10, 13, and 16; pages 434, 437, 439.

COMMON PACKING HOGS.

This grade of packers is similar to the foregoing, except that they need not show so perfect a form, so fine a quality, or show so much evidence of having been fed. They are, however, strictly of the fat or lard hog type, and show that they have been fitted for market. Plates 11, 14, and 17; pages 436, 438, 440.

INFERIOR PACKING HOGS.

In this division of the hog market we find hogs that are poor in form, coarse in quality, and much lacking in condition. They are, however, good enough in these various characteristics to allow them to pass unquestionably as fit for the block. Plates 12, 15, and 18; pages 437, 438, 441.

In the various market reports we find such terms as "mixed packing" "heavy packing," "mixed hogs," "mediums and heavies," and "mediums and butchers," to represent a part of all of the hogs in this class. The first two terms are names of subclasses, and mean what the name indicates. "Mixed hogs," is too vague a term, as it may mean almost anything. The two latter terms may stand for hogs of different classes; "mediums" may refer either to packing or to butcher hogs; "heavies" may refer either to heavy packing or to heavy butcher hogs; and "butchers," of course, refers to butcher hogs.



PLATE II - COMMON HEAVY PACKING



PLATE 12 INFERIOR HEAVY PACKING



PLATE 13 GOOD MEDIUM PACKING





PLATE 16 GOOD MIXED PACKING



PLATE 17 COMMON MIXED PACKING



LIGHT HOGS.

The class of light hogs includes all hogs within the weight limits, 125-220 lb., except roughs, stags, and boars, which form separate classes. About fifteen percent of all the hogs coming to the Chicago market are of this class. They range in age from five to eight months. Since this class includes practically all hogs within the given weight limits, they must necessarily be quite different as to form, quality, and condition. Such being the case, the meat from the same is prepared differently, thus making the subclasses of more importance than in the two former classes. These, then, must be considered separately. They are as follows:

Bacon hogs, $\left\{ \begin{array}{l} \text{Eng., 160-220 lb.} \\ \text{U. S., 155-195 lb.} \end{array} \right.$

Light mixed hogs, 150-220 lb.

Light light hogs, 125-150 lb.

BACON HOGS.

Hogs of this type are used for the production of bacon. This is pork that has been salted and then smoked. Breakfast bacon, as is well known, is cut from the side of a hog, and is prepared as above. Where this kind of pork is prepared from a carcass, the hams and shoulders are sold separately. Much of the English bacon is cut into what is called a "Wiltshire side." This is the whole side, with simply the head and feet cut off.

In order to understand this subject more fully, we must first consider in a general way what is meant by

ENGLISH BACON HOGS.

The bacon hog that is representative of this class belongs primarily to Great Britain, Denmark, and Canada. In recent years, this hog has been introduced into the United States, and is rapidly establishing for itself a market class. Many hogs are sold on the Chicago and other markets of the United States for bacon purposes, but the greater part of them are not of the ideal bacon type.

This hog must be long in body, deep in side, with comparatively narrow back, narrow and light hams and shoulders, and light, muscular neck. This form is desirable because it is the side of the hog that furnishes the best and most expensive cuts, and it is necessary to have as much as possible of this at the expense of the other parts. This hog must also show indications of having firm flesh, be well covered with lean meat or muscle, and must not have an excess of fat on the outside of the carcass. The fat on the outside should not be more than one to one and a quarter inches in thickness, and should be evenly distributed over the

entire carcass. The weight must be between 160 and 220 pounds, as this makes the most desirable cuts as to size, flavor, and firmness. From the very nature of a cut of bacon, size is of much importance. A hog smaller than the given weight would furnish a side of bacon that would be too thin, and one larger than this would furnish one that would be too thick.

