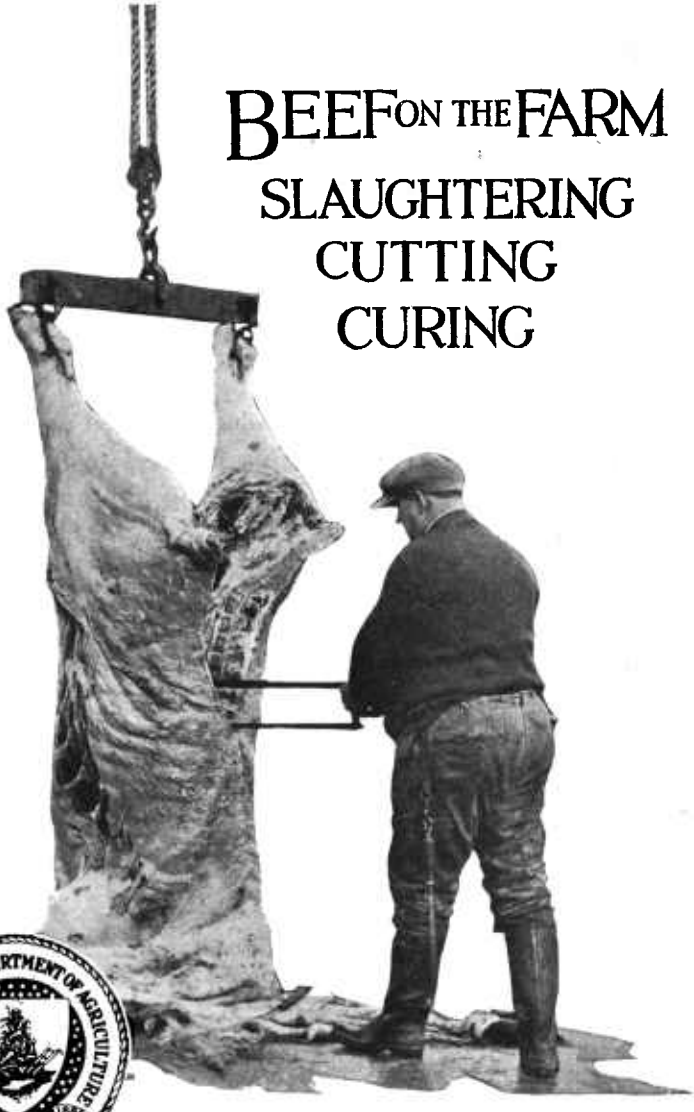
U. S. DEPARTMENT OF AGRICULTURE

FARMERS' BULLETIN No. 1415

BEEF ON THE FARM

SLAUGHTERING
CUTTING
CURING



SLAUGHTERING BEEF on the farm or ranch is the only means of obtaining fresh beef in many localities.

Home dressing of beef often makes it possible to procure meat at a considerable saving.

Blocky, healthy animals, in good condition, yield the most desirable beef.

Simple equipment and methods, described and illustrated in this bulletin, enable farmers to follow each step in the process of converting live animals into meat.

It is believed the procedure set forth in this bulletin provides a practical, modern, and satisfactory method of killing, cutting, and curing beef on the farm.

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BEEF ON THE FARM—SLAUGHTERING, CUTTING, CURING.

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CONTENTS.

SELECTING CATTLE FOR SLAUGHTER.

IT IS IMPORTANT that only healthy cattle be slaughtered for beef. A bright eye, sleek coat of hair, and vigor are indicative of health. Cattle should be at least moderately fat, as the meat from a thin animal is less nutritious and palatable. An animal of beef breeding will generally yield the most desirable beef. The meat from such an animal, in good condition, will ordinarily be well marbled; that is, each of the bundles of muscle fibers will be surrounded by a covering of fat, and there will be a rather smooth, even layer of fat over the outside of the carcass just under the hide. The fat of most dairy-bred animals, on the other hand, is not uniformly distributed throughout the meat, but appears on the outside and the inside of the carcass.

Meat from aged animals is more liable to be tough than that from growing animals; however, meat from the former, properly fattened, is preferable to that from young ones in poor condition. Formerly it was believed that meat from beef animals under 30 months of age was watery and lacking in flavor, but in recent years improved methods of feeding and development of the breeds with respect to early maturity have resulted in the production of beef of excellent quality from young animals.

The dressing percentage (per cent of dressed beef to live weight of animal) for beef cattle varies from approximately 45 to 68 per cent. Steers grading from medium to good should yield from 53 to to 56 per cent dressed meat.

CARE OF CATTLE BEFORE SLAUGHTERING.

Cattle should not be fed within 24 hours of the time they are to be slaughtered, but should have access to fresh water. An animal should never be killed while in an excited or overheated condition, as

it will not bleed well. Beef from animals not properly bled does not keep well.

Bruising the body just before slaughter will cause bloody spots, which have to be trimmed out, resulting in considerable waste.

EQUIPMENT.

A tree having a limb at least 12 feet from the ground to permit hoisting the dressed carcass, with the aid of block and tackle, beyond the reach of dogs or other animals, provides a suitable place for slaughter. In the absence of a suitable tree, three poles or pieces of rough lumber may be fastened together at one end with a chain or rope and set up in the form of a tripod.

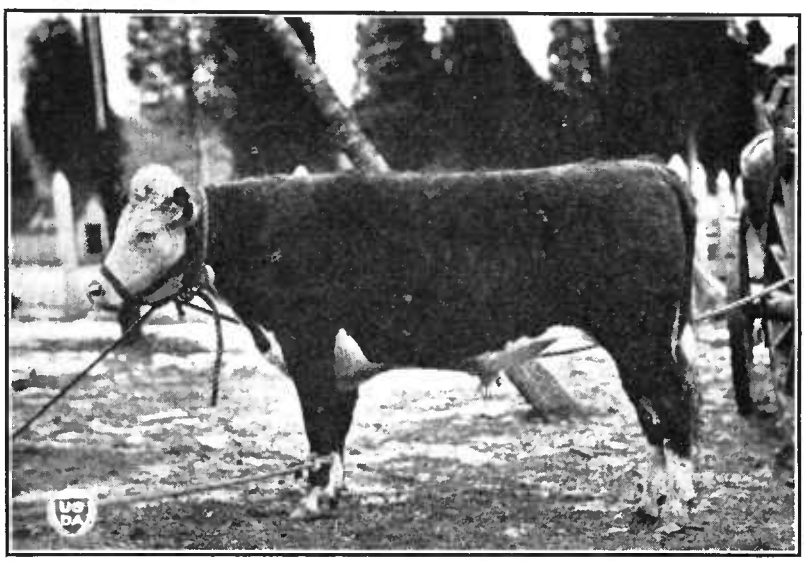

FIG. 1.—Animal tied in position for stunning.

A 2-horse evener (doubletree) with screw-bolt clevises (fig. 20) makes an excellent support and spreader for the carcass. A heavy neck yoke may be used in place of the doubletree.

A pritch (fig. 6) can be made by using a stick about 2½ feet long and sharpening each end, or by fitting a sharp spike in each end.

An ax, a meat saw with a heavy blade, a knife with a curved blade for skinning, a steel, a bucket, a clean cloth, and water are needed for slaughtering. A steak knife with a straight blade 12 or 14 inches long can be used to advantage in cutting up the carcass but it is not absolutely necessary.

SLAUGHTERING CATTLE.

Stunning.—The killing should be done where the carcass is to be hoisted. First, tie the head securely in a position that will enable a man to stun the animal by a blow on the forehead, with an ax or sledge (fig 1). The proper place to strike is just above the center of the forehead.

