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Home Canning

Meat

Fish

Poultry

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Canning Meat, Fish and Poultry

Revised by
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Canning is a good method of preserving various kinds of meat at home to help spread the supply through the year. Other methods are freezing, salting and smoking. Using a variety of methods adds variety to meals.

Points for success in home canning of all meats:

1. Select meat of good quality.
2. Use the right kind of equipment and use it correctly.
 - (a) pressure canner
 - (b) jars and cans that seal air-tight
3. Use the right canning methods.
4. Store canned foods properly.

WHAT TO CAN

Meats for canning at home include the following:

- Beef, veal, mutton, lamb and pork
- Poultry—chicken, duck, guinea, turkey and goose
- Fish—shrimp, other sea foods
- Game Animals—large and small
- Game Birds

All meats should be from healthy animals, slaughtered and handled in a clean manner, chilled promptly and canned while fresh.

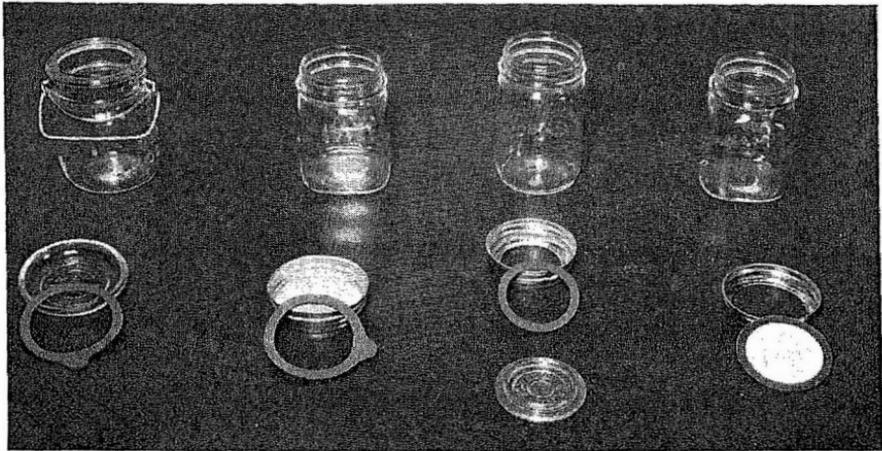
Meat intended for canning should not be permitted to freeze. If it does freeze, keep it frozen until canning time because thawed meat spoils very quickly.

EQUIPMENT FOR CANNING AND HOW TO USE IT

To can foods successfully, it is necessary to heat at the right temperature and seal in air-tight containers. For low-acid foods, such as meats and most vegetables, it is necessary to use a steam-pressure canner to get the temperature recommended for safe

keeping. Containers suitable for canning meat include glass jars and plain tin cans. Larger containers than quart glass jars or No. 3 tin cans are not recommended for home canning of meat because of the difficulty of heating the meat throughout to a high enough temperature. Plain tin cans are used for meat. Enamel-lined cans are likely to peel off and discolor the meat.

Other utensils used in meat canning (kettles and pans) should be of enamelware, aluminum, retinned metal or other stainless material. Copper and iron utensils may discolor the meat.



A

B

C

D

Types of Home Canning Glass Jars and Closures

- A. Lightning-type jar—Glass lid and separate rubber ring, held in place with wire bail.
- B. Mason Jar—Zinc porcelain-lined cap with separate shoulder seal rubber ring.
- C. Mason Jar—Glass lid, separate rubber ring and metal screw band.
- D. Mason Jar—Metal lid edged with sealing compound, metal screw band.

Meat may take up harmful quantities of zinc from galvanized iron utensils if allowed to remain in contact with it more than 30 minutes.

Cutting boards and other wooden surfaces coming in contact with meat must be cleaned carefully after each using. Use plenty of soap, hot water and "elbow grease."

Glass Jars

Home-canning jars are of two general types: (1) Lightning—glass lid and rubber ring held in place by wire bail; (2) Mason—screw-on lids of 3 types.

The different types of jars and closures are shown in figure (1). The method of sealing glass jars differs with the type of jar and type of closure. Directions for sealing each type illustrated are as follows:

A. Lightning Jar—Glass lid and separate rubber ring held in place by wire bail.

1. Fit wet rubber ring in place on ledge at top of jar before filling jar.
2. Fill jar. Wipe top of jar and ring with damp cloth to remove food particles.¹
3. Put glass lid in place; bring the long bail up over the top of the jar and fit it into the groove on top of the lid. The jar is now **partially** sealed and is ready to go into the canner.
4. **Complete the seal** as soon as the jar is taken from the canner, after processing, by quickly pushing the short wire down.

B. Mason Jar—Zinc porcelain-lined cap with separate shoulder seal rubber ring.

1. Fit wet rubber ring into place on ledge on shoulder of jar, before filling.
2. Fill jar. Wipe off ring with damp cloth to remove any food particles.¹
3. Screw cap on firmly, then turn it back $\frac{1}{4}$ inch. The jar is now **partially** sealed and is ready to go into the canner.
4. **Complete the seal** as soon as the jar comes from the canner by quickly screwing the cap down tight. **Do not tighten** any more after jar cools.