A hog old enough, that with good care and breeding will weigh from 160 to 220 pounds, furnishes bacon that is of the best flavor. A hog smaller than this would very likely be too young and one heavier than this would be too old to furnish bacon of the best flavor. In firmness of flesh, also, the 160 to 220-pound bacon hog is likely to be most desirable. A hog younger than is required to produce this size would have too much water in its flesh; for the younger the animal, the more water it has incorporated in its system, and this excess of water in the system of the young hog not only detracts from the firmness of the flesh, but also replaces much of the food value, thus forming a meat that has less "substance." When a hog is heavier than 220 pounds, he is not so good for bacon purposes, because when beyond the age required to produce this weight there is a greater tendency to lay on fat, not only on the outside of the carcass, but also to intermix more fat with the lean meat, thus producing too much fat in proportion to lean meat for the best bacon. After this age there is also more of a tendency to lay on fat unevenly and in patches, and where this occurs it is impossible to produce good bacon.

These hogs are graded on the market as:

Choice bacon (Eng.), plate 19, page 444.

Light bacon (Eng.), plate 20, page 444.

Fat bacon (Eng.), plate 21, page 445.

By the term choice, in reference to a bacon hog, is meant one that conforms as nearly as possible to the above description. It must have the form that is characteristic of this type of hog, and must have the best quality and condition that is desired for the bacon trade. The indications of quality are the same as given on page 427.

Condition.—By condition is meant the degree of fatness of an animal. The bacon hog is not a fat hog, consequently when a bacon hog is in good condition for market, he is an entirely different looking hog from a fat or lard hog when in such condition. To be in good condition a bacon hog must have a good development of lean meat or muscle, with the proper amount of fat as outlined above. He must be smooth, well developed, and have a large proportion of edible meat, while the proportion of fat and other offal must be small. Hams, shoulders, jowls, and neck must also be small in proportion to length and depth of side. If a hog has all these characteristics of form, quality, and condition developed to a marked degree, it would be considered a choice bacon hog. Plate 19, page 444.

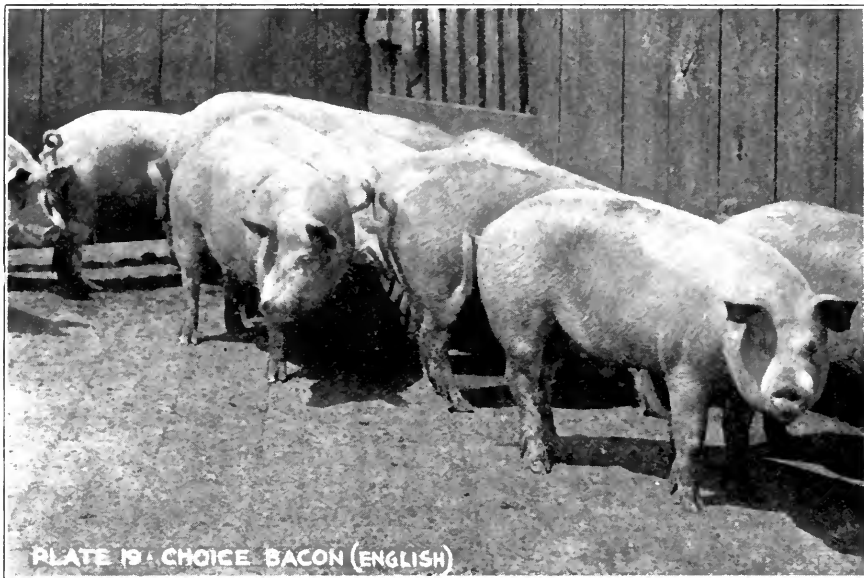




PLATE 21. FAT BACON (ENGLISH)

A light bacon hog, plate 20, page 444, resembles a choice bacon hog in form, but is lighter in weight, usually poorer in condition, and may be coarser in quality. A fat bacon hog, plate 21, page 445, resembles a choice bacon hog except that he is too fat. He may or may not be too heavy. Plate 22, page 445, shows a group of unfinished bacon hogs. They have the proper form, but are lacking in weight and condition.

As said before, hogs of this class were in the past produced principally in Great Britain, Denmark, and Canada, where the conditions were more favorable for the production of this class of hogs. In these countries corn is grown in very limited quantities, and the principal feed for hogs is barley, oats, peas, rye, roots, wheat, and its products. These feeds, together with the exercise obtained in roaming over pastures, are conducive to the production of the best bacon.