Bleeding.—It requires skill to stick an animal properly. Stretch the neck out as far as possible, holding it in position with one foot against the jaw (fig. 2). With the sticking knife, cut through the

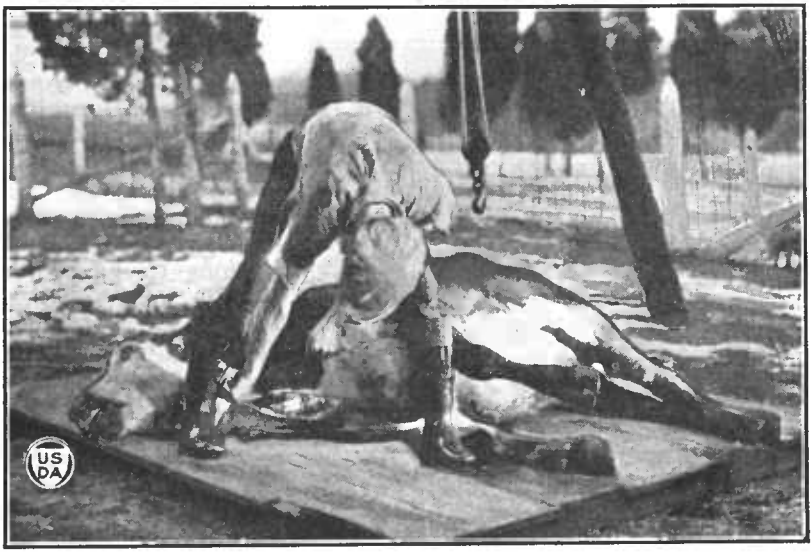

FIG. 2.—Sticking.

skin from the breastbone toward the throat, making a cut about 10 to 12 inches in length. Insert the knife with the back of the blade against the breastbone and point the tip directly toward the backbone at the top of the shoulders, just under the windpipe, and cut forward toward the head. This will sever the carotid arteries at the point where they fork. Care should be taken not to stick too deep and too far back, as there is danger of penetrating the chest cavity, permitting the blood to drain back on the ribs and stain the carcass. Bleeding may be made more complete by pumping the carcass by grasping the tail and pushing the paunch forward with the foot.

FIG. 3.—Skinning the head—first operation.

Skinning. — Begin at the head, cutting back of the poll, thence to the nostril on the left side of the head along the line of the eye (fig. 3). Skin the side of the head and a short distance down the neck. Raise the head to finish skinning it (fig. 4). Cut across the

neck just behind the jaws and unjoint the head at the "atlas" joint (fig. 5).

Roll the carcass on its back and prop it with a pritch (fig. 6). Split the skin over the back of the forelegs from the dewclaws to a point 2 or 3 inches above the knee. Skin around the knees and shins (fig. 7), unjoint, and skin down to the hoofs (fig. 8).

FIG. 4.—Skinning the head—the last operation before detaching it.

Cut across the hind leg at the joint below the hock, severing the tendons to permit the leg to relax (fig. 9). Split the skin from the dewclaws to the hock and up over the rear of the thigh to a point from 4 to 6 inches back of the cod or the udder (fig. 10). Skin the hock and shin and sever the leg at the lowest joint of the hock (fig. 11). In splitting the skin over the thigh, the knife should be turned down flat, with the edge pointed outward and a little upward to avoid gashing the flesh (fig. 12). The inside of the thigh may be skinned well down but the outside should not be skinned until after the beef has been raised (fig. 13). Before raising the carcass, split the skin down the middle of the belly from the brisket to the tail and skin back from this line until the side is well started (fig. 14).

The next, and the most particular part of the skinning operation, is known as "siding." The skinning knife should have a smooth, keen edge. Grasp the handle well up toward the blade and hold the knife blade flat against the surface of the hide which must be stretched tightly (figs. 15 and 16). Remove the skin with the blade turned slightly toward the skin in order to avoid gashing the flat muscle covering the abdomen, or the thin "fell" membrane which lies between the meat and the skin. This membrane serves to protect the meat from drying out and from the attack of molds.

FIG. 5.—Detach the head by cutting across the neck just back of the jaw.

The appearance of the carcass will be improved if all blood spots are wiped from the surface during the skinning operation. A bucket of warm water and cloth are needed for this purpose. The cloth should be wrung dry, with as little water as possible.

FIG. 6.—Propping the carcass in position with a pritch.

Opening the abdominal cavity.—Beginning just back of the brisket, cut through the abdomen carefully so as to avoid puncturing the paunch or intestines and protect them from the knife blade with the left hand, opening the cavity along the midline to the pelvic arch (fig. 17). It is a good plan to hold the knife blade with point up, the hand inside the abdominal cavity. Cut through the brisket, exposing the breastbone, and saw through the latter (fig. 18). Loosen the windpipe and gullet, but do not cut them off. Saw or split the pelvic bone, which is exposed by cutting through the muscle midway between the hind legs (fig. 19). Remove the caul fat.

Hoisting.—Prepare the carcass for hoisting by making an incision between the large tendons and the hock and attaching a spreader.

FIG. 7.—Skinning the foreleg.

Raise the carcass until the tail head is about even with the skinner's waist. Cut through the hide on the underside of the tail

FIG. 8.—Freeing the shank and hoof.

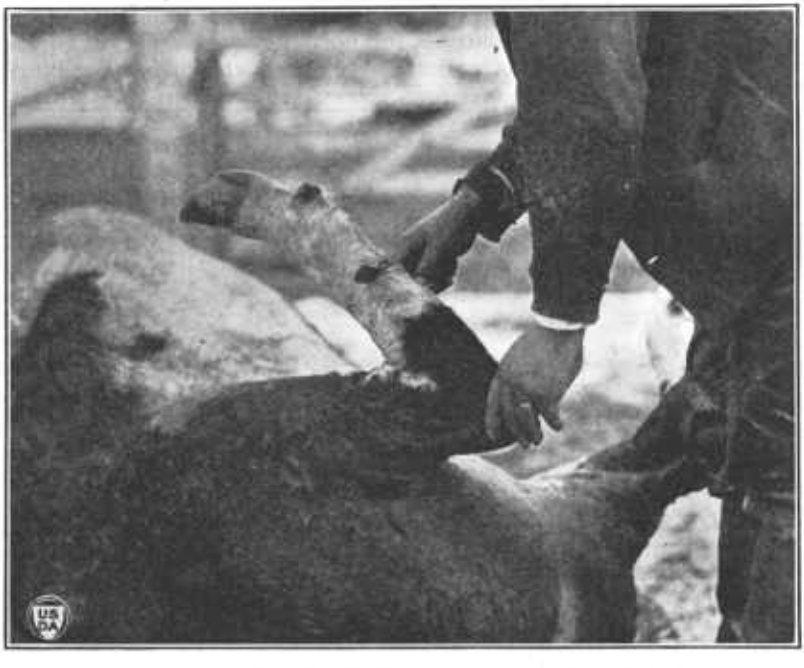

FIG. 9.—Severing the tendons to permit leg to relax.

FIG. 10.—Skinning the hind shank.

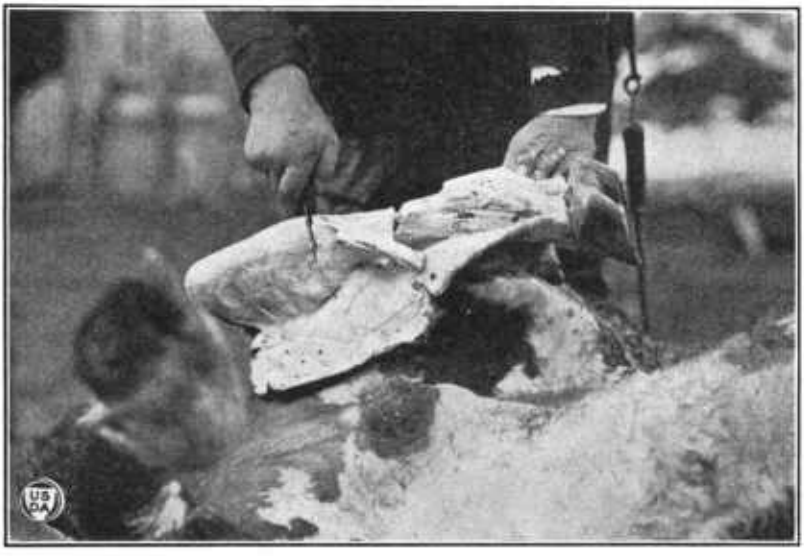

FIG. 11.—Removing hind shank at lower hock joint.

