Canning Club Demonstration Problem VI Cold Pack Meat Canning: Extension Circular 9-26-2

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Problem VI
COLD PACK MEAT CANNING

Reasons for Canning Meats.

There are several reasons why meat should be canned on the farm where it is raised and also in towns where people have a chance to buy it in quantities from the producer. Perhaps the most important reason is economy. At purchasing time it is a temptation to use meat extravagantly because meat people like it fresh better than when cured. This extravagance is not only a waste of the meat supply but it is unhealthful.

If the weather suddenly turns warm, meat is likely to spoil. Canning keeps it indefinitely and preserves the natural flavor. This makes it possible to serve fresh meat during the summer months and gives a better variety in the diet, throughout the year.

For those who raise poultry it is profitable to can the surplus cockerels in the fall. This preserves the meat when it is best for eating, and also saves the expense of feeding unprofitable chickens during the winter.

By canning meats in the fall and winter, we can keep our jars busy throughout the whole year. They are no longer merely "fruit jars" because we use them for vegetables and meats as well. The need for conserving is as great as it was during the war.

If your mother has canned meat you know how convenient it is to have a supply on hand whether you live near a market or not. It is always ready, and when unexpected company arrives, a chicken dinner can be prepared in a very short time.

Precautions in Canning Meats.

Meat canning has been considered difficult because as with vegetables it is necessary to observe carefully every step in the canning process. For this reason, the government recommends that Club Members do not attempt the canning of meats until they have canned fruits and vegetables successfully by the Cold Pack method.

The condition of the animal before slaughtering and the care of the meat afterward are both very important. Meat should never be canned unless it is fresh and from healthy animals. Sometimes people think that the heat used in canning meat will make it "safe" and wholesome even the the meat has started to spoil. This is not true. Certain disease producing bacteria are probably killed by the canning process, but meat should not be canned unless it is in prime condition. Animals should not be exhausted or bruised before killing. If exhausted the blood is driven into the capillaries all over the body making it impossible to thoroughly bleed the carcass.

If sanitary methods are not employed in caring for the meat, after killing, it is easily infected. The intestinal contents should never be allowed to come in contact with the meat. It is very essential that meat be properly bled, cooled, and stored. The carcass should hang twenty-four hours before cutting, then twenty-four hours for further cooling. The temperature of the storage room should be from 33° to 36° F. This temperature is not low enough to freeze the meat, but is low enough.
enough to stop the action of ferments. If their action is not stopped, they will in
time spoil the meat. It is very important that the temperature be kept the same.
Alternate freezing and thawing is bad for the meat because it may start to spoil when
thawed or partly frozen.

You perhaps have heard people say that frozen meat should not be used for
canning or curing. This means that the meat while frozen or partly thawed should not
be canned or cured, and the reason is plain. In this condition, the heat cannot
penetrate the canned meat freely, and the brine cannot penetrate the cured meat
evenly. It requires one hour for frozen meat to thaw to the center, when canned in
the boiling water bath. If the meat is thoroughly thawed, after freezing it may be
canned and will be a little more tender as freezing helps to soften the connective
tissue. There is a small loss of albuminous material and extractive salts when frozen
meat thaws. The loss of extractives will be less if the meat is thawed slowly.

Expert food chemists tell us that it is dangerous even to taste spoiled food
and that all foods which have a questionable odor should be destroyed.

"Officials of the Bureau of Chemistry, U. S. Department of Agriculture, say
that Botulinus poisoning is caused by eating spoiled food infected with the bacillus
botulinus. All spoiled food does not contain this poison, but any spoiled food even
the the spoilage is light, may contain it. For this reason all food showing even the
slightest unnatural odor, unnatural color, swelling of the tin container, signs of
gas, or any evidence of decomposition, whatever, should be discarded."

One of the most important precautions therefore is this; never can or use
in any way, meat that is spoiled or suspected of being tainted.

Testing Jars.

Besides testing for nicks and cracks in the jars and lids one should make a final
test in this way. Put hot water in the jar, place rubber and lid in position, make
a tight seal and invert jar. Allow jars to stand 5-10 minutes to detect slow leaks.