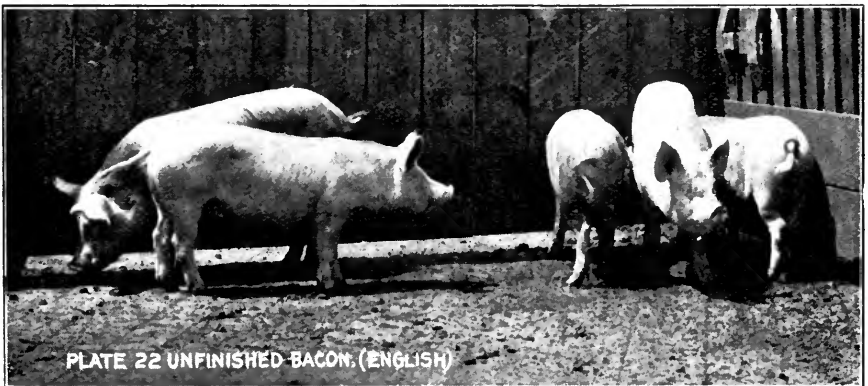


PLATE 22 UNFINISHED BACON. (ENGLISH)

It may be thought that the production of bacon is possible only with certain breeds of swine and that these breeds will always produce bacon under all circumstances. While this is true in a general way, it is not always true. It is the feed and mode of life that produces the bacon hog and that enables him to retain his form as such after he has been developed. It would require only a few years, by taking a bacon hog and confining him in a small pen, feeding him and succeeding generations on corn alone, and selecting the breeding stock with the desired end in view to produce a hog very similar to the present day fat or lard hog of the United States. It is also true that by selection, care, and proper feeding a bacon hog could in time be produced from the above mentioned fat or lard hog.

BACON HOGS OF THE UNITED STATES.

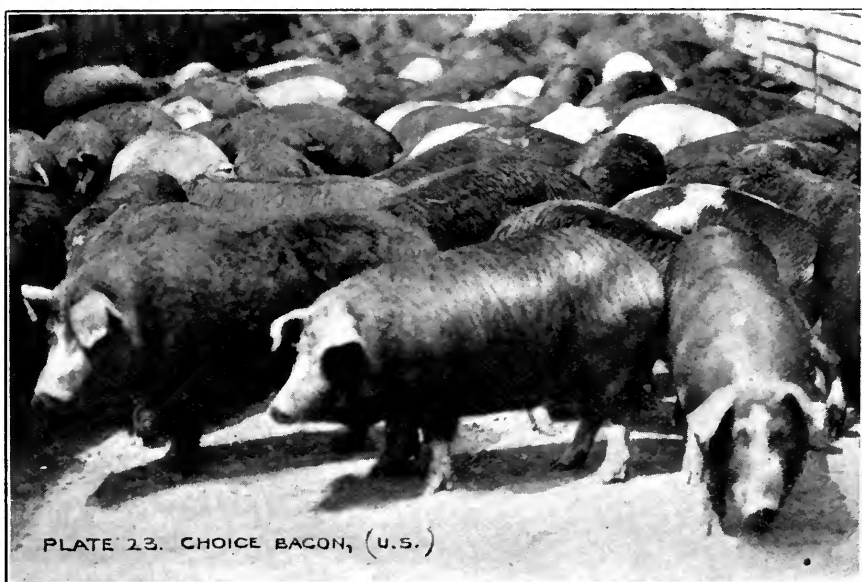
The bacon hog of this type differs considerably from the English bacon hog. There is, however, a growing tendency toward the typical bacon type. The indications point to the fact that we are at the "parting of the way," and that in the future we will have a place for the ideal bacon hog as well as for the fat or lard hog. Corn is at present being used for other purposes, such as the manufacture of corn-starch, whiskey, and oil. The latter is used for various purposes, as for lubricating, a table oil, as a substitute for olive oil, linseed oil, etc. This has caused the price of corn to go up to nearly what other grains, used as hog feeds, are worth. At the same time, a ration of all corn, which usually forms the principal part of the feed of the fat or lard hog, is coming to be generally recognized as detrimental to the best development of swine from the breeder's standpoint. These things are the cause of a gradual drifting toward a more mixed ration in swine feeding, and usually a ration containing more protein or flesh forming material. Coupled with this, there is not so great a demand for fat pork as there formerly was, and shipping and cold storage facilities are much better, consequently more fresh and lean meats are used. These various factors are gradually, but most surely effecting a change in the character of swine in the United States. The all fat hog of the past will in the future be partly replaced by the bacon hog, and the fat or lard hog as a whole will in the future more nearly approach the bacon hog in form than in the past. Of course, there will always be a demand for lard, consequently there will always be a place for the fat or lard hog. But the bacon hog will occupy a more prominent position in the future than he has in the past. There is a demand on the markets of this country from foreign countries and more largely from our own country, for bacon, and there being few bacon hogs to supply the demand, the trade is supplied from the lighter hogs of the fat or lard hog type. This bacon, however, does not command so high

