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# Preserving Meat

## Basic Food Safety

***Wash Hands Frequently***

- Personal cleanliness is a must. Wash your hands thoroughly and frequently. *E. coli* resides in the human nose and intestines. Wash your hands if you rub your nose, or if you wipe your face or skin.
- Bandage any cuts or burns on hands before handling food, or use disposable gloves.

***Avoid Cross Contamination***

- Rinse all fresh fruits and vegetables well under running water before preparing or eating them. Dry them with a clean cloth or paper towel.
- **ALWAYS** wash your hands, knives, cutting boards, and food preparation surfaces well with soapy water before and after any contact with raw meat, fish, or poultry.
- Use a disinfecting solution of 1½ teaspoon of chlorine bleach to 1 pint of water. Dispense with a spray bottle to disinfect countertops, cutting surfaces, sinks, etc. Let sit one minute then wipe. Make a new solution daily.

***When In Doubt, Throw It Out***

- Never taste food that looks or smells strange to see if it can still be used.
- Most bacteria that cause foodborne illness are odorless, colorless, and tasteless.

## Canning Basics

***General Pressure Canning Supplies***

- Pressure canner (either dial or weighted gauge, big enough to hold four quart jars on a rack)
- Standard canning jars, rings, self-sealing one-time use lids or reusable lids/seals
- Funnel
- Headspace measurer and De-bubbler
- Jar lifter and tray/towel for hot jars
- Reputable recipe that follows the USDA recommended canning procedures

***Get Ready … Be Prepared!***

- Read the recipe thoroughly before you begin.
- Measure out all ingredients. Gather all of your utensils.
- Wash jars in hot soapy water and rinse well. Check jars for imperfections.
- Place clean jars in the canner and heat the jars.
- Prepare lids and rings according to the manufacturer's instructions. (Current boxes of lids don't require pre-heating, older ones did.) *Note: reusable lids follow different preparation and finishing instructions than single-use lids.*
- Do a "dry run" of the recipe to make sure you have all of your materials.

### *Canning Processes*

- Use a **pressure canner** for low acid foods: meats, vegetables, and mixtures of high and low acid foods
- Use an **atmospheric steam canner** or a **boiling water canner** for high acid foods: fruits, pickled and fermented products, jams and jellies.

Why two different processes? Low acid foods must be pressure canned because *Clostridium botulinum*, the bacteria that causes botulism, is a spore former. When conditions are not favorable for the organism to grow (high heat, dryness, etc.), the bacterial cell forms a protective structure called a spore. It takes a higher temperature than boiling to destroy the spores: 240ºF. If you do not destroy the spores in low acid foods they will germinate and produce fatal toxins in the food when it is stored on the shelf. High acid foods have enough acidity to destroy spores.

### *Raw-Pack vs. Hot-Pack Methods*

Filling jars with raw, unheated food prior to heat processing is called the raw-pack method. The preferred method, filling jars with preheated, hot food prior to heat processing, is called the hot-pack method. Benefits include a tighter pack and, because food expels air when heated, less float.

### *Jars & Lids*

Check jars, lids and bands for high quality. Wash jars, lids and bands in hot, soapy water. Rinse well. Heat home canning jars in hot water, not boiling, in the pressure canner until ready for use. Add water to the jars to prevent flotation, pour water into canner before filling jars. Bring to a simmer over medium heat. Keep jars hot until ready for use. Keeping jars hot prevents them from breaking when hot food is added. Leave lids and bands at room temperature for easy handling.

### *Headspace*

Headspace is the completely empty space left in the jar underneath the lid and above the food. Headspace allows for food to expand during canning without being forced out from under the lid during processing. Recommended amounts also allow for good vacuums to be formed for holding lids in place and good food quality to be maintained during storage.

## Pressure Canning Essentials

### *Pressure Canning Equipment*

Pressure canner with the following features:

- Flat rack in bottom
- Pressure regulator or indicator
  - ✓ Dial or weighted gauge
  - ✓ Vent pipe for pressurizing
- Safety valves or overpressure plugs
- Safety locks when pressurized
- Flexible gasket/sealing ring in lid or metal to metal seal
- Optional: jar stacking rack

Please note that a pressure cooker is NOT a pressure canner, but a pressure canner can be used as a pressure cooker. A pressure cooker must be able to hold **4 quart** jars on a rack to be considered a pressure canner.

