Circular No. 82 - Lamb Slaughtering and Cutting

Harry H. Smith

Follow this and additional works at: https://digitalcommons.usu.edu/uaes_circulars

Part of the Agricultural Science Commons

Recommended Citation

This Full Issue is brought to you for free and open access by the Agricultural Experiment Station at DigitalCommons@USU. It has been accepted for inclusion in UAES Circulars by an authorized administrator of DigitalCommons@USU. For more information, please contact digitalcommons@usu.edu.
Lamb Slaughtering and Cutting

HARRY H. SMITH

Fig. 24.—Lamb shoulder with steaks from arm and side ribs.

Agricultural Experiment Station
Utah State Agricultural College
LOGAN, UTAH
Board of Trustees

ANTHONY W. IVINS, President
C. G. ADNEY, Vice-President
ROY BULLEN
LORENZO N. STOHL
MRS. LEE CHARLES MILLER
WESTON VERNON, Sr.
FRANK B. STEPHENS
MRS. BURTON W. MUSSER
WALTER K. GRANGER
FREDERICK P. CHAMP
JOHN E. GRIFFIN
DAVID WANGSAARD
MILTON H. WELLING, Secretary of State (ex-officio)
RUSSELL E. BERNTSON, Secretary-Treasurer

E. G. PETERSON, Ph. D., President of the College
P. V. CARDON, B.S., Director

WILLIAM PETERSON B.S.
H. J. FREDERICK, D.V.M.
J. E. GREEN, Ph. D.
GEORGE B. CAINE, A.M.
R. L. HALL, Ph. D.
GEORGE STEWART, Ph. D.
O. W. ISRAELSON, Ph. D.
D. W. HAY, Ph. D.
D. S. JENNINGS, Ph. D.
WILLARD GARDNER, Ph. D.
B. L. RICHARDS, Ph. D.
KENNETH C. IRELAND, B.S.
J. J. PACK, B.S.
W. PRESTON THOMAS, M.S.
D. E. MADSEN, D.V.M.
* L. M. WINSOR, M.S.
O. T. HIRST, M.S.
D. W. FIELD, M.S.
F. B. WAIN, Ph. D.
JOSEPH A. GEDDES, Ph. D.
R. J. BECRAGFT, M.S.
GEORGE D. CLYDE, M.S.
A. C. ESPLIN, B.S.
A. F. ILLACKEY, M.A.
A. L. WILSON, M.A.
CHARLES J. SORENSON, M.A.
DELMAR C. TINGEY, M.A.
ALMEDA PERRY BROWN, M.A.
GEORGE F. KNOWLTON, M.S.
H. LORAN BLOOD, M.S.
FRANCIS M. COE, M.S.
KATHLEEN L. HULL, Ph. D.
HARRY H. SMITH, B.S.
HAMLIN C. PULLEY, M.S.
GEORGE Q. BATEMAN, B.S.
JOHN W. CARLSON, M.A.
LE MOYNE WILSON, B.S.
B. F. HULME B.S.
D. L. ZOBELL, B.S.
RUSSELL E. BERNTSON

BLANCHE CONDIT PITTMAN, A.B.