a price on the market as does bacon from typical bacon hogs. The bacon hogs under consideration here weigh from 155 to 195 pounds, and range in age from six to eight months. They are simply hogs selected from the light hogs in general, that conform as nearly as possible to the bacon type. They are not very fat, have fairly good development of muscle, or lean meat, and are as long and deep inside as is possible to obtain them. About 20 percent of the light hogs that come to the Chicago market are of this type. They are handled on the market as

Choice bacon (U. S.), plate 23, page 447.

Good bacon (U. S.), plate 24, page 448.

Common bacon (U. S.), plate 25, page 448.



Choice bacon hogs are the best of this class; they are hogs that show good length and depth, good quality, and are smooth, well developed, and not very fat. They are hogs that have had considerable exercise and have not been fed on an exclusive corn ration. These bacon hogs are selected for the most part from shipments that come from outside of the corn belt, where the principal feed is similar to that used in Great Britain, Denmark, and Canada for bacon production, viz., oats, barley, rye, peas, skim milk, and pasture. These are the feeds that are conducive to the production of the best bacon when fed to hogs of the bacon type, and when fed to hogs of the fat, or lard hog type, bacon hogs such as we have under discussion here are produced. These bacon hogs have more fat on the outside and less lean meat on the inside of their carcasses than the typical bacon hogs, but are better in these



respects than the typical fat, or lard hogs. In truth, this bacon hog is an intermediary between the fat or lard hog and the typical bacon hog, being more like the former than the latter. Plate 23, page 447.

The good bacon hogs of this class may be of poorer quality, may be lower in condition, or may be too fat or too much of the fat hog type. Any one or all of these conditions would be the cause of hogs grading lower than choice. Plate 24, page 448.

If there is a still more marked deficiency in these characteristics, the hog will grade as a common bacon hog. But still this hog has sufficient quality and condition to show that he has been well bred and has been fed so that his sides will do to cure for the cheaper grades of bacon. Plate 25, page 448.

LIGHT MIXED HOGS.

About 55 percent of the light hogs coming to the Chicago market are of this class, and here we find somewhat of a miscellaneous class quite similar, except as to weight, to mixed packing hogs. This class contains the hogs of the light butcher weights that are too poor in quality, form, and condition for butcher hogs. It also contains hogs of the same weights as the bacon hogs, but that are too much of the fat or lard type hog for bacon. This class, then, is the "dumping ground" for the outcasts of two former classes of hogs; in one case it takes the poorer hogs and in the other case the better hogs, considered from the fat or lard hog standpoint. Hence the appropriateness of the name. Hogs of this class are used principally for the fresh meat trade and weigh from 150 to 220 pounds. They range in age from five to seven months, and grade as

Good light mixed, plate 26, page 449.

Common light mixed, plate 27, page 450.

Inferior light mixed, plate 28, page 450.

Being familiar with the kind of hogs in this class, we are better able to judge as to their grades. They are good, common, and inferior, in proportion as they are good, common, and inferior in form, quality, and condition, or in proportion as the better hogs in the class are in excess of the poorer ones. Plates 26, 27, 28, pages 449, 450, 450.





LIGHT LIGHT HOGS.

About 25 percent of the light hogs coming to the Chicago market are of this class. This is a class of hogs ranging in weight from 125 to 150 pounds, and in age from five to six months. They bear the name of "light light," because they are the lightest of light hogs. While the "light butchers" and "bacon hogs" are the selected kinds of their respective weight, with consequent small variation between the different

grades, the class of "light light hogs" includes all the hogs of this weight; consequently the range in the grades is wider. They are used principally for the fresh-meat trade, and the grades are as follows:

Good light lights, plate 29, page 451.

