



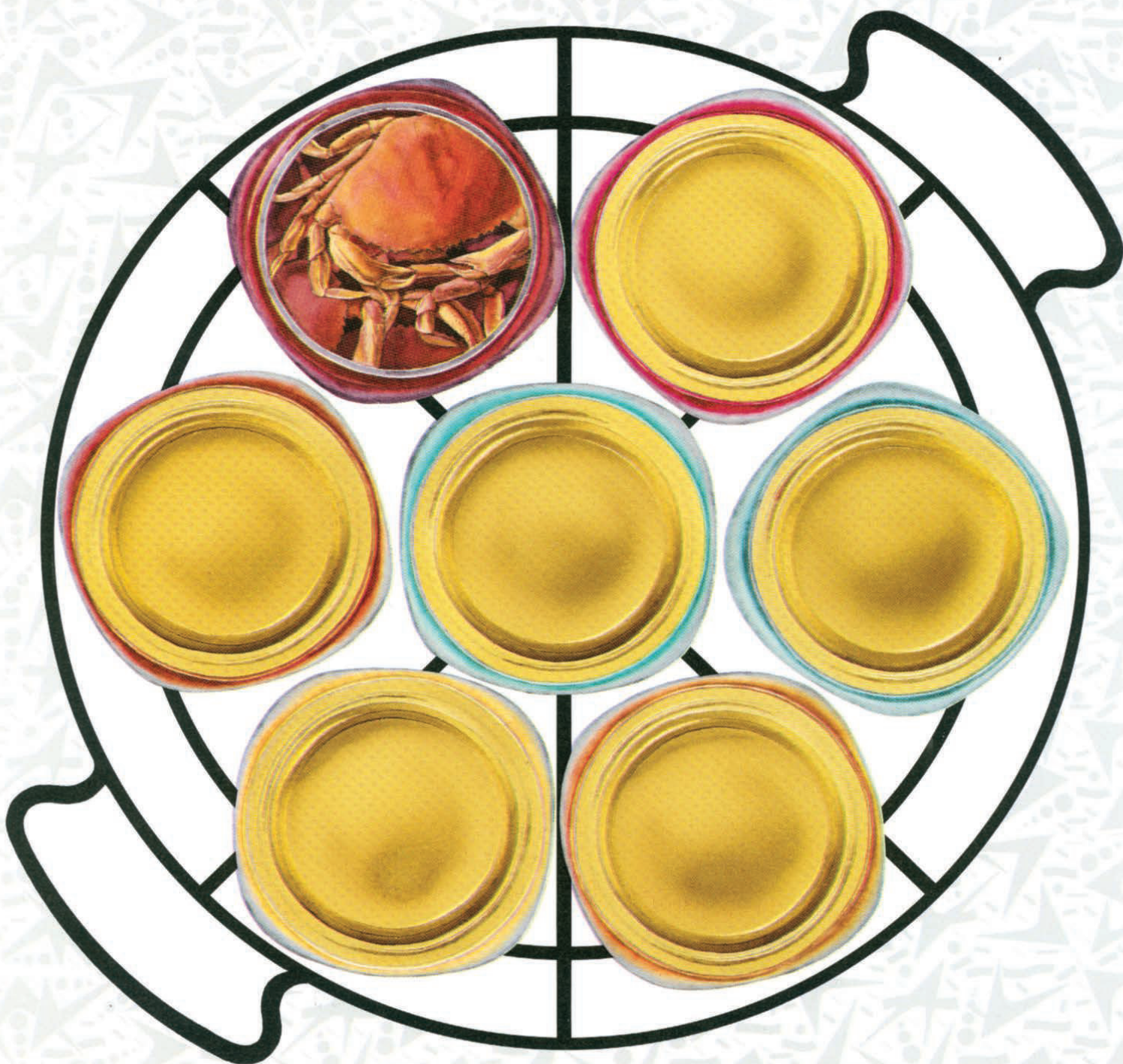
United States
Department of
Agriculture

National Institute
of Food
and Agriculture

Complete Guide to
Home Canning

Guide 5

**Preparing and Canning
Poultry, Red Meats, and
Seafoods**



Guide 5

Preparing and Canning Poultry, Red Meats, and Seafoods

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CHICKEN OR RABBIT

Procedure: Choose freshly killed and dressed, healthy animals. Large chickens are more flavorful than fryers. Dressed chicken should be chilled for 6 to 12 hours before canning. Dressed rabbits should be soaked 1 hour in water containing 1 tablespoon of salt per quart, and then rinsed. Remove excess fat. Cut the chicken or rabbit into suitable sizes for canning. Can with or without bones. The hot pack is preferred for best liquid cover and quality during storage. Natural poultry fat and juices are usually not enough to cover the meat in raw packs.