Metal lids which have been-pried loose usually cause trouble. An uneven
edge can sometimes be remedied by placing the lid on a flat surface and rubbing the
edge with a strong blade or knife handle until it lies flat on the table and touches
at all points.

Glass top jars should also be tested with water. Place rubber and lid on
jar. Put wire bail in place over the top of the lid. If the bail does not go on
with a snap when the tightening lever is up remove it from the jar and with the
thumbs bend it down, in the center to tighten it as shown in this picture.

The ends of the bail may need to be pressed inward before
it can be replaced on the jar. Return bail to the jar, make
a tight seal and test again by inverting the jar. If there
is no defect in the jar or lid, and the jar still leaks the
bail should be tightened again. If the bail is too tight
it should be loosened by bending in the opposite direction
to that given for tightening. A little experience will
make this adjustment process a simple matter.
- Process Water -

Place wash boiler or other water-bath containing 7 or 8 inches of water on stove to heat.

-Jars, Lids and Rubbers-

The metal lid jar with composition rubber has not proven as satisfactory for meat canning as the other types.

Use only the best rubbers for meat canning as fat is especially hard on the rubber. Test and wash jars, lids and rubbers and place them on the false bottom in the water-bath. These should boil 15 minutes before using.

- Preparation of Chicken -

It is best not to feed the chicken for at least 24 hours before killing. When the feathers have been removed and the pin feathers drawn the bird should be cooled rapidly. This rapid cooling after killing is essential to a good flavor in canned meat. Some prefer to have the chicken killed the day before it is used, in this case it should be kept in a cold place over night. As soon as the bird has been properly cooled it should be singed and washed carefully. A brush may be used if necessary.

-Cutting Up and Drawing-

In preparing chicken for canning, care should be taken in drawing it so that the contents of the digestive tract do not come in contact with the meat. With the following method the whole digestive tract is removed at one time so there is little danger of cutting it.

1. Remove the tips of the wings, cutting at the first joint.
2. Remove the wings.
3. Remove the feet cutting at the knee joint.
4. Remove the leg cutting at the hip or saddle joint.
5. Cut the removed portion of leg into two parts at the joint.
6. Place the bird so the neck is toward the operator.
7. With the index finger separate the gullet and windpipe from the skin of the neck.
8. With a sharp pointed knife cut thru the skin from the upper part of the neck to the wing opening made by removing the wing.
9. Loosen the gullet and windpipe from the neck down as far as the crop.
10. With a sharp pointed knife cut around the shoulder blade, pull it out of position and break it.
11. Find the white spots on the ribs. Begin at the joint where the shoulder blade was removed cut thru the ribs on these white spots.
12. Cut back to the vent, cut around it, and loosen. Lay open the two length-wise sections of the body.
13. Begin at the crop and remove the digestive tract from the bird pulling it back toward the vent.
14. Separate the breast from the backbone by cutting thru the white spots on the other side of the chicken. Then cut back to the vent which completely separates the two sections of the body.
15. Remove the lungs and kidneys with the point of a knife.
16. Cut off the neck close to the body.
17. Cut thru the backbone at the joint or just below the ribs.
18. Remove the oil sack.
19. Cut the fillet from each side of the breastbone.
20. Cut in sharp at the point of the breastbone turning the knife and cutting away the wishbone with the meat. Bend in the bones of the breastbone.
Wash, Blanch and Cold Dip

1. Wash the pieces carefully.
2. Blanch in boiling water for 5 minutes.
3. Dip at once into cold water.
4. Pack immediately into jars.

Packing

Use a quart jar. Do not pack the giblets with the meat. If one has several chickens to can at one time it is best to sort the pieces, packing the choice pieces in one jar, the soup pieces in another and the giblets in another.

The following suggests a method for packing a 4 pound chicken in a quart jar:

1. Remove a hot jar from the water-bath, place it in a pan of boiling water to keep hot while packing.
2. Pack the saddle with a thigh inside.
3. Pack the breast bone with a thigh inside.
4. Pack the backbone and ribs with a leg inside.
5. Pack the leg large end downward, along side the breastbone.
6. Pack the wings.
7. Pack the wishbone.
8. Pack the fillets.
9. Pack the neck bone.
10. Pour on boiling water to within 2 inches of the top.
11. Add 2 level teaspoonsful of salt to the quart.
12. Place the wet rubber and lid.

