

University of Nebraska - Lincoln

DigitalCommons@University of Nebraska - Lincoln

Historical Materials from University of Nebraska-
Lincoln Extension

Extension

12-1932

EC936 Home Preservation of Meats

Florence Atwood

W.J. Loeffel

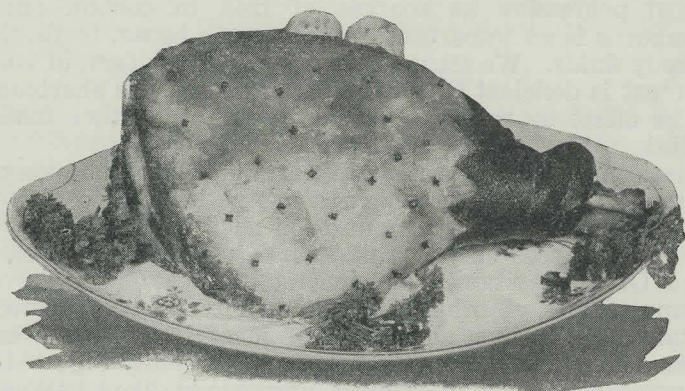
Follow this and additional works at: <http://digitalcommons.unl.edu/extensionhist>

Atwood, Florence and Loeffel, W. J., "EC936 Home Preservation of Meats" (1932). *Historical Materials from University of Nebraska-Lincoln Extension*. 2371.

<http://digitalcommons.unl.edu/extensionhist/2371>

This Article is brought to you for free and open access by the Extension at DigitalCommons@University of Nebraska - Lincoln. It has been accepted for inclusion in Historical Materials from University of Nebraska-Lincoln Extension by an authorized administrator of DigitalCommons@University of Nebraska - Lincoln.

Home Preservation of Meats



Pork is one of Nebraska's Leading Farm Products

The University of Nebraska Agricultural College Extension Service
and United States Department of Agriculture Cooperating
W. H. Brokaw, Director, Lincoln

Home Preservation of Meats

FLORENCE ATWOOD AND WM. J. LOEFFEL *

Meat is one of Nebraska's leading farm products and is an important food item. It is generally eaten as a source of protein, this substance being needed for the growth and repair of muscles, nerves, and connective tissue. Meat proteins are among the most digestible and most completely available proteins. The fatter cuts of meat are particularly valuable as a source of energy. The mineral content of meat, especially iron and phosphorus, also adds a significant contribution to the diet. The iron which helps to build hemoglobin in the blood is in a form that can be readily utilized. Liver and the glandular organs are especially esteemed by the medical profession as sources of iron to control anemia. Phosphorus is an important constituent in bones, teeth, tissue and body fluids. We must not lose sight of the fact, of course, that meat is deficient in calcium or lime, but this shortcoming may be offset by the use of milk, cheese, and other foods in the diet.

Muscle meats are deficient in vitamins with the exception of vitamins B and G of which they may be said to be a fair source. The glandular organs such as liver and kidney are very good sources of vitamin A, and superior to muscle for B and G. The vitamin deficiencies of meats are overcome by supplements of other foods known to contain protective substances. Another advantage of meat is that it is easily prepared and when properly prepared is readily digested. It is a palatable food and is quite universally liked because of its richness of flavor and because it satisfies the appetite. It helps to make bland flavored foods such as potatoes, rice, and bread more appetizing. For these reasons meat used in combination with milk, vegetables, fruits, and cereals makes a well balanced and adequate diet.

Meat spoilage is due to bacteria, molds, and enzymes. To control these agencies, scrupulous cleanliness and low temperatures are required. The more meat is handled, the more likely it is to spoil. Contamination by soiled hands, clothing, or utensils definitely lowers keeping quality. Bacteria, molds, and enzymes require food, water, and a suitable temperature. The first two are abundantly present in meat and the only hope of preventing spoilage is to reduce the temperature to a point where these agencies can not multiply. This point is near the freezing temperature. Meat should be chilled as nearly 32° F. as possible without actually freezing it. This is particularly important if the meat is to be cured, since meat which has been frozen is more difficult to cure.

