UNIVERSITY OF KENTUCKY

COLLEGE OF AGRICULTURE

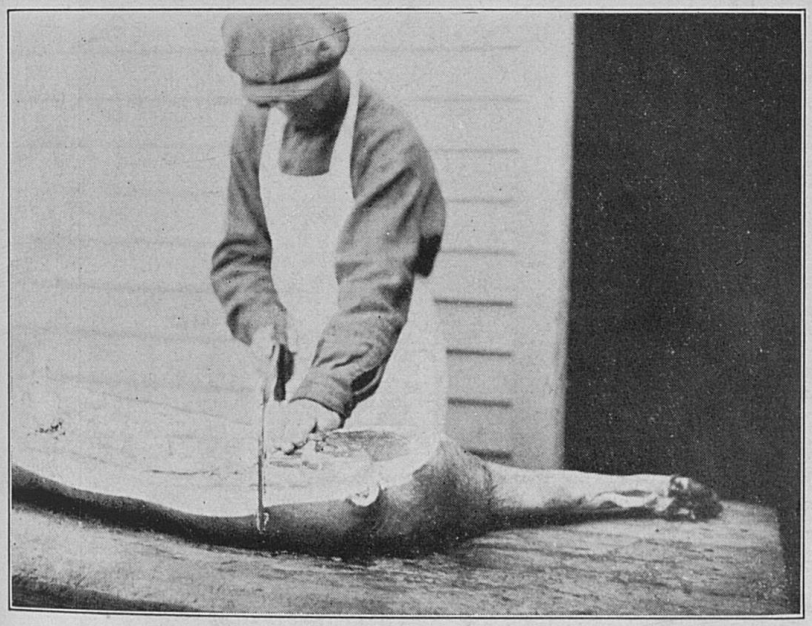
Extension Division

THOMAS P. COOPER, Dean and Director

CIRCULAR NO. 261

(Revised)

KILLING, CUTTING AND CURING PORK

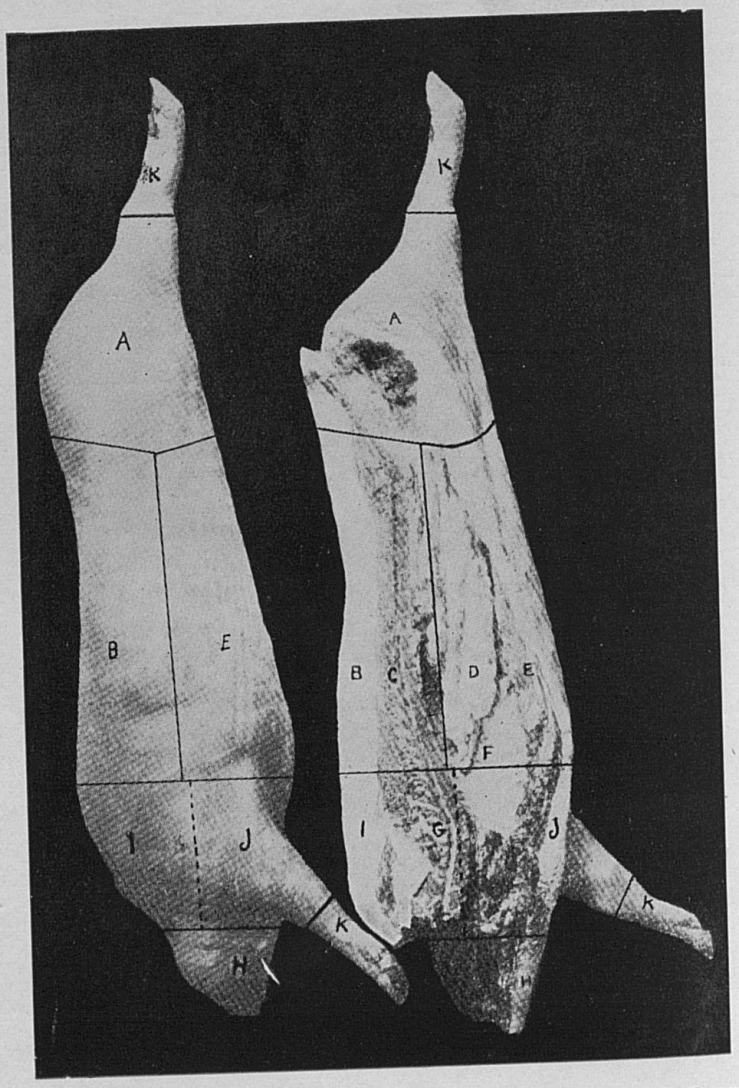


Removing the Ham

Lexington, Ky.

September, 1936

Published in connection with the agricultural extension work carried on by co-operation of the College of Agriculture, University of Kentucky, with the U. S. Department of Agriculture, and distributed in furtherance of the work provided for in the Act of Congress of May 8, 1914.



Cuts of pork: A—Ham, B—Fat back, C—Loin, D—Kidney fat, E—Bacon, F—Spare-rib, G—Shoulder butt, H—Jowl, I—Clear plate, J—Shoulder (California ham), K—Feet.

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Killing, Cutting and Curing Pork

By
E. J. WILFORD and GRADY SELLARDS

Pork is an important item of food for the farm family. Surveys indicate that the annual per capita consumption of pork by the rural population is greater than that of all other meats combined. The principal reasons for this are that hogs are more easily slaughtered and the pork more easily preserved by curing than other kinds of meat, and pork, either cured or fresh, is highly palatable.

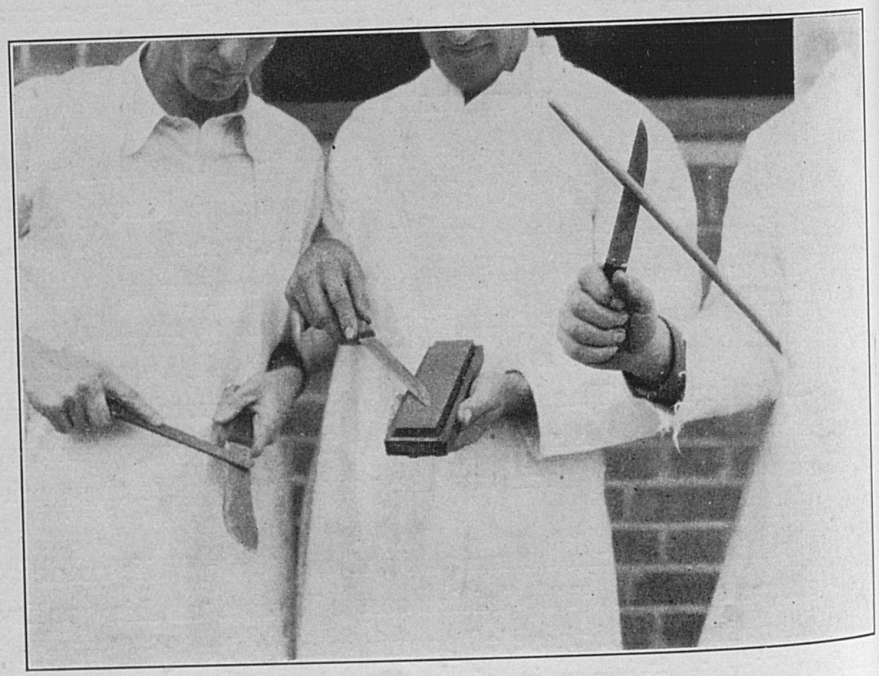
First-class pork can be prepared only from well finished hogs of the proper size. The best is from finished hogs of medium size, weighing from 175 to 200 pounds. Too frequently, 300-pound or heavier hogs are slaughtered for home consumption. Because of the high percentage of fat, the cuts from such carcasses are poor in quality. Another reason for favoring the smaller hog is that the amount of feed required to produce a pound of gain increases as the animal increases in weight.

EQUIPMENT

Elaborate equipment is not necessary for farm butchering, but that which is available should be put into first-class condition before hog killing is undertaken. The scalding vat should be tested for leaks and any necessary repairs made. If a vat is not available a barrel may be used. The barrel should be set at an angle and firmly fixed at the end of a platform on which the hog may be handled conveniently. The knives and other tools used for cutting should be sharpened. It is much easier to do this before beginning work. Sharp tools greatly facilitate the work and enable the worker to produce neat cuts.