C. Mason Jar—Glass lid and top-seal separate rubber ring, held in place during canning by metal band.

1. Fit wet rubber ring on under side of glass lid. Fill jar. Wipe edge with damp cloth.
2. Place lid with rubber ring on jar with rubber next to top edge of jar.¹
3. Screw metal band on tight, then turn back about one-

¹If raw pack is used (see canning directions) jars are left open until meat has heated through; then lids are put in place and adjusted as in step 3.

quarter turn, or until the band feels slightly loose. The jar is now **partially** sealed and ready to go into the canner.

4. **Complete the seal** as soon as the jar is taken from the canner by screwing the band down tight. Next day, remove metal band, if it can be done without forcing. If it sticks, cover with a damp hot cloth to loosen.
- D. **Mason Jar—Metal lid edged with sealing compound and metal screw band.**
1. Dip lid in hot water or boil for a few minutes, according to manufacturer's directions. Fill jar. Wipe top edge with damp cloth.
 2. Put lid in place, under side (side edged with sealing compound) next to glass.¹
 3. Screw metal band on firmly tight. The jar is now **completely** sealed and is ready to go into the canner. (This type lid has enough "give" to let air out during processing).
 4. When the jar is taken from the canner after processing, don't tighten screw band. This is a self-sealing type lid. Tightening the band may break the seal.

Tin Cans

For home canning, tin cans are usually bought in sizes 2, 2½ and 3. Larger or smaller sizes may be used provided the sealer is equipped to seal them. Sizes larger than No. 3 are not recommended for meat because it is difficult to heat all of the meat to a high enough temperature for safe keeping.

Tin can sealers should be checked before using to see that they are adjusted to make a good seal. One method of testing is to partly fill a can with water. Seal, then drop into hot water deep enough to cover the can. If air bubbles come up around the lid of the can, the seam is not tight and the sealer needs adjusting.

Directions for using tin cans:

1. Have food hot when can is sealed (see directions for canning).
2. Put lid in place (tin can lids should not be wet when put on can).
3. Seal can. The can is **completely** sealed and is ready to go into the canner.
4. When cans are taken from the canner, they can be put into cold water at once to hasten cooling.

¹ If raw pack is used (see canning directions) jars are left open until meat has heated through; then lids are put in place and adjusted as in step 3.

Steam Pressure Canners

In order to get the temperatures recommended for canning meat, it is necessary to use a steam pressure canner. To insure success with the pressure canner—all parts must be clean and in good working order; the gage must be accurate; the canner must be properly used.¹

Instructions for using steam pressure canner:

1. Be sure there is enough water in the canner—1 inch deep is a good rule, or follow the manufacturer's directions.
2. Place filled jars, sealed or lids adjusted as directed, in canner.
3. Put lid of canner in place and fasten securely, leaving pet-cock open.
4. Let steam pour from pet-cock in a steady stream for 10 min., then close pet-cock.
5. When pressure reaches 10 pounds (or whatever pressure is desired) note time, adjust heat under canner to keep pressure steady. If pressure doesn't remain steady, liquid may be drawn from glass jars as well as having over- or under-processing result.
6. When processing period is up, remove canner from heat.
 - a. If canning in glass jars—let canner cool gradually until pressure goes down to zero. Let it stand at zero one minute, then open pet-cock. Open canner; remove jars. Complete seal if only partially sealed. (Don't tighten bands on self-sealing lids.) Cool away from drafts.
 - b. If canning in tin cans—with No. 3 cans, let pressure return to zero, the same as for glass jars, before opening pet-cock. With smaller cans, the pet-cock can be opened gradually without waiting for canner to cool and pressure return to zero. Open canner as soon as all steam has been released. Take cans out of canner and cool at once in clean, cold water, until luke warm. Cans will dry quickly while still luke warm.
7. Correction for altitude

The temperature reached in the steam pressure canner is affected by altitude. Corrections must be made. For altitudes of more than 2000 feet above sea level, add 1 lb. pressure for each additional 2000 feet. Thus: At

¹ For information on taking care of the pressure canner ask at your County Extension Office for a copy of the U. S. D. A. publication AWI-65 "Take Care of Pressure Canners."

an altitude of 4,000 feet, process at 12 lbs. instead of 10 lbs. to get a temperature of 240° F.

DIRECTIONS FOR CANNING MEAT

1. Types of pack—

- a. **Hot pack**—The meat is heated before packing into the jars (see directions for canning each kind of meat for method of heating).
- b. **Raw pack**—The meat is packed into the jars or cans raw. Then it is heated according to the directions for canning each kind of meat.

In either type of pack, the lids are adjusted on the containers while the meat is hot and before placing in the pressure canner for processing.

2. Salt—

Salt does not help to preserve the meat in canning. It may be left out if desired. If used, place it in the container before putting in the meat.

3. Head Space—

In glass jars, the jar is not filled to the top. This space, known as head space, allows room for the meat to expand during canning. Head space is not necessary in tin cans because the cans "give" enough to allow the food to expand without spreading the seams.