* Acknowledgment is given to Miss Matilda Peters, Assistant Professor of Home Economics, University of Nebraska, for assistance in preparing the manuscript for this publication.

Cover Photo Courtesy of National Livestock and Meat Board.

Home canning is recognized as an important practice in many rural homes as one of the means of preserving fresh meat for the family thruout the summer months. It is now considered by many thrifty homemakers a part of the year round canning program. Home canning, as a rule, pays big dividends. Choice cuts such as tenderloins, and cuts which are more desirable fresh than preserved, as backbones, spareribs, liver, heart, and head cheese may be used first, leaving other parts for preserving.

Meat may be preserved by salting, curing and smoking, drying, freezing, or canning. Home preservation of meat means: (a) Added variety in the family diet, (b) saving in the food bill, (c) readiness for emergencies, and therefore, saves time.

Condition of Animal

Quality meat can only be secured from healthy, thrifty, well-fattened animals. Quality meat should be "meaty" or thick-fleshed, for it is the lean in which we are primarily interested. A certain amount of fat over the carcass and between the muscles is desirable, since it increases tenderness and adds juiciness and flavor. Excessive fat is objectionable because it represents waste to most families.

Quality meat is fine grained. As the finger is drawn across the cut surface, it should feel like velvet rather than a turkish towel. Meat should be firm and bright in color, and the fat a creamy white. Meat from well-fattened cattle may be marbled, that is, show a streaking of fat in the lean. This is one of the best guides to quality. However, in young beef, it is not likely to be present. The bones from young animals are generally soft, red, and porous.

Animals should not be slaughtered when excited, fatigued, or bruised, for meat from such animals not only is less attractive, but is actually more likely to spoil.

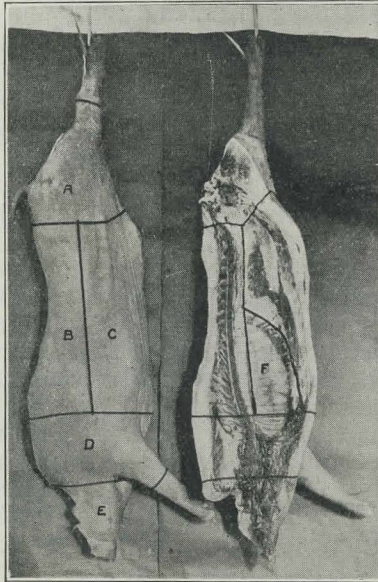
Cutting Pork

There are many methods followed in cutting up hog carcasses. There is no one best way. The method which most nearly meets the needs of the family should be used. The following method yields the maximum amount of meat for curing and the minimum amount of sausage trimmings and lard. If more of these products is desired the cuts may be trimmed more closely or entire cuts like shoulders and jowls worked up.

The jowl is cut off at the neck crease where it joins the shoulder. The glandular cheek meat may be removed and the jowl squared up. These cuts are known as bacon squares.

They may be cured up and used for boiling with vegetables. Bacon squares are too fat to fry. Jowls are frequently used for sausage and lard, especially if the shoulders are used for that purpose.

The shoulder is cut off three ribs wide at right angles to the back. In the shoulder cut is the breast bone, neck bone, and back bone. These should be removed as "spare" as



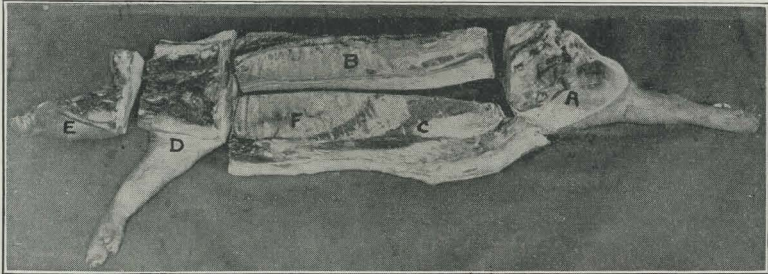
The carcass should be thoroughly chilled before cutting.

possible without mutilating the piece. The shoulder is then trimmed to an attractive appearance and some of the fat cut off of the top. The shank is sawed off one-third of the distance to the foot.

