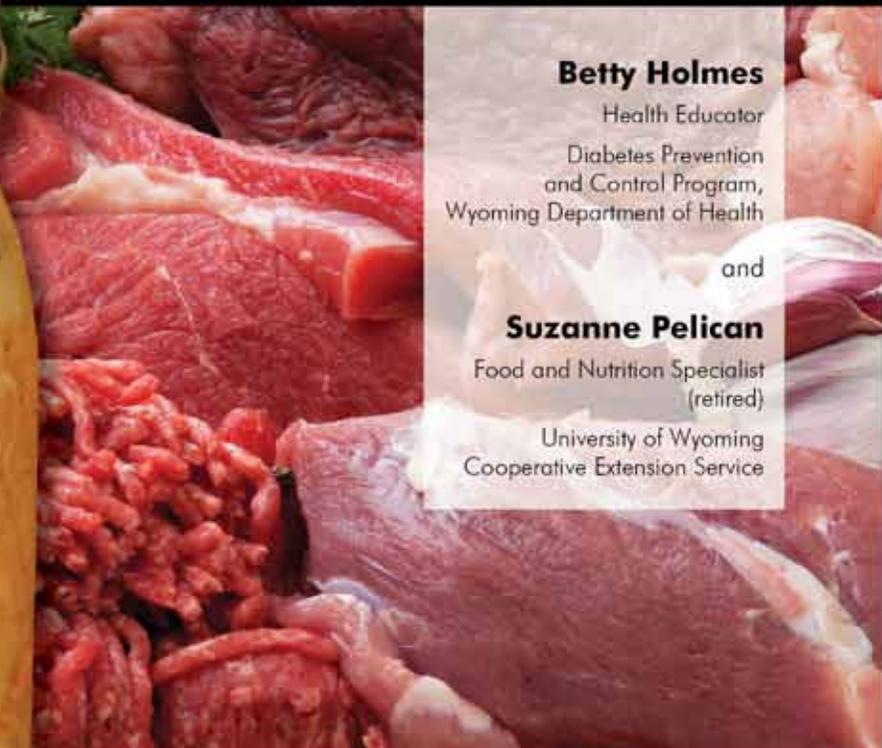




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Preserving Food in Wyoming

MEATS



Betty Holmes

Health Educator
Diabetes Prevention
and Control Program,
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Suzanne Pelican

Food and Nutrition Specialist
(retired)
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UNIVERSITY
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By
Betty Holmes
Health Educator
Diabetes Prevention and Control Program, Wyoming Department of Health
and
Suzanne Pelican
Food and Nutrition Specialist (retired)
University of Wyoming Cooperative Extension Service

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Original author: Betty Holmes, UW CES 4-H/Youth Specialist and Food Preservation Expert
Reviewed (1994) by: Linda Melcher and Nancy Mather, UW CES Food and Nutrition Specialists
Editor: Steve Miller
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Altitude

Canning food in Wyoming differs from canning in many other locations because of the high altitudes found in our state. There is lower atmospheric pressure at high altitudes, which causes water to boil at a lower temperature. Consequently, altitude adjustments must be made when home canning.

The following guidelines have been established by the University of Wyoming Cooperative Extension (UW CES) and are recommended for all home canning in Wyoming.

Adjustments

Canning processes must be adjusted for **all** locations in Wyoming. For boiling-water canning, the processing times must be increased. For pressure canning, the pressure must be increased. Processing time for many foods were changed in 1988 when the U.S. Department of Agriculture (USDA) published **Complete Guide to Home Canning**. Additional revisions have since been made in 1994 and 2009 (see www.uga.edu/nchfp/publications/publications_usda.html). To ensure safe home canning, follow recipes with the most current processing times established by the USDA.

Jars

Only standard canning jars made of tempered glass are recommended. Commercial jars such as mayonnaise jars are not recommended for use in home canning. These jars may break more easily, and they have a narrower sealing surface that can prevent a good seal.

Botulism

To prevent the risk of botulism, low-acid home canned foods such as meats and vegetables should be boiled before eating. At altitudes below 1,000 feet, boil foods for 10 minutes. Add an additional minute of boiling time for each additional 1,000 feet.

Ingredients

Do not add or change the ingredients or proportions in home-canning recipes. Doing so could compromise the safety of the product.

