

Canning Meats, Fish, And Chicken*

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Canning meat is good food management if home butchering is done and a freezer locker is not available. Canning makes it possible to distribute the food over a longer period of time and it makes it possible to prepare ahead of time for busy seasons, rush days, and unexpected company. All kinds of meat and meat products, including heart, liver, sausage, hog's head cheese, soups, and stews, may be canned satisfactorily in the home, and nothing needs to be wasted or eaten just to keep it from spoiling. If the butchering is done at different times, one can have more fresh meat and there will be less canning to do. Only healthy, well finished animals should be butchered. All meat that is to be canned should be clean, free from disease, and in perfect condition. The amount of bone and fat, the size and shape of the pieces of meat, and the looseness of its structure have a decided effect on the rate at which heat penetrates it. Meat with bone, little solid fat, and much liquid heats through more quickly than compact meat with no bone and much fat. The former may be canned without adding liquid.

If one slaughters his own meat, it is desirable to can the less tender cuts of meat and to use, as far as possible, the tender cuts as fresh meat. It is usually preferable to can the meat alone and combine it with other products when the jar or can of meat is opened. If spices or other flavoring materials are used, they should be used sparingly. White pepper retains a better flavor than black pepper in meat products.

It is necessary to chill the carcass after slaughtering before starting to can it, unless it is possible to can it at once. All meat except pork ripens and has a better flavor if it is not used or canned until it has been chilled for at least 24 hours (chilled to a temperature between 34° and 40° F.). Beef is better if allowed to age or ripen for a week or 10 days, while veal will be ripened and show little discoloration or shrinkage if used in 3 or 4 days. Frozen meat may be canned but it does not make a high quality product. If the meat for canning is frozen, it should be cut or sawed into strips 1 to 2 inches thick, dropped into boiling water, simmered until the color of raw meat has almost disappeared, then packed and processed.

*Adapted from U. S. D. A. Bulletin No. 1762, "Home Canning of Fruits, Vegetables, and Meats."

Canning Equipment

Beef, veal, mutton, lamb, pork, chicken, fish, and wild game may be canned successfully with the same type of equipment that is used for canning green beans, corn, and other non-acid foods. Since copper and iron utensils may discolor canned meat, aluminum, enamelware, or stainless metal pans are preferable for cooking it. Meat should not be allowed to stand in a galvanized container for more than 30 minutes or it may take up harmful quantities of zinc. Cans, jars, lids, and all utensils used in canning meat should be thoroughly clean. Either tin or glass containers may be used for canning meat and chicken. It is easier to pack and unpack the meat in tin cans. They are also preferable, since light has an undesirable effect on the fat and the meat. Plain tin cans are preferable for canning chicken, as the fat of chicken may cause the enamel to peel off making the meat less attractive but not harmful.

Precooking the Meats

All non-acid foods, including meat and chicken, are usually heated before they are packed in the container to be processed. The advantages of this pre-cooking are that it increases the amount of food that can be packed in the container, makes for greater variety in texture and flavor, destroys some of the bacteria, and all of the food is processed at more nearly the same temperature for the same length of time. The disadvantages are that it requires extra time for preparation and may dry the meat out more. The meat may be pre-cooked in the oven or in water, if glass jars are used. If tin cans are used, the meat may be pre-cooked as for glass, or it may be packed raw and the cans partially exhausted before sealing.

Frying is the least desirable method of processing meat because it makes the meat hard and dry. If the meat is even slightly burned in the pre-cooking the burned portion will give all the meat in the can a less desirable flavor. To pre-cook meat in the oven, cut the meat into uniform pieces, making sure they are the size that will go into the jar, and cook in a moderate oven (350°F.) until the red or pink color of the raw meat has almost disappeared at the center of the piece. This will take from 20 to 40 minutes. Salt, pack closely, cover with the pan drippings and water or broth, and process at once. If the meat is to be pre-cooked in water, cut in uniform pieces of about a pound each; drop into boiling water; and simmer for 12 to 20 minutes or until the color of the raw meat has disappeared at the center of the pieces. This meat will have lost about $\frac{1}{3}$ of its original volume. Cut the meat into smaller pieces desirable for serving, salt, pack closely into containers, and cover with the broth. Process immediately. This is the quickest way to pre-cook a large quantity of meat.

If tin cans are used, the following method is suggested: Salt, put two or more pieces of meat in a can and place the can in a water bath. The water in the water bath should be boiling hot and come up to from $1\frac{1}{2}$ to 2 inches of the top of the can. Cover the water bath and heat for 40 to 50 minutes for No. 2 cans, or until the meat at the center of the can has at least partially lost its color. Press the meat down, make sure the broth covers it, leave about $\frac{1}{4}$ inch head space, seal and process.

