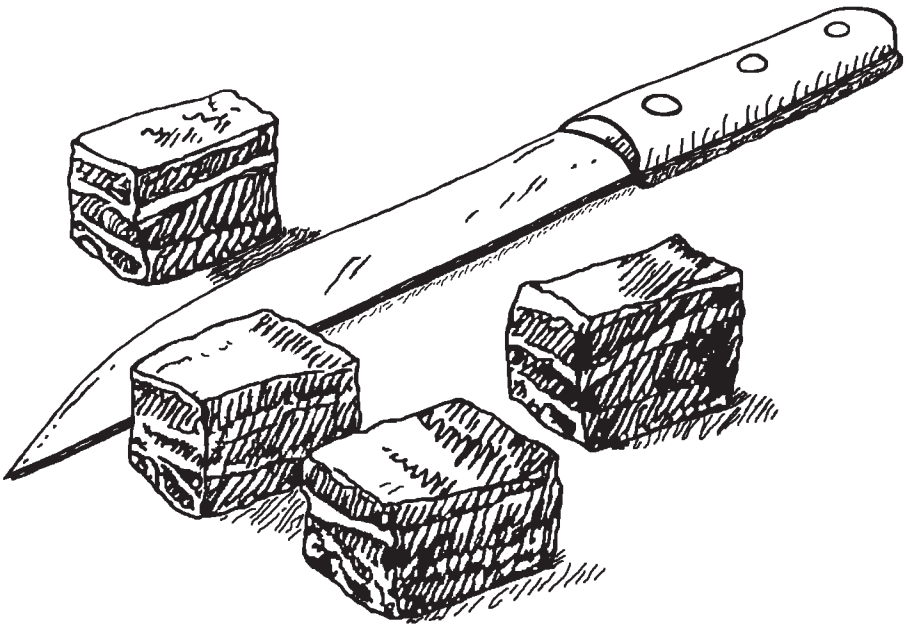


# CANNING MEAT, POULTRY & GAME



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# Canning Meat, Poultry, and Game

Poultry, red meats, and game are low-acid foods that must be processed in a pressure canner to ensure safety. It is important to precisely follow the procedures specified for each type of product.

## General Tips for Safe and Quality Canned Meat

- Check dial gauges on pressure canners annually.
- Use only good quality poultry, red meat, and game for canning.
- Chill meat soon after slaughter to 40°F or lower to keep it from spoiling.
- If you are not able to can the meat within a few days of slaughter, freeze it. Keep frozen until you're ready to can it, and then thaw in a refrigerator.
- Keep all work areas sanitary and meat clean.
- Trim gristle, bruised spots, and fat off meat before canning.
- Vent the pressure canner for 10 minutes before starting the canning process.

## General Procedures

### ***Jars and Lids***

Use regular canning (Mason) jars no larger than the size stated in the canning directions for the specific food being canned. Use self-sealing lids and screw bands. Buy only the quantity of lids you will use in a year, and follow the manufacturer's directions for preparing them.

Mayonnaise-type jars are not recommended for use in a pressure canner because they often break.

### ***Filling Jars***

After filling jars with food, release air bubbles by inserting a flat plastic (not metal) spatula between the food and the jar. Slowly turn the jar and move the spatula up and down to allow air bubbles to escape. (You do not need to do this for raw packed meats that have no liquid added to the jar.)

Add salt if desired; it seasons the food but is not necessary for preservation.

Adjust the headspace and clean the jar rim with a dampened paper towel. Place the lid, sealing compound down, onto the cleaned jar rim. **Jars with unclean rims may not seal.**

Fit the metal screw band over the lid. Follow the manufacturer's guidelines enclosed with or on the box to tighten the screw bands properly.

### ***Pressure Canners***

- Follow manufacturer's directions for use, particularly the instructions for checking the canner before and during use so you know how to respond to the hissing, jiggling, or rocking of the weighted gauge.
- Put 2–3 inches of hot water in the canner. Place filled jars on the rack using a jar lifter positioned below the screw band of the lid. Keep the jar upright to avoid spillage into the seal area. Fasten the canner lid securely.
- Leave weight off the vent port or open the petcock. Heat at the highest setting until steam flows from the petcock or vent port.
- Maintain the high heat setting, exhaust steam 10 minutes, and then place weight on the vent port or close the petcock. The canner will pressurize during the next 3–5 minutes.
- Regulate heat under the canner to maintain a steady pressure at or slightly above the correct gauge pressure. Quick and large pressure variations during processing may cause unnecessary liquid losses from jars. Weighted gauges on Mirro canners should jiggle 2–3 times per minute; on Presto canners, they should rock slowly throughout the process.