Canning Beef, Pork, Lamb, Veal, Mutton, Game (large)¹

Wipe chilled meat with a damp cloth. Select cuts commonly used for roasts or steaks for canning as **large pieces**. Pork hams and shoulders are usually preserved by curing although they may be canned. Cut meat from bone; cut into serving size pieces, or pieces that will fit into the container nicely. Scraps, small pieces, or less tender cuts, may be canned as hash or stew meat, or ground. The smaller pieces of meat not ground are processed just the same as the larger ones.

Have tin cans or glass jars, with lids and rubbers, clean and

¹ Directions for canning are based on U. S. D. A. publication AWI-110 "Home Canning of Meat."

Note: The time-tables given here are recommended for use with home-type, steam pressure canners. At the time this publication is written, no definite information is available as to whether the time-tables will be equally reliable for canning in the pressure sauce pan, which is designed primarily for everyday family cooking.

ready. Follow directions for packing (hot or raw pack) and processing.

Hot Pack—

1. Put cleaned meat, cut as desired, into shallow pan. Add just enough water to keep from sticking. Cover pan and cook slowly until meat is medium done (shows slightly pink at center of piece when cut). Stir occasionally so meat will heat evenly.
2. Put salt (if used) into the empty container—
 - $\frac{1}{2}$ t. in pint jars or No. 2 cans
 - $\frac{3}{4}$ t. in No. 2 $\frac{1}{2}$ cans
 - 1 t. in qt. jars or No. 3 cans
3. Pack hot, pre-cooked meat into containers. Pack meat to within 1 inch of top in glass jars; $\frac{1}{2}$ inch in tin cans. Cover meat with hot broth (or hot water or hot soup stock if there is not enough broth in the pan). Work out air bubbles with a knife. Add more liquid if needed. Leave 1 inch head space above liquid in glass jars; fill tin cans to top with liquid.
4. Seal containers according to directions on pages 2, 3 and 4.
5. Place containers on rack in pressure canner. Water in canner should be hot.
6. Process at once in steam pressure canner at **ten pounds** pressure. (240°F.)
 - Pint jars—75 min.
 - Quart jars—90 min.
 - No. 2 cans—65 min.
 - No. 2 $\frac{1}{2}$ & No. 3 cans—90 min.

Raw Pack—

1. Put salt in empty containers the same as directed for hot pack.
2. Pack containers with the pieces of raw, lean meat. Leave one inch space above meat in glass jars; fill cans to top.
3. Place filled containers, without lids, in large vessel with rack, and warm water enough to come within 2 inches of rim of jar or can. Cover vessel, heat to boiling, boil at a slow boil (to prevent water bubbling over into the containers) until meat is steaming hot. This will take about 50 minutes in tin cans, 75 minutes in glass jars. The temperature at the center of the jars will be about 170°F. when the meat has heated enough. Press meat down into tin cans $\frac{1}{2}$ inch below rims. Add boiling water or hot broth to fill to top. In glass jars, if liquid doesn't cover meat, add boiling liquid to cover, leaving 1 inch space above level of liquid.

4. Clean sealing surface of jars or cans with clean, damp cloth. Adjust lids on glass jars, seal tin cans according to directions.
5. Place containers in pressure canner at once. Water in canner should be hot.
6. Process at once at **10 pounds pressure** (240°F.)
 Pint jars—75 min.
 Quart jars—90 min.
 No. 2 cans—65 min.
 No. 2½ & No. 3 cans—90 min.

Hamburger

Grind scraps of lean meat, or meat from less tender cuts. Season with 1 tsp. salt to 1 pound ground meat. Mix well.

Hot Pack—

1. Form meat into small fairly thin, flat cakes, uniform in thickness (not humped in middle). Make them of a size to pack into the containers without breaking.
2. Place meat cakes in heavy baking pan, oiled slightly if necessary to prevent sticking. Precook in moderate oven until medium done. Cakes are heated enough when they show almost no red color at center when cut.
3. Pack cakes hot. Leave one-inch space above meat in glass jars; ½ inch in tin cans.
4. Cover meat with hot liquid (pan drippings with fat skimmed off, meat broth, or water). Again leave 1 inch space above liquid in glass jars. Fill tin cans to top.
5. Work out air bubbles. Add more liquid if necessary; leave 1 inch above liquid in glass jars, fill cans to top.
6. Adjust lids on glass jars and seal tin cans (see directions on pages 5 and 6).
7. Process at once at 10 pounds pressure (240°F.).
 Pint jars—75 min.
 Quart jars—90 min.
 No. 2 cans—65 min.
 No. 2½ & No. 3 cans—90 min.

Raw Pack—(Suitable only for tin cans)

1. Pack ground raw meat solidly into tin cans, level with the top.
2. Place open can in large vessel of water and heat as directed above for raw pack of cut pieces of meat.
3. Press meat down about ½ inch below rim of can. Seal can.
4. Process at once at **10 pounds pressure**—(240°F.).
 No. 2 cans—100 min.
 No. 2½ & No. 3 cans—135 min.

Sausage

Any good sausage recipe may be used. It is best to go easy on the spices because of flavor changes which may develop during canning and storing. It is best to omit the sage entirely.

Mold sausage into smooth, round flat cakes. Precook, pack and process the same as hamburger, **hot pack**. (See page 10.)

The following recipe for sausage is suggested:

Use about one-third fat pork and two-thirds lean pork. Mix seasonings and sprinkle over the meat before grinding. For a fine, even sausage it should be run through the grinder a second time.