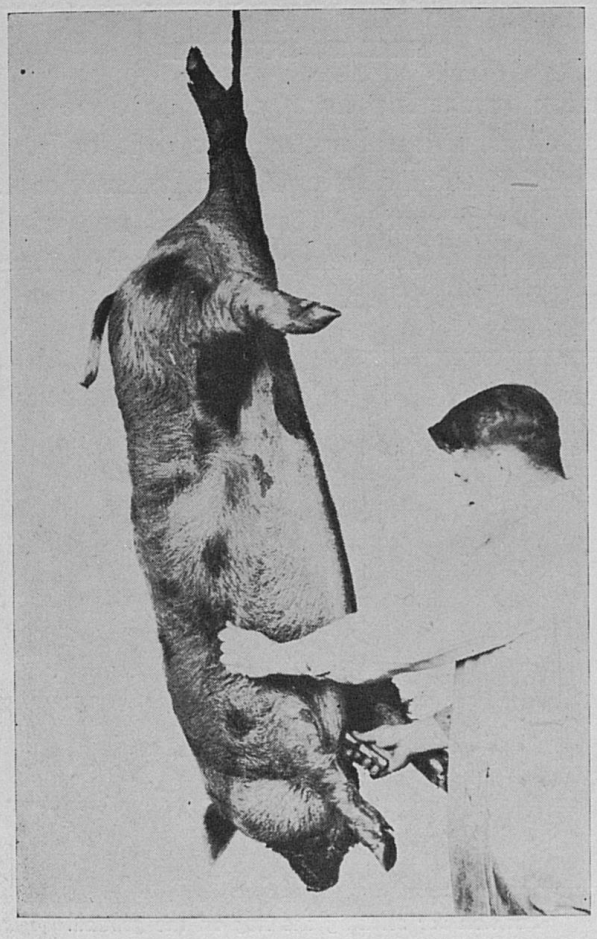
A keen cutting edge can be maintained only on a knife made of properly tempered steel. The initial cost of knives of this quality is greater than the cost of those of poorer quality, but the knife of superior quality is cheaper in the long run. So, when buying knives, buy the best.

Tools for killing and dressing hogs.



Steps in sharpening a knife.

It is not difficult to sharpen knives. On both sides of the edge put an 1/8 to 1/4 inch bevel. This may be done on a fine-grained grindstone, using plenty of water to keep the blade cool, or by filing. Finish the job on a whetstone or oilstone, keeping the surface of the oilstone covered with oil. Use a steel to make the cutting edge smooth and to keep the knife sharp. Remember that the chief function of the steel is to keep the knife sharp—it is to the knife as the strop is to the razor.



Position for sticking a hog when hanging.

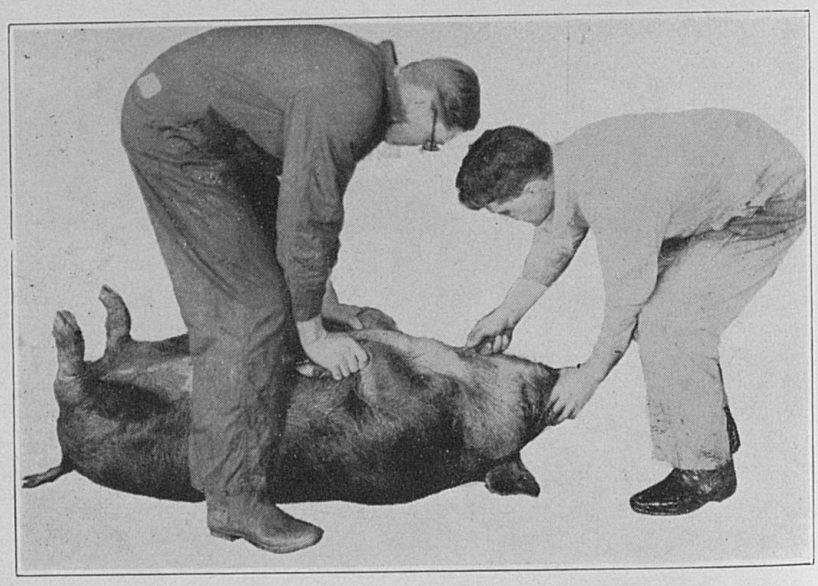
PREPARATION OF THE HOG

Keep the hog off feed at least 24 hours before killing, but allow it free access to water. The water keeps the hog quieter and at the same time aids in emptying the entrails, which is a great help in dressing. The animal should not be bruised or whipped, for the

marks so made detract from the appearance of the carcass and bruised meat quickly deteriorates. Avoid chasing the animal, since this causes it to become overheated and, when killed in this condition, the carcass does not bleed out well, and the meat may be bloody. This mars its appearance and causes it to spoil quickly.

TIME TO BUTCHER

In Kentucky butchering usually can be done safely any time after Thanksgiving. It is not necessary to wait for freezing weather. A temperature of 36 to 38 degrees F. is sufficiently cool. Slaughtering on days with temperature above this is not safe but, if some means can be devised to chill the carcass thoroly before putting the cuts into cure, little loss will result.



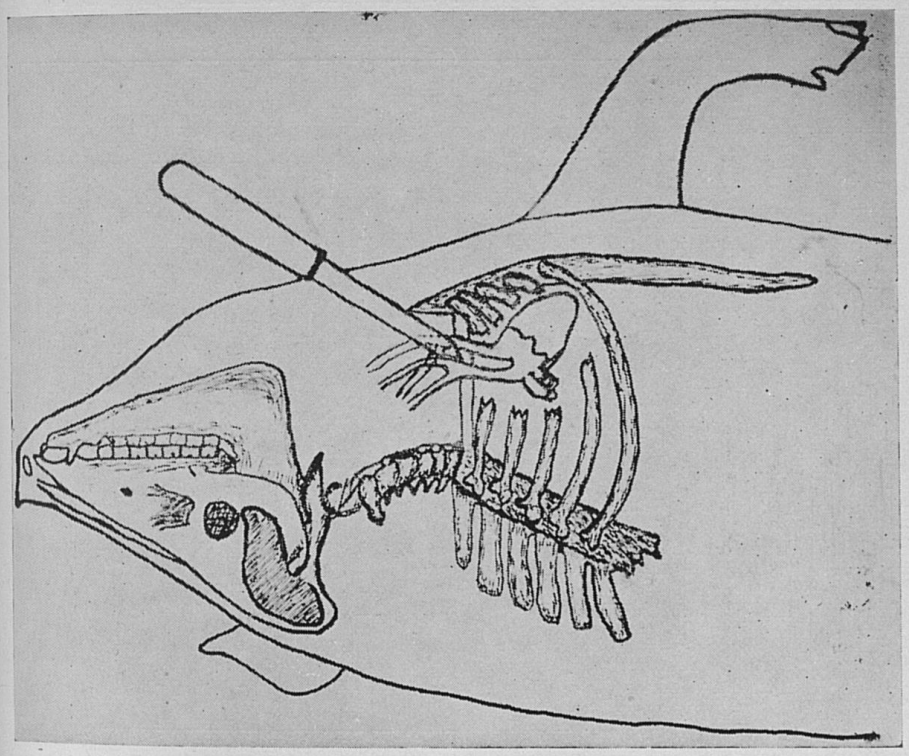
Position for sticking the hog on the ground.

KILLING AND DRESSING

Shooting the hog is advisable only when no other method can be employed. The animal killed in this way does not bleed out well; even when stuck immediately after being shot. For the same reason it is impractical to knock the hog in the head before sticking. Throw the hog upon its back, stand astride the body just back of the hog's shoulders, grasp the forelegs and push them down and backward. In this position the hog can be held in place while another man does the sticking. More thoro bleeding is assured if the hog is hung up by the hind legs before being stuck. To stick

a hog in this position, the operator grasps the hair on the side just above the shoulder. *Never* take hold of a leg, because this usually causes the hog to struggle.

Sticking. A narrow, sharp-pointed knife, six inches long, is excellent for sticking hogs. The incision should be made directly in from the breastbone (see figure) with the knife pointed directly toward the root of the tail and held parallel with the backbone. The knife should be inserted just deep enough to sever the large veins and arteries of the neck. When a hog has been properly



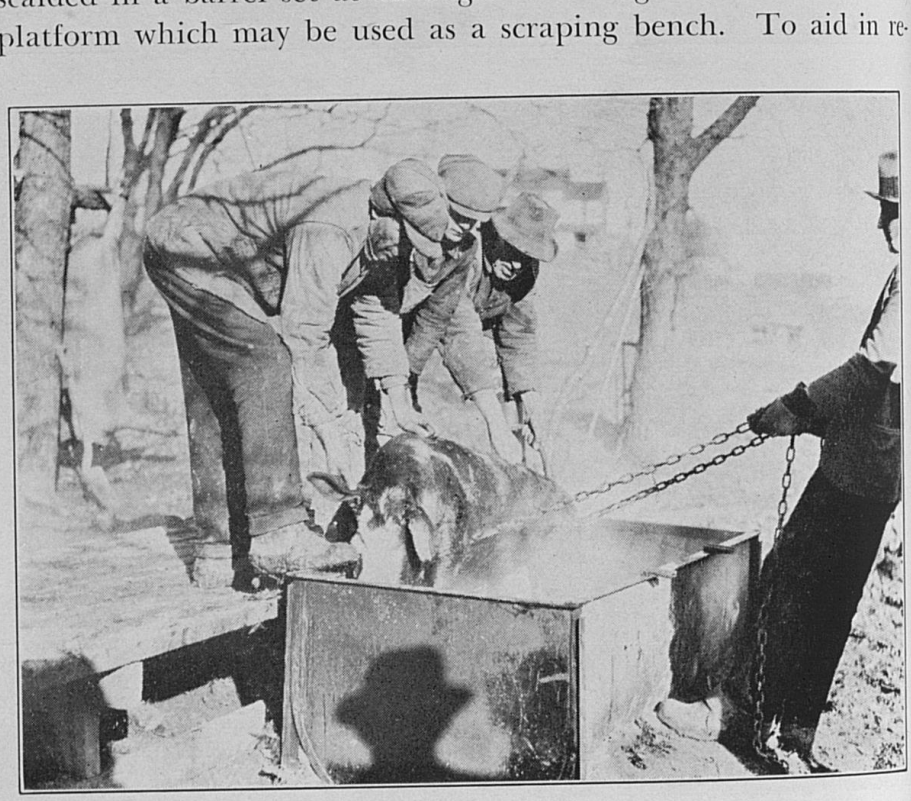
Position of knife when the stick is made

stuck, the blood will come in spurts. The "sticker" should be extremely careful to keep the knife in direct line with the backbone to avoid sticking a shoulder, which results in waste trimmings and a poor-keeping shoulder. The arteries are severed in the neck at the junction where they branch (see figure). To stick the heart is difficult and undesirable, for if the muscular action of the heart is interfered with, it will not force the blood from the smaller blood vessels, which should be thoroly drained.