### *Adjusting for Altitude: Pressure Canner*

Processing times for all recipes are at sea level. At sea level to 2,000 feet, 11 pounds of steam pressure will produce 240°F. Above 2,000 feet you must increase the steam pressure to reach this temperature. At altitudes above sea level adjust the pressure according to the altitude chart.

**Altitude Chart**

| Altitude in feet | Required Pressure |
|---|---|
| Sea Level – 2,000 ft. | 11 lb. |
| 2,001 – 4,000 ft. | 12 lb. |
| 4,001 – 6,000 ft. | 13 lb. |
| 6,001 – 8,000 ft. | 14 lb. |
| 8,001 – 10,000 ft. | 15 lb. |

### *Using a Pressure Canner*

1. Clean lid gaskets and other parts according to the manufacturer's directions; make sure all vent pipes are clear.
2. Put 2 to 3 inches hot water (140ºF for a raw pack, 180ºF for a hot pack) into the canner.
3. Place filled jars on the jar rack in the canner, using a jar lifter.
4. Fasten the canner lid securely. Leave the weight off the vent pipe or open the petcock.
5. Turn the heat setting to high; heat until the water boils and steam flows freely in a funnel-shape from the open vent pipe or petcock. While maintaining the high heat setting, let the steam flow (exhaust) **continuously for 10 minutes**.
6. Place the weight on the vent pipe, or close the petcock.
7. Start timing the process when the pressure reading on the dial gauge indicates that the recommended pressure has been reached, or, for canners without dial gauges, when the weighted gauge begins to jiggle or rock as the manufacturer describes.
8. Regulate the heat under the canner to maintain a steady pressure at, or slightly above, the correct gauge pressure. **IMPORTANT:** If at any time pressure goes below the recommended amount, bring the canner back to pressure and begin the timing of the process over, from the beginning using the total original process time. This is important for the safety of the food.
9. When the timed process is completed, turn off the heat, remove the canner from the heat (electric burner) if possible, and let the canner cool down naturally. Do not force cool the canner. Pints take about 30 minutes to cool; about 45 minutes for quarts.
10. After the canner is completely depressurized, remove the weight from the vent pipe or open the petcock. **Wait 10** minutes; then unfasten the lid away from you to remove.
11. Remove the jars from the canner by lifting them upright and placing them on a rack or folded towel away from drafts.
12. Do not retighten the rings with single-use lids. Leave the ring bands on the jars until they have cooled thoroughly (approximately 24 hours). Do not try to dump or wipe up any water on the lids.
13. Dry the canner, lid and gasket. Take off removable petcocks and safety valves; wash and dry thoroughly. Follow maintenance and storage instructions that come from your canner manufacturer.

### *Removing and Cooling Jars*

Be careful when moving and lifting filled jars. Do not tilt. Do not be tempted to try to pour off the water on the top when lifting them out of the canner. The water on top of the hot jars will evaporate very rapidly. If the jars are tilted, food may become lodged between the glass rim and the sealing compound preventing proper sealing.

- After cooling the jars for 12 to 24 hours, remove the screw bands.
- Check each jar for a seal; press the middle of the single use lid with your finger. If the lid springs up when you release your finger, the lid is unsealed.
- Clean the jars with a damp cloth. Thoroughly dry ring bands may be replaced on the jars, if desired.
- Label the jars with the product name, date, processing method (PC = pressure canner), and store in a cool, dark, dry area.
- If a jar did not seal, check the jar for flaws. Refrigerate and use the product within a few days, freeze the jar, or reprocess it within 24 hours using a new lid and if necessary, a new jar. Process by the method originally advised for the full length of time.