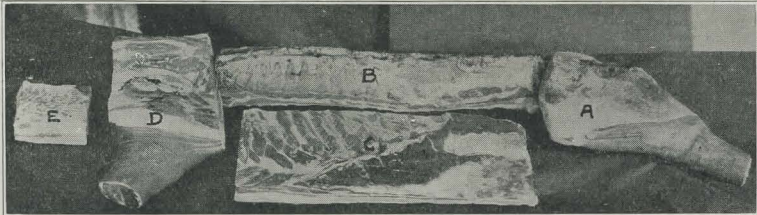
The long cut shoulder may be cured up by the man who wants the maximum amount of cured meat. Some work the entire shoulder into sausage. A very satisfactory method of handling the shoulders is to short cut them, that is, to cut them in two at the "neck" or smallest part of the shoulder blade. The top portion of the shoulder is skinned out of the fat and known as a shoulder butt or Boston butt. The lower portion of the shoulder is rounded up somewhat and is known as a picnic shoulder. The picnic shoulder may be cured and smoked while the butt is best used fresh as a roast, or canned.

The ham is taken off at right angles to the hind shank from one to three inches in front of the pelvic or aitch bone. The tail bone is removed and the ham is trimmed to an attractive rounded appearance. The shank is taken off at the hock.

The loin is sawed from the belly at the great curvature of the ribs. With the knife, the cut is completed, taking off the muscular loin from the bacon piece. The loin is placed



Pork cuts untrimmed, A—Ham, B—Loin, C—Bacon, D—Shoulder, E—Jowl, F—Spare rib.



Trimmed pork cuts, A—Ham, B—Loin, C—Bacon, D—Shoulder, E—Jowl.

skin side down and the knife set along the muscle. The knife is drawn through, the piece reversed and the process repeated, separating the loin from the fat back. The loin must be smoothed up so that one-fourth inch of fat is left on the loin. This cut is used for pork chops, roasts, or may be boned out for canning. It is one of the choice cuts of pork.

The belly is laid on the table skin side up. By beating with the flat side of a cleaver or hatchet, the ribs are sprung loose. The piece is laid skin side down, and the breast bone loosened. Setting the knife at the top of the ribs, it should be carried around permitting the knife to slip out as soon as possible. Care should be taken to keep the knife flat to avoid gouging the bacon. The bacon is turned over and flattened. The lower

edge should be trimmed first to a straight line. If the bacon is from a gilt, care should be taken to trim off the udder glands since these turn black in curing. The top is next trimmed parallel to the underline. It should be trimmed to a good streak. Both ends should be squared to an attractive streak.

All pork cuts intended for curing should be smoothly trimmed. Loose tags of meat should be removed while fresh and used for sausage. If left on the piece, these tags dry out so that they are discarded as total waste.

Heavy fat shoulders and hams may be skinned, thereby increasing the yield of lard. The skinning should be smoothly done leaving one-fourth of an inch of fat over the cut. Enough skin should be left on the shank to leave a good place to string up the piece.

Meat Canning

The home canning of meats is a comparatively recent development when compared with the canning of fruits. Because of the close texture of meat and of the absence of acid, it is a product somewhat difficult to preserve by canning. However, meats are now being extensively canned by many homemakers with a high degree of success. A large portion of a meat carcass is well adapted to this method of preservation. Delicious soup stock may also be prepared and canned for later use. Canning is a legitimate way of preserving surplus meat. Many still look upon it merely as a means of "saving" meat after it has started to "go bad." A high degree of success and good quality products cannot be secured as long as homemakers take the latter view toward the canning process. After breaking-down changes have started, meat cannot be canned with a high degree of success. Meat canning should be started as soon as the carcass is completely chilled out. Ripening the carcass or permitting it to hang for a week or more is unnecessary where meat is to be canned, since the long cooking by moist heat in the canning process breaks down any connective tissue which may be present.