In packing glass jars, leave $\frac{1}{2}$ inch head space and in packing tin cans from $\frac{1}{4}$ to $\frac{1}{2}$ inch. Meat that is not covered with liquid will discolor and lose some flavor during storage. Salt may be added to the meat before it is packed into the container—one teaspoonful per pound. A pound to $1\frac{1}{2}$ pounds of meat will usually fill a pint jar or a No. 2 tin can.

The flavor and texture of canned young chicken is not as desirable as the canned meat from mature birds. To can chicken, dress and cut the chicken up as for frying. Separate the meat in three piles—the meaty pieces, (breast, thighs, legs, and upper wing joints), the bony pieces (backs, wings, neck, and skinned feet), and the giblets. Giblets cooked with the other meat will flavor and discolor it. Cover the bony pieces with lightly salted water and simmer until the meat is tender. Drain off broth and use for soup or for canning the meaty pieces. Remove the meat from the bones, cut in uniform pieces, and can to use for chicken salad, creamed chicken, chicken pie, etc. Pre-cook the meaty pieces in the oven or in water as other meat, pack hot, and process. Pre-cook giblets in hot water as other meat, pack hot, and process. If a large number of chickens are canned at one time, it is preferable to can the gizzards and hearts together and can the livers alone.

Fish is one of our most perishable foods and at times there may be a surplus of it. This surplus may be canned successfully if it is canned while the fish is *very fresh*. Do not attempt to “save” a lot of fish from spoilage some time after catching, by canning them. Approximately two pounds of fish will fill a pint jar or No. 2 tin can.

General Directions for Canning Meats

Pack the meat or chicken closely into the container as soon as the pre-cooking period is completed. Salt to taste, usually one teaspoonful per pint of meat. Carefully wipe the top of the jar or can, adjust the top, and seal. The self-sealing lids should be turned only firmly tight. Immediately place the jars or cans in the hot canner. The water in the pressure cooker, steam cooker, or the water bath, should be boiling or near boiling. Do not crowd the jars. In the water bath the water should be 1 inch over the top of the jars or cans; the water level in the pressure cooker should be just to the top of the rack. Enough water should be in the steam cooker to keep

Time Table for Processing

| Product | Preparation Before Processing* | Time for Processing Pint Glass Jars | |
|------------------------------------|---|---|--------------------------|
| | | Pressure Cooker at 15 lbs. or Temp. 250° F. | Water Bath 212° F. |
| Beef Roast & Steaks | Cut in desired pieces, removing extra bone and gristle; leave only enough fat to give flavor. Pre-cook in oven or in water | 60 min. | 3 hrs. |
| Beef Ground (Ham- burger) | Grind meat using the plate with $\frac{1}{8}$ inch holes. Add 1 cup salt for each 25 lbs. meat, and mix well. Mould meat into cakes, pre-cook in the oven | 70 min. | 3½ hrs. |
| Beef Hash & Stew | Cut meat in uniform, small pieces. Add boiling water to cover. Simmer until color changes | 60 min. | 3 hrs. |
| Beef Stew with Veg. | Cut stew meat in small pieces; dredge with flour; brown in hot beef fat; add diced vegetable mixture, liquid, salt, and bring to boil | 60 min. | 3 hrs. |
| Beef Corned | Wash corned beef, cover with cold water, bring to boiling point, and drain. Cover meat again with cold water, simmer until meat is heated through. Remove from broth, cut into small pieces, pack into containers ... | 60 min. | 3 hrs. |
| Chicken | Pre-cook meaty pieces in oven, salt, pack in jar with bony piece at center of jar | 55 min. | 3 hrs. |
| | Pre-cook bony pieces, remove from bones, cut in uniform pieces, and pack | 70 min. | 3½ hrs. |
| | Pre-cook giblets in salted water | 70 min. | 3½ hrs. |
| Pork | Cut in desired pieces. Pre-cook in oven | 60 min. | 3 hrs. |
| Pork Sausage | Make sausage according to any tested formula, omit sage, mix seasoning and meat well. Make into cakes. Pre-cook in moderate oven (350° F) 10 or 15 minutes or until cakes are slightly browned | 60 min. | 3 hrs. |
| Pork Head Cheese | Make head cheese according to desired recipe | 70 min. | 3½ hrs. |
| Veal | Same as beef | 60 min. | 3 hrs. |
| Lamb & Mutton | Same as for beef. | | |