FIG. 12.—Skinning the thigh.

FIG. 13.—The thigh is only partly skinned before hoisting the carcass. It is more convenient to complete the skinning when hoisted, and is also conducive to cleanliness.

FIG. 14.—Opening the hide on a line from brisket to tail.

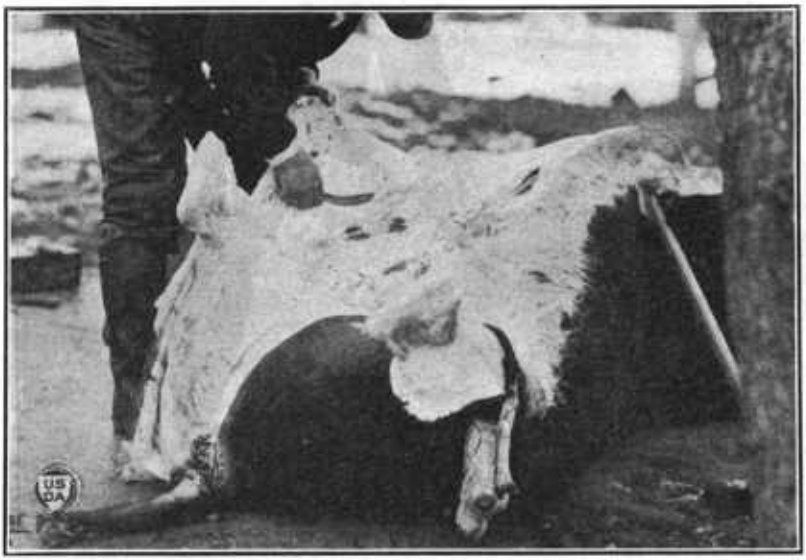

FIG. 15.—Siding. The hide is held with the hand on the outside, for both convenience and cleanliness.

FIG. 16.—Siding is the most difficult part of the skinning operation. Care should be taken to avoid gashing the flat muscle covering the "fell" membrane.

FIG. 17.—Opening the abdominal cavity.

FIG. 18.—Sawing the breastbone.

FIG. 19.—The pelvic bone divided.

FIG. 20.—Opening the hide on the underside of the tail.

FIG. 21.—Pulling the tail out of the hide.

(fig. 20). Sever the tail bone at a joint near the base and pull it out of the hide (fig. 21). Skin the rump on each side of tail (fig. 22). Hoist the carcass a little for convenience and skin the hide from the hind quarters. The hide may be removed from the thighs by pulling and jerking (fig. 23). When it does not yield readily it may be loosened a little with the knife. As in siding, one should be careful to avoid removing the fell with the hide. Wipe the hocks and hind quarters with a clean cloth dipped in hot water and wrung dry. Next, loosen the rectum and small intestines and let them drop down over the paunch, to permit sawing (fig. 24). With the knife

FIG. 22.—Skinning the outside of the thigh (rump).

free the liver from the intestines. Pull down on the paunch to tear it loose from the carcass and let it fall into a container (fig. 25).

Hoist the carcass until it clears the ground. Remove the liver and cut the gall bladder from it. Cut out the diaphragm (the sheet of muscle which separates the heart and lungs from the stomach and intestines) but allow the muscles of the diaphragm to remain attached to the carcass. Take out the heart, lungs, and gullet (fig. 26). Skin down the back and remove the hide (fig. 27).

Splitting the carcass.—Divide the carcass into halves, as shown on the title page and in Figures 28 and 29, by sawing down the center of the backbone or by splitting with a sharp ax. Wash all blood from the carcass and wipe dry with the cloth. Move each foreleg up and down several times, to aid in draining the blood from the

vessels in the shoulders. The appearance of the carcass may be improved by trimming off the ragged edges.

Removing tongue and brain, and stripping fat from offal.—In removing the tongue from the head, place the head face down, cut along the inner surface of the lower jaw, lift up the tongue and cut it off at the base (fig. 30). A hatchet or cleaver is sometimes used in cutting the bones at the base of the tongue. Allow the fat to remain attached to the tongue. Wash the tongue well in clean, cold water and scrape it with a knife, from the tip to the base, then hang it up to cool. Saw or split the skull and lift out the brains (fig. 31).

FIG. 23.—Pulling the hide from the thighs.

Trim the fat from the intestines and paunch, as it can be rendered and mixed with lard, or used in making soap.

Cleaning the tripe.—Tripe is made from the first and second stomachs. It may be prepared by cutting off these two stomachs and emptying their contents by turning them inside out. They should then be washed thoroughly and rinsed several times in clean, cold water.

EXAMINING THE CARCASS.

All the internal organs, as well as the carcass, should be carefully examined at the time of slaughter for disease or other condition that might affect the fitness of the meat for food. The only person quali-

fied to do this properly is a veterinarian educated and trained to perform this important duty. If one is not available, an examination of some value can be made by any one thoroughly familiar with the appearance of normal organs and meat. If a person is not familiar with such appearance he will not be able to recognize changes from the normal. If evidence of disease or change is found, the next point to be determined is whether the condition is local or general. A localized condition affects a limited part only. Bruises, minor injuries, parasites in organs, an inclosed abscess, a single tumor, etc., may be cited as local conditions, and removal of the affected part is

FIG. 24.—Loosening the offal.

usually all that is required. A generalized condition is one which more or less affects the whole carcass. The presence of great congestion or inflammation in the lungs, intestines, kidneys, or on the inner surface of the chest or abdominal walls is to be regarded as showing generalized conditions. Numerous yellowish or pearl-like growths scattered through the organs or on inner surfaces of chest or abdominal walls indicate generalized tuberculosis. An abnormal color of the meat is usually due to some generalized condition. All generalized conditions are to be viewed seriously. Any such case should be submitted to a graduate veterinarian for examination and opinion as to the fitness of the meat for food.

COOLING THE CARCASS.

A beef carcass should be allowed to hang from 12 to 24 hours, or at least long enough to cool, before being cut. On the other hand, it is not a good practice to permit the carcass to freeze. When circumstances permit, killing should be done on a day when the beef can be cooled at a temperature ranging from 34° to 40° F. When all the animal heat is out of the carcass, it should be firm enough to cut well. After cooling, the carcass may be quartered and hung in a clean, dry place which is free from dust, insects, and objectionable odors. Moisture aids in the decomposition of beef and for this

FIG. 25.—Removing the offal.

reason it is important that the carcass be kept in as dry a place as possible. Sunlight and wind darken and dry the meat.

Beef becomes more tender and palatable when allowed to ripen or age for a short time. When conditions permit, it may be allowed to hang from two to three weeks before being cut up.

CUTTING UP THE CARCASS.

Quartering or "ribbing down."—Insert the knife blade between the twelfth and thirteenth ribs at a point midway between the backbone and flank, marked 1 on the diagram (fig. 32). Cut to the backbone

(2) on a line parallel with the ribs, then cut toward the flank (3), leaving from 6 to 8 inches of flank to hold up the fore quarter when the backbone has been sawed. Saw through the backbone in a line with the knife cut between the ribs, and free the fore quarter from the hind quarter by cutting the flank that is holding them together.

