



Wild Game Cookery: Venison

October 2003

This fact sheet focuses on storing and preparing venison. (Venison is the meat of antlered animals, i.e. deer, moose, elk and caribou.) Current health and food safety issues are addressed. Cooking tips and methods are outlined for various cuts of meat along with recipes for roasts, chops, steaks, stews, soups and canning wild game.

Food Safety Concerns of Wild Game

Parasites and Tapeworms

- ✓ Parasites and tapeworms are common in venison.
- ✓ Eating fresh venison is not recommended.
- ✓ Freeze venison for a minimum of 24, preferably 48 hours, before eating or processing it into jerky or sausage to kill any parasites or tapeworms.
- ✓ Cooking venison to 160°F also kills parasites and tapeworms.

Safety with Jerky and Sausage

- E.coli O157:H7 has been found in the intestinal tract of deer.
- Research shows E.Coli O157:H7 can survive in homemade venison jerky and fermented sausages like pepperoni.
- Researchers found that E. coli O157:H7 survived more than 10 hours of drying at 145°F.
- The U. S. Department of Agriculture (USDA) recommends that jerky made from beef or venison be steamed, roasted or boiled to 160°F before drying.

Food Safety Hotlines

-)] USDA Meat and Poultry Hotline answers your questions by phone or via email. Phone: 1-888-MPHOTLINE (1-866-674-6854) from 9:00 a.m. to 3:00 p.m. (CST) weekdays.
-)] Internet: www.fsis.usda.gov/mp/htm. Click on E-mail Us.
-)] FDA's Food Safety Information Hotline: 1-888-SAFEFOOD(1-888-723-3366) 24 hour recording

Keep Food Safe From Bacteria

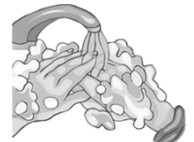
Bacteria are an invisible enemy that we can't see, smell or taste but can make us sick if in the food we eat. Bacteria invade food products, kitchen surfaces, knives and other utensils.



We can fight bacteria by following these four simple steps developed by the Partnership for Food Safety Education (www.fightbac.org): **Clean, Separate, Cook and Chill.**

Clean: Wash Hands and Surfaces Often

- ✓ Wash hands in hot soapy water before and after preparing food, after using the bathroom, changing diapers, handling pets, before and after eating, etc.



Handwashing Steps:

1. Wet hands with warm water.
 2. Apply soap
 3. Rub hands together for 20 seconds.
 4. Rinse well.
 5. Dry with paper towels.
- ✓ Wash cutting boards, knives, utensils and counter tops with hot soapy water after preparing each food item and before going on to the next one.
 - ✓ As an extra precaution, follow cleaning with a bleach solution of 1 teaspoon of chlorine bleach to 1 quart of water. Let air dry.

Separate, Don't Cross-Contaminate

Cross-contaminate is when bacteria from one food spreads to another food or surface. The greatest concern is when bacteria is spread to fresh raw food or

food that is fully cooked (called ready-to-eat). Tips to prevent cross-contamination:

- ✓ Store raw meat, poultry and seafood on the bottom shelf of the refrigerator so juices don't drip onto other foods.
- ✓ Use two cutting boards. Label one for cutting board for raw meat products and another for salads and other foods, which are ready to eat.
- ✓ Always wash cutting boards, knives and other utensils with hot soapy water after they come in contact with raw meat, poultry and seafood.
- ✓ Never place cooked food on a plate, which previously held raw meat, poultry or seafood.

Chill: Refrigerate Promptly

Cool and refrigerate food as quickly as possible to keep harmful bacteria from growing and multiplying. Follow these steps:

- ✓ Keep refrigerator at 38°F to keep food at 40°F or colder.
- ✓ Keep freezer at 0°F to -10°F.
- ✓ Check temperatures with an appliance thermometer.
- ✓ Wild game fat tends to become rancid quickly contributing to the “gamey” flavor so store fresh or thawed meat in the refrigerator for 1 or 2 days.
- ✓ Keep raw meat below cooked meat.
- ✓ Refrigerate prepared food and leftovers within two hours of cooking.
- ✓ Divide large amounts of leftovers into small, shallow containers for quick cooling in the refrigerator. Cover when food is cooled.
- ✓ Don't pack the refrigerator. Cool air must circulate to keep food safe.