C. M. TOMPKINS, Ph. D.
WESLEY KELLER, B.S.

Agricultural Experiment Station Staff

WILLIAM PETERSON B.S., Geologist
H. J. FREDERICK, D.V.M., Veterinarian
J. E. GREEN, Ph. D., Chemist and Bacteriologist
GEORGE B. CAINE, A.M., Dairy Husbandman
R. L. HALL, Ph. D., Human Nutritionist
GEORGE STEWART, Ph. D., Agronomist
O. W. ISRAELSON, Ph. D., Irrigation and Drainage Engineer
D. W. HAY, Ph. D., Poultry Husbandman
D. S. JENNINGS, Ph. D., In Charge, Soils Investigations
WILLARD GARDNER, Ph. D., Physicist
B. L. RICHARDS, Ph. D., Botanist and Plant Pathologist
KENNETH C. IRELAND, B.S., Animal Husbandman
J. J. PACK, B.S., Entomologist
W. PRESTON THOMAS, M.S., Agricultural Economist
D. E. MADSEN, D.V.M., Animal Pathologist
*L. M. WINSOR, M.S., Associate Irrigation Engineer
O. T. HIRST, M.S., Associate Chemist
D. W. FIELD, M.S., Associate Agronomist
F. B. WAIN, Ph. D., Associate Plant Physiologist
JOSEPH A. GEDDES, Ph. D., Associate Rural Sociologist
R. J. BECRAGFT, M.S., Associate in Range Management
GEORGE D. CLYDE, M.S., Associate Irrigation and Drainage Engineer
A. C. ESPLIN, B.S., Associate Animal Husbandman
A. F. ILLACKEY, M.A., Asst. Agronomist and Supt. Nephi Dry-farm Substation
A. L. WILSON, M.A., Supt., Davis County Experimental Farm
CHARLES J. SORENSON, M.A., Assistant Entomologist
DELMAR C. TINGEY, M.A., Assistant Agronomist
ALMEDA PERRY BROWN, M.A., Assistant Home Economist
GEORGE F. KNOWLTON, M.S., Assistant Entomologist
H. LORAN BLOOD, M.S., Assistant Plant Pathologist
FRANCIS M. COE, M.S., Assistant Horticulturist
KATHLEEN L. HULL, Ph. D., Assistant Plant Pathologist
HARRY H. SMITH, B.S., Assistant Animal Husbandman
HAMLIN C. PULLEY, M.S., Assistant Bacteriologist
GEORGE Q. BATEMAN, B.S., Supt., Dairy Experimental Farm
JOHN W. CARLSON, M.A., Supt. Alfalfa-Seed Experimental Farm, Uintah Basin
LE MOYNE WILSON, B.S., Supt., San Pete County Experimental Farm
B. F. HULME B.S., Supt., Panguitch Livestock Experimental Farm
D. L. ZOBELL, B.S., Supt., Carbon County Experimental Farm
RUSSELL E. BERNTSON

BLANCHE CONDIT PITTMAN, A.B., Librarian and in Charge of Publications

EDITH HAYBALL, B.S., Assistant Statistician
STELLA SORENSON, B.S., Stenographer
Maida Muth, B.S., Stenographer
**JAMES H. EAGER, B.S., Supt., San Juan County Experimental Farm
GEORGE WHORNBAM, B.S., Assistant Field Agronomist
CLARENCE BURNHAM, B.S., Fellow in Fertilizer Experiments
GEORGE HENDERSON, B.S., Graduate Research Assistant
W. W. STUART, B.S., Graduate Research Assistant
ALDEN LILLYWHITE, B.S., Graduate Research Assistant

In Cooperation with U.S.D.A.

C. M. TOMPKINS, Ph. D., Assistant Pathologist, Sugar-Beet Investigations, Bureau Plant Industry
WESLEY KELLER, B.S., Agent, Sugar-Beet Investigations, Bureau Plant Industry

*On leave
**During crop season
The old saying that "the shoemaker's wife goes without shoes" might be changed to read "the lamb raiser and feeder of the west does not eat lamb". About three-fourths of the population of the United States is east of the Mississippi River, and about 90 per cent of all the lamb and mutton produced in the United States is consumed east of the Mississippi. It has been observed, both on the farms and in towns, that a large percentage of people in the sheep sections of the west have tasted neither lamb nor mutton.

According to Tomhave¹, but 4 per cent of the meat in the United States consists of lamb or mutton. The most extensive use is found along the Atlantic seaboard or in the east where one pound of lamb or mutton is used for every 5 pounds of beef; in the south the ratio is 1 to 10. In the west 1 pound of lamb or mutton is used for every 12 pounds of beef, while in the corn belt or middle west the ratio is 1 to 20.

On account of their size, lambs lend themselves for use on the farm more readily than do other farm animals. They can be consumed in a short period of time and for this reason are not generally cured. Also because of the fact that mutton is a drier meat and does not contain much soft fat, it does not lend itself to curing as well as do other meats.