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| Product | Preparation Before Processing | Time for Processing Pint Glass Jars | |
|-------------------------|---|---|--------------------------|
| | | Pressure Cooker at 15 lbs. or Temp. 250° F. | Water Bath 212° F. |
| Chicken Sandwich Spread | 4 lbs. cooked chicken, chopped or ground. 1½ lbs. olive, chopped. 1 lb. pimientos cut in small pieces. 1 qt. chicken broth. ½ tsp. curry powder. 1 tsp. ground mace. 1 tsp. ground mustard. Salt and white pepper, to taste. Combine all of the ingredients, stir, and heat gradually to simmering | 75 min. | 3¼ hrs. |
| Fish | Split the cleaned fish, cut into pieces that will go into the can and soak for 1 hr. in a brine, made by adding ½ lb. of salt to 1 gallon of water. Drain and pack in the can. Submerge the packed can in a kettle containing a brine made by adding 8 tbsp. salt to 1 gallon of water. Boil for 15 min. Remove cans and invert to drain well. Add a bay leaf, tomato sauce or other seasoning if desired | 100 min. at 10 lbs. pressure. | |
| Chili Con Carne | Soak 2 lbs. of chili beans or other pink or red variety over night. To 5 lbs. of coarsely ground beef or beef and pork mixed add 3 to 5 tbsp. of chili powder, 3 tbsp. salt, and ½ cup wheat flour. Mix well and cook in 1 cup hot beef fat until red color of meat disappears. Drain beans and blanch for 5 min. in boiling water. Drain. Fill cans or jars about ¾ full of the hot beans and add hot meat mixture to about ⅞ of capacity and then hot water to fill ... | 100 min. at 10 lbs. pressure. | |
| Soups | Cook broken bones just until water is a mild flavored broth—bones cooked at high pressure or for too long give a disagreeable gluey flavor, or lack flavor. Remove excess fat from stock. Pour in jars boiling hot | 40 min. | 2½ hrs. |

it from boiling dry during the processing period. Cover the water bath with a well fitted lid. Tighten the lid of the pressure cooker, allow steam to escape from the petcock for from 5 to 7 minutes, then close and let the pressure rise to the required number of pounds.

A pressure cooker is preferable for the canning of all non-acid foods which include meats, chicken, fish, and all non-acid vegetables.

Read the "General Directions for Canning Meats" before starting to can. One to 1½ pounds of meat are usually packed in a pint jar or No. 2 tin can. Add one teaspoon of salt for flavor to each pint of meat. Pack the meat into the container while boiling hot and add the boiling hot pan gravy, meat broth, or other liquid.

Process at the temperature and for the time indicated in the table. Do not begin counting time until the water is in a rolling boil in the water bath canner, the steam flows steadily from the steamer or waterless cooker, or the pressure is up the required number of pounds in the pressure cooker. Keep the temperature the same throughout the processing period. Discount any time the temperature is below what it should be.

Remove the jars and cans from the canner as soon as the processing period is completed. Do not turn the tops of the self-sealing lids. Do not invert glass jars as the actual seal is formed by the pull of the partial vacuum in the jar during cooling. Cool jars as quickly as possible and after they are cool, invert and observe for leakage. Do not attempt to tighten jar lids after the jars are cool. Cool tin cans in cold water, preferably running water.

Label with the name of the product and the date canned. Watch for spoilage for about one week. Remove clamps or bands from jars with self sealing lids. Store all canned foods in a cool, dry, frost-proof place, protecting the glass jars from light.

How Meat Animals Dress Out

Hogs and chickens dress out approximately 70 to 75 per cent of their live weight. Beef and lamb dress out approximately 50 per cent of their live weight. A 200-pound hog will yield approximately 100 pounds of lean meat and 50 pounds of lard and bacon.

Approximate cuts from a 200-pound hog

| | | | |
|-------------|---------|-----------------|---------|
| Hams | 30 lbs. | Shoulders | 37 lbs. |
| Sides | 26 lbs. | Head | 16 lbs. |
| Loins | 20 lbs. | Fat | 20 lbs. |
| Ribs | 4 lbs. | | |

Examination of Canned Foods

All canned products should be examined before opening. There should be no corrosion of lids or rubbers, or a bulging of ends, or any unusual deposits or signs of leakage. When the container is opened, there should be a sucking in of air but no outburst of air or sputtering of liquid. The odor should be characteristic of the product. Any different odor would probably indicate spoilage. The liquid over canned meat may or may not be jellied, depending on the quantity of connective tissue and cartilage in the meat.

Canned products should not be tasted to discover spoilage. All home-canned non-acid foods should be boiled ten minutes before tasting. There is always the possibility that home-canned non-acid foods may contain bacteria whose growth would cause serious illness even if only a taste of the food were eaten. These bacteria grow only in non-acid foods and the poisons resulting from their growth are destroyed by boiling the food.

Use of Canned Meats

Three important points to remember in the use of canned meat are:

1. Reduce to a minimum the second cooking—10 to 15 minutes. All canned foods are overcooked and the more they are overcooked the less savory and tender they become.
2. Use every bit of the broth, fat, or drippings, as it has much of the flavor and food nutrients of the meat. Use it as a basis for sauce to pour over the meat, to cook vegetables in or use it for consomme, bouillon, soup, or salad.
3. Extend and enrich the canned meat flavor by combining the canned meat with various vegetables or such starchy foods as rice, potatoes, noodles, spaghetti, macaroni, or pastry.

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