For four pounds ground pork use:

5 level teaspoons salt

2 level teaspoons ground sage

1 level teaspoon sugar

1 level tablespoon pepper

1 level teaspoon ground cloves or $\frac{1}{2}$ tsp. nutmeg, if desired.

The above amount may be made to test the recipe, if desired.

For 100 pounds ground pork use:

$2\frac{1}{2}$ cups salt

1 cup ground sage (should be omitted in sausage for canning)

$\frac{1}{2}$ cup sugar (omit if it is expected that sausage will not be used reasonably soon).

$1\frac{1}{2}$ cups pepper

Corned Beef

1. Wash the corned beef and cut into pieces suited to packing and serving.
2. To remove excess salt, cover meat with cold water and bring to a boil. If broth tastes very salty, drain, cover with cold water and bring to a boil again.
3. Pack hot meat into jars or cans. Leave about 1 inch head space in glass jars, $1\frac{1}{2}$ inch in tin cans. Add hot broth or hot water to cover meat. Leave 1 inch space above liquid in glass jars; fill tin cans. Work out air bubbles with a knife. Add more hot liquid if necessary, again leaving 1 inch head space in glass jars and filling cans to top.
4. Wipe off sealing edge of jar or can. Adjust lids on glass jars, seal tin cans. (See pages 5 and 6.)
5. Process at once in steam pressure canner at **10 pounds pressure** (240°F.).
Pint jars—75 min.

Quart jars—90 min.

No. 2 cans—65 min.

No. 2½ & No. 3 cans—90 min.

Heart and Tongue

To prepare for canning:

Heart—Wash, cut away all connective tissue and cut into pieces suitable for packing.

Tongue—Wash, drop into boiling water and simmer about 45 minutes or until skin can be removed. Remove skin. Cut into pieces.

Hot Pack—

1. **Heart**—drop the prepared heart into boiling water. Simmer 15 to 20 minutes.

Tongue—reheat the prepared tongue in the broth or in water.

2. If salt is desired, put into empty containers—½ t. in pt. jars or No. 2 cans.
3. Pack heart or tongue hot. Leave one inch head space in glass jars, ½ inch in tin cans.
4. Cover meat with the hot pre-cooking liquid. Leave one inch space above liquid in glass jars, fill tin cans to top. Work out air bubbles with a knife. Add more liquid if necessary, again leaving 1 inch head space in glass jars, filling tin cans to top.
5. Adjust lids on glass jars, seal tin cans (see pages 5 and 6).
6. Process at once in a steam pressure canner at 10 pounds pressure.
Pint jars—75 min.
No. 2 cans—65 min.

DIRECTIONS FOR CANNING CHICKEN¹

Plump, stewing chickens are more suitable for canning than young chickens of frying or broiling size. Kill, bleed and dress chickens the same as for table use. They should be killed at least six hours before cooking or canning to allow time to chill well.

Cut the chicken into the usual serving pieces. Trim off large lumps of fat. Chicken may be canned with or without the bones. It takes longer to process if canned without the bones.

The meaty pieces are often canned together and the bony

¹ Other poultry, game birds and rabbit may be canned by the same method.

pieces used to make broth or soup stock. The meat can be stripped from the bones after cooking and canned as small pieces for use in making sandwiches, pies, or other dishes. Can the giblets separately from the rest of the meat or use while fresh.

Canning Chicken With Bone

Hot Pack (with bone):

1. Separate the meaty pieces from the bony pieces, unless it is desired to can all pieces except giblets, from one chicken in one jar. It may be necessary to saw the drumstick off short to get a good close pack in the container.
2. Either hot water or broth may be used as the pre-cooking liquid. To make broth, cover the bony pieces with cold water, heat, cook at simmering temperature until meat is tender. Drain off broth, skim off fat. The meat may be stripped from the bones and canned the same way as chicken without bone.
3. Cover pieces of chicken in cooking pan with hot broth or hot water. Cover vessel and cook at simmering temperature until meat is medium done (almost no pink color shows at center of cut piece).
4. Put salt, if desired, in jars or cans— $\frac{1}{2}$ t. in pint jars or No. 2 cans; $\frac{3}{4}$ t. in No. 2 $\frac{1}{2}$ cans; 1 t. in qt. jars or No. 3 cans.
5. Pack second joints (thighs) and drumsticks first, in an upright position, skin side next to tin or glass. Fit breasts into center, fill in spaces with small pieces. Pack firmly but don't crowd pieces. Pack glass jars to within 1 inch of top; leave $\frac{1}{2}$ inch space in tin cans.
6. Cover meat with hot broth (pre-cooking liquid). It should take $\frac{1}{2}$ to $\frac{3}{4}$ cup of liquid to a quart jar or No. 3 can. Work out air bubbles. Add more broth if needed. Leave one inch head space in glass jars; fill cans to top.
7. Adjust lids on glass jars; seal tin cans (see pages 5 and 6).
8. Process at once in steam pressure canner at 10 pounds pressure (240°F.).
 Pint jars—65 min.
 Quart jars—75 min.
 No. 2 cans—55 min.
 No. 2 $\frac{1}{2}$ & No. 3 cans—75 min.