Thawing Frozen Game Meat

1. Never thaw game or any meat at room temperature. Game meat is often high in bacterial content. Thawing at room temperature increases bacterial growth.
2. Thaw frozen game meat slowly and completely in the refrigerator at or below 40°F. Allow 24 hours for every 5 pounds of meat. Refrigerator-thawed roasts, chops or steaks should be used within one to two days.
3. Be sure that the ground meat is used immediately after thawing. (Because of its high bacterial content, ground game meat often spoils faster than other ground meat.)
4. Foods thawed in the microwave oven should be cooked immediately

Cook: Cook to Proper Temperatures

Foods are properly cooked when they are heated for a long enough time and at a high enough temperature to kill the harmful bacteria that cause foodborne illness.



- ✓ Venison should be cooked to at least 160°F to reduce risk of foodborne illness.
- ✓ Always use a meat or instant-read food thermometer to ensure your game meat has reached a safe internal temperature high enough to kill any harmful microbes.
- ✓ When cooking in a microwave oven, make sure there are no cold spots in food (where bacteria can survive). For best results, cover food, stir and rotate for even cooking. If there is no turntable, rotate the dish by hand once or twice during cooking.
- ✓ Bring sauces, soups and gravy to a boil when reheating.
- ✓ Heat other leftovers thoroughly to 165°F.

Recommended Minimum Internal Cooking Temperatures for Venison

Ground Venison, Sausage, Deer Bologna	160°F
Chops, Steaks, Roasts	
Medium	160°F
Well Done	170°F
Soups, stews, casseroles, meatloaf	165°F
Leftovers (reheating)	165°F

(Source: Cutter, C., *Proper Processing of Wild Game & Fish*, Penn State, 2002)

Cooking Tips



Big game animals usually exercise more than domestic animals, so game meats may be drier and less tender. It's important to use cooking methods that add juiciness and flavor.

1. Moist heat methods such as braising (simmering in a small amount of liquid in a covered pot) is recommended for tougher cuts like rump, round and shoulder.
2. Chops and steaks may be pan fried or broiled.
3. Experiment with herbs like rosemary, marjoram, thyme and sage.
4. Spices or marinades may be used to mask the gamey flavor. Meat should always be marinated in the refrigerator.
5. A vinegar-soaked cloth will remove hairs that can also produce undesirable flavors.

6. For a less gamey flavor, cover meat with vinegar water (2 tablespoons vinegar to a quart of water) and place in the refrigerator for about an hour before cooking.
7. Add other fats to keep game meat from becoming too dry. Rub a roast with oil, butter, margarine, bacon fat or sweet or sour cream to add moisture, richness, and flavor.
8. Baste very lean cuts with additional fat to improve flavor. Covering roast with bacon strips will provide self-basting.
9. Don't overcook or cook at temperatures above 375°F. The short fibers in wild game meat will get tough.
10. Serve game meat very hot or very cold. Lukewarm game fat has a very greasy taste.

How cuts may be used:

- ✓ Neck: Stew, sausage, ground
- ✓ Shanks: Stew, sausage, ground
- ✓ Shoulder: Pot roast
- ✓ Rib: Oven roast, chops broiled or fried
- ✓ Loin: Oven roast, steaks broiled or fried
- ✓ Rump: Pot roast, stew
- ✓ Round: Pot roast, swiss steak
- ✓ Breast/flank: Stew, sausage, ground

Source: Mikesh, V., Kean T., *Game Animals from Field to Kitchen*, University of Minnesota Extension Service, Bulletin 345.

Marinades

Marinades can tenderize, enhance and disguise game flavors.