Hot pack—Boil, steam, or bake meat until about two-thirds done. Add 1 teaspoon salt per quart to the jar, if desired. Fill hot jars with pieces and hot broth, leaving 1-1/4 inch headspace. Remove air bubbles and adjust headspace if needed.

Raw pack—Add 1 teaspoon salt per quart, if desired. Fill hot jars loosely with raw meat pieces, leaving 1-1/4-inch headspace. Do not add liquid.

Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Chicken or Rabbit in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Without Bones:						
Hot and Raw	Pints	75 min	11 lb	12 lb	13 lb	14 lb
	Quarts	90	11	12	13	14
With Bones:						
Hot and Raw	Pints	65 min	11 lb	12 lb	13 lb	14 lb
	Quarts	75	11	12	13	14

Recommended process time for Chicken or Rabbit in a weighted-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–1,000 ft		Above 1,000 ft	
Without Bones:						
Hot and Raw	Pints	75 min	10 lb		15 lb	
	Quarts	90	10		15	
With Bones:						
Hot and Raw	Pints	65 min	10 lb		15 lb	
	Quarts	75	10		15	

GROUND OR CHOPPED MEAT

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

Procedure: Choose fresh, chilled meat. With venison, add one part high-quality pork fat to three or four 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- to 4-inch links. Cook until lightly browned. Ground meat may be sauteed without shaping. Remove excess fat. Fill hot jars with pieces. Add boiling meat broth, tomato juice, or water, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Add 1 teaspoon of salt per quart to the jars, if desired. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Ground or Chopped Meat in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot	Pints	75 min	11 lb	12 lb	13 lb	14 lb
	Quarts	90	11	12	13	14

Recommended process time for Ground or Chopped Meat in a weighted-gauge pressure canner				
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Hot	Pints	75 min	10 lb	15 lb
	Quarts	90	10	15

STRIPS, CUBES, OR CHUNKS OF MEAT

Bear, beef, lamb, pork, veal, venison

Procedure: Choose high 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. The hot pack is preferred for best liquid cover and quality during storage. The natural amount of fat and juices in today's leaner meat cuts are usually not enough to cover most of the meat in raw packs.

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. Fill hot jars with pieces and add boiling broth, meat drippings, water, or tomato juice (especially with wild game), leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed.

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

Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Strips, Cubes, or Chunks of Meat in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot and Raw	Pints	75 min	11 lb	12 lb	13 lb	14 lb
	Quarts	90	11	12	13	14

Recommended process time for Strips, Cubes, or Chunks of Meat in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Hot and Raw	Pints	75 min	10 lb	15 lb
	Quarts	90	10	15

MEAT STOCK (BROTH)

Beef: Beef: Saw or crack fresh trimmed beef bones (with meat removed) to enhance extraction of flavor. Rinse bones and place in a large stockpot, cover bones with water. Place cover on pot and simmer 3 to 4 hours. Remove bones and cool broth; skim off excess fat and discard. If desired, remove any tiny amount of meat tidbits still clinging to bones and add back to the broth. Reheat broth to boiling and fill jars, leaving 1-inch headspace. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Chicken or turkey: Place large carcass bones (with meat removed) in a large stockpot. Add enough water to cover bones. Cover pot and simmer 30 to 45 minutes or until any remaining tidbits of meat on bones easily fall off. Remove bones, cool broth and discard excess fat. If desired, remove any tiny amount of meat trimmings still clinging to bones and add back to the broth. Reheat broth to boiling and fill jars, leaving 1-inch headspace. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Meat Stock in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot	Pints	20 min	11 lb	12 lb	13 lb	14 lb
	Quarts	25	11	12	13	14

Recommended process time for Meat Stock in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Hot	Pints	20 min	10 lb	15 lb
	Quarts	25	10	15