Meat may be divided into tender and less tender cuts. The less tender cuts may be made quite tender by cooking for prolonged periods by moist heat. This is in effect what happens when meat is canned.

Equipment.—A steam pressure cooker is the best type of equipment for canning meats, but the water bath or the oven method are both used successfully by careful workers. In using the water bath or oven method, extreme care must be observed. Because of the difficulty in standardizing oven temperatures, a time table for oven processing is not given



Nebraska 4-H club girls prepared this exhibit of canned meat which was shown at the 1932 National Club Congress in Chicago.

in this circular. Temperatures of 240° to 250° are recommended for adequate sterilization of foods low in acidity. Such high temperatures can be obtained in the interiors of jars and cans only in steam pressure cookers. A temperature of 212° F. is the maximum temperature possible to be reached in jars that are not being processed under pressure. Research has shown that some bacterial spores may survive 212° F. for as long a time as six hours. The spores of "clostridium botulinum" which may cause food poisoning, are not destroyed at a temperature of 212° F. unless this temperature is maintained for at least six hours. It is for these reasons that the Bureau of Home Economics, Washington, D. C., does not recommend either the water bath or oven method for the canning of non-acid foods.

Good, new rubbers are essential, or if self seal topped jars are used, the tops should be new. Wash and rinse all jars and lids well before using them for canning.

Preparing the Meat.—Meat for canning should be fresh and in good condition, and may be used as soon as the animal heat is gone. Wipe the meat with a damp cloth, then remove the bone and leave only enough fat to give flavor. Excess fat will retard the penetration of heat. Cut the meat into

pieces of suitable size for filling the containers without cramming. To can sausage, shape the sausage into cakes, preheat as suggested in method II, page 8. Pack carefully and tightly into jars. Add a small amount of water to the fat in the pan. Fill jars with this liquid. If the sausage is put into casings, puncture the skin while precooking to prevent bursting. Partly seal and process.

Preheating and Packing.—Preheating may be done by a number of different methods. Some of the methods which are not included in this circular are being successfully used. However, the methods given below are recommended because research has found them to be safe methods for the average worker.

The aim in preheating is to heat the meat thoroly. It is not desirable, however, to preheat until the meat is cooked to doneness, because the meat would become overcooked during the canning process. Preheating may be done by any one of the following methods:

Method I.—Place the meat in boiling water to cover, lower the heat and simmer. After thoroly heating, pack in jars, bring the broth to boiling and pour over meat to within one-half inch from top of the container. Add from one-half to one teaspoon of salt per pint. If it is desired, a small quantity of gelatin (one tablespoon per pint softened in cold liquid) may be added to the broth. Fully seal tin cans or partially seal glass jars, and place each at once in a hot cooker so that the meat will not be cooled.

Method II.—Place the meat in a baking pan, add a little water, and heat in a moderate oven. Do not burn as this causes the drippings to become a dark brown. Dilute with boiling water or broth and pour it over the meat after it is packed. Add salt, and gelatin if desired, as above. Seal as described under Method I.

Method III.—When tin cans are used, the meat may be put directly into the containers. Add salt, but no liquid except broth in the case of chicken. Leave at least three-fourths of an inch space at the top of the can, because the meat will expand when heated. Preheat by placing the cans in a bath of boiling water which comes to within one to one and one-half inches of the top of the cans. Continue heating until the meat in the cans become steaming hot. This requires about 40 to 60 minutes according to the size of the can. Seal as described under Method I.

Processing.—After preheating, packing and sealing, the containers of meat should be processed immediately. The time periods given below apply to meat which is steaming hot when packed or sealed.