Meats

General Procedures for Poultry, Red Meat, Wild Game, and Fish

Guidance provided here applies to many different types of meats. See options below for more details.

Canning Procedure

Prepare poultry, red meat, wild game, or fish according to directions given below for each type of meat. Fill hot jars with product leaving the correct headspace as specified. When products are canned in a liquid, remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner, not a pressure saucepan or boiling water canner.

Process

To process in a pressure canner, place jar rack, 2 inches of water, and filled jars in canner. Fasten lid and heat canner on high setting. Allow steam to escape in a fully steady stream for 10 minutes. Add weighted gauge or close petcock to pressurize the canner. Start timing the process when the desired pressure is reached. Regulate heat to maintain a uniform pressure and process jars for the time given in the table (page 4). Do not allow the pressure to drop below the recommended pressure for your altitude.

When processing is complete, remove the canner from heat. Air-cool the canner until it is fully depressurized. Slowly remove weighted gauge or open petcock, wait two more minutes, and then carefully remove canner lid.

After Processing

After processing is completed, remove jars from canner with a jar lifter and place on a towel or rack. Do not retighten bands. Air-cool jars for 12 to 24 hours. Remove screw bands and check lid seals. If the center of the lid is indented, wash, dry, label, and store jar in a clean, cool, dark place without ring. If the lid is unsealed, refrigerate and use within three days. Alternatively, examine and replace jar if defective; use new lid and reprocess as before. Wash screw bands and store separately. Poultry, red meat, wild game, and fish are best if eaten within one year. The UW CES recommends all low-acid home canned foods be boiled for 15 to 20 minutes before eating.

All home-canned meats should be boiled prior to serving.

Table. Recommended processing times and pressures for meats in a pressure canner at designated altitudes

	Style of pack	Jar size	Process time (minutes)	Dial Gauge*			Weighted Gauge
				2,001-4,000 feet (lbs)	4,001-6,000 feet (lbs)	6,001-8,000 feet (lbs)	Above 1,000 feet (lbs)
Chicken or rabbit without bones	Hot or raw	Pints Quarts	75	12	13	14	15
			90	12	13	14	15
Chicken or rabbit with bones	Hot or raw	Pints Quarts	65	12	13	14	15
			75	12	13	14	15
Ground or chopped meat	Hot	Pints Quarts	75	12	13	14	15
			90	12	13	14	15
Chile con carne	Hot	Pints	75	12	13	14	15
Strips, cubes, or chunks of meat	Hot or raw	Pints Quarts	75	12	13	14	15
			90	12	13	14	15
Meat stock (broth)	Hot	Pints Quarts	20	12	13	14	15
			25	12	13	14	15
Fish (other than tuna)	Raw	Pints	100	12	13	14	15
				12	13	14	15
Tuna	See directions	Pints or half pints	100	12	13	14	15
				12	13	14	15

* Reminder: check your dial pressure gauge annually. For more information, contact your local UW CES office.

Chicken or Rabbit

Choose freshly killed and dressed, healthy animals. Large chickens are more flavorful than fryers. Dressed chickens should be chilled 6 to 12 hours before canning. Dressed rabbits should be soaked one hour in water containing 1 tablespoon salt per quart and then rinsed. Remove excess fat. Cut the chicken or rabbit into suitable sizes for canning. Can with or without bones.

- For hot packs, boil, steam, or bake meat until about two-thirds done. If desired, add 1 teaspoon salt per quart. Fill hot jars with pieces and hot broth leaving 1¼-inch headspace. Remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (above).
- For raw packs, if desired add 1 teaspoon salt per quart. Fill hot jars loosely with raw meat pieces leaving 1¼-inch headspace. Do not add liquid. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (above).

Ground or Chopped Meat

Bear, beef, lamb, pork, sausage, veal, and venison (including antelope, deer, elk, and moose) can be processed using these directions.

Procedure

Choose fresh, high-quality chilled meat. With venison, add up to one part high-quality pork fat to four to six 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 meet may be sautéed without shaping. Remove excess fat. Fill hot jars with pieces. Add boiling meat broth, tomato juice, or water leaving 1-inch headspace. If desired, add 1 teaspoon salt per quart. Remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).