### *Resources*

- National Center for Home Food Preservation (http://nchfp.uga.edu/)
- UC Master Food Preserver Program publication library (http://mfp.ucanr.edu)

## *Canning Recipes*

### Meat Stock *(including poultry)*

1. Place large carcass bones (with meat removed) in a large stockpot. Add enough water to cover bones.
2. Cover pot and simmer 30 to 45 minutes or until any remaining tidbits of meat on bones easily fall off.
3. Remove bones, cool broth and discard excess fat.
4. If desired, remove any tiny amount of meat trimmings still clinging to bones and add back to the broth.
5. Reheat broth to boiling.
6. Ladle hot stock into hot jars leaving 1-inch headspace.
7. Wipe rim with a paper towel moistened with vinegar. Place lids and rings on jars, tighten rings finger tight.
8. Process in a pressure canner: pints 20 minutes, quarts 25 minutes
    - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
    - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000'

*Source: USDA Complete Guide to Home Canning, 2015*

### Ground Beef

1. Sauté ground meat. Remove excess fat.
2. Fill jars with pieces. If desired, add 2 teaspoons of salt per quart to the jars.
3. Add either boiling meat broth, tomato juice, or water, leaving 1-inch headspace.
4. Wipe rim with white vinegar. Place lids and rings on jars, tighten rings finger tight.
5. Process in a pressure canner: pints 75 minutes, quarts 90 minutes.
    - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
    - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000'

*Source: USDA Complete Guide to Home Canning, 2015*

### Mincemeat Pie Filling

Yield: About 7 quarts

2 cups finely chopped suet
4 lbs ground beef (or 4 lbs ground venison and 1 lb sausage)
5 qts chopped apples
2 lbs dark seedless raisins
1 lb white raisins
2 qts apple cider
2 tbsp ground cinnamon
2 tsp ground nutmeg
5 cups sugar
2 tbsp salt

1. Cook suet and meat in water to avoid browning. Peel, core, and quarter apples.
2. Put meat, suet, and apples through food grinder using a medium blade.
3. Combine all ingredients in a large saucepan, and simmer 1 hour or until slightly thickened. Stir often.
4. Fill hot jars with mixture without delay, leaving 1-inch headspace.
5. Wipe rim with a paper towel moistened with vinegar. Remove bubbles.
6. Place lids and rings on jars, tightening rings finger tight.
7. Process quart jars in a pressure canner for 90 minutes.
    - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
    - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000'

*Source: USDA Complete Guide to Home Canning, 2015*

## Chili con Carne

Yield: 9 pints

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 onion
1 cup chopped peppers of your choice (optional)
1 tsp black pepper
3 to 6 tbsp chili powder
2 qts crushed or whole tomatoes

1. 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.
2. Combine beans with 5-1/2 cups of fresh water, and 2 teaspoons salt. Bring to a boil. Reduce heat 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 jars, leaving 1-inch headspace.
3. Wipe rim with a paper towel moistened with vinegar. Remove bubbles.
4. Place lids and rings on jars, tightening rings finger tight.
5. Process in a pressure canner: pints 75 minutes, quarts 90 minutes.
   - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
   - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000'

*Source: USDA Complete Guide to Home Canning, 2015*

## Chicken

1. Remove excess fat.
2. Cut the chicken into suitable size parts for fitting into your jars leaving the required headspace. 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. *(If cooked poultry needs to reach an internal temperature of 160°F, two-thirds would be an internal temperature of 110°F.)* Add 1 teaspoon salt per quart to the jar, if desired. Fill jars with pieces and hot broth, leaving **1-1/4** inch headspace. Remove air bubbles.
   - **Raw pack** – Add 1 teaspoon salt per quart, if desired. Fill jars loosely with raw meat pieces, leaving **1-1/4** inch headspace. Do not add liquid.

3. Wipe rim with white vinegar. Place lids and rings on jars, tighten rings finger tight.
4. Process in a pressure canner:
   - **Without bones:** pints 75 minutes, quarts 90 minutes
     **With bones:** pints 65 minutes, quarts 75 minutes
   - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
   - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000'