- Start timing the process when the pressure reading on the dial gauge reaches the correct pressure for your altitude (see Tables 1 and 2) or when the weighted gauge begins to jiggle or rock as the canner manufacturer describes. **If at any time the pressure drops below the recommended level, bring the pressure back up and begin the process again using the full amount of processing time.** This is important to maintain food safety.
- When the processing time is completed, turn off the heat, remove the canner from the heat source, and let it depressurize. **Do not force-cool the canner** with cold running water or open the vent port before the canner is fully depressurized. This has the potential to cause unsafe food because it shortens the period to destroy harmful bacteria. Forced cooling also causes liquid loss from jars and seal failures, and may warp the lids of older canners.

Time the depressurization of older models: standard-sized heavy-walled canners require about 30 minutes when loaded with pints and 45 minutes with quarts. Newer thin-walled canners cool more rapidly and are equipped with vent locks. These canners are depressurized when their vent lock piston drops to a normal position.

- After the pressure returns to zero, remove the weight from the vent port or open the petcock. Wait 10 minutes, unfasten the lid, and remove it by lifting away from you so that the steam does not burn your face.
- Remove jars with a lifter and place on a towel or cooling rack at least 1 inch apart. Do not retighten lids after processing jars.

### ***Cooling Jars***

Cool the jars at room temperature for 12–24 hours. Racks or towels will minimize heat damage to counters. The food level and liquid volume of raw-packed jars will be noticeably lower after cooling because air is exhausted during processing and food shrinks. If a jar loses liquid during processing, do not open it to add more liquid.

### ***Reprocessing Unsealed Jars***

If a lid fails to seal on a jar, refrigerate or freeze the contents or reprocess within 24 hours of the first processing. To reprocess, remove the lid and check the jar-sealing surface for tiny nicks. If necessary, change the jar, add a new, properly prepared lid, and reprocess using the same processing time. Alternatively, adjust the headspace in unsealed jars to 1½ inches and freeze. Another option is to store single unsealed jars in a refrigerator and consume the contents within several days.

### ***Storing***

Wash surfaces of jars. Label with the date and the jar contents, particularly if some batches were packed differently (for example, without salt). Remove screw bands so they do not rust.

Store jars in a cool, dark, dry place. For best quality and nutritive value, use within 1 year. Exposure to heat, freezing temperatures, or light decreases the quality and shelf life of canned food. Canned food stored in indirect sunlight or near warm places like hot pipes, ranges, or furnaces may lose some of its quality in a few weeks or months, depending on the temperature.

### ***Before Using***

**Do not taste food from a jar with an unsealed lid or food that looks spoiled.** Growth of spoilage bacteria and yeast produces gas pressure in jars, which swells lids and breaks seals. Before using a jar, examine its lid for tightness and vacuum. Lids with concave centers have good seals.

While holding the jar upright at eye level, rotate and examine its outside surface for streaks of dried food. Look inside the jar for rising air bubbles and unnatural color.

While opening the jar, smell for unnatural odors and look for spurting liquid and mold growth (white, blue, black, or green) on the surface of the food and underside of the lid.

Spoiled low-acid foods may exhibit different kinds of or very little evidence of spoilage. Therefore, treat all suspect containers

of spoiled low-acid foods as having produced botulinum toxin by handling carefully in one of two ways:

- If the suspect jar is still sealed, place it in a heavy garbage bag, wrap with duct tape, and label with "Poison: Do Not Eat." Close and place the bag in a regular trash container or the nearest landfill.
- If the suspect jar is unsealed, open, or leaking, detoxify using the process described below before disposal.

**Detoxification process:** Wear disposable rubber or heavy plastic gloves. Carefully place the suspect containers and lids on their sides in an 8-quart volume or larger stock pot, pan, or boiling-water canner. Wash your gloved hands thoroughly. Avoid splashing as you add water to the pot until it is 1 inch above the containers. Place a lid on the pot and heat the water to boiling. Boil 30 minutes to ensure detoxifying the food and all container components.