Temperature of the Water. For a barrel scald, the temperature

of the water should be 155 to 160 degrees F.; but if a tank is used, 145 to 150 degrees F. is effective and safe. A temperature of 165 to 170 degrees F. is too high in either case as it may cause the hair to set, and when one has had experience with set hair he will appreciate the lower temperature.

Scalding. Water may be heated conveniently in a large tank or a regular scalding vat placed over a fire pit near the place of butchering. Hogs weighing 250 pounds or less, however, can be scalded in a barrel set at an angle of 45 degrees, at the end of a platform which may be used as a scraping bench. To aid in removing the scurf, a heaping tablespoonful of lye for each barrel of water should be used. If lye cannot be had, a small shovelful of wood ashes or a pound of quicklime may be substituted. A slow scald is better and much safer than a quick scald.



Simple equipment for scalding, in use.

While in the water, the carcass should be kept moving so all parts will be uniformly scalded. From time to time test the hair to determine when to remove the carcass from the water. Usually a carcass is thoroly scalded when the hair on the shanks and head has loosened. Test these parts by a twisting motion of the hand. If

the hair slips easily at these places, the carcass is ready to be taken out. If a barrel is used, it is best to scald the rear end of the hog first. For, if the hair sets, it is much easier to remove it from the hind quarters than from the forequarters.

Dehairing. Because the hair is harder to remove from the head, feet and legs, they should be scraped first. Then, with the bell scraper on edge, using considerable pressure and straight strokes, remove the hair from the rest of the body by scraping the way the hair lies. To remove the dewclaws, place the palm of the hand or thumb on their points and press backward. The toes can be removed by inserting an iron hook, such as a hay-hook, beneath the upper edge and giving a quick, hard pull. This operation should be performed as soon as possible after the carcass has been removed from the water, for upon cooling the hoofs become set again. Some farmers scald the feet first, in a kettle or small vessel, and then remove the hoofs immediately. If scalded in this manner, they yield readily to vigorous pressure from the palm of the hand. The head, which also is difficult to clean, may be scalded advantageously in the same manner. Spots receiving a poor scald may be loosened by covering them with burlap or hair and pouring on hot water. Other instruments, such as corn knives, hoes, bricks and even the hands, are used for scraping and removing the hair.

Cutting the Gambrel. "Cut the gambrels" with a sharp-pointed knife. Put the thumb on the back of the knife, start at a point just below the hock and with plenty of pressure cut straight down the middle of the hind leg to a point just between the dewclaws. Care should be taken not to cut crosswise, as a cut tendon may cause extra work if it breaks during the cleaning process. If a tendon is cut, be sure to aid it by using a good, stout string tied around the leg and gambrel stick. There are two tendons in each leg. Both should be loosened. One (especially on heavy hogs) is not sufficient to support the carcass. Insert the gambrel stick and hang the hog up so that its head just clears the ground.

Cleaning the Carcass. After the hair and scurf have been removed, the carcass should be thoroly cleaned. Rinse it first with hot water. Then with sharp knives shave off the remaining hairs and scrape off as much dirt as possible. Wash off with clean, cold water and scrape again. The last scraping should be in an upward direction. This forces the water out of the pores and leaves the carcass in a dryer condition than if the strokes were downward.

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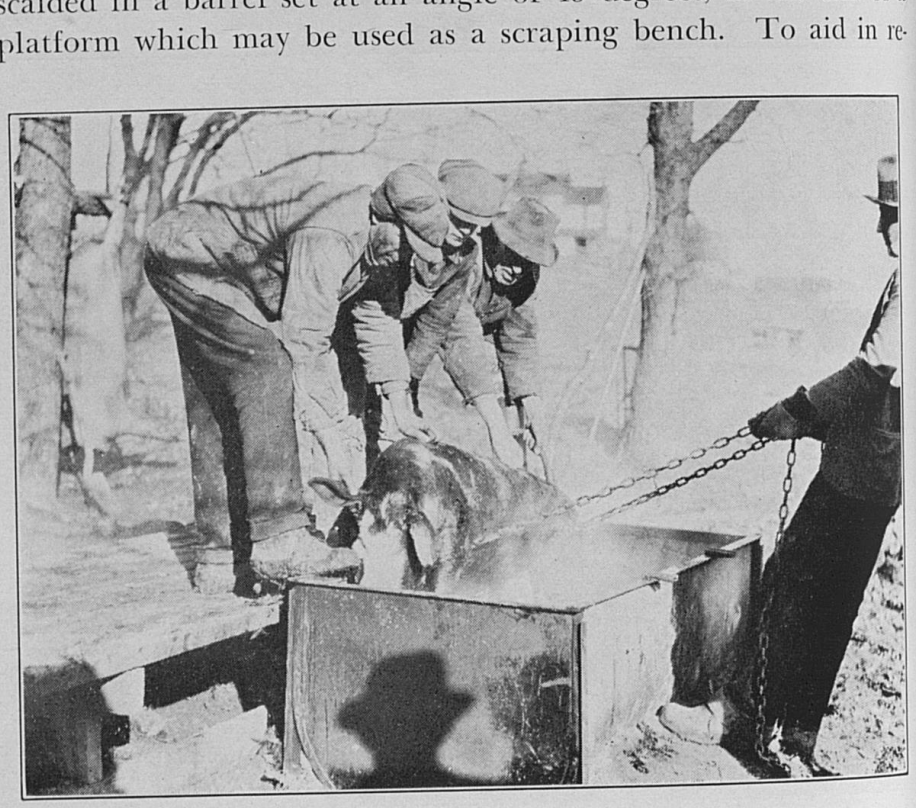

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Eviscerating (Gutting). Take a sharp, narrow-bladed knife in your hand as you would a dagger (thumb up and sharp edge of knife down). Place the sharp edge of the knife directly between the hind legs. Cut down between the hams to the pelvic bone, which is easily split with the same stroke if the cut has been made in the center. Continue the cut down the mid-line of the belly to the breast bone, cutting thru the fat and exposing the thin membrane which covers the entrails. In cutting thru the pelvic bone, be careful that the point of the knife does not extend deep enough to puncture the colon (large intestine). Mark the mid-line but do not cut thru since this would let the intestines fall down and be in the way. Insert the knife a little to one side of the center of the point of the breastbone, being careful not to go deep enough to pierce the paunch with the point of the knife. If you go to the right of the breastbone, the knife should point toward the left. With a quick downward pressure cut thru the breastbone and continue the cut to the point of the jaw. This method of splitting the breastbone is much easier and quicker than splitting with the upward cut. With a little practice the operator will be able to cut between the hams, split the pelvic bone, mark the belly and split the breastbone with a continuous movement. Whatever method is used, the breastbone should be split before the intestines are let out. If a barrow, strip out the penis and leave it attached to the entrails.

Next grasp the knife, thumb up, with the point of the knife down and the sharp edge toward the carcass. Pull upon the penis or uterus to bring tension on the colon. Cut around the left side to the tail bone, then go to the right of the "bung" and cut back to the tail bone until the two cuts meet. The colon being very close and parallel to the backbone requires the operator to use care in making the cut between these two parts. Pull the "bung" down thru the pelvic cavity before completing the opening of the belly. If the membrane which covers the intestines is too tough to split with the fingers, use the point of the knife with the edge outward. Cut between the two forefingers which are used to guard against cutting the intestines. Then, by pulling gently on the large intestines and using a sharp knife lightly and carefully, one can strip out the intestines to the stomach, leaving the kidney fat in the carcass. Grasp the entrails where the gullet comes thru the diaphragm. Before continuing the cutting to loosen the lungs and

trachea, loosen the liver and cut around the diaphragm, making sure that it is not attached at the breastbone. All the entrails may be removed in one mass as described above or in two operations by first removing all the organs in the abdominal cavity and then the pluck (heart, lungs and trachea). Remove the tongue from the head. Rinse out the carcass with cold water, and wash off all blood stains with a cloth dampened with lukewarm water. Remove the gall bladder from the liver and separate the heart from the pluck.