Raw Pack—(with bone):

1. Pack raw pieces of chicken into jars or cans, in the same way as in the hot pack.
2. Leave jars or cans open and set in a vessel of warm water, on a rack. The water level should be two inches below the

top of the containers. Cover the vessel and heat at slow boil (water may bubble over into containers at a fast boil) until the meat is steaming hot and medium done. It will take about 50 minutes for chicken in tin cans, 75 minutes in glass jars.

3. Adjust lids on glass jars, seal tin cans (see pages 5 and 6).
4. Process at once in steam pressure canner at **10 pounds pressure (240° F.)**
 Pint jars—65 min.
 Quart jars—75 min.
 No. 2 cans—55 min.
 No. 2½ & No. 3 cans—75 min.

Canning Chicken Without Bone

The meaty pieces may be boned raw or may be cooked before boning. The bony pieces are usually cooked first, then the meat is stripped from the bones.

Chicken canned without the bone must be **processed longer** than chicken canned with the bone left in.

Hot Pack—(without bone):

1. If chicken was cooked before removing from bones, reheat meat to boiling in the broth. If boned while raw, pour hot water or broth over meat to cover in cooking pan. Cover pan and cook until meat is medium done. Keep the meat from the large pieces separate from the small, scrappy pieces.
2. Pack as directed for hot-packed chicken with bone.
3. Process in the steam pressure canner at **10 pounds pressure (240 F.)**.
 Pint jars—75 min.
 Quart jars—90 min.
 No. 2 cans—65 min.
 No. 2½ & No. 3 cans—90 min.

Raw Pack—(without bone):

1. Follow directions for raw-packed chicken with bone.
2. Process under steam pressure at **10 pounds pressure (240°F.)**.
 Pint jars—75 min.
 Quart jars—90 min.
 No. 2 cans—65 min.
 No. 2½ & No. 3 cans—90 min.

Giblets

Gizzards and hearts may be canned together, but because of flavor it is best to can livers alone.

1. Clean giblets well.
2. Follow directions for canning chicken with bone—hot pack.
3. Process in the steam pressure canner at 10 pounds pressure (240°F.)
Pint jars—75 min.
No. 2 cans—65 min.

Soup Stock (Chicken or Meat)

1. Cover bony pieces of chicken or other meat with water, add small amount of salt, simmer until meat is tender. The stock should be fairly well concentrated, but don't cook too long or it will lose flavor.
2. Skim off fat. Remove pieces of bone but leave in bits of meat.
3. Pour hot stock into containers. Leave 1 inch space in glass jars. Fill tin cans to top.
4. Adjust lids on glass jars. Seal tin cans.
5. Process at once in pressure canner at 10 pounds pressure (240°F.).
Pint jars and No. 2 cans—20 min.
Quart jars, No. 2½ & No. 3 cans—25 min.

DIRECTIONS FOR CANNING FISH¹

Fish for canning must be strictly fresh. Fish loses quality and flavor rapidly so quick work is essential for a high-grade product.

1. Canned Fish—plain

- a. It is well to stick fish with a knife to drain out the blood as soon as they are caught. The viscera should also be removed as soon as possible.
- b. Scale or wash carefully. Scales are easier to remove if fish are dipped into boiling water and then into cold water. If skins are tough, skin the fish.
- c. In order to draw out the blood before canning, place the fish in a brine made by using 1 T. salt to each quart of water. Let fish soak 10 minutes to one hour, according to thickness. Small trout need only 10 minutes' soaking. This soaking is not absolutely essential but makes a better looking product. It tends to make fish firmer.
- d. Pack fish into clean, hot jars or tin cans, packing in "up and down" or "circular" fashion to make a good looking jar. Large fish will need to be cut into con-

¹Directions for canning fish are taken from Bulletin No. 224—"Canning Meat, Fish and Poultry"—(June, 1943) Montana Extension Service.

venient, uniform pieces. No container larger than a pint jar or No. 2 can should be used in the home canning of fish because difficulties in sterilization make the use of larger containers unsafe.

- e. Add 1 t. salt per pint jar if fish have not been previously soaked in brine. Do not add water. Hot tomato sauce may be poured over the fish in the jars. Pack in glass jars or R-enameled tins if tomato sauce is used.
 - f. Exhaust tin cans till steaming hot.¹ Seal and process at 10 lbs. pressure.
- 2. Canned Fried Fish**
- a.-c. Treat fish as above, following steps a.-c.
 - d. Remove from brine, wash and drain on clean towels.
 - e. Leave whole or cut into convenient, uniform pieces.
 - f. Season fish before frying if they were not soaked in brine.
 - g. Fry in deep fat till nicely browned. Drain and place on brown paper to remove excess fat.
 - h. Pack into clean hot jars. Add about 2 T. hot liquid. Add hot tomato sauce if desired and in that case use glass jars or R-enameled tins.
 - i. Seal and process at 10 lbs. pressure (240 F.)
No. 2 tin cans—90 min.
Pint glass jars—100 min.