*Source: USDA Complete Guide to Home Canning, 2015*

## Beef Stew with Vegetables

Yield: About 14 pints or 7 quarts

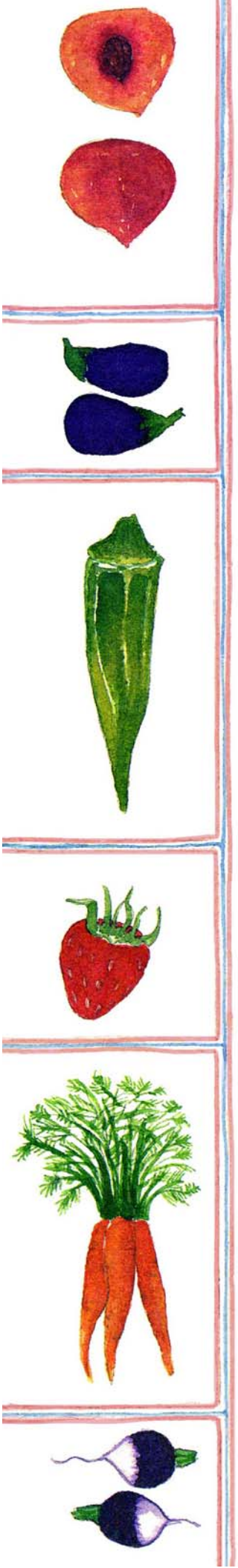
4 to 5 pounds beef stew meat
1 tablespoon oil
12 cups peeled cubed potatoes
8 cups sliced peeled carrots
3 cups chopped celery
3 cups chopped onions
4½ teaspoons salt
1 teaspoon dried thyme
½ teaspoon pepper

1. Cut meat into 1 1/2-inch cubes; brown in oil.
2. In a large kettle, combine meat, vegetables, and seasonings. Cover with boiling water. Bring to a boil.
3. Ladle into hot jars, leaving 1-inch headspace.
4. Wipe rim with a paper towel moistened with vinegar. Remove bubbles.
5. Place lids and rings on jars, tightening rings finger tight.
6. Process in a pressure canner: pints 75 minutes, quarts 90 minutes
   - Weighted gauge: 10 lbs at 0-1000', 15 lbs above 1000'
   - Dial gauge: 11 lbs at 0-2000', 12 lbs at 2001-4000', 13 lbs at 4001-6000', 14 lbs at 6001-8000', 15 lbs at 8,001-10,000'

*Source: Ball Complete Book of Home Preserving, 2020*

## Dried Ground Beef

1. Break raw ground beef into large chunks the size of mini-meatballs.
2. Using a meat thermometer, stop cooking when temperature reaches 160 degrees F and most liquid has evaporated.
3. Strain excess liquid. Using paper towels, blot out as much moisture as possible.
4. Spread the cooked ground beef on dehydrator trays using the inserts to make leathers.
5. Break up the clumps into crumbles. Spread out the crumbled meat on the tray so there will be room for plenty of air circulation.
6. Dry at 155°F for 6 to 8 hours until meat is very firm and dry throughout.
7. Cool completely before putting it into an airtight container.



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**COLLEGE OF FAMILY AND CONSUMER SCIENCES**
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# *Preserving Food:* Freezing Animal Products

Freezing is an excellent way to preserve animal products such as meat, poultry, fish and shellfish. In some instances, eggs and dairy foods can also be frozen for later use.

Freezing does not sterilize food. The extreme cold simply retards the growth of microorganisms and slows down the changes that affect quality or cause spoilage in food.

The quality and safety of the final product depends on how the product is handled before, during and after freezing. Freezing affects the texture, color, juiciness and flavor of foods. Be sure to start with high quality food. Freezing does not improve food quality. Follow the directions in this fact sheet for handling each individual food.

For highest quality, foods need to be tightly sealed in moisture-vapor resistant materials and then frozen quickly at 0°F or below. Don't freeze too much food at one time because the food will freeze slowly, resulting in a mushy final product. Add only the amount of unfrozen food that will freeze within 24 hours. This is usually two to three pounds of food per cubic foot of freezer space. If you have a large amount of food to freeze at one time, plan to have it frozen for you by a meat-packing plant or by another commercial freezer.

Once the food is frozen, keep it solidly frozen at 0°F or below. Even slight fluctuations in temperature can cause the food to thaw slightly, resulting in a mushy product. Don't place unfrozen food on top of frozen food; it could cause the frozen food to thaw.

Because animal products are very susceptible to the growth of microorganisms that can cause foodborne illness, it's important to handle them carefully. Never leave animal products at room temperature for more than two hours. Also, be sure to clean surfaces and utensils used for preparing the products for freezing.