The Partial Seal

1. Screw top jar. Screw the lid on as far as you can with the thumb and little finger. This should not be too tight.
2. Glass or spring top jar. Place the top clamp into position but leave the side clamp up.

Processing in Boiling Water

1. Plunge the jars quickly into the boiling water and place them on the false bottom.
2. Boil 180 minutes. Do not begin to count time until the water is boiling around the jars. Keep the water boiling during the processing period.
3. Young chickens may be fried until the meat is three-fourths done. If this is done the time for processing is 90 minutes.
4. The water in the boiler should cover the tops of the jars 2 inches.

Removal and Subsequent Care

1. When the processing period is over remove the jars from the boiler one by one and tighten the lids at once. Do not remove the lids even then the jar is not full of liquid.
2. Do not invert or turn the jars on one side because the fat comes in contact with the rubber and weakens it. For this reason we should be all the more careful in testing the jars before filling.
3. Cool wrap in paper or place in jar boxes.
4. Store in a cool dry place.
Canning of Beef, Pork and Hutton.

Process Water:
Place wash boiler or other water-bath containing 7 or 8 inches of water on stove to heat.

Jars, Lids and Rubbers:
The metal lid jar with composition rubber has not proven as satisfactory for meat canning as the other types. Use only the best rubbers for meat canning as fat is especially hard on the rubbers. Test and wash jars, lids and rubbers and place them on the false-bottom in the water bath. These should boil 15 minutes before using.

Preparation of Meat.
A. Raw:
1. After the animal has been butchered, cool quickly, and keep cool for about 48 hours. Cut into cubes (1 to 1/2 in. cubes)
2. Cut in small pieces, or in strips that will fit into the jars, remove gristle, large bones and excess fat.
3. Pork chops may be canned whole, either with or without the bone.
4. The meat may be blanched and cold dipped before packing. This is perhaps a safer method because blanching and cold dipping help to cleanse the surface, "Most products require blanching and cold dipping in order that they may be mechanically washed and cleansed from the slime, culture media, and some of the surface infection."
5. "Frozen meat should not be canned unless thoroughly thawed."

B. Partially Cooked.
1. Cut the meat into convenient pieces, for handling (about 3/4 lb. in weight).
2. Roast, bake, broil or stew the meat until 3/4 done.
3. Cut into pieces, remove gristle, large bones and excess fat.

C. Sausage - (See Filling the Jars - Page 45).

Preparation of Stock.
A. Ingredients for soup stock:
1. All bones, whether raw or cut from steak, roast or other cooked meats should be utilized for soup stock. Strip off the fat and meat.
2. Hallow bones should be sawed in pieces.
3. The head may be used by cleaning thoroly. Cut it into four parts. "The head should be shaved clean, the snout skinned and nostrils cut off just in front of the eyes. Cut out the eyes and eardrums. The fattest part of the head is generally used for lard. When the head is cleaned, soak it in water for some time to extract the blood and dirt". Farmer's Bulletin 515.
4. Thoroly clean feet, with hoofs removed may be added; also sinews and meat scraps not otherwise utilized.

B. Steps in the Preparation.
1. Cover the bones with cold water. They may be put in a thin cloth sack.
2. Bring to a boil, then simmer until all of the goodness has been extracted, about 6 or 7 hours. The stock should be condensed enough to gelly when cold.
3. Five pounds of bones will make about 1 gallon of stock.
4. When well cooked remove the bones and meat and strain the soup.
5. Skin off the excess grease.
6. The stock may be poured into the jars as it is or it may be clarified. To clarify - mix beaten whites of eggs with an equal portion of water adding the crushed egg shells, which have been washed. Add this mixture to the soup, bring slowly to a boil and cook 5 minutes. Strain, salt to taste and pour into hot jars.

Filling the Jars.
A. Remove a hot jar from the process-water, place it in a pan of boiling water to keep it hot while filling.

B. Raw Meat.
1. Pack solidly in jars to within 3/4 inch of the top.
2. Add 2 t. salt to the quart, other seasoning if desired.
3. Add no water.
4. Add celery leaves, onion, pepper or other seasonings if desired.
5. Place the wet rubber and lid.