CHILE CON CARNE

3 cups dried pinto or red kidney beans
 5-1/2 cups water
 5 tsp salt (separated)
 3 lbs ground beef
 1-1/2 cups chopped onions
 1 cup chopped peppers of your choice (optional)
 1 tsp black pepper
 3 to 6 tbsp chili powder
 2 quarts crushed or whole tomatoes

Yield: 9 pints

Procedure: Wash beans thoroughly and place them in a 2 qt. saucepan. Add cold water to a level of 2 to 3 inches above the beans and soak 12 to 18 hours. Drain and discard water. Combine beans with 5-1/2 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 cooked beans. Simmer 5 minutes. **Caution: Do not thicken.** Fill hot jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Chile Con Carne in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot	Pints	75 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Chile Con Carne in a weighted-gauge pressure canner				
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Hot	Pints	75 min	10 lb	15 lb

CLAMS

Whole or minced

Procedure: Keep clams live on ice until ready to can. Scrub shells thoroughly and rinse, steam 5 minutes, and open. Remove clam meat. Collect and save clam juice. Wash clam meat in water containing 1 teaspoon of salt per quart. Rinse and cover clam meat with boiling water containing 2 tablespoons of lemon juice or 1/2 teaspoon of citric acid per gallon. Boil 2 minutes and drain. To make minced clams, grind clams with a meat grinder or food processor. Fill hot jars loosely with pieces and add hot clam juice and boiling water if needed, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Clams in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Hot	Half-pints	60 min	11 lb	12 lb	13 lb	14 lb
	Pints	70	11	12	13	14

Recommended process time for Clams in a weighted-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–1,000 ft		Above 1,000 ft	
Hot	Half-pints	60 min	10 lb		15 lb	
	Pints	70	10		15	

KING AND DUNGENESS CRAB MEAT

It is recommended that blue crab meat be frozen instead of canned for best quality. Crab meat canned according to the following procedure may have a distinctly acidic flavor and freezing is the preferred method of preservation at this time.

Procedure: Keep live crabs on ice until ready to can. Wash crabs thoroughly, using several changes of cold water. Simmer crabs 20 minutes in water containing cup of lemon juice and 2 tablespoons of salt (or up to 1 cup of salt, if desired) per gallon. Cool in cold water, drain, remove back shell, then remove meat from body and claws. Soak meat 2 minutes in cold water containing 2 cups of lemon juice or 4 cups of white vinegar, and 2 tablespoons of salt (or up to 1 cup of salt, if desired) per gallon. Drain and squeeze crab meat to remove excess moisture. Fill hot half-pint jars with 6 ounces of crab meat and pint jars with 12 ounces, leaving 1-inch headspace. Add 1/2 teaspoon of citric acid or 2 tablespoons of lemon juice to each half-pint jar, or 1 teaspoon of citric acid or 4 tablespoons of lemon juice per pint jar. Cover with fresh boiling water, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for King and Dungeness Crab Meat in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
See above	Half-pints	70 min	11 lb	12 lb	13 lb	14 lb
	Pints	80	11	12	13	14

Recommended process time for King and Dungeness Crab Meat in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
See above	Half-pints	70 min	10 lb	15 lb
	Pints	80	10	15

FISH in Pint Jars

Blue, mackerel, salmon, steelhead, trout, and other fatty fish except tuna

Caution: Bleed and eviscerate fish immediately after catching, never more than 2 hours after they are caught. Keep cleaned fish on ice until ready to can.

Note: Glass-like crystals of struvite, or magnesium ammonium phosphate, sometime form in canned salmon. There is no way for the home canner to prevent these crystals from forming, but they usually dissolve when heated and are safe to eat.

Procedure: If the fish is frozen, thaw it in the refrigerator before canning. Rinse the fish in cold water. You can add vinegar to the water (2 tablespoons per quart) to help remove slime. Remove head, tail, fins, and scales; it is not necessary to remove the skin. You can leave the bones in most fish because the bones become very soft and are a good source of calcium. For halibut, remove the head, tail, fins, skin, and the bones. Wash and remove all blood. Refrigerate all fish until you are ready to pack in jars.