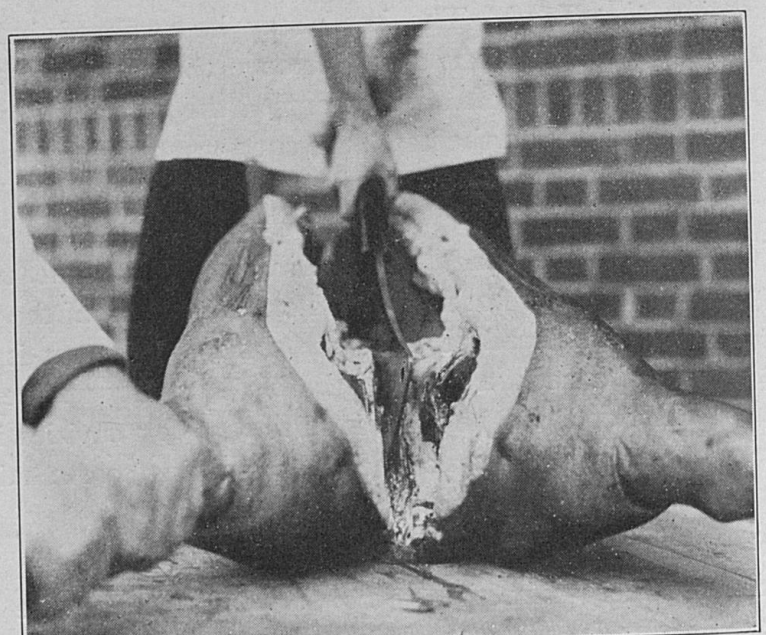
CUTTING UP THE CARCASS

Removing the Head. The head may be removed before or after the intestines are taken out. Remove the head just back of the ears. If the jowl is left on the carcass, the cut goes down the side of each jaw; if left on the head, the cut goes straight around the neck. In either case the head is removed at the atlas joint by cutting all muscles which support it and by separating the atlas, which is the joint next to the head. In severing the atlas joint, use the cutting edge of the knife not more than one inch back of the point, pulling down on the head at the same time. If the cut is made straight around the neck, a twist of the head usually will separate the joint. The head can be used if the eyes, wax cavities in the ears, the coarse hairs on the ears and the remaining coarse hairs are removed. The head should then be washed thoroly.

Removing the Leaf Fat. The leaf fat (kidney fat) can be removed much easier when the carcass is warm. Grasp the lower end of the kidney fat with one hand; then give the hand a twist upward. With the other hand, half clinched, "fist" off the fat, being careful not to injure the bacon muscles. This operation hastens the chilling of the carcass. This is important and should be done.

Facing the Hams. By facing the hams is meant the removal of a strip of fat from the inside of the ham. Cut the fat near the flank, grasp the edge attached to the ham and, while pulling on it, use a very sharp knife to cut over the face of the ham to the tail head. This fat can be removed very easily when the carcass is warm and there is very little danger of injuring the ham muscles. The amount to be removed depends upon the way you wish to have the hams trimmed. This operation exposes the ham muscles and is a material aid in cooling.

Splitting the Carcass. The carcass should be split so as to effect rapid chilling. A handsaw, a meat saw or an axe may be used in splitting the backbone. The cut can be made easily and quickly with an axe, since the majority of farmers are expert in handling an axe. Starting the cut at the rise in the backbone which is about six inches below the root of the tail, split down the middle of the backbone. After the carcass has been split, it should be removed to the smokehouse or other suitable building and hung to chill. If the temperature is unusually low, it may be necessary to wrap the carcasses in heavy cloths to protect them against freezing.



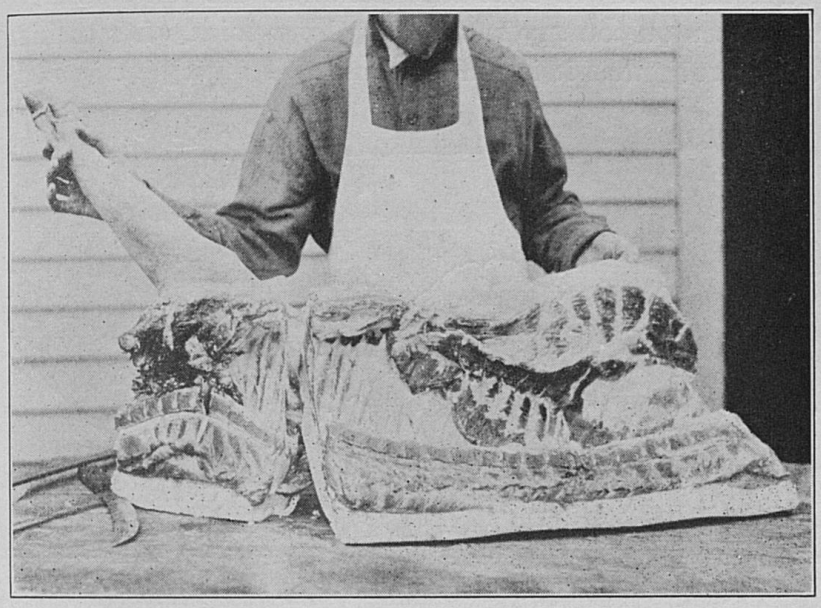
Splitting the carcass with a cleaver. An axe may be used.

Removing the Fat from the Intestines. Remove the fat from the intestines while warm. Start at the stomach end, holding the fat back with one hand and stripping out the intestines with the other. A canvas glove on the stripping hand is a great aid.

Chilling. Neat cuts can be made only from carcasses that have been thoroly chilled. If the temperature is unsuitable for the proper chilling of the carcass, it may be necessary roughly to block out the major cuts and scatter them about on stones or concrete until the animal heat has been drawn out. Farmers who have ice or can readily get it, will find it a great convenience during periods of unfavorable hog-killing weather. The importance of *thoro*

chilling of all carcasses should not be overlooked. *First-class cured products can be prepared only from chilled carcasses.*

Removing the Shoulder. Remove the shoulder between the fourth and fifth ribs, straight across the carcass. Make the cut perpendicular to the line of the body instead of following the rib.

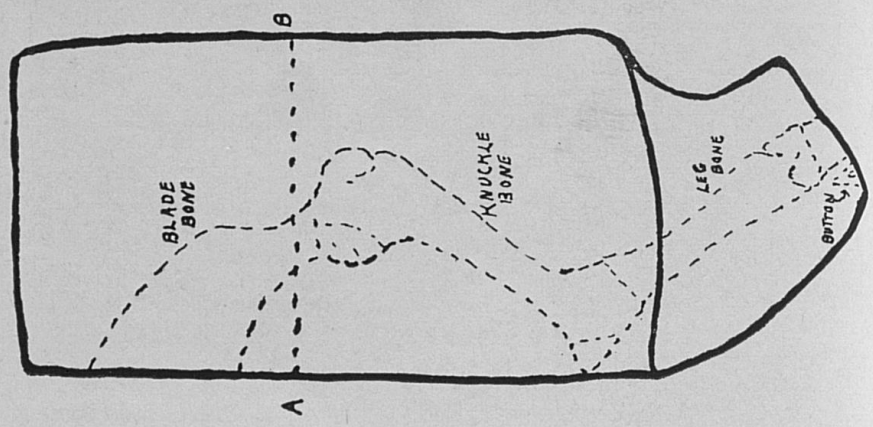


Removing the shoulder between the 4th and 5th ribs.

When this cut is correctly made, the fifth rib usually will be cut in two. The shoulder as removed should be rectangular in shape. Next, the neck bones are removed. The shoulder is now ready to be converted into a shoulder butt and "California" or "Picnic" ham. The butt of the shoulder should include about a third of the top side of the shoulder. Make the cut squarely across the shoulder. The butt may be converted into sausage, used for roasting, or chops, or cured and smoked. Shape the lower two-thirds of the shoulder as much like a ham as possible. Trim the front side of the shoulder to the shape of the rear side of a ham. This cut, when cured and smoked, is "tasty" and compares favorably in quality and flavor with ham. On many farms, where an abundance of sausage is desired, the shoulders are made into sausage. Remove the foot at the knee joint. This may be done either with an axe or saw.

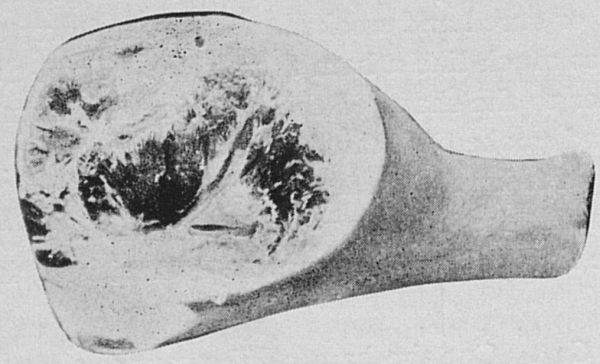
The Ham Cut. Cut the ham off the carcass about 2½ inches,

or approximately three fingers width, in front of the pelvic bone (often called the "line" bone). Make the cut almost perpendicular to the line of the leg. In applying this rule, be sure that the leg has been straightened, as in a carcass that has hung on the gambrel while chilling. When the cut has been made in this way, a square-topped ham results, in contradistinction to the long, pointed top generally seen on country hams. The long point, after curing, becomes so strong that it is unfit for use and must be trimmed off.