Because sheep and lambs are more resistant to communicable diseases than are hogs or cattle, there is little danger of their transmitting diseases of any kind to consumers. Meat-inspection records of the federal-inspected slaughter houses show that fewer lamb and mutton carcasses are condemned than are carcasses from any other class of livestock.

Because of its size the sheep is the easiest of all farm animals to dress. A good knife, some small rope or stout string, and a clean place on which to do the killing are all that are necessary.

Prior to killing, the sheep should be kept as dry and clean as possible. If an animal is wet and dirty it is almost impossible to keep the carcass clean. If the lamb can be laid on a box or low platform, killing is greatly facilitated.

Care should be used in catching a sheep. If a sheep is caught by the wool the skin is torn from the body. When the animal is dressed

---


Publication authorized by Director, 26 October 1929.
a large bloody spot will appear on the carcass. This not only detracts from its appearance but gives putrefying bacteria a place to begin their work. To avoid pulling the wool, the sheep is caught by a hind leg with one hand and by the throat with the other. When a good hold on the throat has been secured, the hand is released from the hind leg and the dock grasped.

If the one doing the sticking is right-handed, the lamb is placed on its left side with its back toward the operator. The right knee is placed on the animal just behind the shoulder. If difficulty is experienced in holding the animal, three of the legs may be tied together—the two front ones and the upper rear one. The lower jaw is grasped with the left hand and the head pulled back, stretching the neck. The knife is inserted just back of the jaw bone, close to the backbone, and the windpipe and gullet are cut out, thus severing all arteries. The neck may now be broken by pulling back on the head and severing the spinal cord at the atlas joint, thus rendering the animal insensible to pain. If the sheep is held so that its head hangs over the edge of the box, it will bleed without getting blood on the carcass.

**Skinning.**—In skinning a sheep the knife is used only in skinning out the shanks and around the tail and opening up the skin down the middle and around the neck. The skin of the sheep is attached rather loosely to the body. In place of cutting the hide loose as is done with beef, it is fistled off. Care must be taken to leave the fell on the carcass. The fell is a thin membrane which lies between the pelt and the body of the animal.

Skinning is begun by rolling the sheep over on its back. A front foot is held between the knees; the hide is opened along the back of the leg over the elbow and to the throat to a point just in front of the joint of the breast bone so that when the same cut is made from the other side the skin over the brisket forms a triangle. In making these openings the knife should be held flat and the handle low so that the point will not cut into the carcass. The shanks are skinned up to and including the knees. If the animal is a young lamb the front feet are cut off at the break joint, cutting around the shank.
Fig. 2.—The first cut is made over the ribs and across the arms of the shoulder an inch or two above the elbow joint.

Fig. 3.—"Frenched" leg of lamb

at this point; then the foot is grasped and given a side twist. If the animal is more than a year old, the foot is removed at the round or upper pastern joint.

The hide is loosened over the brisket. It is sometimes necessary to use the knife on the brisket, although a smoother, nicer job will result if no knife is used. In fisting off the hide over the brisket and breast bone, care should be taken to see that the large flat muscles just back of the fore flank are not torn. This is prevented by fisting the hide off straight back to the navel before attempting to remove the hide on the sides of the belly.

The hind shanks are skinned out in about the same manner as are the front ones. The skin is opened along the back side of the legs, the openings meeting from each side just below the tail head. The knife must be held fairly flat to prevent scoring the carcass. The toes are removed at the lowest pastern joint. In opening up the hide, care must be taken not to cut the large tendons on the back of the legs.
Fig. 4.—Knife is circled around leg, making sure that all meat is cut through to the bone.

Fig. 5.—Knife is drawn across inside of break joint which is indicated by a jagged line through bone just above knee joint.
Fig. 6.—The shank is grasped and bent down until broken

Fig. 7.—The shank is twisted twice around, thus bringing the bone from the meat
Beginning at the opening just back of the cod, the pelt is fisted off over the back part of the belly.