Common light lights, plate 30, page 451.

Inferior light lights, plate 31, page 452.



Good light lights are the best hogs of this type that come to market, while the common light lights are of a poorer grade, and the inferior light lights are the poorest grade within these limits. These latter are, however, by no means the poorest grade of hogs that come to market. Plates 29, 30, and 31; pages 451, 451, 452.



In the Buffalo market light hogs weighing from 130 to 180 pounds are called "Yorkers"; the lighter ones are called "light Yorkers," and the heavier ones "best Yorkers." This is only a colloquial expression, and by it are meant hogs such as are represented by "bacon hogs," "light lights," and "light mixed" hogs. They are called Yorkers because hogs of this class find ready sale on the New York market and are very often shipped there from Buffalo. Being shipped from Buffalo, they might under another nomenclature be called "shippers."

"Dairies" is another colloquial term used in Buffalo, and means hogs that have been fed on slops or refuse from dairies. The flesh of these hogs is not so firm nor will they dress so well as will corn-fed hogs.

PIGS.

Pigs, as they are considered on the market, range in weight from 60 to 125 pounds, and in age from three and one-half to six months. This class, the same as that of light light hogs, takes in all the pigs that range within the given weights. These are used principally to supply the demand from the cheaper restaurants and lunch counters, and are

in greatest demand in winter, being hard to preserve fresh in summer and too young to cure. About 10 percent of the hogs coming to the Chicago market are of this class. They are graded as follows:

Choice pigs, plate 32, page 453.

Good pigs, plate 33, page 453.

Common pigs, plate 34, page 454.

They are choice, good, and common pigs, in proportion to their approach to the ideal of a fat hog. Here, as in the other classes, form, quality, and condition determine their grade. They are choice when these characteristics are well developed, and good and common as these qualities are less marked. Plates 32, 33, and 34; pages 453, 453, 454.





ROUGHES.

In this class we find hogs of all sizes that are coarse, rough, and lacking in condition. If they are too inferior to be classed as packing hogs or as light mixed hogs, they go into the class of roughs. The pork from these hogs is used for the cheaper class of trade for both packing and fresh meat purposes. In market reports pigs and roughs are frequently classed together, not because they belong in the same class, but because they sell at approximately the same price. Plate 35, page 455,

STAGS.

Stags are hogs that at one time were boars beyond the pig stage and have been subsequently castrated. They sell with a dockage of 80 pounds. If they are of good quality and condition and do not show too much stagginess, they go in with the various grades of packing hogs. When they are coarse and staggy in appearance, they are sold in the same class with boars. The intermediary grades sell for prices ranging between these extremes, dependent upon their freedom from stagginess and their quality and condition. Plate 36, page 456.

BOARS.

Boars are always sold in a class by themselves and bring from two to three dollars per hundredweight less than the best hogs on the market at the same time. They always sell straight, with no dockage. There are no distinctions as to grades; they simply sell as boars. Of course, if there are marked differences as to quality and condition, the price varies a little accordingly. The pork from these animals is used to supply the cheaper class of trade, and also for making sausage. Plate 37, page 456.