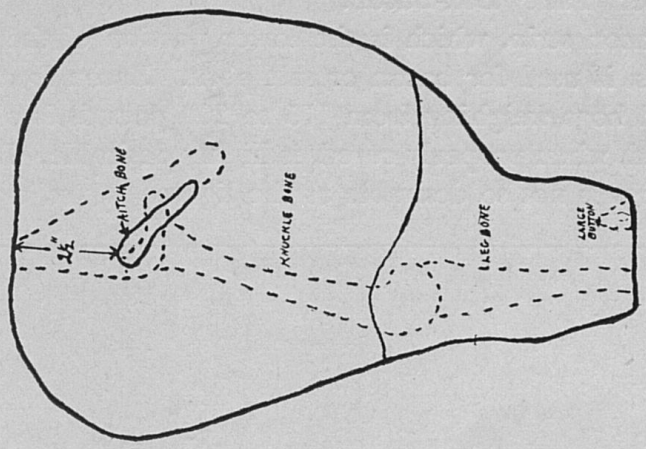
Position of the bones in the shoulder. A-B, line of cut to make the "California ham."

City dealers in country-cured hams object strenuously to hams with a long point, and pay more for the product properly trimmed. In completing the trimming of the ham, smooth it up on all sides. Leave on only a thin layer of fat to serve as a protection against hardening of the lean tissue after curing. Cut the leg off at the hock joint, leaving the surplus skin at that point available for use in hanging the ham for smoking.



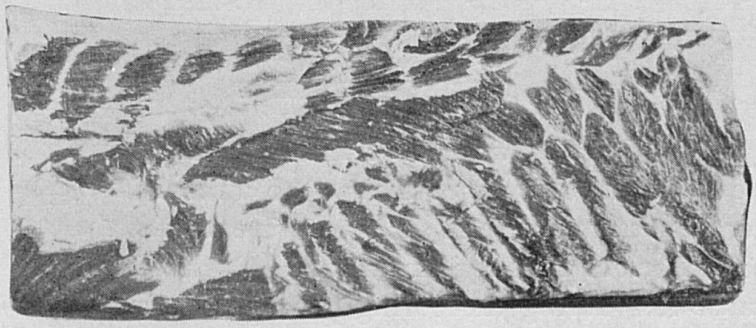
Ham properly trimmed.

The Loin and Bacon Cuts. At about one-fourth the distance from the top of the side, the loin and fatback cuts are separated from the bacon. Make the cut of even width and parallel to the top side of the carcass. Begin at the base of the heavy loin muscle, where the ham was taken off. After this has been done, separate the fat back from the loin, being careful not to cut into the lean muscle. Leave a thin layer of fat on the loin. The fat may be



Position of the bones in the ham.

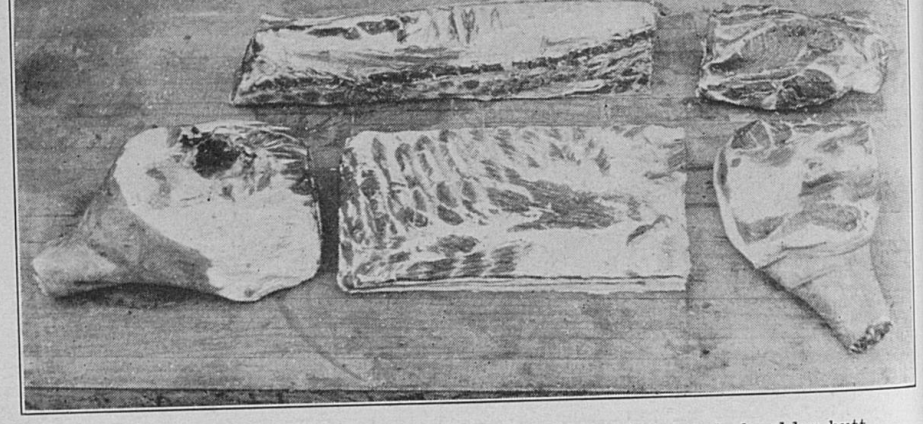
cured for seasoning meat, or rendered into lard, preferably the latter. The loin may be used as pork chops or roasts. Satisfactory chops are ½ to ¾ inch thick and are made by cutting across the grain of the meat and parallel to the ribs. Use a knife on the flesh portion and a saw or cleaver on the bones. The loin may be used also for roasts if cut into pieces of convenient size. With an axe, hatchet, or cleaver cut the vertebrae between the ribs so the roasts can be carved easily. Loins may be sprinkled lightly with salt and kept for a short time without impairing the quality of the



Bacon properly trimmed.

meat to any marked extent. Some farmers keep loins in brine as long as two weeks. The solution should be strong enough to float a fresh egg, nearly submerged. When removed from the brine, the meat should be soaked to remove excessive salt. Loins may also be cured as are shoulders and hams, but the cured loins are not so desirable as fresh loins. Loins may be cured in the ham-shoulder curing mixture, which is given under "Curing the Meat" or in that given under "Fancy Box-Bacon."

The bacon strip, which is the lower portion of the middle of the carcass, is used for bacon or salt pork. Bacon from carcasses of finished hogs weighing from 175 to 200 pounds is of excellent quality and, when properly cured, is highly desirable. Bacon from heavier hogs is not so desirable as the lighter bacon, regardless of



The finished cuts—ham, bacon, picnic shoulder, loin and shoulder butt.

the method used in curing. The heavy sides may be cured either in ham-shoulder curing mixture or in dry salt. Remove the spareribs in one piece from the "middling" by cutting close to the ribs, making them as spare as possible, thus leaving much of the lean meat on the bacon.

CURING THE MEAT

Important Precautions. Since blood in meat causes spoiling to set in quickly, it is imperative that the animal be bled thoroly. Another important factor in spoilage prevention is the thoro chilling of meat before putting it in to cure. Neglect in this particular may cause loss during the curing process. Facing the hams, removing the kidney fat and splitting the carcass are aids to the chill-

ing process. *Never* put meat into cure until after it has been chilled for at least 24 hours. On the other hand *never* allow it to freeze. If hogs are slaughtered on a very cold day, be sure to prevent the surface of the meat from cooling out too rapidly. Rapid freezing of the surface prevents proper and uniform chilling of the carcass.

Curing Agents. Salt, saltpeter, and sugar in some form are the preservatives generally used in curing pork. Salt extracts moisture from meat; hence, when used alone, it tends to harden muscle fibers. Sugar has an opposite effect in that it preserves the juiciness and assists in keeping muscle fibers soft. Saltpeter is more astringent than salt and should be used only in sufficient amount to maintain the rich, red color of meats. Combinations of salt, sugar and saltpeter possess all the qualities of the ideal curing mixture. Ordinary salt should be used. Of the sugars, granulated is preferable, and is the kind used by meat packers.

Pork may be cured either in a "dry" or "brine" cure, or a combination of the two. There are many variations of these two general methods, including the "Dry salt," "Dry sugar cure" and "Molasses-sugar cure" methods. The "Dry salt" cure consists of salt only, and is used principally in the curing of heavy side meat or fat cuts to be used for seasoning meat.

Molasses Sugar Cure. Salt the meat down, using plenty of salt. Leave it in the salt two days per pound of ham and shoulder, one and one-half days per pound of bacon, leaving no piece in salt for more than 21 curing days. A curing day is any day in which the temperature is above freezing. Remove, brush off and wash in lukewarm water. Let drip for several hours. Smoke with hardwood until amber in color (from 2½ to 6 days cold smoke)[1] Apply warm sorghum molasses to the flesh side of the meat; a day or so later make a second application of sorghum molasses. Pepper may be mixed with the molasses if desired. After the meat has absorbed the molasses, wrap it with two layers of good paper; tie with a cord; then wrap in muslin cloth, being sure that all openings are closed tightly to prevent the entrance of insects.

Dry Sugar Cure. A good dry-sugar cure can be made of 7½ pounds of salt, 2½ pounds of sugar and 2 ounces of saltpeter, this being the amount of mixture for 100 pounds of meat. For best results, both meat and ingredients should be weighed. Divide the

[1] The temperature of the smokehouse need not be high.

curing mixture into three equal portions. Rub one portion on the meat and pack in a container or on a table. Three days later, rub on the second portion. Let the meat cure three days, then put on the remaining portion of curing mixture. In other words, on the sixth day after the pork is put into cure, the final portion of curing mixture should be applied. After they have been in cure from 10 to 12 curing days, remove the shoulders, bacons and all lighter-weight cuts. Remove the hams at the end of two to three weeks. Two weeks is long enough to leave the ten- to twelve-pound hams in cure, while larger hams should be left in cure for three weeks. No piece need be left in cure longer than 21 curing days. After curing, remove the meat, wash it in lukewarm water, then smoke.

The Brine Cure. For each 100 pounds of meat, prepare 4½ to 5 gallons of brine in a barrel which has been thoroly cleaned and rinsed with boiling water. Brine of satisfactory strength can be made by dissolving in each gallon of water 2 pounds of salt, ½ pound of sugar and ½ ounce of saltpeter. Prepare the brine on the day before it is needed. Boil the brine, skim and then allow to cool. Remember that each piece of meat put into cure should be entirely covered by the pickle, since any portions of meat not submerged in the liquid will spoil. Let hams and shoulders remain in cure 3½ to 4 days for each pound of meat, and bacon 3 days per pound.* Then remove the meat from the brine and wash it in lukewarm water. Let drain for 24 hours, and smoke. Again bear in mind that the meat takes cure only on days when the temperature is above freezing.