Clean your work area with a fresh solution of 1 part bleach to 5 parts water. Let wet surfaces stand 30 minutes and then wipe with paper towels. Discard detoxified containers, their lids, and food, as well as used paper towels and gloves, in the trash or nearest landfill.

## Procedures for Canning Meats

### ***Chicken or Rabbit***

Choose freshly killed and dressed animals. Large chickens are more flavorful than fryers. Chill dressed chicken 6–12 hours before canning. Soak dressed rabbits 1 hour in water containing 1 tablespoon of salt per quart and then rinse. Remove excess fat. Cut the chicken or rabbit into suitable sizes for canning. Can with or without bones.

*Hot pack.* Boil, steam, or bake meat until about two-thirds done. Add 1 teaspoon salt per quart if desired for taste. Fill jars with pieces and hot broth, leaving 1¼ inch headspace.

*Raw pack.* Add 1 teaspoon salt per quart if desired for taste. Fill jars loosely with raw meat pieces, leaving 1¼ inch headspace. Do not add liquid.

Wipe jar rims with a dampened, clean paper towel. Adjust lids and process according to Table 1 or 2.

### **Ground or Chopped Meat**

*Bear, beef, lamb, pork, sausage, veal, venison*

Choose fresh chilled meat. With venison, add 1 part high-quality pork fat to 3 or 4 parts venison before grinding. Use freshly made sausage seasoned with salt and cayenne pepper (sage may cause a bitter off-flavor). Shape chopped meat into patties or balls or cut cased sausage into 3–4-inch links. Cook until lightly browned. Ground meat may be sautéed without shaping. Remove excess fat. Fill jars with pieces. Add boiling meat broth, tomato juice, or water, leaving 1 inch headspace. Add 1 teaspoon of salt per quart to the jars if desired for taste. Wipe jar rims with a dampened, clean paper towel. Adjust lids and process according to Table 1 or 2.

### **Strips, Cubes, or Chunks of Meat**

*Bear, beef, lamb, pork, veal, venison*

Choose quality chilled meat. Remove excess fat. Soak strong-flavored wild meats for 1 hour in brine water containing 1 tablespoon of salt per quart. Rinse. Remove large bones.

*Hot pack.* Precook meat until rare by roasting, stewing, or browning in a small amount of fat. Add 1 teaspoon of salt per quart to the jar if desired for taste. Fill jars with pieces and add boiling broth, meat drippings, water, or tomato juice (especially with wild game), leaving 1 inch headspace.

*Raw pack.* Add 1 teaspoon of salt per quart to the jar if desired for taste. Fill jars with raw meat pieces, leaving 1 inch headspace. Do not add liquid.

Wipe jar rims with a dampened, clean paper towel. Adjust lids and process according to Table 1 or 2.



### **Meat Stock (Broth)**

**Beef:** Saw or crack fresh trimmed beef bones to release their flavor. Rinse bones and place in a large stockpot or kettle, cover bones with water, cover pot, and simmer 3–4 hours. Remove bones, cool broth, and pick off meat. Skim off fat, add meat removed from bones to broth, and reheat to boiling. Fill jars, leaving 1 inch headspace. Wipe jar rims with a dampened, clean paper towel. Adjust lids and process according to Table 1 or 2.

**Chicken or turkey:** Place large carcass bones in a large stockpot, cover bones with water, cover pot, and simmer 30–45 minutes or until meat can be easily stripped from bones. Remove bones and pieces, cool broth, strip meat from bones, remove and discard excess fat, and return meat to broth. Reheat to boiling and fill jars, leaving 1 inch headspace. Wipe jar rims with a dampened clean paper towel. Adjust lids and process according to Table 1 or 2.

## **Special Recipes**

### **Chili Con Carne**

- 3 cups dried pinto or red kidney beans
- 5 teaspoons salt (separated)
- 1½ cups chopped onion
- 1 cup chopped peppers of your choice (optional)
- 2 quarts crushed or whole tomatoes
- 5½ cups water
- 3 pounds ground beef
- 1 teaspoon black pepper
- 3–6 tablespoons chili powder

*Yield: 9 pints*

Wash beans thoroughly and place them in a 2-quart saucepan. Add cold water until it is 2–3 inches above the beans and soak 12–18 hours. Drain and discard water. Combine beans with 5½ cups of fresh water and 2 teaspoons salt. Bring to a boil. Reduce heat and simmer 30 minutes. Drain and discard water.