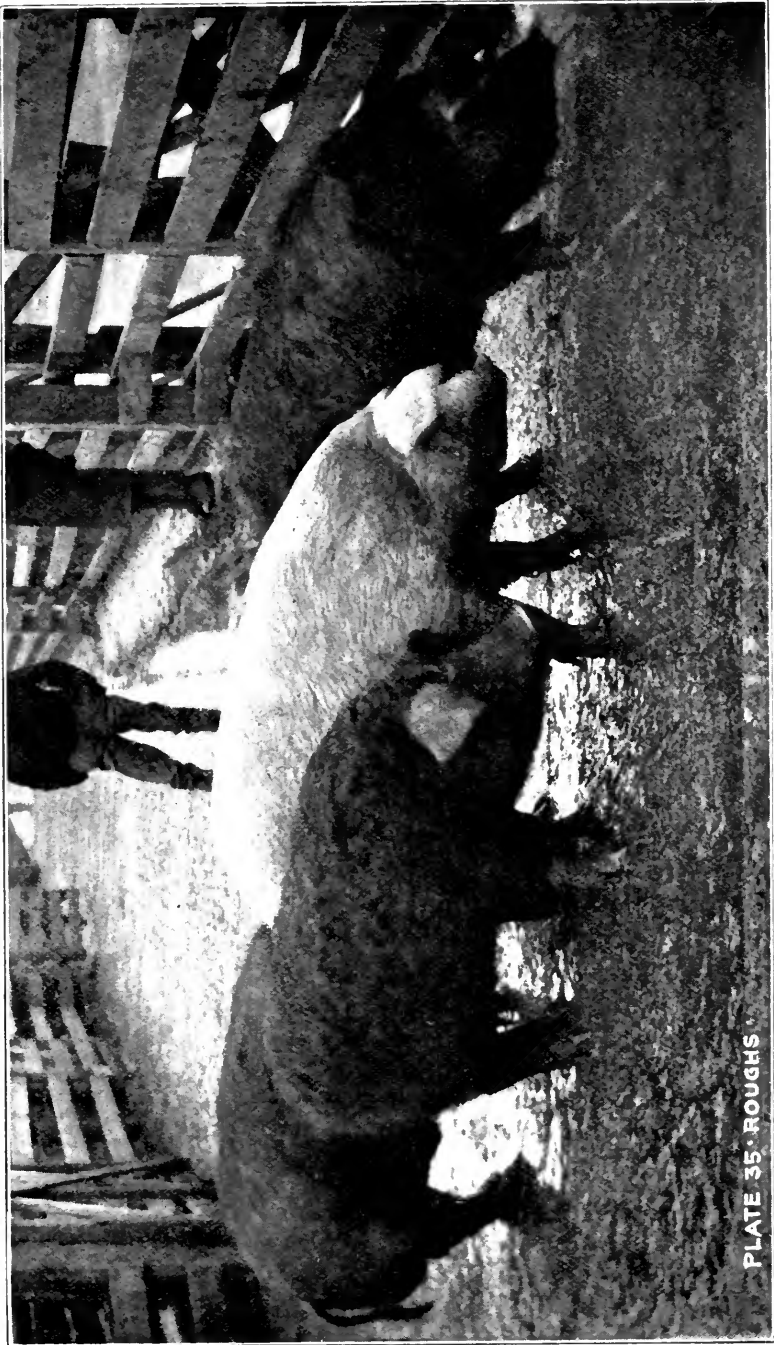


PLATE 35. ROUGHS

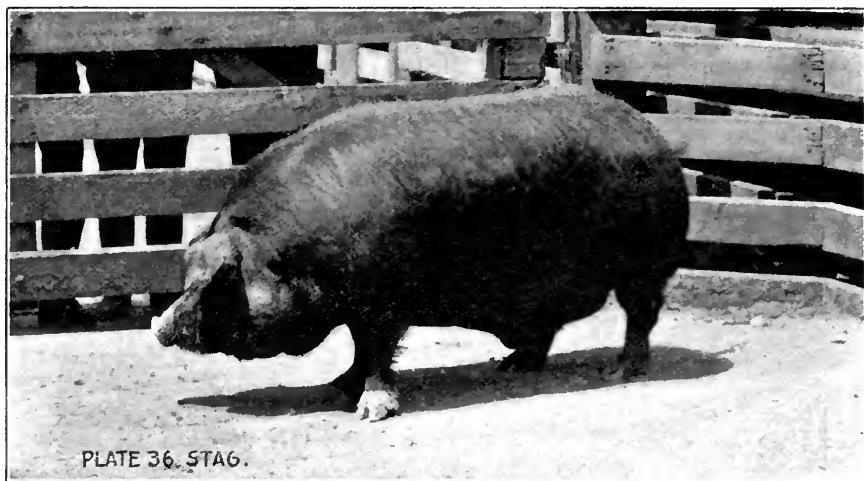


PLATE 36. STAG.



PLATE 37. BOAR

MISCELLANEOUS.

ROASTING PIGS.