Split fish lengthwise, if desired. Cut cleaned fish into 3-1/2-inch lengths. If the skin has been left on the fish, pack the fish skin out, for a nicer appearance or skin in, for easier jar cleaning. Fill hot pint jars, leaving 1-inch headspace. Add 1 teaspoon of salt per pint, if desired. Do not add liquids. Carefully clean the jar rims with a clean, damp paper towel; wipe with a dry paper towel to remove any fish oil. Adjust lids and process. Fish in half-pint or 12-ounce jars would be processed for the same amount of time as pint jars.

Recommended process time for Fish in Pint Jars in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Raw	Pints	100 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Fish in Pint Jars in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
Raw	Pints	100 min	10 lb	15 lb

FISH in Quart Jars

Blue, mackerel, salmon, steelhead, trout, and other fatty fish except tuna

Note: Glass-like crystals of struvite, or magnesium ammonium phosphate, sometime form in canned salmon. There is no way for the home canner to prevent these crystals from forming, but they usually dissolve when heated and are safe to eat.

Caution: **Bleed and eviscerate fish immediately after catching, never more than 2 hours after they are caught. Keep cleaned fish on ice until ready to can.**

Procedure: If the fish is frozen, thaw it in the refrigerator before canning. Rinse the fish in cold water. You can add vinegar to the water (2 tablespoons per quart) to help remove slime. Remove head, tail, fins, and scales; it is not necessary to remove the skin. You can leave the bones in most fish because the bones become very soft and are a good source of calcium. For halibut, remove the head, tail, fins, skin, and the bones. Wash and remove all blood. Refrigerate all fish until you are ready to pack in jars.

Cut the fish into jar-length filets or chunks of any size. The one-quart straight-sided mason-type jar is recommended. If the skin has been left on the fish, pack the fish skin out, for a nicer appearance or skin in, for easier jar cleaning. Pack solidly into hot quart jars, leaving 1-inch headspace. If desired, run a plastic knife around the inside of the jar to align the product; this allows firm packing of fish.

For most fish, no liquid, salt, or spices need to be added, although seasonings or salt may be added for flavor (1 to 2 teaspoons salt per quart, or amount desired).

For halibut, add up to 4 tablespoons of vegetable or olive oil per quart jar if you wish. The canned product will seem moister. However, the oil will increase the caloric value of the fish.

Carefully clean the jar rims with a clean, damp paper towel; wipe with a dry paper towel to remove any fish oil. Adjust lids and process.

Processing Change for Quart Jars: The directions for operating the pressure canner during processing of quart jars are different from those for processing pint jars, so please read the following carefully. It is critical to product safety that the processing directions are followed exactly. When you are ready to process your jars of fish, add 3 quarts of water to the pressure canner. Put the rack in the bottom of canner and place closed jars on the rack. Fasten the canner cover securely, but do not close the lid vent. Heat the canner on high for 20 minutes. If steam comes through the open vent in a steady stream at the end of 20 minutes, allow it to escape for an additional 10 minutes. If steam does not come through the open vent in a steady stream at the end of 20 minutes, keep heating the canner until it does. Then allow the steam to escape for an additional 10 minutes to vent the canner. This step removes air from inside the canner so the temperature is the same throughout the canner. **The total time it takes to heat and vent the canner should never be less than 30 minutes. The total time may be more than 30 minutes if you have tightly packed jars, cold fish, or larger sized canners. For safety's sake, you must have a complete, uninterrupted 160 minutes (2 hours and 40 minutes) at a minimum pressure required for your altitude. Write down the time at the beginning of the process and the time when the process will be finished.**

Recommended process time for Fish in Quart Jars in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
Raw	Quarts	160 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Fish in Quart Jars in a weighted-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–1,000 ft		Above 1,000 ft	
Raw	Quarts	160 min	10 lb		15 lb	

OYSTERS

Procedure: Keep live oysters on ice until ready to can. Wash shells. Heat 5 to 7 minutes in preheated oven at 400°F. Cool briefly in ice water. Drain, open shell, and remove meat. Wash meat in water containing 1/2 cup salt per gallon. Drain. Add 1/2 teaspoon salt to each pint, if desired. Fill hot half-pint or pint jars with drained oysters and cover with fresh boiling water, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Wipe rims of jars with a dampened clean paper towel. Adjust lids and process.