Directions:

1. Cover meat with **one** of the following marinades.
 - 2 cups vinegar, 2 cups water, ½ cup sugar
 - French dressing
 - Italian dressing
 - Tomato sauce or undiluted tomato soup
 - Tomato juice
 - Fruit juice (such as lemon, pineapple, or a mixture of many juices)
 - ¼ cup vinegar, ½ cup cooking oil, ½ tsp. pepper, ¼ tsp. garlic salt
 - 2 cups water, 2 cups vinegar, 1-2 tbsp. sugar, 4 bay leaves, 1 tsp. salt, 12 whole cloves, 1 tsp. allspice, 3 medium sized onions, sliced.
 - Garlic salt, salt, and pepper to taste. Add equal parts of Worcestershire sauce and two of your favorite steak sauces. (This gives a blend

of flavors and also is excellent for basting game roasts or thick steaks during cooking.)

- 2 tbsp. vinegar, 1 ½ tsp. ground ginger, 1 clove garlic, minced, 2 tbsp. brown sugar, ½ cup soy sauce, ¾ cup vegetable oil
 - Commercial marinades
2. Place in the refrigerator overnight. (Marinating meats for more than 24 hours breaks down the meat fibers making it mushy.)
 3. Drain and discard marinade.
 4. Broil, roast, or braise.

Methods of Meat Cookery

The same general cooking rules apply to most kinds of antlered animals (deer, elk, moose, caribou). Venison is leaner but more watery than beef. The key to cooking juicy venison is to hold the water in the meat.

The two major methods for cooking meat are:

1. Dry heat—roasting, broiling, and pan-broiling.
2. Moist heat—braising, stewing.

Dry Heat (for tender cuts):

Roasting (loin and rib roasts)

1. Trim off all game fat; rub with bacon drippings or other fat.
2. Season with salt, pepper, and desired herbs.
3. Place on roasting rack in uncovered pan, bone down. A cooking bag may also be used. Follow directions on package.
4. For added flavor, place bacon strips on top of roast.
5. Do not add water. Do not cover.
6. Roast uncovered at 325°F. Allow 20 to 25 min/lb.
7. Cook until food thermometer reaches 160° F.

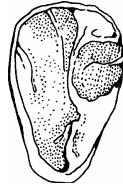
Broiling (loin and rib steaks or chops)

1. Preheat the broiler.
2. Trim all natural fat from steaks or chops.
3. Rub meat with butter, bacon fat, oil, or salt pork, and season it.
4. Place steaks or chops on the broiler rack with the top surface 3 to 5 inches below the heat source, depending upon the thickness of cut.
5. Cook 6 to 7 min./side. Baste with butter or barbecue sauce and serve at once.
6. Cook until the internal temperature reaches 160°F.

Pan Broiling (loin and rib steaks or chops)

Steaks and ribs retain more juice if the cuts are no thicker than 3/4" thick. Cook quickly.

1. Heat a heavy frying pan until it is sizzling hot.
2. Add 2 tablespoons oil or butter.
3. Brown on both sides, turning only once.
(Do not crowd pan.)
4. For thick chops or steaks, reduce heat after browning to finish cooking process.
(If water seeps out of meat, the fire is too low or pieces are crowded.)
5. Cook until food thermometer reaches 160° F.



Moist Heat (for less tender cuts):

Braising (arm and blade shoulder, round, rump)

(Braising—to simmer slowly with added liquid.)

1. Season with salt, pepper, or favorite seasoning.
2. Rub with flour.
3. Brown all sides in hot fat.
4. Add a small amount of water (about 1 cup).
5. Cover tightly.
6. Cook very slowly (simmer on low) until tender (2 to 3 hours).
7. Turn the meat occasionally; adding water, if necessary.
8. Cook until food thermometer reaches 160° F.

Stewing (rump, breast, shoulder, shank, neck)

1. Cut the meat into one-inch cubes.
2. Season with salt and pepper.
3. Sprinkle with flour.
4. Brown on all sides in medium hot fat.
6. Cover meat with boiling water.
7. Cover kettle tightly.
8. Simmer on low until tender (about 2 to 3 hours).
Do not boil!
9. Add vegetables (carrots, potatoes, etc.) 30 minutes before serving time so they will be tender.
10. Cook until food thermometer reaches 160° F.