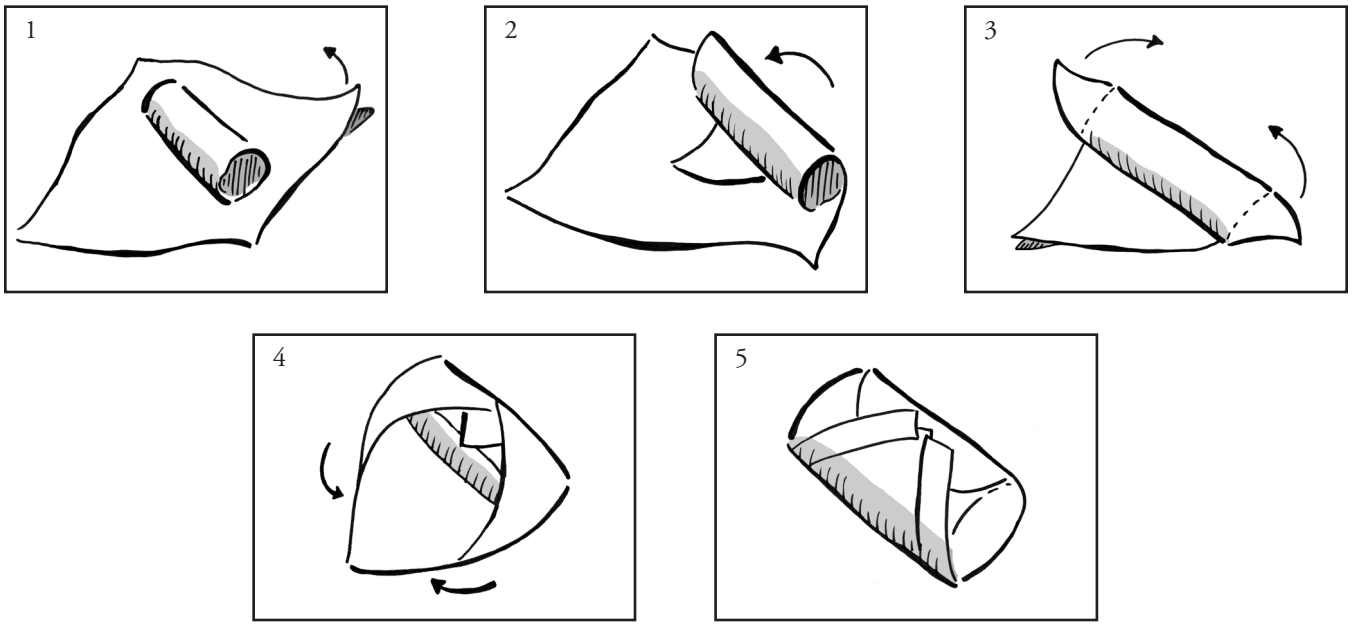
## PACKAGING MATERIALS

Before preparing animal products for freezing, assemble the packaging materials you will use. The type of packaging material depends on the type of food being frozen, personal preferences and the types of material readily available. The packaging material should be moisture-vapor resistant, durable, and easy to seal and should not become brittle at low temperatures.

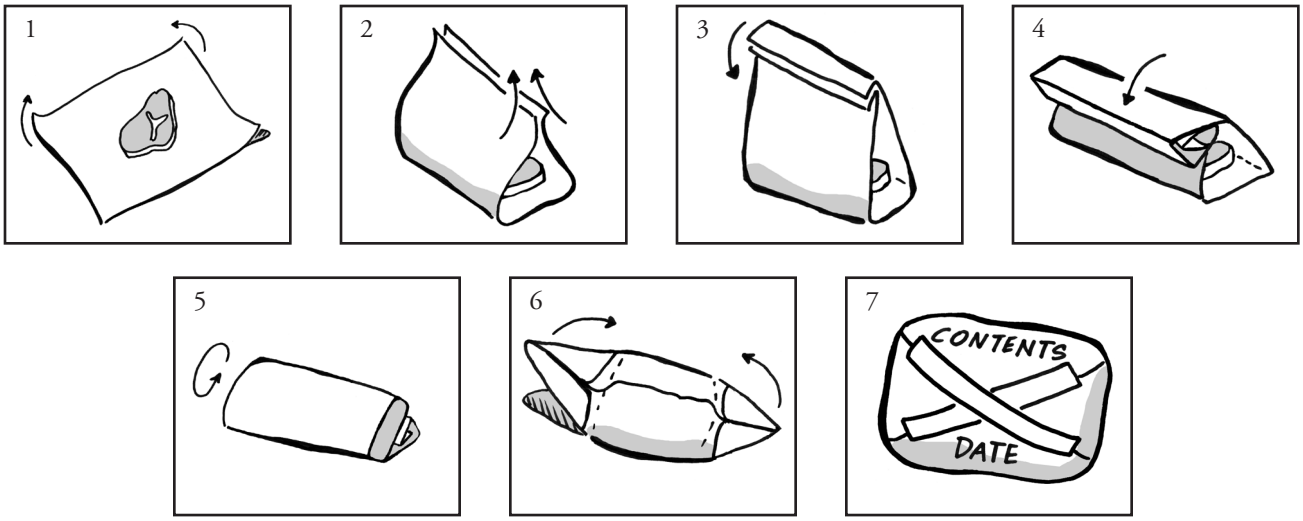
Special freezer paper is best for packaging meats, poultry or fish. Heavy-duty aluminum foil or freezer wrap can be used, but they tear more easily. If enough air can be excluded, freezer bags or containers can also be used.