Recommended process time for Oysters in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
See above	Half-pints or Pints	75 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Oysters in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
See above	Half-pints or Pints	75 min	10 lb	15 lb

SMOKED FISH

Salmon, rockfish and flatfish (sole, cod, flounder) and other fish

Caution: Safe processing times for other smoked seafoods have not been determined. Those products should be frozen. Smoking of fish should be done by tested methods. Lightly smoked fish is recommended for canning because the smoked flavor will become stronger and the flesh drier after processing. However, because it has not yet been cooked, do not taste lightly smoked fish before canning.

Follow these recommended canning instructions carefully. Use a 16 to 22 quart pressure canner for this procedure; do not use smaller pressure saucepans. Safe processing times have not been determined. Do not use jars larger than one pint. Half-pints could be safely processed for the same length of time as pints, but the quality of the product may be less acceptable.

Procedure: If smoked fish has been frozen, thaw in the refrigerator until no ice crystals remain before canning. If not done prior to smoking, cut fish into pieces that will fit vertically into pint canning jars, leaving 1-inch headspace. Pack smoked fish vertically into hot jars, leaving 1-inch headspace between the pieces and the top rim of the jar. The fish may be packed either loosely or tightly. Do not add liquid to the jars. Clean jar rims with a clean, damp paper towel. Adjust lids and process.

Processing Change for Smoked Fish: The directions for filling the pressure canner for processing smoked fish are different than those for other pressure canning, so please read the following carefully. It is critical to product safety that the processing directions are followed exactly. When you are ready to process your jars of smoked fish, measure 4 quarts (16 cups) of cool tap water and pour into the pressure canner. (**Note:** The water level probably will reach the screw bands of pint jars.) **Do not decrease the amount of water or heat the water before processing begins.** Place prepared, closed jars on the rack in the bottom of the canner, and proceed as with usual pressure canning instructions.

Recommended process time for Smoked Fish in a dial-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
See above	Pints	110 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Smoked Fish in a weighted-gauge pressure canner						
Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–1,000 ft		Above 1,000 ft	
See above	Pints	110 min	10 lb		15 lb	

TUNA

Tuna may be canned either precooked or raw. Precooking removes most of the strong-flavored oils. The strong flavor of dark tuna flesh affects the delicate flavor of white flesh. Many people prefer not to can dark flesh. It may be used as pet food.

Note: Glass-like crystals of struvite, or magnesium ammonium phosphate, sometime form in canned tuna. There is no way for the home canner to prevent these crystals from forming, but they usually dissolve when heated and are safe to eat.

Procedure: Keep tuna on ice until ready to can. Remove viscera and wash fish well in cold water. Allow blood to drain from stomach cavity. Place fish belly down on a rack or metal tray in the bottom of a large baking pan. Cut tuna in half crosswise, if necessary. Precook fish by baking at 250°F for 2-1/2 to 4 hours (depending on size) or at 350°F for 1 hour. The fish may also be cooked in a steamer for 2 to 4 hours. If a thermometer is used, cook to a 165° to 175°F internal temperature. Refrigerate cooked fish overnight to firm the meat. Peel off the skin with a knife, removing blood vessels and any discolored flesh. Cut meat away from bones; cut out and discard all bones, fin bases, and dark flesh. Quarter. Cut quarters crosswise into lengths suitable for half-pint or pint jars. Fill into hot jars, pressing down gently to make a solid pack. Tuna may be packed in water or oil, whichever is preferred. Add water or oil to jars, leaving 1-inch headspace. Remove air bubbles and adjust headspace if needed. Add 1/2 teaspoon of salt per half-pint or 1 teaspoon of salt per pint, if desired. Carefully clean the jar rims with a clean, damp paper towel; wipe with a dry paper towel to remove any fish oil. Adjust lids and process.

Recommended process time for Tuna in a dial-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of			
			0–2,000 ft	2,001–4,000 ft	4,001–6,000 ft	6,001–8,000 ft
See above	Half-pints or Pints	100 min	11 lb	12 lb	13 lb	14 lb

Recommended process time for Tuna in a weighted-gauge pressure canner

Style of Pack	Jar Size	Process Time	Canner Pressure (PSI) at Altitudes of	
			0–1,000 ft	Above 1,000 ft
See above	Half-pints or Pints	100 min	10 lb	15 lb