When the quarters are separated, as indicated by the lines from 2 to 3 in Figure 32, the fore quarter will be about 52 per cent by

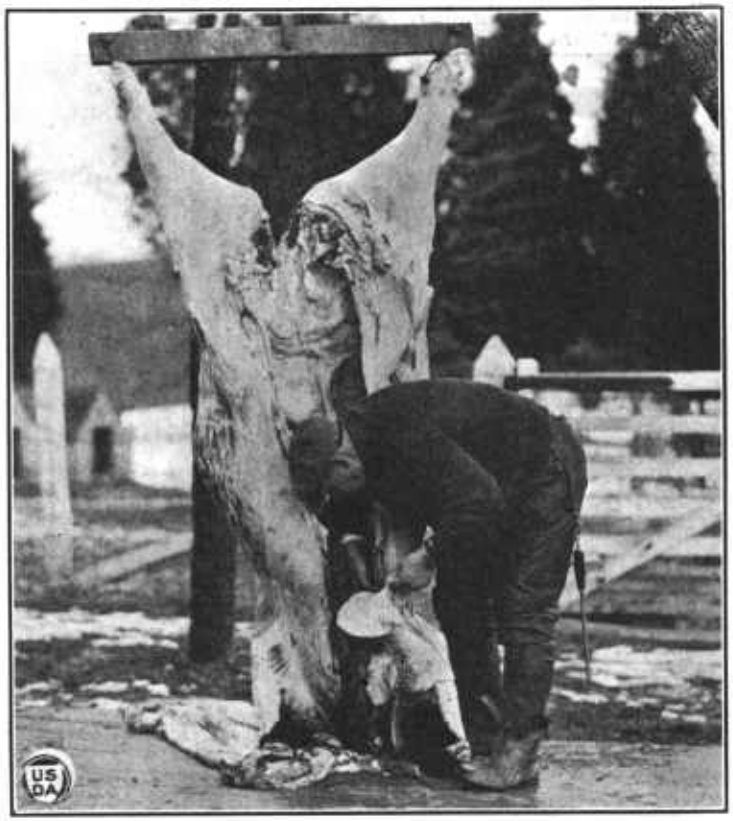

FIG. 26.—Removing the heart, lungs, and gullet.

weight of the entire carcass and the hind quarter about 48 per cent. These may be further divided into the following cuts having the approximate yields shown in the table.

Principal cuts in a beef carcass and their relative weights.

Fore quarter.	Per cent.	Hind quarter.	Per cent.
Chuck (including neck)	22.15	Loin	16.38
Rib	9.64	Flank	3.53
Plate and brisket	14.46	Round (including rump)	24.09
Fore shank	5.75	Suet	4.00
Total	52.00	Total	48.00

There are many methods of cutting up the carcass. The one described here aims to give pieces suitable for cooking, canning, and corning.

Cutting the fore quarter.—It is better to cut the meat with a knife and use a saw rather than an ax or cleaver for cutting bones. This avoids splintering the bone and causing unnecessary waste of meat. Cut along the line 4 to 5 (fig. 32) to sever the shank (fig. 33), and trim from the brisket. Cut through the meat to the ribs, along line 1 to 5 and line 5 to 4 (fig. 32). Saw along the same line and remove

FIG. 27.—Removing the hide from the back.

plate and brisket (fig. 34). The plate may be separated from the brisket by cutting along the line 5 to 6 (fig. 32).

Cut from 5 to the backbone at 7 (fig. 32) and saw through the backbone to free the seven prime ribs from the chuck (figs. 35 and 36).

Steaks or roasts may be cut from the chuck beginning at the fifth rib and extending to the second rib. The neck may be severed from the chuck by cutting along the line 8 to 9 (figs. 32, 33, and 37).

Cutting the hind quarter.—Lay the hind quarter on the block with the inside of the carcass up and detach the flank by cutting from 10 to 1 (figs. 32 and 38). Remove the kidney (fig. 39) and the fat in which it is embedded. Separate the loin from the round and

rump. Start by cutting from point 11, which is midway between the tail head and the low point in the backbone (figs. 32, 40, and 41), to point 10 on a line which passes just in front of the pelvic bone. The loin may be divided into the sirloin and porterhouse at the hip or hook bone (fig. 42). The porterhouse contains most of the tenderloin. Separate the rump from the round by making the cut from line 12 to 13 (figs. 32 and 43), leaving the pelvic bone in the rump. The pelvic bone may be trimmed out of the rump (fig. 44). The shank may be cut off at the upper end of the long bone along the line 14 to 15 (figs. 32 and 45).

FIG. 28.—Sawing the backbone.

CURING BEEF.

The corning or pickling process is used to preserve the surplus beef for future use. Salt, sugar, and saltpeter are generally used. Salt cures the meat and extracts water from the tissues, tending to make it hard and dry. The action of saltpeter is similar to that of salt, but in addition gives the meat a reddish or pink color. Sugar softens the harshness of the salt and improves the flavor of the meat.

Preparing corned beef.—The cheaper cuts of meat, such as the plate, rump, and chuck, are generally used in making corned beef. Meat

from fat animals makes better corned beef than that from thinner animals.

Cut the beef into pieces 5 or 6 inches square. These pieces should be of uniform thickness so that they may be packed in even layers in the barrel. When the meat is thoroughly cooled it should be corned as soon as possible, for meat which has begun to spoil is unwholesome and will probably sour during the corning process. Under no circumstances should meat be put in cure while in a frozen condition.

FIG. 29.—Splitting the bones in the neck with an ax.

Weigh the meat and for each 100 pounds allow 8 pounds of salt; sprinkle a layer of salt one-quarter of an inch in depth over the bottom of the vessel (a stone jar or wooden barrel which has been thoroughly cleaned and scoured is preferable); pack the cuts of meat as closely as possible, making a layer 5 or 6 inches thick; then add alternate layers of salt and meat, being careful to cover the top layer of meat with considerable salt.

Allow the salted meat to stand overnight, then add a solution composed of ingredients in the following proportion: For 100

FIG. 30.—Removing the tongue.

FIG. 31.—Splitting the skull to remove the brains.

pounds of meat use 4 pounds of sugar, 2 ounces of baking soda, and 4 ounces of saltpeter dissolved in 1 gallon of lukewarm water. Mix thoroughly and pour over the meat. Then add 3 gallons of water. Keep the meat entirely under the brine by using a loose board cover with a weight on it. If any of the meat projects it causes the brine to spoil in a short time.

If the meat has been corned during the winter and must be kept into the summer season, it is advisable to watch the brine closely during the spring, as it is more liable to spoil at that time than at any other season. If the brine appears to be ropy, the pieces of meat should be removed and vigorously washed with a stiff brush and hot water, then repacked and covered with new brine. The brine should be kept in a cool place, as the sugar in the brine has a tendency to ferment. To cure thoroughly the meat should be kept in the brine 28 to 40 days. Meat removed from the brine should be hung up and allowed to drain thoroughly before wrapping or smoking.

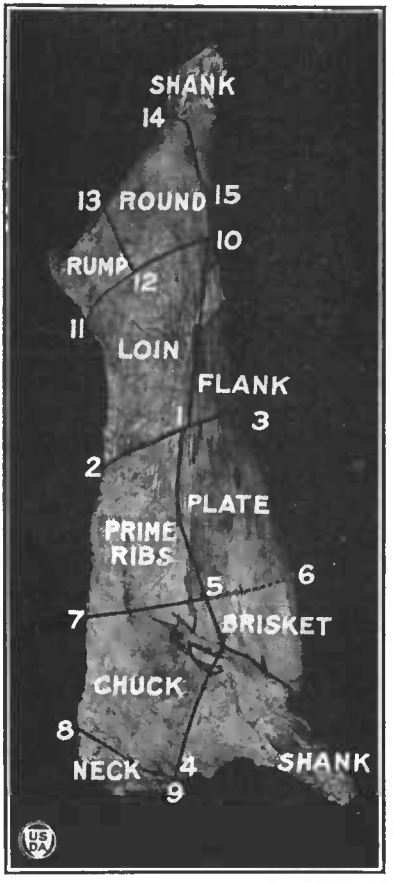

FIG. 32.—Side of beef, with primary cuts outlined.

Drying beef.—The round is commonly used for dried beef, the inside of the thigh being considered the choicest piece, as it is slightly more tender. The round should be cut lengthwise of the grain of the meat in preparing for dried beef, so that the muscle fibers may be cut crosswise when the dried beef is sliced for table use. Cure the meat in the same manner as described under corning, with the exception of adding an additional pound of sugar per 100 pounds of meat. After being removed from the pickle, the meat should be smoked and hung in a dry place or near the kitchen fire, where the water will evaporate from it. It may be used at any time after smoking, although the longer it hangs in the dry atmosphere the drier it will become. The drier the climate, in general, the more easily can meats be dried. In arid regions good dried meat can be made by exposing it fresh (if protected from flies) to the air.