When packaging meat, poultry or fish for freezing, either the "drugstore wrap" or the "butcher wrap" can be used (see the illustrations on the next page). The drugstore wrap is preferable except for irregular cuts of meat. These are best wrapped using the butcher wrap. Don't forget to label and date all frozen products.

**BUTCHER WRAP**




**DRUGSTORE WRAP**




**MEATS**

***Beef, Veal, Lamb or Pork***

Select only high quality, fresh meats to freeze. Cured meats such as ham and bacon can only be frozen for a short period of time (1 to 3 months) because the salt in them hastens rancidity.

CHILLING AND AGING — Freshly slaughtered meat carcasses or primal cuts need to be cooled to below 40°F within 24 hours to prevent souring or spoiling. The meat should be chilled at 32° to 36°F. Variety meats (liver, heart or sweetbreads) are ready to be wrapped and frozen after they are cold. After 24 hours, pork, veal and lamb are ready to be cut, wrapped and frozen. Beef may be left at the 32° to 36°F temperature for a total of 5 to 7 days to age

the meat, making it more tender and flavorful. Meat purchased from grocery stores is ready to be frozen as is, or cut into serving-size portions and frozen.

CUTTING THE MEAT — Depending on individual preferences for the number of servings and cooking methods, the meat can be cut into roasts, rolled roasts, steaks, chops, stew meat, ground meat, etc., before freezing.

PACKAGING — Package the meat in freezer paper or wrap, using either the drugstore or butcher wrap. Freezer bags or containers can be used for ground beef, stew beef or other meats frozen in small portions.

Store-bought meats need to be over-wrapped, since their clear packaging is not moisture-vapor resistant. If you purchase film-wrapped meats from a meat packer, check to see if the wrap is a new heavy-duty film. If so, it needs no over-wrapping.

Package the meat in meal-size portions, removing as many bones as possible (they take up freezer space). Place two layers of freezer paper or wrap between slices or patties of meat so they are easier to separate when frozen. This will help speed thawing.

### *Large Game*

Deer, moose, antelope and other large game can be handled for freezing like any other meat or carcass. Trim and discard bloodshot meat before freezing. Package meat, seal and freeze.

### *Small Game*

Rabbit, squirrel and other game should be skinned, dressed and then chilled. Refrigerate for 24 to 36 hours until meat is no longer rigid. Cut into serving-size pieces or leave whole. Package, seal and freeze.

## POULTRY AND GAME BIRDS

Select only high quality, fresh poultry to freeze. The tender young bird is best for roasting, frying and broiling. Choose the more flavorful older birds for braising or stewing.

Package poultry in freezer paper or wrap using the drugstore or butcher wrap, or place in freezer bags. Store-bought poultry needs to be over-wrapped before freezing because its clear wrap is not moisture-vapor resistant. When packaging pieces, arrange them to form a compact, square, flat package so they will stack better in the freezer. After packaging, seal and freeze immediately.

Quail, dove, duck, pheasant and other game birds should be dressed and gutted as soon as possible after shooting. Cool and clean properly. Remove excess fat on wild ducks and geese since it becomes rancid very quickly. Freeze as directed for poultry.