Recipes

Roast:

Game Pot Roast

- 3-4 lb. roast (shoulder, round, rump)
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|----------------|----------------------|
| 1/2 tsp. salt | 1/4 tsp. celery salt |
| 2 cups water | 4 slices bacon |
| 1 bay leaf | 4 carrots, quartered |
| 1/8 tsp. thyme | 4 small rutabagas, |



- | | |
|-----------------------------|--------------------|
| 1/8 tsp. basil | quartered |
| 6 small potatoes, quartered | 1/4 tsp. pepper |
| 1 small onion, sliced | 1/2 cup sour cream |
- (Use other vegetables, if desired)

Wash hands with soap and water for at least 20 seconds. Place roast, water, and seasonings in a heavy pan. Lay bacon strips on roast. Cover pan tightly. Simmer on low until nearly tender (about 2 hours). Add vegetables 30 minutes before serving time and cook until all vegetables are tender. Cook until roast reaches 160° F. Use a food thermometer. Add sour cream. Heat but do not boil. Serve immediately.
Serves 6 to 8.

Left-Over Venison:

(Reheat left-overs to 165°F)

Mexican Corn Dish

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|----------------------------------|---------------------|
| 1 1/2 cups cooked, diced venison | |
| 2 tbsp. margarine or butter | |
| 1 1/2 tbsp. chopped green pepper | |
| 2 cups whole kernel corn | |
| 2 tbsp. chopped onion | 2 cups tomato juice |
| 3/4 tsp. chili powder | 1 tsp. salt |



Wash hands with soap and water for at least 20 seconds. Brown venison in fat, then add onion and green pepper and brown. Add corn, tomato juice, chili powder and salt. Simmer, covered for about 30-60 minutes until internal temperature reaches 165°F. Serve with brown rice.

Soup and Stew:

Burger Vegetable Soup

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|-----------------------------|------------------------|
| 1 pound ground venison | 1/2 cup chopped onion |
| 2 tbsp. margarine or butter | 2 cups canned tomatoes |
| 2 cups cubed potatoes | 2 diced carrots |
| 1/2 cup diced celery | 1 tsp. salt |
| 1/8 tsp. pepper | 1/4 cup uncooked rice |
| 1 1/2 or 2 quarts water | |

Wash hands with soap and water for at least 20 seconds. Brown meat and onion in fat, then add remaining ingredients. Simmer all slowly for about 2 1/2 hours.



- Roasts and Steaks – 8 – 12 months
- Stew Meat – 2 to 3 months

Canning

- Do not can meat unless you have a pressure canner.
- Can fresh meat within 2 days, or freeze it and can it later.
- To can frozen meat, thaw in the refrigerator until most of the ice crystals have disappeared.
- Low acid foods, such as meat, poultry, fish, vegetables, should never be canned using the water-bath method.
- Pressure and adequate time are necessary to produce safe canned meat
- Process at the correct pressure according to altitude. In Minnesota follow processing directions for 1000-2000 feet.
- Current (1990 or later) food preservation publications are available from your local county Extension office.

Canning Meat, Strips, Cubes, or Chunks

(Bear, Beef, Lamb, Pork, Veal, Venison)

Procedure: Choose quality-chilled meat. Remove excess fat. Soak strong-flavored game for 1 hour in brine water containing 1 tablespoon of salt per quart and rinse. Remove large bones. Cut into 1-inch wide strips, cubes, or chunks.

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. Loosely pack jars with pieces and add boiling broth, meat drippings, water; or tomato juices (especially with wild game) leaving 1-inch headspace, then pressure can.

Raw Pack: Add 1 teaspoon of salt per quart to the jar, if desired. Loosely pack jars with raw meat pieces, leaving 1-inch headspace. Do not add liquid. Adjust lids and process.

Recommended Process Times for Minnesota:

Dial-gauge Pressure Canner

Pints – 75 minutes @ 11 PSI

Quarts – 90 minutes @ 11 PSI

Weighted-gauge Pressure Canner

Pints – 75 minutes @ 15 PSI

Quarts – 90 minutes @ 15 PSI

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