Smoking beef.—Pickled and cured meats are smoked to aid in their preservation and to give flavor and palatability. The creosote formed by the burning of wood closes the meat pores to some extent, excluding the air, and is somewhat objectionable to insects.

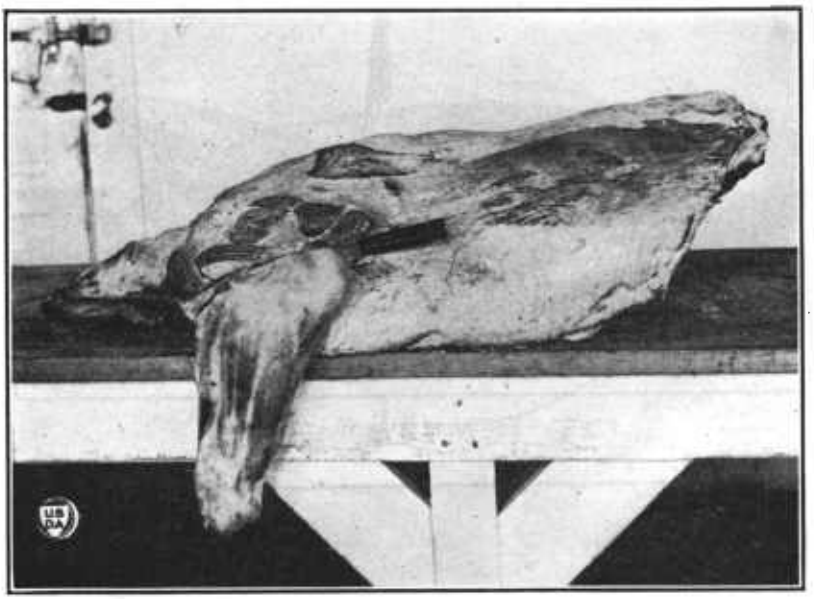

FIG. 33.—Cutting off fore shank.

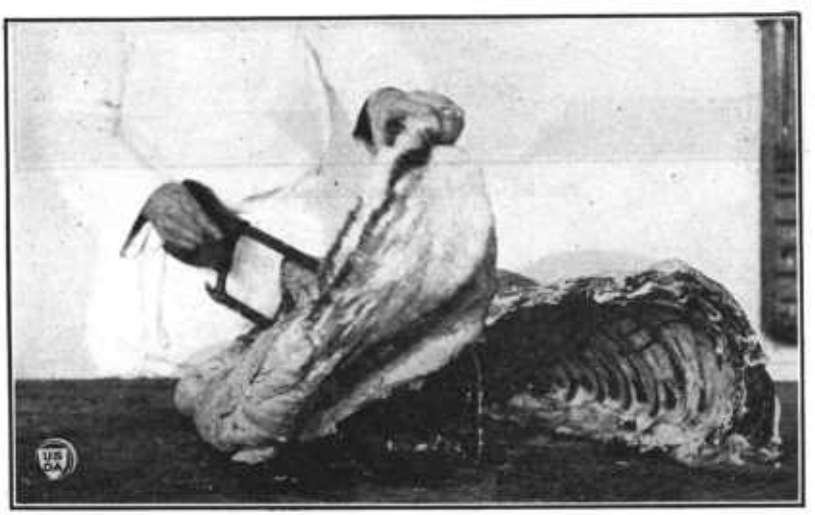

FIG. 34.—Sawing plate from prime ribs and chuck.

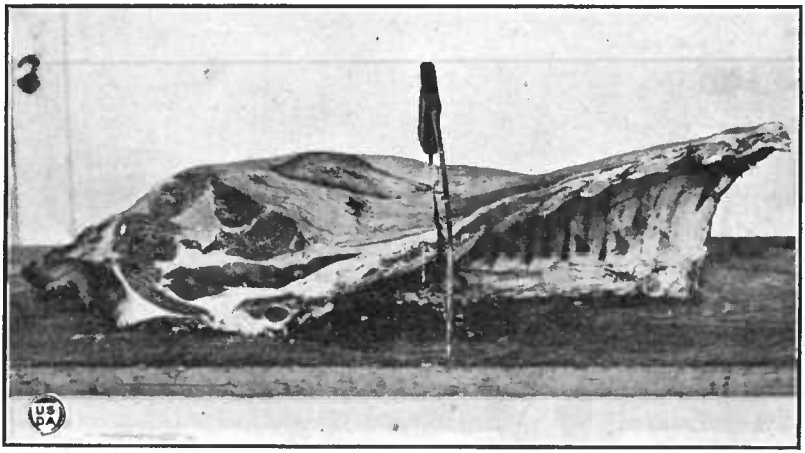

FIG. 35.—Separating prime ribs from chuck.

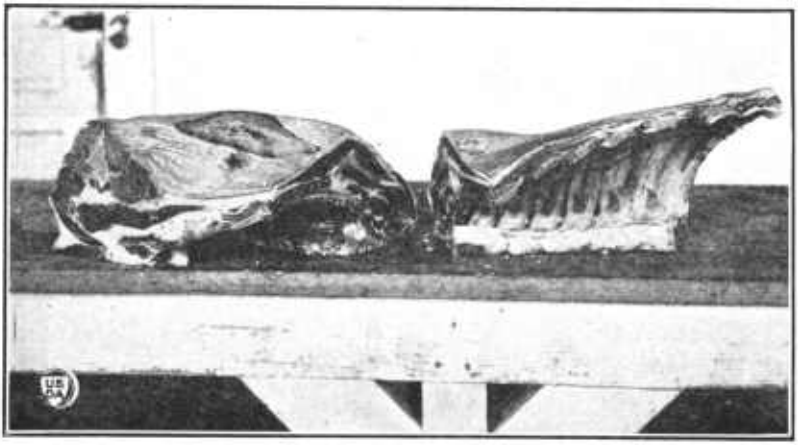

FIG. 36.—Ribs and chuck separated.

FIG. 37.—Neck cut from chuck.

The smokehouse on the farm.—The smokehouse should be from 8 to 10 feet high to give the best results, and of a size suited to the amount of meat to be smoked. A smokehouse from 6 to 8 feet square

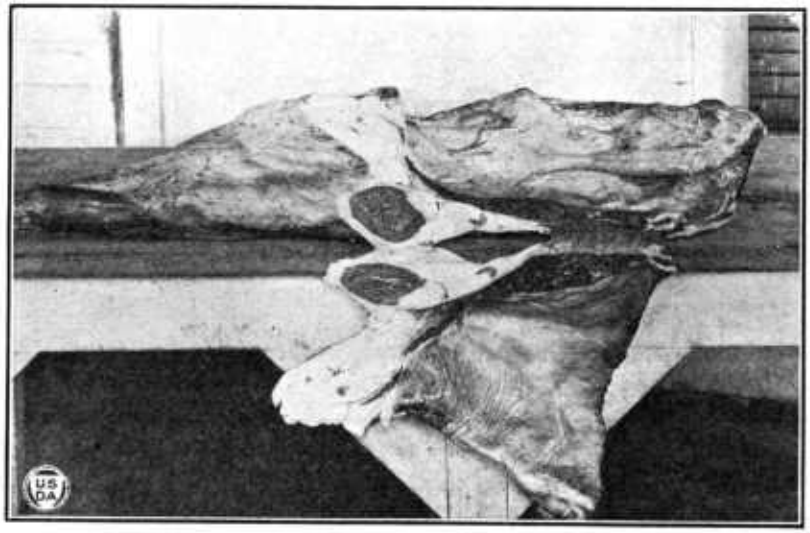

FIG. 38.—Cutting off the flank.

is large enough for ordinary farm use. Ample ventilation should be provided to carry off the warm air in order to prevent overheating the meat. Small openings under the eaves or a chimney in the roof