This is a class of pigs from three to six weeks old and weighing from 15 to 30 pounds. These are not generally found quoted in market reports, as they come to market in such small numbers and only during holiday seasons. Pigs of this class usually are of very nearly uniform grade. They are taken direct from their dams, dressed with head and feet on, and served like spring chickens or turkeys. The price varies greatly, ranging all the way from regular live hog prices to that paid for poultry. Plate 38, page 457.



FEEDERS.

Feeders are hogs that are bought on the market and taken back to the country to be further fed. This is practiced only to a very small extent. First, because the price per hundredweight of the animal is not usually much enhanced by such an operation, as is the case with cattle. Many times such a hog would sell for less money per pound after being fed to a heavy weight, than the price paid for him when bought as a pig. This is due to the fluctuation in price between heavy and light hogs. Second, there is too much danger of the hogs contracting diseases, such as hog cholera and swine plague, by going through the yards and by being shipped in cars that may be infected. Furthermore, the life of a hog being short and the feed required to put him in market condition not being very great, he is usually fitted for market in first hands. Then again, a pig that has been fed on corn would not be a profitable feeder, owing to the tendency to lay on fat at the expense of the muscle and framework of the body.

GOVERNMENTS.

Before hogs are allowed to pass over the scales to be weighed out to the packer, the speculator, the shipper, or to any one else who may choose to buy them, they must first pass the scrutiny of a government inspector. All hogs that are not considered sound in every respect are tagged by this inspector and retained for further inspection. These are called Governments. Plate 39, page 458. They are usually bought up by a local dealer and taken to one of the smaller packing houses, where they are slaughtered under the supervision of an inspector. If found to be affected so as to make their flesh unfit for human food, they are condemned, slaughtered, and tanked. The tank is a large steam-tight receptacle like a steam boiler, in which the lard is rendered under steam pressure. This high degree of heat destroys all disease germs with which the diseased carcass may have been affected. The product of the tank is converted into grease and fertilizer. This many people consider poisonous because it is made from dead and diseased animals. Such, however, is not the case. Most diseases are caused by bacteria. These render the meat from such animals unfit for human food, on account of the danger of transmitting the disease, but they are completely destroyed in the process of rendering the lard, which is then used for the manufacture of axlegrease, soap, etc. The lean meat and bones of such animals, after going through the tank, are used for the manufacture of fertilizer. This also has all disease germs with which it has been affected completely destroyed and is perfectly harmless to be used on soil, meadow, or pasture grass. It could even be used for the manufacture of tankage and allied farm animal food products with entire impunity. The packers, however, report that such foods are not manufactured from diseased animals, but from the scraps of meat from healthy animals.



As has been shown, the name "Governments" is given to a class of hogs, irrespective of form, quality, and condition, that have been tagged by a government inspector at the scales. These inspectors are stationed only at large packing centers. They are hired by the Government, are thoroughly competent men, and do this work without fear or hesitation. The inspectors stationed at the smaller packing houses, where inspectors are furnished at all, are furnished either privately or by the city. Having less work to do, they cannot be paid such large salaries; consequently, men with poorer qualifications must be accepted, and there is more danger of diseased meat getting to the consumer through this channel than through the large packing houses where government inspectors are furnished. The Government, up to the present time, has been unable to get enough of sufficiently well qualified men to supply all packing houses with inspectors.

Besides the inspector at the scales, there are in the large packing houses three more government inspectors. One is stationed where he can feel of the submaxillary and cervical glands as the carcasses of hogs pass by him on the rail with the heads partially severed, exposing the glands. These glands furnish the best means of detecting tuberculosis, and the carcass of any animal that has the appearance of this disease in these glands is tagged and passed on intact, with only the intestines taken out.

The second inspector is stationed farther down the line at a point where he can view the carcass after it has been cut open. Any carcass affected with tuberculosis, hog cholera, swine plague, or any other disease that may have been accidentally passed by the first inspector, or any that is healthy in the above-named glands and diseased in other parts of the body, is tagged by this second inspector. These two men must necessarily work very rapidly, as the carcasses of hogs pass and must be examined by them at the rate of 800 to 1,000 an hour.