If the brine becomes ropy, remove the meat and boil the brine. Usually, however, the most satisfactory plan is to make a new brine, using only about ¾ as much salt as was used in making the first solution.

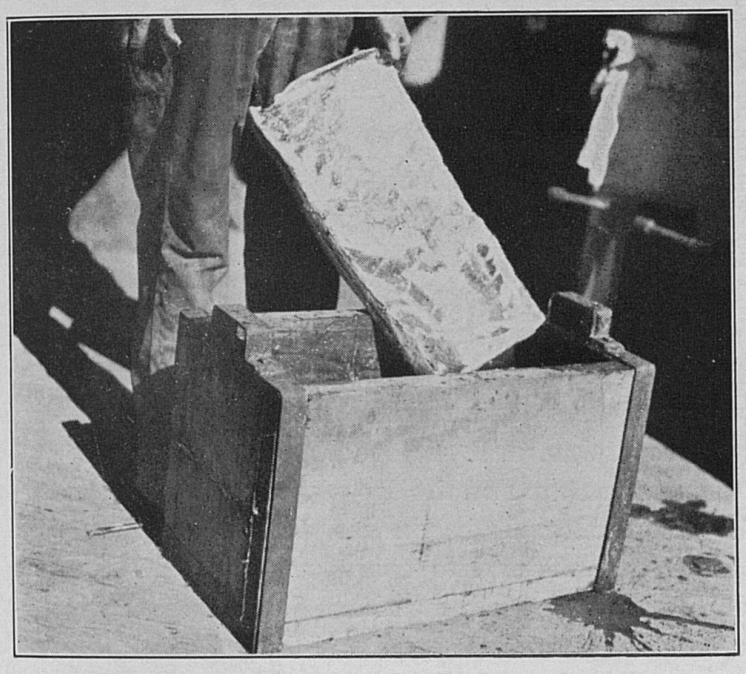
In weighting down meat in brine, use sandstone or tile for weights. Iron weights are undesirable because they rust.

FANCY BOX-BACON

Bacon of choice quality can be cut only from the carcasses of finished hogs weighing on foot, 200 pounds or less. Prepare a leak-proof box of heavy poplar or cypress lumber and of a size suitable to accommodate the size of bacon strip desired. The lumber

* Make calculations on average weight per piece. For example, a 15-pound ham should remain in brine 52 to 60 days.

should be 1½ inches thick. A sturdy, heavy lid should be made to fit inside the box, so considerable pressure can be exerted on the meat while in cure. Encircle both ends of the box with iron bands 1 or 1½ inches in width. Shape the bands on top so a two-by-four may be inserted under and held in place by them. The two-by-four extends lengthwise along the top of the box and is used to apply pressure on the bacon in cure. This may be accomplished either by jack-screws or gluts. The jack-screws are preferable. Either wood glue or cloth packing, or both, may be used successfully to make the box leak-proof. *The box must be leak-proof.*



Removing bacon from the box after three weeks of curing.

The curing mixture consists of 3 pounds of salt, 1¾ pounds of granulated cane sugar and 5 ounces of saltpeter to each 100 pounds of bacon. Weigh the ingredients of the curing mixture and the meat. Rub each piece thoroly with the curing mixture, and sprinkle some of the mixture on the bottom of the box before packing the meat. As the bacon is packed in the box, distribute, as uniformly as possible, the curing mixture thruout the pack. All the space in the box should be completely filled with meat; this helps to obtain uniformity of cure. After the bacon has been packed in the box, the lid, which fits inside the box, should be

placed on top of the meat and pressure applied. Sufficient pressure should be applied to cause liquid to rise 1½ to 2 inches over the top of the lid within 24 hours. If the liquid does not rise within this time, apply more pressure. Allow the bacon to remain in cure for 21 days. (Counting only the days on which the temperature is above freezing.) Then remove, wash in lukewarm water, and smoke with green hickory or other hardwood, until the skin side of the meat is a cherry red. Store the cured product, after wrapping with two layers of heavy paper and tying securely in cloth bags.

In preparing bacon for cooking, slice it very thin. These slices are more readily cooked.

County Agent C. V. Bryan constructed a bacon box and permitted as many of his farmers as could to use it during hog killing season. He used this method, with some slight variations. The product was so nearly perfect in quality that the procedure followed by him is worthy of record here. He says, "The carcasses were hung and allowed to cool out for 24 hours before being cut up and put into cure. The ingredients of the curing mixture were 3 pounds of salt, 1¾ pounds cane granulated sugar and 5 ounces saltpeter. I used only the amount of this mixture that could be rubbed into the meat. The rubbing was thoro. As it was rubbed the bacon strips were put down immediately into the box. On the 7th day the pack was broken and the order reversed; that is, the bottom pieces were put on top and the top pieces on the bottom of the box. After 19 days in cure, the bacon was taken up, washed in lukewarm water, hung and allowed to drain overnight, after which it was smoked. The sides were hung about 6 feet away from a smouldering fire of hickory sawdust (green hickory would be even better). Smoking continued, periodically, for 12 days. The meat could have been smoked as much in 2½ days of continuous smoking. We have never in our lives had meat like this, and others who have used this method bear similar testimony."

PRESERVING SMOKED MEAT

After the cuts of meat have been smoked, they should be wrapped in two layers of heavy parchment paper or heavy paper such as that used by meat dealers, and tied securely. Put the paper-wrapped meat into heavy cloth bags, and tie the package the second time, leaving no portion of the meat exposed. When done in this way, wrapping greatly aids in keeping out skippers and other insects. A

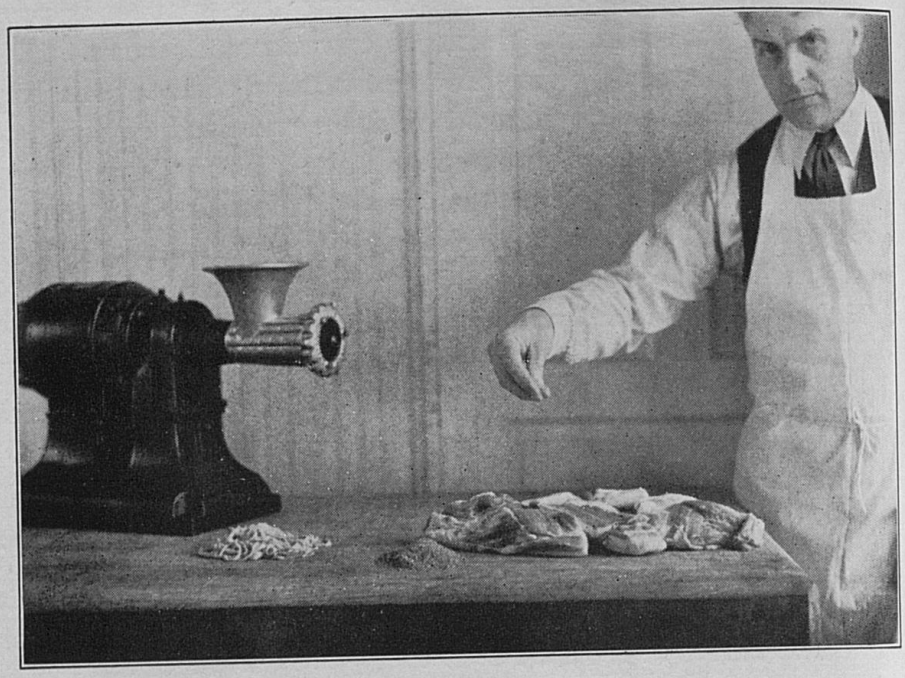
wire or string must not be left extending thru the wrapper because this would provide a direct point of entrance for insects. The hanger should be tied or sewed to the outside of the cloth bag. Furthermore, all cloth covering should be examined carefully to see that there are no tears or breaks in the fabric. Cured meats should be wrapped before the emergence of insects in the late winter or early spring. About the middle of February is the latest date of safety, as the skipper fly becomes active with the first warm weather. If the wrapping has not been done before these insects become active, they deposit their eggs on the cuts of meat, the result being that the larvae hatch and get in their damaging work under the wrapper. Thus the wrapping may prove of little or no value.