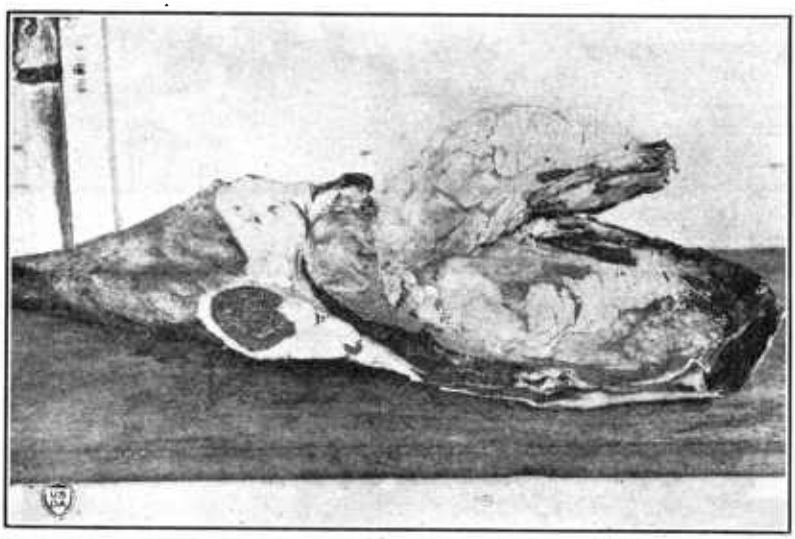

FIG. 39.—Removing the kidney and kidney fat.

are sufficient if arranged so as to be easily controlled. A fire pot outside of the house, with a flue through which the smoke may be conducted to the meat chamber, gives the best condition for smoking.

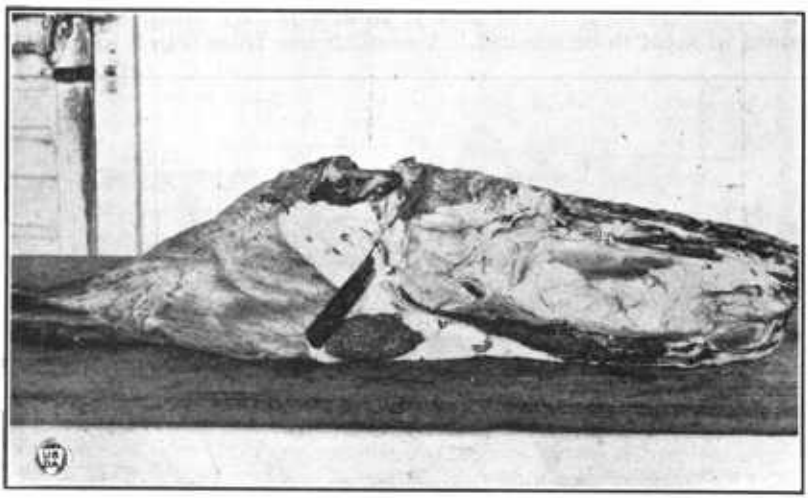

FIG. 40.—Cutting off the loin just in front of the pelvic bone.

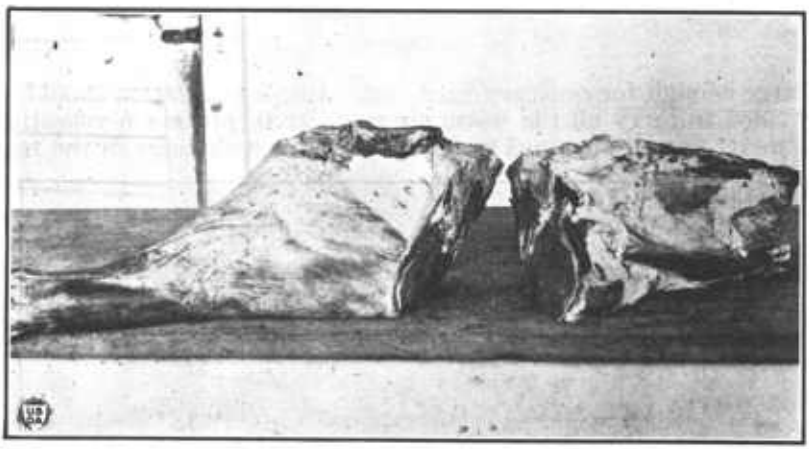

FIG. 41.—The loin, detached from the round and rump.

FIG. 42.—Sirloin (right) and porterhouse (left)—side view.

When this is not available, a fire may be built on the floor of the house and the meat shielded by a sheet of metal. The construction should be such as to allow the smoke to pass up freely over the meat and out of the house.

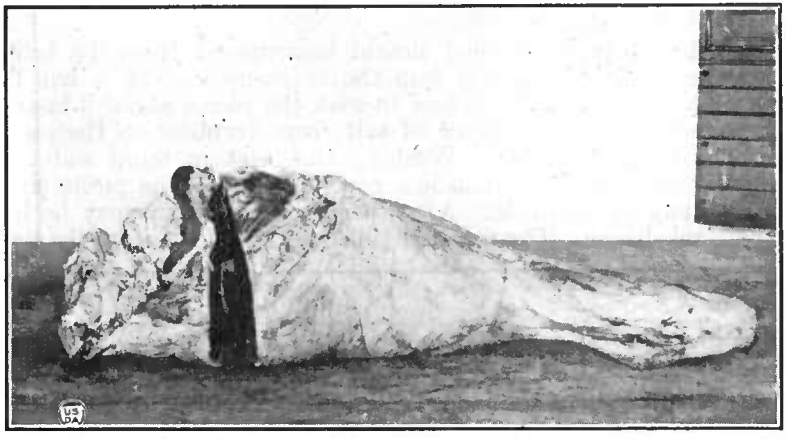

FIG. 43.—Separating the rump from the round.

Brick or stone houses are best, though the first cost is greater than if built of lumber. Large dry-goods boxes and even barrels may be made to serve as smokehouses where small amounts of meat are to be smoked. The care of meat in such substitutes is so much more

FIG. 44.—A step in boning the rump.

difficult and the results so much less satisfactory, that a permanent place should be provided if possible.

The best fuel for smoking meats is green hickory or maple wood smothered with sawdust of the same material. Hardwood of any kind is preferable to soft wood. Resinous woods should never be

used, as they are liable to impart bad flavors to the product. Corncobs are a good substitute for hard wood and may be used if desired. Soft wood gives a large amount of soot in burning and this is deposited on the meat, making it dark in color and rank in flavor. Juniper berries and fragrant woods are sometimes added to the fire to flavor the meat.

Meat that is to be smoked should be removed from the brine 2 or 3 days before being put into the smokehouse. If it has been cured in a strong brine it is best to soak the pieces about 3 hours in cold water to prevent a crust of salt from forming on the outside when the beef is smoked. Washing the meat in tepid water and scrubbing clean with a brush is a good practice. The pieces should then be hung up to drain. After being drained they may be hung in the smokehouse. The meat should be suspended below the venti-

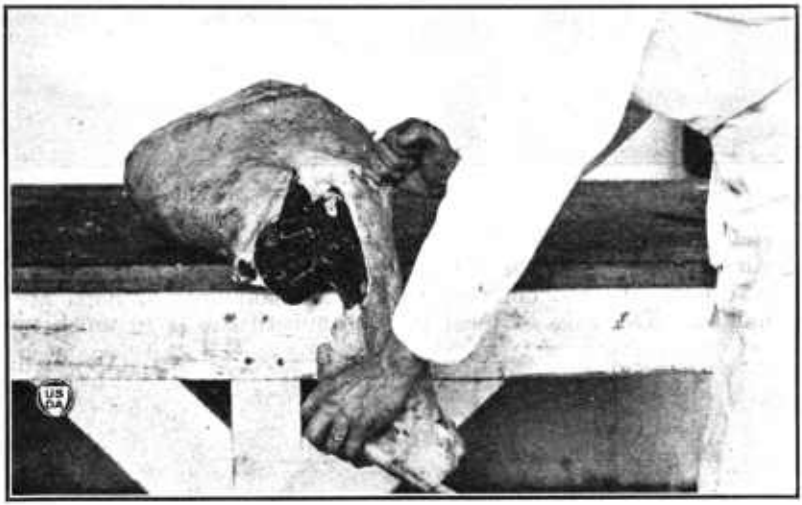

FIG. 45.—Removing hind shank.

lators and should hang so that no two pieces touch each other, as contact prevents uniform smoking.