3. Tomato sauce for Canned Fish

1 qt. canned tomatoes	Few drops tobasco sauce
1 T. chopped parsley	1 medium onion
3 or 4 whole cloves	Piece bay leaf
	1 T. Worcestershire sauce

Cook all ingredients until reduced to about half the original volume. Put through a fine strainer. This sauce may be put over fish in the jars before processing or served with fresh cooked or plain canned fish.

MEAT CANNING RECIPES¹

Meat Loaf No. 1—beef, veal, lamb or mutton

8 lbs. ground meat (use less tender cuts as round and neck)	4 beaten eggs
2 T salt	2 c cracker crumbs
2 t celery salt	1 c strained canned tomatoes (or milk or meat stock)
1 t pepper	(For lamb or mutton a little sage, thyme and sweet marjoram may be added)
3 T grated onion (if desired)	

¹ See p. — for directions for heating raw pack meat in cans.

Add seasonings to the beaten eggs and combine with other ingredients. Mix thoroughly and pack solidly into plain tin cans. Place filled cans in kettle of hot water till steaming hot. Seal and process at 15 lbs. pressure (250°F.).

No. 2 tin cans and pint glass jars—90 min.

No. 2½ tin cans—115 min.

Quart glass jars—120 min.

Note: Meat loaf should be canned in tin cans so it can be turned out whole and unbroken. The surface will brown nicely while the loaf is being heated for serving in a moderately hot oven. If tomato sauce is used, can in R-enameled tins.

Meat Loaf No. 2—beef veal, lamb or mutton

3 lbs. ground meat	1 pt. strained tomato
½ lb. ground ham or salt pork	3 t salt
4 eggs	½ t pepper
2 c dry crumbs (bread or cracker)	¼ t nutmeg

Add seasoning to beaten eggs and combine all ingredients, mixing thoroughly. If more moisture is needed add more tomato sauce or some meat broth. Pack in cans and proceed as for Meat Loaf No. 1, using R-enameled cans.

Head Cheese—pork

Clean pig's head thoroughly at the time of butchering by washing and scraping carefully. Split the head to remove the eyes, burr of ears, brains and bones which contain cavities, including teeth. Remove jowls and trim off excess fat. Soak prepared head in cold water over night. Place in pressure cooker with 2 cups of water. Cook 45-60 minutes at 15 lbs. pressure. Strain meat from liquid and carefully remove all bones. Grind coarsely. combine meat and liquid and heat to boiling. There should be just enough liquid to make a soft, not "sloppy" mixture. Season to taste with salt and pepper. Pack in suitable containers for molding. When cold and set, it may be sliced and served or packed in jars and processed at 15 lbs. pressure (250°F.).

No. 2 tin cans 90 min.

Note: The heart, the tongue, the feet, the cleaned skin stripped off in preparing lard, and all bones with bits of meat left on may also be used. These may be cooked along with the head. The skin is best cooked separately so it will not fall to pieces. It is finely ground when tender and combined with the other meat. Head cheese should be chilled before opening so it will slice satisfactorily. In order to slice well use only tin cans.

¹ Meat canning recipes are taken from Bulletin No. 224—"Canning Meat, Fish and Poultry"—(June, 1943) Montana Extension Service. No changes have been made in processing time or temperature.

Scrapple—

Prepare the head as given under head cheese. In addition to the head, the heart, tongue, feet, bones left from boning other cuts and clean skin from trimming lard may be used. Place in the cooker, add water to just cover. Steam for 45 to 60 minutes under 15 lbs. pressure. Drain and strain the stock, let set until the fat rises to the top. Skim off the fat, heat the stock to the boiling point. Add cereal mixture, made by mixing 2 parts of corn meal, 1 part of whole wheat or buckwheat flour and bran middlings. Stir in the cereal mixture until it is thick enough for a wooden spoon or paddle to stand alone. Add the meat scraps which have been removed from the bones and finely divided. Season with salt and pepper. While hot, fill cans, seal and process under 15 lbs. pressure (250°F.):

No. 2 cans 85 min.

Note: Scrapple should only be canned in tin cans from which it can be unmolded perfectly. If glass jars are used can only the hot broth and meat mixture without adding the cereal. The cereal can be added and cooked later. If broth and meat are canned in glass, process pints 85 minutes at 15 lbs.; No. 2 tins, 85 minutes; No. 3 tins and quart glass jars, 120 minutes.

Liver Loaf—pork, beef, veal

3 lbs. liver	1 t black pepper
1½ lbs. fresh pork	2 T salt
3 eggs	1 t cloves
1 cup milk	1 c chopped onion
1 c crumbs (cracker or dry bread)	

Remove all membrane and skin from the liver, slice and par-boil 5 minutes. Liver of prime young animals need not be par-boiled. Beef and pork liver are improved in flavor by scalding 5 minutes in water with vinegar added at the rate of 1 t. per cup of water. Run the liver and pork through chopper twice. Beat eggs, add seasoning and milk. Mix all together. Pack into cans, leaving 1 inch head space, place in cooker and heat thoroughly. Seal and process at 15 lbs. pressure (250° F.):

No. 2 cans and pint glass jars 90 min.