CLEANING THE SMOKEHOUSE

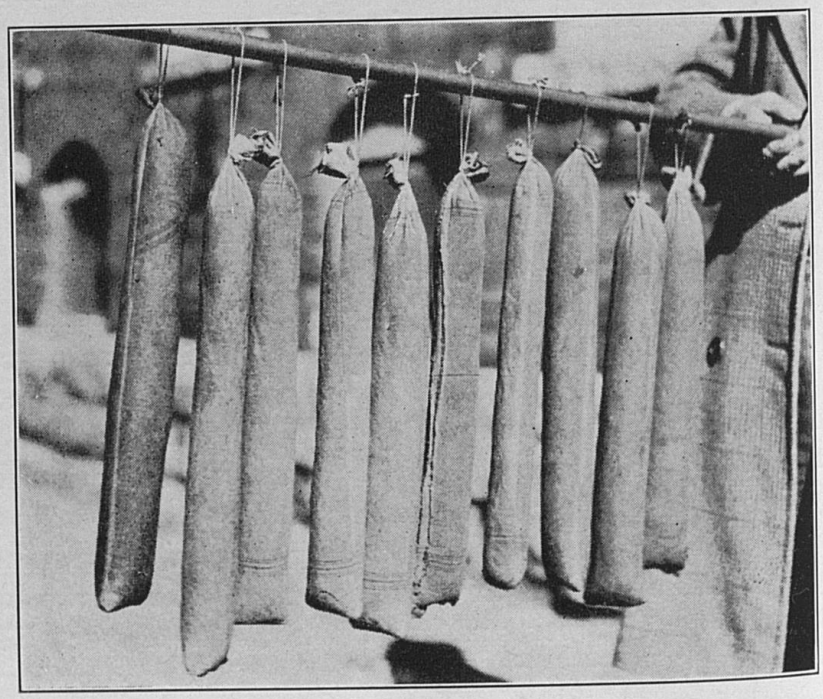
Remove all scraps of meat and refuse from the previous season. Scrub the floor thoroly, using strong, soapy, hot water. Follow this by rinsing in boiling water, applying it thoroly, to all the floor space, in any cracks or other points that might harbor insects. It is also good policy to fumigate with sulfur, using 2 pounds for each 1,000 cubic feet, or hydrocyanic acid gas, using 2 ounces of cyanide for 100 cubic feet. Sulfur may be used with safety, with the meat hanging in the room, but meat should be removed when hydrocyanic acid gas is used. Hydrocyanic acid is *extremely dangerous* to handle, and should be used only by persons who KNOW thoroly how to use it.

PORK SAUSAGE

Pork sausage, when properly made, is a choice delicacy. The meat should be about three-fourths lean and one-fourth fat. The amount of seasoning to use, for a mild sausage, is 1½ ounces salt, ½ ounce black pepper and ¼ ounce or less of dried, finely ground sage to 6 pounds of meat. Some prefer that the product be seasoned by a mixture containing red pepper. If used at all, red pepper should be used sparingly. Highly seasoned sausage is not an easily digested food. If no scales are available, the seasoning may be measured in a tablespoon. The proper amount of seasoning to each six pounds of meat is three tablespoonfuls of salt, two tablespoonfuls of black pepper, and one tablespoonful of sage. These measures should be level, not heaping full. The seasoning ingredients should be well mixed, and then spread over the meat before grinding. Two grindings, then, will distribute the seasoning uni-



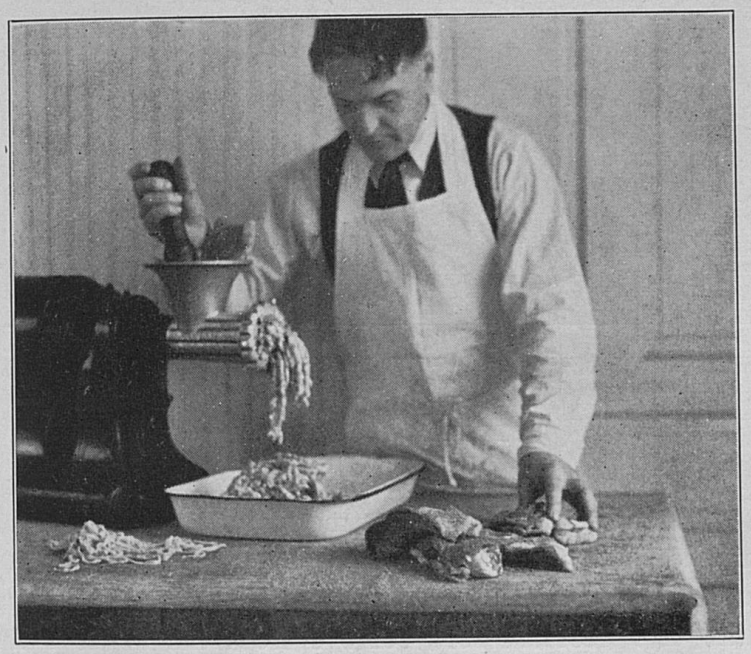
Seasoning sausage meat.



Sausage, in cotton bags, ready to be smoked.

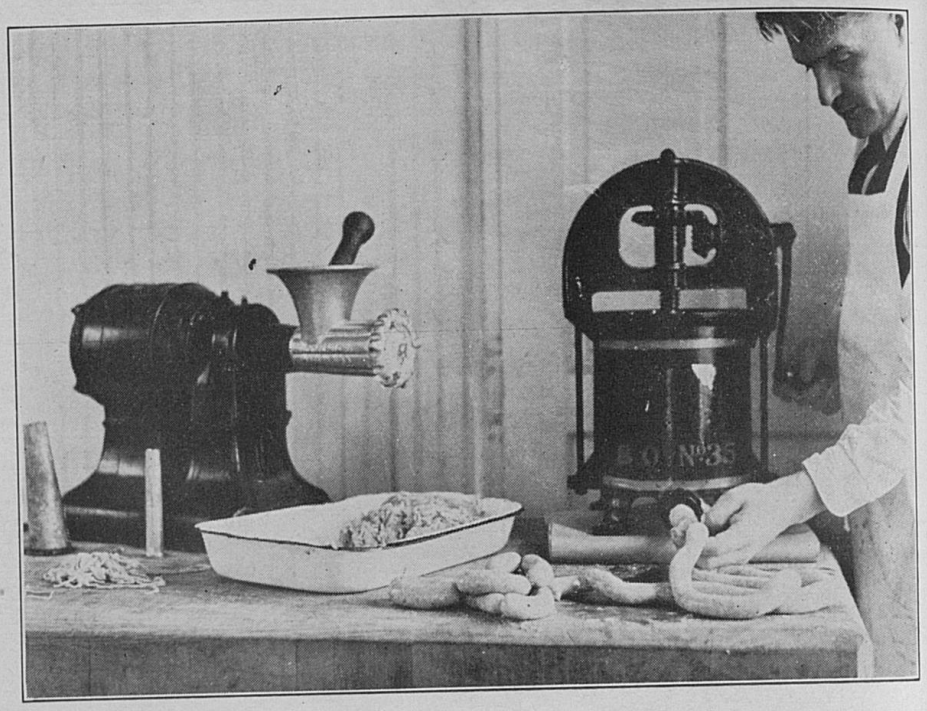
formly thruout the product. In the first grinding, a coarse plate should be used on the grinder; for the second, a fine plate. Be sure to have both plates and knives sharp. The knife should fit snugly against the plate, otherwise, a satisfactory job of grinding cannot be accomplished.

Smoking with green hickory greatly enhances the flavor of sausage, as well as its keeping qualities. It should be smoked from 2



Grinding the seasoned meat into sausage.

to 4 hours. Too much smoking gives it a strong flavor. Before smoking, it should be stuffed into casings or cloth bags 12 to 14 inches in length and 1½ to 2 inches in diameter. The meat stuffed into cloth bags, if paraffined, will keep longer and maintain its quality longer than that stuffed into casings. Paraffin does not adhere to casings. The paraffining should be done after the sausage has been smoked. Simply immerse the container in the melted paraffin, thus sealing the package. The paraffined bags should be hung in some part of the smokehouse away from the general walkways, since the hardened paraffin is brittle and may be easily broken if touched.



Stuffing sausage into pork casings.

PICKLED PIGS' FEET

Remove the toes from well-scraped pigs' feet. Then soak them in cold water overnight. The next morning put them into a kettle containing enough water to cover them. Cook until soft. This requires about five hours. Add salt to the water during cooking. When the pigs' feet are soft, remove from the kettle and split. Pack in an earthen jar and cover with hot vinegar. Spices may be added to the vinegar if desired.

HEAD CHEESE OR SOUSE

Head cheese is made from the part of the hog meat that would otherwise be wasted. Feet, tongue and heart may be used in addition to the head. When properly prepared it is a delicacy. Before cooking the head be sure it is thoroly clean. The eyes and brain should be removed, and the nostrils and ears thoroly cleaned. Split the head lengthwise between the jaw bones. Usually the jowls are removed and cured or converted into sausage. Put the pieces of head into a cooker and add enough water to cover the meat completely. Boil the whole until the meat can readily be separated from the bone. Remove the meat, separate it from the

bones and chop it fine. Remove the liquid from the kettle and save it for future use. After the meat has been chopped, return it to the kettle and pour on enough of the liquid to cover the meat. Allow it to cook for ten or fifteen minutes. While this final cooking is taking place, season the mixture with salt and pepper to suit the taste. Pack the cooked meat into jars, pans or a cold meat press. Any liquid, resulting from the cooking of the meat, should be stored with the meat. Place a weight on top and allow the meat to cool. It will soon solidify and be ready to use.