C. Partially Cooked Meat.
1. Cut the meat into pieces that will go into the jars easily.
2. Remove gristle, large bones and excess fat.
4. Add 2 t. salt to each quart.
5. Fill with gravy or stock to within 2 inches of top of jar.
6. Place the wet rubber and lid.

D. Soup Stock
1. Fill hot jars to within 1/2 inch of top.
2. Place the wet rubber and lid.

E. Sausage.
1. Bulk Sausage.
   (a) Pack to within 3/4 inch of the top of the jar. May be packed solidly or in cakes.
   (b) Form into cakes, fry until browned. Pour off excess grease and add boiling water to make gravy. Fill jars to within 1 1/2 inch of top and cover with boiling gravy.
2. Link Sausage.
   (a) Pack into jars raw. Enough fat comes out of the meat while canning to partially cover.
   (b) May be boiled 10 minutes or fried until nicely browned, before packing into the jars.
   (c) Cut in lengths which will come within 3/4 inch of the top of the jar. Fill with the boiling water to within 2 inches of the top of jar.

Partial Seal.
A. Screw top jar, screw the lid on as far as you can with the thumb and little finger. This should not be tight.
B. Glass or spring top jar. Place the top clamp into position but leave the side clamp up.

Processing in Boiling Water.
A. Plunge the jars quickly into the boiling water and place them on the false bottom. If the meat is packed in the jars raw it may not be safe to plunge the jars into boiling water.
B. Process raw meat 180 minutes for altitudes up to 1,000 feet. If meat is cooked until three-fourths done, process 90 minutes. Increase 10% for each additional 500 feet. Do not begin to count time until the water is boiling around the jars.

C. Process soup stock 90 minutes.

D. Keep the water boiling during the sterilization period.

E. The water in the boiler should cover the tops of the jars 2 inches.

F. The time given is for altitudes up to 1,000 feet. This can be used in the extreme eastern and other parts of the state but in general, the altitude rises as one goes west so the time for processing in a water bath should be increased 10% for each additional 500 feet. In Scotts Bluff County the altitude ranges from 1,553 ft. to over 4,000 ft. For example, at an altitude of 4,000 feet, meat packed into the jars raw would be boiled 4 hours, and 48 minutes, instead of 3 hours. The time given is for pints and quarts. Add 2 more time for 2 quart jars.

Removal and Subsequent Care.

A. When the sterilization period is over remove the jars from the boiler one by one and tighten the lids at once. Do not remove the lids even tho the jar is not full of liquid.

B. Do not invert or turn the jars on one side as the fat comes in contact with the rubber and weakens it. For this reason we should be all the more careful in testing the jars before filling.

C. Do not stand jars close together because they should cool quickly.

D. Cool, wrap in paper or place in jar boxes.

E. Store in a cool, dry place.

Water Bath Canners.

The preceding directions are given for the use of the water bath. When a pressure cooker is used for processing the time is decreased. See time table on page 47.

Operation of Steam Pressure Canners.

To secure the best results in the operation of steam-pressure canners, the following precautions should be observed:

1. Place each jar in hot water or in the canner as soon as packed.
2. Have the water come to the platform, but not above it; add hot water occasionally to prevent its boiling dry.
3. Have the Canner absolutely steam-tight.
4. When the canner has been filled, fasten the opposite clamps moderately tight; then tighten each pair of clamps fully.
5. Allow the petcock to remain open until live steam escapes from it.
6. Close the petcock completely.
7. Force the pressure to the required point before counting time.
8. Maintain a uniform pressure during the sterilizing period. This may be done by turning down gas or oil flame or moving canner off the stove partially.
9. Remove from fire. Allow the canner to cool until the steam gauge registers zero before opening the petcock, when canning in glass jars. The cooker may be cooled more rapidly by placing in cold water.
10. Remove the jars from the canner and tighten the lids as soon as the canner is opened.
11. No allowance for variation in altitude is necessary when canning in a steam pressure cooker.
12. Instructions put out by the manufacturer of the pressure cooker which you are using should be followed.