	Water bath ¹		Steam pressure 15 pounds	
	No. 2 tin Pint glass	No. 3 tin Quart glass	No. 2 tin Pint glass	No. 3 tin Quart glass
Beef, pork, veal, mutton, lamb	3 hr.	3 hr.	65 min.	70 min.

¹ For 2 qt. jars, increase the processing time 50 per cent.

Cooling.—After processing glass jars or No. 3 tin cans, allow the pressure gauge to reach zero before opening the petcock, then open it gradually so as to prevent a sudden out-rush of steam. Complete the seal on the glass jars. When No. 2 or No. 2½ tin cans are used, open petcock on the pressure cooker gradually at the end of the processing period and allow the steam to escape.

Tin cans are cooled by placing them in running water, while glass jars are placed in open air but protected from a draft.

Preserving Cooked Meats

The success of the method of preserving meat by cooking it and then packing in open containers and covering with a layer of fat, depends upon the possibility of storing at a low temperature. This method does not kill bacteria spores which are resistant to heat. It kills only the more susceptible forms of bacteria and the layer of fat keeps out others. Such methods are recommended for home consumption only during cold weather and for storage over short periods of time.

Stone jars are often used for containers when this method is followed. The tall two-quart container is preferable to the low wide top two-quart container because of less surface being exposed. The one or two-quart size containers are recommended so that the entire contents may be used within a short period after being disturbed.

Precautions for Canning

Do not short cut steps in canning. Time saved in this manner may be dangerous and expensive.

- (a) Preheat all meat until no red shows before packing it in jars.
- (b) After preheating, packing, and sealing, process it immediately.
- (c) Water bath—have water actually boiling before beginning to count the time. If the altitude is more than 1,000 feet, increase the time 10 per cent for each additional 500 feet.
- (d) Pressure cooker—allow steam to flow from petcock

in a steady stream for at least seven minutes before closing it to exclude the air. Begin to count time when the pressure reaches the desired point.

Precautions for Using Canned Meat ¹

1. When canned meat is opened, observe it carefully.
2. Note odor of the product at once. Any off odor probably indicates spoilage.
3. Heat at least TEN minutes before tasting.
4. Ends of tin cans should be concave—bulged ends indicate spoilage.

Recipes

Canning Corned Beef.—Place the corned beef in a kettle and cover it with cold water. Bring slowly to boiling point and simmer for one hour. Remove the meat and cut into pieces of convenient size to pack into jars. Heat liquid in which meat was boiled. If desired, season with bay leaves, cloves and nutmeg to suit taste. Soften a small amount of gelatin in cold water and add to the hot liquid. Fill jars with liquid, partly seal, and process three hours in hot water bath or for one hour in steam pressure cooker at 10 pounds pressure. Remove from canner and seal.

Mince Meat

- | | |
|----------------------------|------------------------------|
| 2 lb. cooked lean beef | 3 c. granulated sugar |
| 1 lb. suet | 3 c. light brown sugar |
| 1 package seeded raisins | 6 lb. apples, chopped |
| 1 package seedless raisins | 1 T. cinnamon |
| 1 lb. currants | $\frac{2}{3}$ c. lemon juice |
| 6 c. sweet cider | 2 c. fruit juice |
| 1 T. salt | 2 glasses tart jelly |

Run the beef and the suet thru the food chopper, place in a deep kettle with the dried fruits, the sugar, cinnamon, salt, and cider. Simmer for about 30 minutes. Add all the remaining ingredients. Cook slowly until thick. Pour the boiling mixture into hot sterilized jars, seal and store in a cool place.

Variations—

1. Add 1 lb. candied citron; $\frac{1}{2}$ lb. candied orange peel, $\frac{1}{2}$ lb. candied lemon peel.
2. Prunes or dates may be substituted for part of the raisins.
3. Nut meats may be added when ready to use.
4. Sweet spiced vinegar from peach, pear, or apple pickles may be used in place of fruit juice.