The third inspector is stationed in the cooling rooms and examines critically all carcasses that have been tagged by the two former inspectors. As he examines only the tagged carcasses, he has time to give them a thorough examination. All carcasses that he finds so badly diseased as to render them unfit for human food are condemned and tanked. The carcasses in which the disease is found to be only localized and in such a manner as not to render the meat of the same unfit for use are passed. These then pass into the ordinary channels of consumption. Many times only parts of the carcass are condemned, while the rest is passed as fit for food.

In most every town throughout the country where there is a meat market there is also a slaughter-house where hogs are killed for home consumption. In these there are no inspectors, and the dealers them-

selves are not able to diagnose the various diseases, and even if they were, the loss would be so great that they would be tempted to be blind to anything that would detract from the profits of their business.

There are even small packing-houses in the smaller cities that do more than a local business; slaughtering hogs and shipping the prepared meats. Many of these have no inspectors, and all there is to prevent all animals, both diseased and healthy, finding their way into the retail channels, is the intelligence, diligence and honesty of these small packers, which it is not always safe implicitly to trust.

In view of these facts, and considering that all hogs are subject to such diseases as hog cholera, swine plague, trichinæ, and tuberculosis, the latter two being especially dangerous to man, it is evident that our most wholesome meats are most likely to come from the large packing-houses, where are stationed the government inspectors.

PEN HOLDERS.

The hogs of this class have no influence on the market; they serve their purpose, as their name indicates.

The stockyards in Chicago, for instance, are owned by the Union Stockyards and Transit Co. This firm gets its revenue from the charges for yardage of stock, for weighing the stock, for feed consumed by the stock, and for terminal switching. The commission men who sell the stock as it comes to the yards, and the speculators who handle part of it, pay nothing for their privilege of doing business in the yards. They hold their respective positions by common consent, and their respective pens by keeping hogs in them. These are called pen holders. They usually are hogs that are worth the least money, being long legged, of poor form, coarse in quality, and much lacking in condition. They are kept simply for this one purpose, viz., holding pens. Plate 40, page 461.

DEAD HOGS.

These are the hogs that have been killed in the cars in transit. They are used for the manufacture of grease, soap, and fertilizer. If they weigh 100 pounds or over, they sell for 75 cents per hundredweight. If they weigh less, they furnish no revenue to the producer or shipper, the cost of handling the same being held equal to their value. Plate 41, page 462.

To summarize the percentage number of hogs of the principal classes on the Chicago market annually we have the following, which is only an approximate estimate, and is subject to considerable variation from year to year:



PLATE 40. PEN HOLDERS



PLATE 41. DEAD HOGS

Butcher hogs, 25 percent of all hogs on the market.

Packing hogs, 40 percent of all hogs on the market.

Light hogs, 15 percent of all hogs on the market	}	Bacon, 20 percent.
		Light mixed, 55 percent.
		Light light, 25 percent.

Figs, 10 percent of all hogs on the market.

Other classes, 10 percent of all hogs on the market.

CONCLUSIONS.

1. A thorough understanding of the market classification of hogs is very essential to all concerned in the handling of swine.

2. About two-fifths of the world's hog supply is produced in the United States and about six-sevenths of these are produced in the Mississippi Valley; hence this section of country has developed the fat or lard hog and has set the standard for hogs in other parts of the United States.

3. The fat or lard hog is such because corn has been his principal feed and because there has been a demand for pork from such a hog,

and he will conform to the present prevailing type just as long as corn remains his principal feed.

4. Classes and sub-classes are divisions into which swine are separated on account of their differences in type, weight, quality, and condition, and the grades distinguish the superior from the inferior animals within the classes and sub-classes.

5. The terms, "mediums and butchers," "pigs and roughs," "selected," "shipping," "mediums and heavies," "mixed," "Yorkers," and "dairies," are either compound or colloquial terms, and their use should be discouraged.

6. Butcher hogs are the best hogs from the fat or lard hog standpoint that come to market, and should be used as a standard for comparison.

7. From the bacon market standpoint the English bacon hog is the ideal toward which hogs are being developed.

8. To the close observer it is apparent that the gradually changing conditions brought about by the development of the United States, and the increase in the price of corn, resulting from its varied commercial uses, cause the hog to be fed a more mixed and usually a more nitrogenous ration. This will in the future affect the type of the hog of the United States, so that it will more nearly approach that of the English bacon hog.

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