After tying the tendons of the hind legs together with a stout cord, the carcass is ready to be hung. The rack or hook on which the carcass is hung should be about 6 feet high.

The pelt is split down the mid-line to the animal’s chin, opening the neck and freeing the gullet. The pelt is next removed by fisting.
Fig. 10.—Cut is made down side, after which the backbone is removed without separating the two ribs.

Fig. 11.—Meat is removed from between ribs by running knife down each side of rib, across and up the rib next to it.

off the sides and over the shoulders and then up over the hind legs to the hocks; a knife will probably need to be used around the tail. On the farm the head is ordinarily not skinned out.

A common mistake is to start on the hind legs at the hocks and skin down. The best procedure is to start on the sides, fisting the skin off the sides, over the shoulder and up over the hind legs.

Except for the area around the hocks and the front shanks there should be no need of washing the carcass, provided it has been kept clean.
"Sheeppy" or "Woolly" Taste.—It is often said that if wool touches the carcass it will have a "sheeppy" or "woolly" taste. This is an erroneous belief; if it were true, practically every carcass would be ruined. However, there are probably two contributing factors which cause this "woolly" taste, sometimes found in lamb, or mutton. One of these is washing the carcass after skinning. According to Shearer\(^2\), the outside part of the carcass contains a volatile oil which is responsible for most of the woolly taste in a carcass. This oil does not escape and flavor the carcass if it is not washed. For this reason packing plants do not wash mutton or lamb carcasses. Soiled spots are wiped off with a dry rag.

It is also claimed that the "sheeppy" flavor of mutton is the result of delayed dressing which causes generation of gases from the digestive system. It is advisable to remove the hide and viscera with as little delay as possible.

\(^2\)Statement made by R. M. Shearer, formerly with Armour and Company, in conversation with the author at Denver in 1928.
Fig. 14.—The completed crown roast. The two ribs are joined at each end by taking a single stitch with a meat needle.

Fig. 15.—Shoulder is cut off between fourth and fifth ribs

**EVISCERATING**

An opening is made just below the cod in the abdominal cavity down to the breast bone. A cut is made around the rectum until it can be pulled out 2 or 3 inches and tied; it is then pushed through the pelvic opening and pulled down. It is highly important to get the bladder along with it. Care must be taken not to disturb the kidney fat. The small intestines are pulled out; the stomach and liver are rolled out. If the gullet has been properly loosened it can now be pulled up through the diaphragm; if it has not been loosened it must be cut off at the diaphragm. After removing the gall bladder from the liver, the latter is washed in cold water. The diaphragm is now cut and the breast bone opened. If the animal is young, by cutting a little to one side of the center the bone can be cut open with a knife; with an older animal it is sometimes necessary to use a saw. The heart and lungs are now removed. The heart should be split and
Fig. 16.—The ribs are lifted by pulling the knife closely against them

Fig. 17.—Ribs and neck vertebrae are then lifted off by cutting the bone from the meat

washed out in cold water. After removing the heart and lungs, if any blood spots remain the inside of the carcass should be wiped out.

Cooling.—The carcass should cool for 24 hours. If the killing is done in the summer the carcass may be hung in a deep well. If the carcass is split down the back bone with a saw in the same manner in which a beef carcass is split, cooling is much more rapid.

CUTTING

Because of its size, a lamb carcass is more easily divided into the various cuts than is the carcass of any other farm animal. The carcass may or may not be split to start with. The cross cuts are made at the same places on the backbone. If the carcass has not been split, the pieces can be split along the backbone.

According to the method of cutting herein described, the carcass is not split. This particular method is possibly a little more difficult, but certain pieces are used more advantageously than is possible when the carcass is split.
Fig. 18.—The knife is inserted at the face of the underarm side of the shoulder. The knife is pulled to the shoulder joint and then diagonally over the shoulder blade.