Brown ground beef, chopped onions, and peppers, if desired, in a skillet. Drain off fat and add 3 teaspoons salt, pepper, chili

powder, tomatoes, and drained beans. Simmer 5 minutes. **Do not add thickeners.**

Fill pint jars, leaving 1 inch headspace. Wipe jar rims with a dampened clean paper towel. Adjust lids and process for the recommended time listed on Table 1 or 2.

### ***Mincemeat Pie Filling***

2 cups finely chopped suet  
4 pounds ground beef or ground venison  
7–8 pounds apples (5 quarts chopped apples)  
2 pounds dark seedless raisins  
1 pound white raisins  
2 quarts apple cider  
2 tablespoons ground cinnamon  
2 teaspoons ground nutmeg  
5 cups sugar  
1 tablespoon salt  
*Yield: About 7 quarts*

Cook meat and suet in water to avoid browning. Peel, core, and quarter apples. Put meat, suet, and apples through food grinder using a medium blade. Combine all ingredients in a large saucepan, and simmer 1 hour or until slightly thickened. Stir often. Fill jars with mixture without delay, leaving 1 inch headspace. Wipe jar rims with a dampened clean paper towel. Adjust lids and process according to Table 1 or 2.

### ***Vegetable and Meat Soup***

Select, wash, and prepare dried beans or peas, meat or poultry, and vegetables individually as directed below.

*Dried beans or peas:* For each cup of dried beans or peas, add 3 cups of water. Boil 2 minutes, remove from heat, and soak 1 hour. Reheat to boiling. Drain.

*Meat or poultry:* Cover with water and cook until tender. Cool meat and remove bones.

*Vegetables:* Simmer several minutes until barely cooked.

Combine meat or poultry, vegetables, and drained beans or peas. Add sufficient broth, canned tomatoes, water, or a combination to cover. Boil 5 minutes. **Do not add pasta, rice, flour, cream, milk, or other thickening agents.**

Fill jars halfway with solid mixture. Add remaining liquid, leaving 1 inch headspace. Wipe jar rims with a dampened clean paper towel. Adjust lids and process according to Table 1 or 2.

## **Safety Overview**

Put safety first when you serve home-canned foods. Due to the risk of botulism, do not consume low-acid foods that are not canned according to the recommendations in this publication or other USDA-endorsed source. Such foods should be discarded, even if you detect no signs of spoilage.

### ***Safety Checklist***

- Follow directions exactly for filling jars. Over-packed jars do not heat as evenly as correctly packed jars.
- Always can meats in a pressure canner. Boiling water canners or steamers do not produce temperatures high enough to kill botulism-causing bacteria and other spoilage organisms.
- Never can in an oven (electric, gas, wood-burning, or microwave).
- Be sure the pressure canner dial gauge is accurate. Test it once a year or more often if you do a great deal of canning or drop the lid.
- Each time you use a pressure canner, check to see that the petcock and safety valve are not blocked.
- Always exhaust (remove) air from a pressure canner for 10 minutes before letting pressure build.
- Increase pressure at altitudes above 1,000 feet for weighted-gauge canners or 2,000 feet for dial-gauge canners to reach the proper temperature (240°F) for pressure canning.

- Never can meat products for which you do not have researched processing times. A safe canning time cannot accurately be determined at home.
- For an extra guarantee of safety, boil home-canned meats before eating them. At altitudes below 1,000 feet, boil for 10 minutes; add an additional minute of boiling time for each additional 1,000 feet of elevation.

## **Frequently Asked Questions**

### **Why is it necessary to remove as much fat from meat as possible before canning?**

Fat left on meat will climb up the sides of a jar during processing and may prevent sealing.

### **Is it safe to can meat that has been frozen?**

Yes, but it must be thawed first. Thaw meat in a refrigerator until no ice crystals remain. Plan to process within two days.

### **Can I use the chili con carne processing times listed here for my personal chili con carne recipe?**

The processing time for chili con carne in this booklet is only for the corresponding recipe provided. This formulation of chili was developed through extensive laboratory research for safe food canning. Freezing is a safe alternative for preserving foods where no processing time is available.