Pickled Pigs Feet

Scald, scrape and thoroughly clean pigs feet at time of butchering. Sprinkle with salt and leave 3-5 hours. Wash and place in a pressure cooker on a rack with 1 pint of water in the bottom of the cooker and cover with spiced vinegar made as follows:

1/2 gal. apple cider vinegar	1 c sugar
1 1/2 T celery seed	1 T salt
1/2 c grated horseradish	1 t whole cloves
1/2 stick cinnamon	1 1/2 t mustard seed

Tie spices in a bag. Add spices, sugar and salt to boiling vinegar and let stand at least an hour. Heat vinegar to boiling point and pour over the cooked pigs feet. They may be kept a reasonable length of time in a stone crock or packed in jars and processed at

15 lbs. pressure:

No. 2 enameled tins and qt. glass jars 85 min.

No. 3 enameled tins and qt. glass jars 120 min.

Note: Due to their high gelatin content, it is difficult to cook pigs feet in a pressure cooker so they will not fall entirely apart. For that reason it may be preferable to simmer them slowly on top of stove till tender before add the vinegar.

Mince Meat—use any of the less tender cuts beef

2 1/2 lbs. cooked meat	3/4 c vinegar
3/4 lb. suet	3 lbs. sugar
8 lbs. apples	5 t salt
1/2 lb. citron	1 t mace
2 ozs. candied orange peel	1 T cloves
1 1/2 lbs. seedless raisins	1 T nutmeg
1 lb. currants	5 1 cinnamon
1 pt. boiled cider	

Cook meat until tender in pressure cooker or an open kettle. Put meat when cold and the suet through the food chopper using the fine knife. Raisins and currants are washed and cut with the medium cutter. The fruit peel may be finely shaved or put through fine knife of food grinder. The peeled and cored apples are put through the coarse cutter. Mix spices and salt with the sugar. Mix all ingredients thoroughly. Add a pint of meat broth and set on heat to cook. Boil while stirring constantly till of proper consistency (about 20 minutes). Put product in clean hot jars. Seal and process pint jars in hot water bath 30 minutes. (Increase time 20% for each 1,000 ft. rise in altitude).

Note: The proportions and kinds of ingredients may vary greatly. The above recipe gives a very high quality at moderate cost. Juice from canned fruit, preserves, pickled peaches, etc. may be used instead of cider. Brown sugar is preferred by some instead of white.

Pork and Beans

Pick over white navy beans, wash, and soak in a cool place for about 16 hours, or overnight. Drain. Prepare liquid to cover the

beans, using the proportion of 1 quart of water, 1 tablespoon of salt, and 1 tablespoon of sugar (or molasses) to each pound of dry beans. Or prepare an equal quantity of tomato sauce, using 3 cups of tomato pulp to 1 cup of water. Add ground spices, cayenne pepper, and chopped garlic or onion, as desired. Cook until thick.

Blanch the beans for 2 minutes in boiling water, and drain. Place small pieces of salt pork in a bean pot or other container for baking. Add the beans and additional pieces of salt pork, and cover with prepared liquid or tomato sauce. Cover the pot and cook the beans in a slow oven (about 250° F.) for 1½ hours. Remove the lid and combine all of the ingredients, stir, and heat gradually to simmering. Pack hot and process at 15 lbs. pressure (250° F.):

- No. 2 tins 70 min.
- Pint glass jars 80 min.
- No. 3 tins 85 min.
- Quart glass jars 90 min.

Chili Con Carne

Use 2 pounds of chili beans or some other pink or red variety. Pick over the beans, wash, and soak overnight in a cool place. Remove thick connective tissue from 5 pounds of lean beef, or beef and pork mixed, and grind coarsely or chop. Add a little chopped garlic, 3 to 5 tablespoons of chili powder, 3 tablespoons of salt, and one-half cup of wheat flour, and mix well with the meat. Cook the mixture in 1 cup hot beef fat until the red color of the meat disappears. Add 2 quarts hot water, cover, and simmer for about 10 minutes. Drain the beans and blanch for 5 minutes in boiling water. Drain. Fill cans or jars about one-third full of the hot beans. Add the hot meat mixture to about seventh-eighths of capacity, then hot water to fill. Process as follows at 15 lbs. pressure (250° F.):

- No. 2 tins and pint glass jars 120 min.
- No. 3 tins and quart glass jars 150 min.

STORING CANNED FOODS

After removing containers from the pressure canner and completing the seal of partially sealed jars, cool them quickly. Tin containers can be plunged directly into cold water. Place glass jars on a clean surface, far enough apart to permit circulation of air. Cover metal or marble table tops with newspapers or several folds of cloth before placing hot jars just out of the canner on them. Cool away from drafts to prevent breakage due to sudden changes in temperature.

Examine tin cans for leaks when wiping them off while they

are still lukewarm. Cans that have buckled and broken at the seams should be set aside as leakers. This type of leak is caused by cooling too suddenly or not having the can full enough.

Test glass jars for leaks the next day, or after they are completely cooled. To test the seal on jars of the **lightning type** or the **Mason jar with the zinc porcelain lined lid**, tilt the jar and turn it slowly in the hand. If no liquid seeps out between the rubber ring and the lid, the jar is sealed. To test the seal on Mason jars with the other types of lids, remove the metal screw band. If a good seal has been made, the lid cannot be lifted off with gentle pressure.