Do not stuff poultry or game birds before freezing them. During freezing or thawing times, bacteria that cause foodborne illness could easily grow in the stuffing. Commercially stuffed frozen poultry is prepared under special safety conditions that cannot be duplicated at home.

## THAWING INSTRUCTIONS

### *Meat, Fish and Poultry*

Meat, fish and poultry can be cooked from the frozen or thawed stage. Frozen meats, fish and poultry are best when thawed in the refrigerator at 40°F or lower in their original wrappings. For faster thawing, place meat or fish in waterproof wrapping in cool (70°F) running water. Running water should be kept moving over the surface the whole time of thawing.

Frozen meat, fish or poultry can also be thawed in a microwave oven. After microwave thawing, cook thawed meat, poultry or fish to completion immediately.

Do not thaw frozen meat, seafood or poultry at room temperature unless the cool running water method is used. If meat, fish or poultry is cooked without thawing, additional cooking time must be allowed, depending on the size and shape of the product. Large frozen roasts could take up to 1½ times as long.

When frozen meat, fish or poultry is to be breaded and fried, at least partially thaw first for easier handling. All poultry that is to be stuffed should be thawed completely for safety.

Use a food thermometer to check final minimum safe cooking temperatures of all meat, fish and poultry.

## STORAGE TIMES

Recommended storage times for home-frozen products held at 0°F are given below. For best quality, use the shorter storage times when a range is given. After these storage periods, the food should still be safe, but lower in quality.

| PRODUCT | STORAGE PERIOD |
|---|---|
| Meat | 1 month |
| bacon | 1 month |
| frankfurters | 2 months |
| ground or stew meat | 3 months |
| ham | 2 months |
| roasts | |
| beef or lamb | 1 year |
| pork or veal | 8 months |
| steak or chops | |
| beef | 1 year |
| lamb or veal | 9 months |
| pork | 4 months |
| variety meats | 4 months |
| Poultry | 1 to 3 months |
| cooked, with gravy | 6 months |
| cooked, no gravy | 1 month |
| uncooked (whole) chicken or turkey | 1 year |
| duck or goose | 6 months |
| uncooked (parts) | |
| chicken | 9 months |

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# Dry Meat Safely at Home

Drying is the world's oldest and most common method of food preservation. Canning technology is less than 200 years old, and freezing became practical only during the last century when electricity became widely available. Food drying technology is both simple and readily available to most of the world's cultures.

The scientific principle of food dehydration is to remove moisture to a point where microbial growth (bacteria, yeast, and mold) and chemical reactions (enzymatic deterioration) cannot change the food during storage. The food shrinks, becomes lightweight, and is easier to store.

Illnesses due to *Salmonella* and *E. coli O157:H7* from homemade jerky raise questions about the safety of traditional drying methods for making beef and venison jerky. The USDA Meat and Poultry Hotline recommends heating meat to 160°F and poultry to 165°F to destroy bacteria. A dehydrator may not reach these temperatures, and most dehydrator instructions do not include this step.

Maintain a constant dehydrator temperature of 130°F to 140°F. This speeds the drying process, removing water that allows microorganisms to grow and spoil the food. Do not rush the drying process by raising the temperature during drying. High drying temperatures cause "case hardening" which traps moisture inside the food and cause spoilage.

Always use safe handling and preparation methods.

- Wash hands thoroughly with soap and water before and after working with meat products.
- Use clean equipment and utensils.
- Keep meat refrigerated at 40°F or slightly below; use or freeze ground beef and poultry within 2 days and whole red meats within 3 to 5 days.
- Defrost frozen meat in the refrigerator, not on the kitchen counter.
- Marinate meat in the refrigerator. Don't save marinade to reuse. Marinades are used to tenderize and flavor the jerky before dehydrating it.

Jerky can be made from almost any lean meat, including beef, pork, venison or smoked turkey breast. Raw poultry is not recommended for jerky because of the texture and flavor of the finished product.

When preparing jerky from wild game, remember that the wound location and skill of the hunter can affect the safety of the meat. If the animal is wounded in such a way that the contents of its gut come in contact with the meat or the hunter's hands while dressing the meat, fecal bacteria can contaminate the meat. It is best to avoid making jerky from this meat and use it only in ways that it will be thoroughly cooked. Deer carcasses should be rapidly chilled to avoid bacterial growth.