¹ Practically all the cases of food poisoning from using canned foods have been the result of not observing the precautions before using the product. It is much wiser to discard a product about which there is a question as to safety than to take a risk.

5. Honey may be used in place of a part of the brown sugar.

Soup Stock

Cut meat and fat from bones, crack bones and place in kettle. Add pieces of lean meat too small for other uses. Cover with cold water and simmer (do not boil) for six hours. Seasoning such as onions and celery leaf may be added if desired. Remove from fire, strain and set aside to cool and then skim off grease. When cool, lift the entire mass from the container and scrape off the settlings. Reheat, bringing to a full, rolling boil. Pour into jars and process three hours in hot water bath or 90 minutes in steam pressure cooker at 10 pounds pressure.

Vegetable Soup Stock

Use vegetables which suit the family taste. An excellent mixture is made with tomatoes, corn, carrots, celery, beans, and spaghetti. Prepare vegetables, add all of the ingredients to a soup stock, boil for five minutes, pack immediately in clean hot jars, add 2 teaspoons salt to each quart, partly seal and process three hours in hot water bath or 90 minutes in steam pressure cooker for 10 pounds pressure.

Freezing Meat

Many Nebraska farmers are availing themselves of the facilities provided by commercial creameries and cold storage warehouses which provide freezer locker service at a nominal cost. Generally, no charge is made when the meat is stored, but a fee (generally 25 cents) is charged every time meat is taken from storage. The meat should be cut into convenient size pieces and wrapped in paper. The size of package depends upon the size of the family, generally a package should contain one week's supply of meat. When extra help is employed, two packages per week may be withdrawn from the freezer.

Each package may be packed to contain some roasts, steaks, and "boiling meat," thereby providing some of the desirable as well as some of the less desirable cuts. The name of the cuts contained should be written on each package, or the packages should be numbered and a catalog of each kept at home.

Obviously, this method of meat preservation is of value only to those people who live close to the larger cities where commercial refrigeration is available.

After frozen meat has been defrosted or thawed out, it spoils quickly, and, therefore, must be used promptly.

There is a popular, though erroneous, idea that after meat is cooked it is less likely to spoil. Large cuts of meat, par-

ticularly if fat, cool very slowly and sometimes sour or spoil in the center. While poisoning from such meat generally does not end fatally, it does cause great discomfort and prostration.

Curing Meat

The curing of meat with salt has been practiced for many years. If sufficient salt is present, it prevents the growth of bacteria, that is, salt in itself is a good preservative. The salt draws water from the tissues. This drying action further reduces the likelihood of spoilage since bacteria need moisture to grow. Salt if not present in excessive amounts is palatable since many people prefer cured meat to fresh. The objection to salt is that it coagulates or hardens meat proteins.

High-grade salt of high purity should be used. Contrary to the opinion held by some, where the salt was mined is of no consequence so long as a good grade is used. Some firms are now selling a special meat-curing salt. In its absence, buttermaker's or baker's salt may be used.

It has been found that if sugar is incorporated with salt it prevents the excessive hardening of the muscle protein. Sugar also imparts a desirable flavor in itself and further fosters the growth of desirable bacteria which develop desirable flavors. Sugar in cured meat caramelizes in the hot skillet and give the delightful golden brown color sought by most individuals. Usually one-fourth as much sugar as salt is used. Either granulated or brown sugar may be used.

Sodium nitrate or salt peter, and occasionally sodium nitrite, is used in limited quantities in curing formulae. These substances combine with the red coloring substances in the meat to "fix" that color. It is believed that they increase the rate of penetration of cure into the meat and further that they stimulate the growth of organisms that develop desirable flavors.

Curing agents are applied by either the dry or the brine method. The dry cure is simpler and quicker. This method is generally used by commercial packers in curing bacon. The pickle or brine curing method is used commercially to cure joint cuts such as hams or shoulders. The farmer must decide on one method or the other, for he generally does not have enough meat to justify using both methods.