It is best to keep the fire burning slowly and continuously until the smoking is completed, holding the temperature at about the same point. If the fire is allowed to die down, the meat becomes cold and the smoke does not penetrate readily. As a result, the outside of the meat is heavily smoked but there is little smoke on the inner portions. When the fire is kept going steadily and an even temperature is maintained, from 24 to 36 hours will be required to finish one lot of meat. Smoke does not penetrate frozen meat and it is necessary to extract all frost from the meat before filling the smokehouse. The house should be kept dark at all times to prevent flies from entering. The meat should be cooled by opening the ventilators or doors, as soon as it is smoked sufficiently. When hard and firm, it may be canvased or packed away for summer use.

Smoked meat may be stored in the smokehouse if it is ventilated and free from flies. A dry, cool cellar or attic, with free circula-

tion, is a satisfactory place for smoked meats at all seasons, if it is kept dark and flies are excluded.

After the meat is smoked and has become dry on the surface, it should be wrapped. Newspaper will do, but oiled or waxed paper is preferable. It should then be inclosed in heavy muslin or canvas. As a protection from flies and insects, the muslin or canvas should be covered with yellow wash or ordinary lime whitewash to which glue has been added. Hang each piece so that it does not come in contact with other pieces. Do not stack in piles.

In making yellow wash, for each 100 pounds of meat use 3 pounds of barytes (barium sulphate), 6½ ounces flour, 1¼ ounces chrome yellow (lead chromate), and 1 ounce glue. Mix the flour in a half pailful of water, stirring until smooth. Dissolve the chrome yellow in a quart of water, in a separate vessel, and add this solution and the glue to the other mixture; bring to a boil, adding the barytes slowly and stirring constantly. The wash should be prepared the day before it is to be used. Stir it frequently when using and apply with a brush.

PREPARING BEEF PRODUCTS.

Pickling tripe.—After the tripe has been thoroughly cleaned and rinsed in cold water, it should be scalded in hot water (a little below the boiling point). When sufficiently scalded, the inside lining of the stomachs may be removed by scraping, which will leave a clean, white surface. Tripe should be boiled until tender (usually about three hours) and then placed in cold water so that the fat may be scraped from the outside. When this has been done, peel off the membrane from the outside of the stomach, and the clean, white tripe is ready for pickling.

Place the tripe in a clean, hardwood barrel or earthenware jar, and keep submerged in a strong brine for three or four days. Rinse well with cold water and cover with pure cider vinegar, or a spiced pickling liquid. Place a weight on the tripe to keep it from floating on the surface of the liquid.

Making hamburger.—Grind lean beef, such as the round, neck, flank, and trimmings, and a little fat, in a sausage grinder. If desired, a small amount of bacon may be put in for flavor. For seasoning, about 1 pound of salt and 4 ounces of pepper are sufficient for 50 pounds of meat.

Bologna-style sausage.—In making bologna, for each 20 pounds of beef, 5 pounds of fresh pork may be added. Grind the meat coarse, then add the seasoning and grind through the fine plate. For seasoning 25 pounds of meat, ½ pound of salt, and 2½ ounces of pepper are usually satisfactory. Garlic may be added if desired. From three to four pounds of water may be added to the above-mentioned quantity of meat. Mix with the hands until the water is entirely absorbed by the meat. When thoroughly mixed, stuff it into soaked beef casings or "rounds" and smoke the bologna from two to three hours at a temperature of from 60° to 70° F. After smoking, cook the bologna in water about 200° F., or slightly below the boiling point, until it floats. The sausage should be kept in a dry place for immediate use, or it may be canned by packing in cans, covering to within one-half inch of top with the liquid in which the bologna was

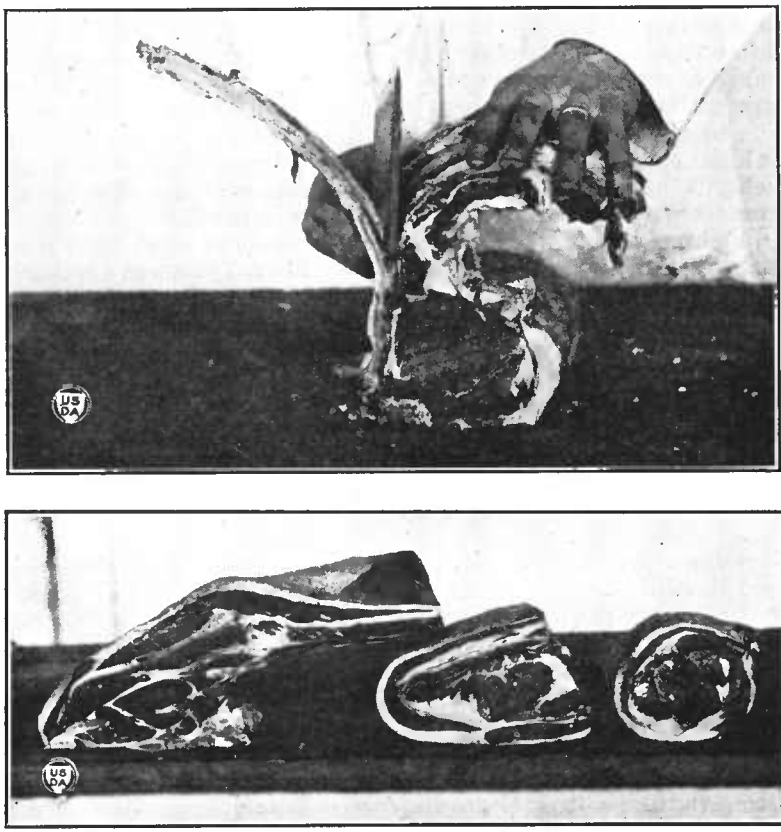

FIG. 46.—(Upper) preparing rolled roast. (Lower) standing rib roast (left); folded rib roast (center); boned rib roast (right).

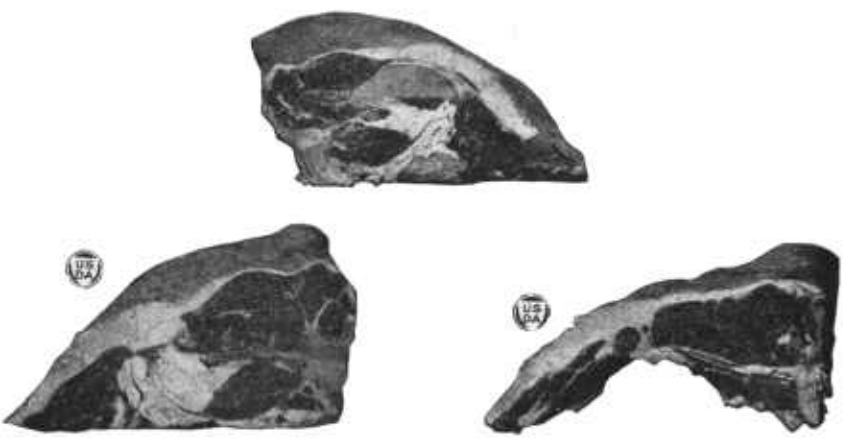

FIG. 47.—Loin cuts: Sirloin (center), porterhouse (left), club (right).