Fig. 19.—Meat is cut from around the arm bone, past shoulder joint to the ridge bone on shoulder blade. A line is cut down each side of shoulder blade so that the membrane clinging to the bone can be easily pulled off.

Plate, Brisket, and Fore Shank.—The kidney and fat surrounding it are removed. The first cut begins at the cod and attains a width of from 4 to 6 inches when the rib is reached. The cut is then made through the ribs and across the arm of the shoulder about an inch above the elbow joint (Fig. 2). The same cut is now made on the opposite side of the carcass. The plate, brisket, and fore shank are contained in this piece which has just been removed. These pieces are

3Photographs for Figures, Nos. 2-25, inclusive, were borrowed from the National Livestock and Meat Board, Chicago. Grateful acknowledgement for these photographs is made.
Fig. 20.—Meat is held in one hand, and shoulder blade pulled out with the other hand.

Fig. 21.—Boneless shoulder; the outer surface is underneath and is not punctured.

tough as compared with the rest of the carcass and are usually used as stew meat.

Cutting off the Hind Leg.—There is no fixed place at which to cut off the hind leg. The place at which the cut is made is determined by the amount of meat desired. The cut, however, is generally made just back of the hip bone. If a large roast is desired it is often cut well forward into the loin. The leg is trimmed by removing the tail bone, cod fat, and any thin meat from the flank which may remain. The shank is cut off above the hock joint immediately below where the thick meat begins.

If it is desired to have a "Frenched" leg of lamb (Fig. 3), the meat is cut to the bone about 2 inches above the hock (Fig. 4); a cut is then made around the leg at the hock joint (Fig. 5). The leg is
unjointed at this point by grasping the shank and bending down on it over the edge of the table until broken (Fig. 6); a twist is then given, as in Figure 7.

The fell, a thin tough membrane, should be removed before placing the leg in the roasting pan.

The Loin.—The loin may be used as a roast or it may be cut into chops. For either roasting or cutting into chops the backbone may
or may not be split. The loin is removed from the rack, or front part of the carcass, by cutting just in front of the last rib, thus leaving one rib on the loin.

The Short Back or Ribs.—The ribs are removed from the shoulder by cutting either between the second and third or between the third and fourth ribs, leaving two or three ribs on the shoulder. The backbone may now be split and the pieces cut into chops by cutting between the ribs. Each chop will have one rib.

If a crown roast is desired, the backbone is not split but is removed as in Figures 9 and 10, care being taken not to cut through the meat on the back side. The meat is removed for about 2 inches from the ends of the ribs (Fig. 11). The roast is shaped as in Figures 12 and 13 and tied as in Figure 14. The advantage of this roast is the pocket in the middle which may be filled with dressing. This makes an attractive roast for the table and is easily carved.

The Shoulder.—A lamb's shoulder makes a tasty roast. The neck is removed so that the top end of the shoulder is parallel with the bottom. The neck may be used for stew meat. There are several ways of using the meat from the shoulder. One of the most common methods of using the shoulder is to make it into a rolled roast by removing the bones so that it can be rolled into a neat, compact roast (Figs. 16-23). Care must be taken not to break through the flesh on the outside of the shoulder. Slices, cut from the rolled shoulder, are known as "Saratoga Chops". The shoulder may also be cut into chops or roasted without removing the bone (Fig. 24—Cover cut). If used as a roast without boning it is somewhat difficult to carve.

The Fell.—The fell is a thin membrane which covers most of the carcass. It prevents the carcass from drying out, and for this reason is not removed with the skin. However, it should be removed from the cuts of meat before they are cooked (Fig. 25).

The lamb is small and easy to slaughter. The meat is palatable and healthful and more of it should be consumed on the farms and ranches of the west, especially during the warmer seasons of the year when it is impractical to have on hand a large supply of fresh meat.

(College Series No. 277)

Note: The Division of Publications, Utah Agricultural Experiment Station, also has available for distribution by the same author:
Circular 80—Domestic Slaughtering, Cutting, and Curing of Pork.
Circular 81—Beef Slaughtering, Cutting, and Curing.