The Brine Cure

The chilled pork carcass should be cut up and the cuts smoothly and attractively trimmed. Loose tags should be removed, for they dry out and become unattractive waste. They may be utilized in making sausage. The cuts of meat should

be rubbed with dry salt and packed in a clean barrel or crock so as to retain their shape. The object of rubbing with salt is to draw from the external tissues the surplus water which might otherwise dilute the brine to the point where spoilage might occur. The bloody liquid which accumulates should be poured off the following day.

When the meat is put down, a brine should be made by dissolving one and one-half pounds of salt and one-fourth that much sugar per gallon of water. This brine should be boiled. This hastens solution and sterilizes the brine. After thorough cooling, the brine is strained through muslin. It should float a fresh egg. The cool brine may now be poured over the cuts of meat. The amount of brine required to cover meat will depend upon the tightness with which it is packed. Generally speaking, five gallons of brine are required for every 100 pounds of meat. The meat should be weighted down.

Meat is like milk in absorbing odors readily. The storage place of meat should be free from taints and odors. It should be as cool as possible, yet above the freezing point. Temperatures below freezing retard the penetration of salt into the meat.

Many believe that once meat is in the brine, all the troubles are over. However, meat can spoil around the joints before the salt has penetrated sufficiently to prevent spoilage.

Meat in the cure should be overhauled or repacked three times about a week apart. This makes possible a more uniform cure and a better product. The brine should be watched carefully. If it becomes slimy or ropy, it should be boiled, skimmed, cooled, and replaced, or better still a fresh brine should be made. The cuts of meat should be scrubbed and the container scalded. Ropy brine indicates that objectionable bacteria are at work and unless checked will ruin the meat.

Meat should be left in the brine about three and one-half days per pound weight of piece, that is, a 12-pound ham should stay in the pickle 42 days. To produce a uniform product, the cuts should be withdrawn from the cure at the proper time. When the light cuts are left in pickle as long as the heavier cuts, they become overcured.

The Dry Cure

With the dry cure, there is no brine to watch, it is quicker, and also eliminates the need for water-tight containers. Straight salt may be used, or a combination of salt four parts and sugar one part. Salt peter and pepper may also be added. The Virginia Dry Cure is made up as follows:

40 pounds of salt	$\frac{1}{2}$ pound of red pepper
10 pounds of sugar	8 ounces of salt peter
4 pounds of pepper	

This quantity will be sufficient to cure 500-700 pounds of meat.

The dry cure is thoroughly rubbed on the cuts and the cuts piled in a clean container or on a bench, a layer of cure being sprinkled between the layers of meat. The same precautions as regard temperature and overhauling should be observed as for the brine cure. Whenever meat is overhauled additional curing mixture should be rubbed on. Meat is left in the dry cure for two days to the pound weight of piece. For safety sake, hams should be given some additional time in the cure.

Soaking

Cured cuts should be freshened or soaked to remove the excess cure from the outside of the cuts. From 30 minutes to two hours' soaking in several changes of water is adequate.

Smoking

Smoking adds flavor and improves the keeping quality of meat. Only non-resinous wood, such as hickory, maple, or apple should be used with the minimum amount of pine kindling. Pine burns with a sooty flame and will blacken the meat. Corn cobs can be used for smoking. Little heat and much smoke is desired in a smokehouse. Meat should be smoked to a good chestnut color.

Smoked Salt and Liquid Smoke

These preparations, while a little more costly than ordinary curing agents, are a convenience for the small operator who has no facilities or suitable wood for smoking. Meat prepared by these methods cannot be shipped interstate.

Keeping Cured Meat

Cured meat is best kept by wrapping in muslin, then several thicknesses of paper. All strings should be turned in to prevent insects from entering the package. All meat will mold. Most of the mold can be removed when the cloth is removed. The balance can be scrubbed off with a vegetable brush after soaking in warm water.