## Heating Methods

Two methods can be used to heat jerky to safe temperatures: heating meat strips in marinade before drying, or heat dried jerky strips in an oven after drying. Both methods are described below. Heating marinated meat before drying may reduce drying time, but color and texture will differ from traditional jerky.

## Preparing the Meat

Partially freeze meat to make slicing easier. The thickness of the meat strips affects the safety of the methods recommended in this book. Slice meat no thicker than ¼ inch. Trim and discard all fat from meat because it becomes rancid quickly. If a chewy jerky is desired, slice with the grain. Slice across the grain if a more tender, brittle jerky is preferred. A tenderizer can be used according to package directions, if desired. The meat can be marinated for flavor and tenderness. Marinade recipes may include oil, salt, spices, and acid ingredients such as vinegar, lemon juice, teriyaki sauce, soy sauce, or wine.

**Jerky Marinade**

- 1½ to 2 pounds of lean meat (beef, pork, or venison)
- ¼ cup soy sauce
- 1 tablespoon Worcestershire sauce
- ¼ teaspoon each of black pepper and garlic powder
- ½ teaspoon onion powder
- 1 teaspoon hickory smoke-flavored salt

Combine all ingredients. Place strips of meat in a shallow pan and cover with marinade. Cover and refrigerate 1 to 2 hours or overnight. Products marinated for several hours

may be more salty than desired. If you choose to heat the meat before drying, do so at the end of the marination time. To heat, bring strips and marinade to a boil and boil for 5 minutes before draining and drying. If strips are more than ¼ inch thick, time may need to be increased. If possible, check the temperature of several strips with a metal stem-type thermometer to determine whether meat has reached 160˚F.

### Drying the Meat

Remove meat strips from the marinade and drain on clean, absorbent towels. Arrange strips on dehydrator trays or cake racks placed on baking sheets for oven drying. Place the slices close together, but not touching or overlapping. Place the racks in a dehydrator or oven preheated to 140˚F. Dry until a test piece cracks but does not break when it is bent (10 to 24 hours for samples not heated in marinade). Samples heated in marinade will dry faster. Begin checking samples after 3 hours. Once drying is completed, pat with clean, absorbent towels to remove excess beads of oil and cool. Remove strips from the racks. Cool.

If the strips were not heated in marinade before drying, heat them in an oven afterwards to be safe. Place strips on a baking sheet, close together, but not touching or overlapping. For strips originally cut ¼ inch thick or less, heat 10 minutes in an oven preheated to 275˚F. (Thicker strips may take longer to reach 160˚F.)

## Making Jerky from Ground Meat

Jerky can be made from ground meat using special presses to form or shape the product. Disease-causing microorganisms are more difficult to eliminate in ground meat than in whole meat strips. Again, an internal temperature of 160˚F is necessary to eliminate disease-causing bacteria such as *E. coli O157:H7*, if present. After dehydrating ground meat jerky, place on a baking sheet and heat 10 minutes in an oven preheated to 275˚F.

## Storing Homemade Jerky

Package dried jerky in glass jars or heavy plastic food storage bags. Vacuum packaging is also a good option. Homemade jerky is best used within 1 to 2 months. Refrigerate or freeze homemade jerky for longer storage.

## Resources


*Judging Home Preserved Foods. 2003.* National Center for Home Food Preservation, University of Georgia Cooperative Extension. *http://nchfp.uga.edu/publications/nchfp/tech_bull.html*

*Care and Handling of Deer from Field to Table.* November 2010. Kansas State University Research and Extension. *http://www.ksre.ksu.edu/bookstore/pubs/mf2176.pdf*

*Jerky and Food Safety.* USDA Food Safety and Inspection Service Fact Sheet. August 6, 2013, *http://www.fsis.usda.gov/wps/portal/fsis/topics/food-safety-education/get-answers/food-safety-fact-sheets/meat-preparation/jerky-and-food-safety/CT_Index*

*Drying Jerky. 2006.* National Center for Home Food Preservation, University of Georgia Cooperative Extension. *http://nchfp.uga.edu/how/dry/jerky.html*



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