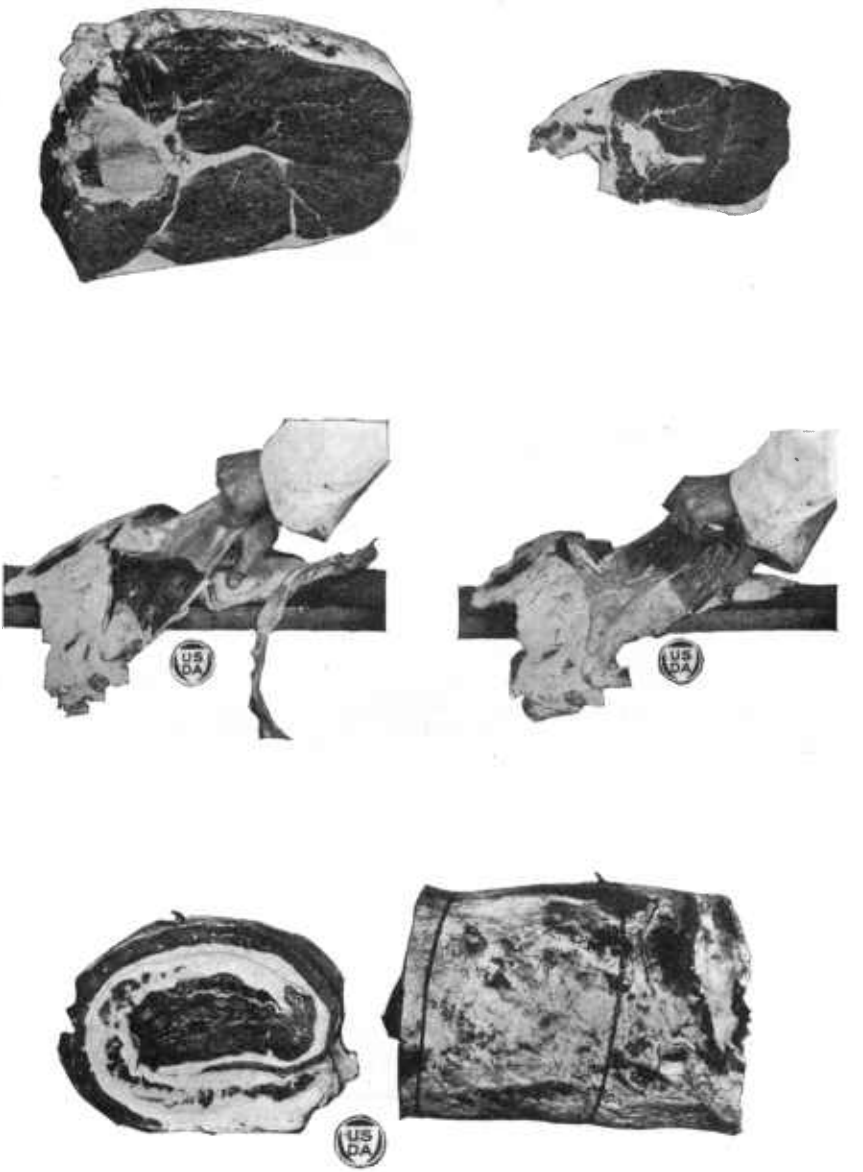

FIG. 48.—Upper left, round; upper right, rump. Center left, removing fell from flank; center right, removing flank steak; lower, rolled flank (2 views).

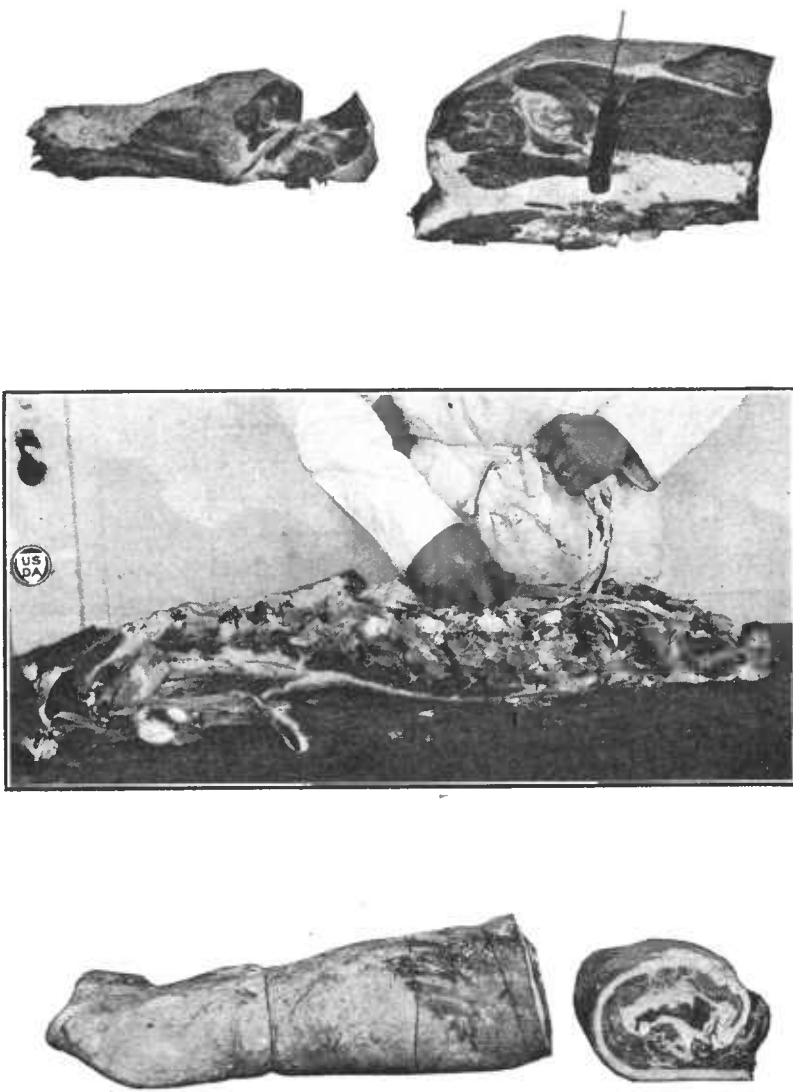

FIG. 49.—Upper left, removing cross-arm pot roast from chuck; upper right, chuck suitable for either roast or stew; center, removing ribs from plate; lower, rolled plate.

cooked. It should then be heated to a temperature of 250° F. for 45 minutes, or at 15 pounds' steam pressure.

HANDLING THE HIDE.[1]

Remove dirt, blood, and any pieces of flesh on the hide by scraping with the back of a butcher knife and by careful cutting. Allow the hide to lose its animal heat before applying salt. When the hide has cooled sufficiently, spread it, hair side down, being sure to straighten out all folds and laps. Sprinkle fresh, clean salt over the flesh side of the hide, using about 1 pound for every pound of hide. See that all parts of the flesh side receive a sprinkling of the salt. Be sure to use plenty of salt and rub it in well along the cut edges, head, neck, legs, wrinkles, and the heavy portions.

SLAUGHTERING CALVES.

Most veal is produced in this country from calves between 1 and 3 months old, weighing from 75 to 150 pounds.

Stun the calf before sticking it (as in killing cattle), but the blow need not be heavy. The work is made easier if the carcass is hoisted to a convenient height before skinning. Wash the hide and split the skin from head to tail, following the middle line of the belly. If the carcass is to be cut on the farm, the hide may be removed at once, as the carcass can be skinned more easily while it is still warm. Use a knife to start the skin, then "fist" off the hide. Remove the offal and split the breastbone and pelvis, as described for beef. In case the veal is to be shipped, the hide should be left on, to preserve the light color and prevent the carcass from drying out.

A plain-dressed calf carcass dries out more rapidly than a "caul-spread" carcass. The latter consists in removing the hide and spreading the caul over the hind quarters. The caul is the thin sheet of membrane extending from the stomach over the intestines.

SHIPPING FARM MEAT INTERSTATE.

There are Federal regulations which must be complied with before shipments of beef or other meat products can be made interstate. Copies of these regulations may be obtained upon request to the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

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[1] Detailed information in handling hides is given in Farmers' Bulletin 1055, "Country Hides and Skins: Skinning, Curing, and Marketing," a copy of which may be obtained upon request to the United States Department of Agriculture.

ORGANIZATION OF THE UNITED STATES DEPARTMENT OF AGRICULTURE.

February 11, 1924.

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