Lard Making

High-grade lard can only be made from fresh, sound lard stock. If the lard stock starts to break down and get sticky, the resultant lard will smoke badly when used.

Lard stock need not be skinned unless the scald was poor. Skinned stock may be ground through a sausage mill if a coarse plate is available. This hastens the rendering process. If the stock is not ground, it should be cut into uniform pieces.

Some recommend one-inch cubes, although thin slices render out more quickly.

A little water is generally necessary in the kettle to start the rendering process. Constant stirring is the only means to prevent sticking. The lard will boil vigorously at first as the water is boiled off. Moisture left in the lard causes it to turn sour. Lard should be rendered until the cracklings turn a golden brown and float. Cracklings removed on a paddle at this point will fry themselves dry. The best criterion to tell when lard is done is the candy thermometer. Lard should be removed from the fire, or the fire withdrawn from under the lard when the temperature reaches 250° F. It should *not be allowed to smoke*.

The lard may then be allowed to settle and cool after which it is ladled or siphoned off, filtered through muslin, and run into containers. The cracklings may be pressed with a lard or jelly press or in the absence of these, with a colander and potato masher.

Keeping Lard

Small containers which may be tightly sealed are best for lard. Wide-mouthed fruit jars are successfully used by some. Earthen or glass containers are preferable to metal containers, especially if these containers are rusty. Certain metals start breaking down changes which may result in rancidity, the arch enemy of stored lard. Exposure to air and light further aids the development of rancidity. For this reason, lard should be stored in as dark and as cool a place as possible.

Pork Sausage

One of the delights of the winter season is pork sausage. Sausage should contain one-fourth to one-third fat, and the general run of trimmings will be satisfactory in this respect. Enough salt to keep sausage without canning or frying it down makes the sausage unpalatable. It is generally recommended that two to two and one-half per cent salt be used and that surplus sausage be canned or fried down to preserve it.

A very satisfactory pork sausage can be made as follows:

- 10 pounds pork trimmings
- 6 tablespoons salt
- 4 tablespoons white pepper
- 2 tablespoons sage

If desired a little red pepper and a light sprinkling of ground cinnamon and ground cloves may be added. The sausage trimming should first be cut into pieces of uniform size and the seasoning sprinkled over one-half of them. The other half of the trimmings may be added and the meat worked

back and forth several times in order to mix the spice with the meat. If the seasoning is added before the meat is ground a more uniform product will be obtained.

A saving in labor can be effected if the sausage is seasoned before grinding. Other seasonings can be added to taste. Sausage may be used as bulk sausage or cased in casings or muslin bags. These may be used fresh or lightly smoked.

Head Cheese

Cleaned heads, feet, hearts, and tongues are cooked until the meat may be separated from the bones. The bones are carefully picked out. The cooked meat is seasoned as for pork sausage except no sage is used. Season to taste. Add some of the gravy in which the meat was cooked and put into moulds to cool. Head cheese may be stuffed into hog paunches, sewed shut, and cooked in the gravy to cook out some of the fat.

Liver Sausage

One-fourth cooked liver is added to head cheese stock and seasoned to taste as suggested for head cheese. Cloves are the predominating spice. The mixture should be ground several times, some of the gravy stock added, and the mixture stuffed in pork or beef casings. The liver sausage may be smoked if desired.

Scrapple

Use the same kind of meat and proceed in the same way as with head cheese until the liquor is poured over the finely chopped meat. Then season and stir corn meal into the boiling liquor and meat until the mixture is about three-fourths mush and one-fourth meat. Mix meal with a little cold water, add slowly and stir constantly to avoid big lumps. Boil thoroly and pour into shallow pans to cool. Slice and serve cold, or fry in fat.

Pickled Pig's Feet

Clean the pig's feet thoroly and boil from four to six hours, depending on size and age. Salt when about half done. Pack into a tight vessel (stone jar preferred) and cover with hot spiced vinegar. Serve cold, or fry in a batter made of eggs, flour, milk and butter.