### **Is it safe to can other animal products such as butter and cheese?**

No government agency has tested these methods for safety. There is a concern that any procedures provided by private sources are not sufficient to destroy the bacteria that can cause botulism poisoning.

### **Can two layers of jars be processed in a pressure canner at one time?**

Yes, but place a small wire rack between the layers so steam can circulate around each jar.

**I want to prepare one-jar meals like I see in the grocery store. How do I determine a processing time for those?**

Some of the foods available commercially do not have a home canning counterpart. The food industry puts considerable time and expense into research for their own canned products. They also have processing equipment that is not available for home use. As an alternative, choose one of the recipes provided here and add your desired ingredients just prior to consumption.

**Why doesn't this guide include a recipe for home-canned meat stew?**

There are no scientifically research-tested recipes for home-canned meat stew. A thick food like stew is risky to can because the heat penetration varies greatly depending on the consistency.

The only safe recipe for a home-canned vegetable/meat mixture is the Vegetable and Meat Soup in this booklet. After you open a jar of this soup to eat, you may safely thicken it by adding cornstarch or flour to a small amount of the cold liquid before heating the final mixture.

**Table 1. Recommended Process Times for a Dial-Gauge Pressure Canner**

	Type of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitude of:			
				0– 2,000 ft	2,001– 4,000 ft	4,001– 6,000 ft	6,001 – 8,000 ft
Chicken or Rabbit Without Bones:	Hot or Raw	Pints	75 min	11 lb	12 lb	13 lb	14 lb
		Quarts	90 min	11 lb	12 lb	13 lb	14 lb
With Bones:	Hot or Raw	Pints	65 min	11 lb	12 lb	13 lb	14 lb
		Quarts	75 min	11 lb	12 lb	13 lb	14 lb
Chili Con Carne	Hot	Pints	75 min	11 lb	12 lb	13 lb	14 lb
Ground or Chopped Meat	Hot	Pints	75 min	11 lb	12 lb	13 lb	14 lb
		Quarts	90 min	11 lb	12 lb	13 lb	14 lb
Strips, Cubes, or Chunks of meat	Hot or Raw	Pints	75 min	11 lb	12 lb	13 lb	14 lb
		Quarts	90 min	11 lb	12 lb	13 lb	14 lb
Meat Stock (Broth)	Hot	Pints	20 min	11 lb	12 lb	13 lb	14 lb
		Quarts	25 min	11 lb	12 lb	13 lb	14 lb
Mince-meat	Hot	Quarts	90 min	11 lb	12 lb	13 lb	14 lb
Soup	Hot	Pints	60 min	11 lb	12 lb	13 lb	14 lb
		Quarts	75 min	11 lb	12 lb	13 lb	14 lb

**Table 2. Recommended Process Times for a Weighted-Gauge Pressure Canner**

	Type of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of:	
				0–1,000 ft	Above 1,000 ft
Chicken or Rabbit Without Bones:	Hot or Raw	Pints	75 min	10 lb	15 lb
		Quarts	90 min	10 lb	15 lb
With Bones:	Hot or Raw	Pints	65 min	10 lb	15 lb
		Quarts	75 min	10 lb	15 lb
Chile Con Carne	Hot	Pints	75 min	10 lb	15 lb
Ground or Chopped Meat	Hot	Pints	75 min	10 lb	15 lb
		Quarts	90 min	10 lb	15 lb
Strips, Cubes, or Chunks of meat	Hot or Raw	Pints	75 min	10 lb	15 lb
		Quarts	90 min	10 lb	15 lb
Meat Stock (Broth)	Hot	Pints	20 min	10 lb	15 lb
		Quarts	25 min	10 lb	15 lb
Mince-meat	Hot	Quarts	90 min	10 lb	15 lb
Soup		Pints	60 min	10 lb	15 lb
			75 min	10 lb	15 lb

Adapted from Complete Guide to Home Canning, USDA Agricultural Information Bulletin 539, December 2009, and Home Canning Meat, FN188, North Dakota State University, 2009.

Originally compiled in 1999 by Val Hillers, Washington State University Extension Food Specialist. Updated in 2010 by Lizann Powers-Hammond, WSU Extension Area Educator; and Karen Killinger, WSU Extension Food Safety Specialist. Reviewed in 2010 by Sandra McCurdy, University of Idaho Food Safety Specialist; and Carolyn Raab, Oregon State University Extension Food and Nutrition Specialist.

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