CHILE CON CARNE

3 cups dried pinto or red kidney beans

5½ cups water

5 tsp salt (separated into 2 tsp with beans and 3 tsp with chile)

3 pounds ground beef or ground venison (antelope, deer, elk, or moose)

1½ cups chopped onions

1 cup chopped peppers of your choice (optional)

1 tsp black pepper

3 to 6 tbsp chili powder (smaller amount for milder flavor, larger amount for spicier flavor)

2 quarts crushed or whole tomatoes

Yield: 9 pints

Wash beans thoroughly and place them in a 2-quart 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 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 or ground venison, 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.** Doing so could cause an underprocessed and unsafe product. Fill hot jars leaving 1-inch headspace. Remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).



Strips, Cubes, or Chunks of Meat

Bear, beef, lamb, pork, veal, and venison (including antelope, deer, elk, and moose) can be processed using these directions.

Procedure

Choose fresh, high-quality chilled meat. Remove excess fat. If desired, soak strong-flavored wild meats for one hour in brine water containing 1 tablespoon salt per quart. Rinse. Remove large bones.

- For hot packs, precook meat until rare by roasting, stewing, or browning in a small amount of fat. If desired, add 1 teaspoon salt per quart. Fill hot jars with pieces and add boiling broth, meat drippings, water, or tomato juice (especially good with wild game) leaving 1-inch headspace. Remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).
- For raw packs, if desired add 1 teaspoon salt per quart. Fill hot jars with raw meat pieces leaving 1-inch headspace. Do not add liquid. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).

Meat Stock (Broth)

- **Beef:** Saw or crack fresh trimmed beef bones to enhance extraction of flavor. Rinse bones and place in a large stockpot or kettle, cover bones with water, cover pot, and simmer three to four hours. Remove bones, cool broth, and pick off meat. Skim off fat, add meat removed from bones to broth, and reheat to boiling.
- **Chicken or turkey:** Place large carcass bones (with most of the meat removed) in a large stockpot, add enough water to cover bones, cover pot, and simmer for 30 to 45 minutes or until remaining meat can be easily stripped from bones. Remove bones and pieces, cool broth, strip meat, discard excess fat, return meat to broth, and reheat to boiling.

Fill hot jars leaving 1-inch headspace. Food residue should be removed from the jar sealing edge with a clean, damp paper towel. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).



Fish (other than tuna)

Blue, halibut, mackerel, salmon, steelhead, trout, and other fatty fish except tuna can be processed using these directions.

Caution: Eviscerate fish within 2 hours after they are caught. Keep cleaned fish on ice until ready to can.

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

Procedure

If the fish is frozen, thaw in 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. With halibut, remove the head, tail, fins, scales, skin, and bones. Wash and remove all blood. Refrigerate all fish until you are ready to pack in jars.

If desired, split fish lengthwise. Cut cleaned fish into 3½-inch lengths. If the skin has been left on the fish, pack the fish skin side out for a nicer appearance; alternatively, pack skin side in for easier jar cleaning. Leave 1-inch headspace. If desired, add 1 teaspoon salt per pint. Do not add liquids. Food residue should be removed from the jar sealing edge with a clean, damp paper towel; wipe with a dry paper towel to remove any fish oil. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).

Tuna

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

Note: Glass-like crystals of magnesium ammonium phosphate or struvite sometimes form in canned tuna. There is no way for home canners 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 350° Fahrenheit for 1 hour. The fish may also be cooked in a steamer for 2 to 4 hours. If a thermometer is used, cook to 165° to 175° Fahrenheit internal temperature. Refrigerate cooked fish overnight to firm the meat. Peel off 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 vegetable oil (for example, canola or soybean). Add water or oil to jars leaving 1-inch headspace. If desired, add ½ teaspoon salt per half-pint or 1 teaspoon per pint. Remove air bubbles by pressing a rubber spatula between food and side of jar at several locations. Food residue should be removed from the jar sealing edge with a clean, damp paper towel; wipe with a dry paper towel to remove any fish oil. New two-piece canning lids prepared according to manufacturer's directions should be used. Add lids, tighten screw bands, and process in a pressure canner as listed in the table (page 4).

Sources of Information

USDA's Complete Guide to Home Canning. Agricultural Information Bulletin No. 539. 1994. Revised in 2006 and 2009. See www.uga.edu/nchfp/publications/publications_usda.html.

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