If a jar or can has not sealed, the food should either be used at once or put into another container and reprocessed, the same as before. Examine carefully all jars and glass or porcelain-lined lids that failed to seal and discard if they show any small cracks, nicks or dents. Use new rubber rings or metal lids with flowed-on sealing compound on jars that must be reprocessed.

Clean jars or cans with a damp cloth, then wipe with a dry cloth.

Label all jars and cans with the name of the food, the date of canning, and any other information which will help in identifying the contents.

Store canned foods in a cool, dry place. If the storage room is too hot, bacteria which may have survived the processing may become active, grow and multiply, and cause the food to spoil. Tin cans or metal lids may rust or corrode if stored in a damp place.

Canned meats should be protected against freezing. Freezing does not spoil canned meat, but it may cause a seal to break or may crack glass jars.

YIELD OF CANNED MEAT FROM FRESH

To help figure the number of jars or cans of meat from a certain amount of fresh meat, the following information on meat yields is given:¹

Meat Yields

Approximate amounts of trimmed meat cuts
with surplus fat and bone removed.

Beef:

	Pounds
Live weight	750
Whole carcass	450

¹ From U. S. D. A. circular 709 "Freezing to Preserve Home Grown Foods" (pp. 32 & 33).

Trimmed cuts:

	Pct. of live wt.	Pct. of carcass wt.	Pounds
Steaks and oven roasts	23	40	172
Pot roasts	22	20	83
Stew and ground meat	11	20	83
Total	45	80	338

Forequarters 218 lb.

	Pct. of Forequarters	Pounds
Steaks and oven roasts	25	55
Pot roasts	32	70
Stew and ground meat	27	59
Total	84	184

Hindquarters 202 lb.

	Pct. of hindquarters	Pounds
Steaks, oven roasts and pot roasts	58	117
Stew and ground meat	18	37
Total	76	154

Pork:

Live weight	225
Whole carcass	176

Trimmed cuts:

	Pct. of live wt.	Pct. of carcass wt.	Pounds
Fresh hams, shoulders, bacon, jowls....	40	50	90
Loins, ribs, sausage	15	20	34
Total	55	70	124
Lard, rendered	12	15	27

Lamb:

Live weight	85
Whole carcass	41

Trimmed cuts:

	Pct. of live wt.	Pct. of carcass wt.	Pounds
Legs, chops, shoulders	37	75	31
Breast and stew	8	15	7
Total	45	90	38

Veal Calf:

Live weight	Pounds
Whole Carcass	200
	112

Trimmed Cuts

	Pct. of live wt.	Pct. of carcass wt.	Pounds
Cutlets and chops	17	30	34
Roasts	14	25	28
Stew and ground meat	14	25	28
Total trimmed cuts	45	80	90

Bone, trim, and fat (11 percent of 200 lbs.)	Pounds
Liver, heart, tongue, and sweetbreads	22
	10

POULTRY**Kind:**

	Live wt.	Dressed and drawn	
	Pounds	Pounds	Pct. of live wt.
Young chickens	2 to 4	1 $\frac{1}{4}$ to 5 $\frac{1}{2}$	62
Hens	4 to 8	2 $\frac{1}{2}$ to 5 $\frac{1}{2}$	65
Turkeys	10 to 20	7 $\frac{1}{2}$ to 15	75

To figure yield of canned meat from fresh:¹

For a quart jar or No. 3 can, allow about—

5 to 5 $\frac{1}{2}$ pounds of pork loin (untrimmed)

5 to 5 $\frac{1}{2}$ pounds of beef rump (untrimmed)

3 to 3 $\frac{1}{2}$ pounds of beef round (untrimmed)

4 $\frac{1}{2}$ to 5 $\frac{1}{2}$ pounds chicken (dressed, undrawn) to be canned with bone.

7 to 8 pounds of chicken (dressed, undrawn) to be canned without bone.

EXAMINATION OF CANNED FOODS BEFORE USING

To be sure that canned food is safe and wholesome, inspect it both before and after opening. Never taste canned foods to test for spoilage.

Before Opening:

Tin cans should be flat or curved-in slightly at the ends. All seams should be tight and clean with no sign of leaks. Ends

¹ From U. S. D. A. publication AWI-110 "Home Canning of Meat," p. 14.

should not bulge nor snap back when pressed in.

GLASS JARS should show no sign of leakage or bulging of rubbers.

When Opened:

1. Neither glass jars nor tin cans should show an outrush of air or gas on opening—rather, air should suck inward, indicating that the “vacuum” has remained unbroken.
2. The contents should appear normal in color and texture.
3. The odor should be characteristic of the product.
4. The interior of the tin can should not appear extensively blackened or corroded. Metal lids and tin cans may darken because of sulphur in the meat. This is not harmful.
5. Boil canned meat at least 10 minutes before tasting. It is possible for meat to contain the poison that causes botulism without showing any other sign of spoilage. Heating will make “Off” odors more noticeable.

If these tests show no signs of spoilage, as a final precaution, **boil meat 10 minutes** in a covered vessel before tasting.

If the steam pressure canner gage is accurate, other parts of the canner are in perfect working order and all canning directions carefully followed, there is no danger of botulism from canned meat. But it is a good practice to play safe and boil the meat before using:

Burn any canned meat which shows any sign of spoilage.