SCRAPPLE

Scrapple, usually, is made from the heads and feet of hogs, but it may be made from any part of the pork carcass. If the recleaned heads are used, they should be split thru the center and the brains removed. The heads are placed in a cooker or kettle containing enough water to cover them, and cooked until the meat separates from the bone. Take out the meat and bones and save the broth for future use. Pick all the bones from the meat, chop the meat fine, add this to the broth, and place the whole on the stove to boil. Add enough of a mixture of corn meal and buckwheat flour to make it as thick as mush. To prevent lumpiness, the meal and flour should be mixed dry (9 measures of finely ground meal to 1 measure of buckwheat flour) and the mixture added gradually while the broth is being stirred. Stir the mixture for fifteen minutes; then allow it to cook slowly for an hour, when it should be of the consistency of thick mush. Pour the scrapple into shallow pans and allow it to cool. It may then be sliced and fried. Season to suit the taste before putting the thick mass into pans.

LARD

There are three principal grades of lard; the leaf, that obtained from back fat and trimmings, and that obtained from intestinal fat. Usually, on the farm, the first two grades are rendered together, while the intestinal fat is rendered separately.

Preparatory to rendering, the fat should be cut into small pieces or coarsely ground. To prevent scorching, be sure that the fat is free from all skins and lean meat. As a further precaution against scorching, it is well to put a pint of water or lard into the kettle. This prevents the fat from sticking to the bottom of the kettle. Render the fat over a slow fire, and stir the mass continual-

ly. Rendering will be complete when the temperature reaches 265 degrees Fahrenheit. A thermometer for determining when this temperature is reached is a great convenience, but brown, floating cracklings are a safe index to follow. When such cracklings are skimmed off, they fry themselves dry. The fire should be withdrawn when the lard has reached this stage. The lard should be strained thru muslin, and the cracklings pressed. It should be cooled almost to the solidifying point before it is poured into containers. Very hot hog lard may melt solder or crack earthenware.

Lard should be stored in a cool, well-ventilated place. Two prominent causes of loss of lard, both avoidable, are moisture and udder glands. Moisture is no problem in lard that has been cooked until thoroly done. Udder glands should never be rendered with the better grades of lard. Instead, render them with the intestinal fat. Another precaution to take in storing lard for a long time is to avoid rusty containers.

YIELD OF LARD

Kind of fat	Percent of Rendered Lard
1. Paunch	65
2. Intestinal	58
3. Fat back	78
4. Trimmings	72
5. Clear plate	79
6. Jowls (lean off)	69
7. Leaf (kidney)	94
Average if 3, 4, 5, 6, and 7 are mixed	76

That is, if you have 100 pounds of mixed fat it will render out about 76 pounds of lard. This percentage varies somewhat, depending upon the degree of fatness of the animal and upon the kind of feed it has received. The average for a 200-pound hog is 13 to 14 percent of lard and may run as high as 20 percent, depending upon the condition of the animal. In other words, a 200-pound hog renders out from 26 to 40 pounds of lard, depending upon its condition and the method of trimming.

DRESSING PERCENTAGE

Condition, or degree of fatness, and fill are the main factors which influence the dressing out percentage. Form and quality also affect the yield somewhat.

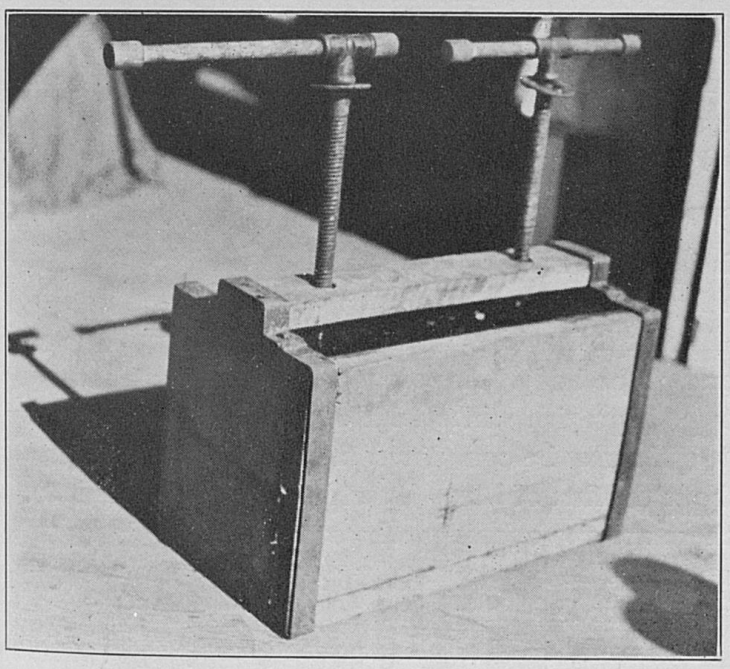
Dressing Percentages (Head on, leaf fat in) Wt. of Hog	Percent of Dressed Meat
350–400	82–84
250-300	70-82
200–250	77–80
150-200	75-77
100–150	72–76

BACON BOX

This box can be constructed in about 8 hours.

Bill of Materials and Cost of Making Bacon Box

A poplar or cypress board 1½ in. thick, 14 in. wide and 10 ft. long	$ .80
2 Jackscrews	2.50
2 Iron bands 5 ft. x 1 in. x 1/16 in.	.40
2 Woodscrews ⅜ in. by 1½ in.	.10
1 lb. 8d nails	.10
1 pc. 2 in. x 4 in. x 24 in.	.05
	$ 3.95



A bacon box in use. Only medium-sized bacon should be cured in the box.

THE CHEESE SKIPPER OR HAM SKIPPER (Piophila casei L.)

The eggs are laid by a small, two-winged fly which is about half the size of the housefly. The eggs hatch in about thirty-six hours into small, cylindrical, white maggots which are called "Skippers"

from their wonderful leaping power. The larve completes its growth in 7 to 10 days. Then it moves to some dry spot, contracts in length, and assumes a yellowish hue. The outer skin separates from the body and gradually hardens and darkens into a golden brown. This resting stage lasts about ten days, when the adult insect, the fly, emerges. The fly lives, in the summer, about ten days. Its entire life cycle may be concluded within three weeks, under favorable conditions.

The smallness of the fly requires that the smokehouse or storeroom be screened with a 30-to-the-inch mesh. The fly is not active at night but is able to perform its life's work in partially darkened storerooms. It does not often attack fresh meat nor meat that has been salted and not smoked, but the odor of smoked meat attracts it. The larve feeds upon the soft, lean tissue of the meat. Since skippers are deep feeders, most strenuous measures must be used to rid infested meat of the pests. Simple dipping in hot water does not kill those imbedded in the meat. Sulfur fumes kill the adult but do very little harm to the larva and pupa. Hydrocyanic acid gas produces the best results, but since the gas is very poisonous, the operator should get full instructions from a druggist or other qualified person, before attempting its use.

THE RED-LEGGED HAM BEETLE (Necrobia rufipes De G.)

This beetle is rather slender and of a dark bluish color, with reddish legs. The larva is a slender grub, covered with scattered hairs. At first it is white, with a brown head and two small hooks at the end of the body. As it matures it becomes darker and, when full-grown, is grayish white with a series of brown patches above. The life cycle may be completed in 45 to 50 days. This beetle appears about the first of May. It seldom lays eggs on meat wrappers, but if there are any openings whatsoever the beetle is sure to make use of them. The larvae usually eat the fat near the surface and being surface feeders, they are readily destroyed by the use of fumigants. The number of adults may be greatly reduced by catching the beetles.

THE LARDER BEETLE (Dermestes lardarius)

This beetle is dark brown with a yellowish-brown band across the anterior half of its wing covers. On the band are 6 black dots, three on each side of the middle line. The larva is small, brown, hairy, with two short, curved spines on the top of the last abdom-

inal segment. Its habits and controls are similar to those of the red-legged ham beetle.

THE CHEESE OR HAM MITE

This mite may do considerable damage to cured meat. It is whitish at first, with six legs, but the adult has eight. It is so small that it can barely be seen by the naked eye. It frequently attacks hams, eating great holes in them and leaving material of a powdery consistency. Affected hams should be closely trimmed and the remaining portion dipped in boiling water for one minute. This may bleach the ham slightly but destroys the mites. These mites are very resistant to fumigation. Some farmers follow the practice of dipping all cured meat in boiling water for one minute, previous to wrapping. After dipping, the cuts should be hung and allowed to drain thoroly. This affords a measure of protection against all types of meat-eating pests, since the boiling water destroys the insects and any eggs which may be on the meat.

MOLD

Mold develops on practically all cured meats, the amount varying widely with the season and the length of time the meat is kept. In damp weather, mold develops in greater abundance than in dry weather. It does not greatly impair the flavor or quality of meat. Mold can readily be removed by rubbing lard over the molded surface and then removing it with a cloth.

SKIPPER COMPOUNDS

There are expensive products on the market which the makers guarantee to prevent skippers. One of these compounds, upon analysis at the Kentucky Agricultural Experiment Station, was found to contain the following:

Sodium borate (borax)	90.16%	
Potassium nitrate (saltpeter)	6.06%	
Red pepper, powdered	3.75%	approximately

From the analysis it is evident that borax alone, applied to meat after it has been smoked, would be as effective as this compound. But borax does not prevent meat-eating insects from attacking meat, and because of its hardening effect *should not be used.*