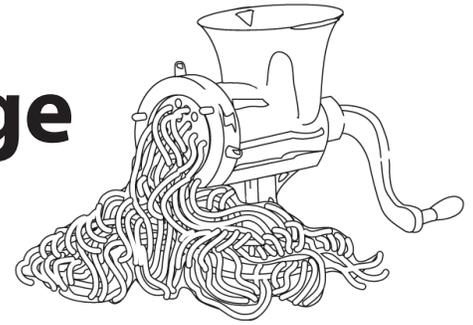




Making Sausage at Home



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Sausage is a mixture of meat and spices that can be used in patties, in bulk or stuffed into casings.

Making sausage at home can be a great family project. You can create your own recipe, make a sausage that isn't readily available in the store or even adjust recipes to suit your own taste.

Sausage making is an art that has been practiced for centuries all over the world, probably starting as soon as people learned that salt is an effective preservative. Today, more than 250 varieties of sausage are sold, many of them named after the town and/or country of origin.

Sausage is an excellent source of high-quality protein, containing all the essential amino acids in appropriate amounts necessary for growth, maintenance and repair of body tissue. It is also a great way to add variety to your meals.

Sausage can be made from beef, veal, pork, lamb, poultry, moose, caribou, bear, fish or from any combination of these meats. This fact sheet will focus on making fresh sausage — ground meat with spices and no preservatives. Sausage should be cooked fresh or kept in the refrigerator. For long-term storage, keep in the freezer.

Ingredients

Good sausage starts with good ingredients. You can't improve the flavor or the quality of meat by making it into sausage. Off flavors or germs in the raw meat will become part of the final product. Make sure your meat is of good quality and carefully handled to avoid bacterial growth. Be sure to follow the food safety guidelines in this publication. The meat should be fresh, high quality and have the proper meat to fat ratio.

Meat

Commercial sausages contain from 30 to 40 percent fat. By preparing them at home, you control the amount of fat in the product. The fat/lean ratio contributes to the

juiciness of the product. If the product is too lean, a dry, tasteless sausage may result. Low-fat sausages can vary from 10 to 20 percent fat in the product.

If you are using game meat such as moose or caribou, the meat is very lean, often less than 5 percent fat. Fat may be added in the form of suet, fat back or trimmings. Moose fat may be used, but it may have a strong flavor. You might even combine pork — which has a higher degree of natural fat — with game meat, which is leaner.

Salt

Canning and pickling salt is a pure salt and should be used in making sausage. Table salt or iodized salt may have impurities that can result in off flavors.

Herbs, Spices and Pepper

Make sure your spices and herbs are fresh. Spices and herbs older than 18 months may have decreased flavors. Taste to make sure the flavors are fresh and strong.

Ice

Ice is needed to keep the ground meat mixture cold.

Casings

Casing materials may be natural or man-made. Natural casings are the gastrointestinal tracts of cattle, sheep and hogs. These are digestible and are permeable to moisture and smoke.

Natural casings are stored in salt in the freezer. Rinse the casings before using them and let them soak in water for at least 30 minutes. Flush the casings under cold water, running cold water through the casing. Unused casings are drained, covered with salt and refrozen.

Man-made casings are either fibrous or collagen casings. These casings are uniform in size and come in sizes suited to different types of sausages. Fibrous casings must be removed before eating.

Extra Ingredients

Other ingredients can be added for additional flavors, such as onions, eggs, protein powder, rice, flour, dried milk, celery, potatoes and bread.

Equipment and Ingredients

Meat (80/20 to 90/10 mixture of meat and fat)

Grinder with 1/8-inch grinding plate

Sharp knives

Cutting board

Large mixing bowls (or other food-safe containers)

Measuring spoons

Casings (for links) or freezer storage bags (for bulk patties)

Spices

Freezer

Sausage stuffer (for links)

Hand soap and water

Paper towels

Sanitizing solution (1 tablespoon bleach to 1 gallon water)

Food Safety

Meat should be kept out of the temperature danger zone, from 40°F to 140°F. Cool temperatures are essential to keeping meat safe.

The two cardinal rules of food safety are to keep meat cold and to keep meat clean — in that order. Sanitation is important. Clean all surfaces that will touch the meat: hands, cutting boards, grinder plates, knives, mixing bowls, etc. Use a dilute solution of chlorine bleach (1 tablespoon bleach to 1 gallon of water).

If meat is held at a temperature below 40°F it will stay fresh and wholesome for several days. It is especially important to keep the game meat cold, since it is particularly difficult to keep it absolutely clean.

Procedures

1. Use a 1/8-inch grinding plate. Keep the meat and fat very cold prior to grinding. Meat is easier to grind if it is slightly frozen. Cutting meat into long strips allows for easier grinding. If you are using onions, bread or potatoes, they can be ground at this time.
2. After the meat is ground, add some ice cubes to clear the grinding plates and keep the meat mixture very cold.
3. Work with small quantities of meat. The danger of bacterial contamination increases with bigger batches. Refrigerate the rest of the mixture when not working with it. A total of 5 pounds of meat is a good-sized batch to work with.

4. Mix the spices and herbs for your recipe in 2 cups of ice water (for 5 pounds of meat). The resulting slurry dissolves the spices allowing for easier mixture through the meat. It also keeps the temperature of the meat down during mixing.
5. Thorough mixing of the meat is crucial. Mixing by hand is cold, hard work. Don't quit too soon. Mix until the sausage has a uniform color and the spices are distributed evenly.
6. Cook a small patty of the sausage and test the flavor. It isn't necessary to stuff the sausage. It can be left in bulk form or made into patties. If you choose to stuff it, the sausage is placed in some type of a forming device that stuffs the meat mixture into a casing. Natural casings can be twisted to make links. Links will hold if they are twisted in the opposite directions of each other.
7. Sausage should be refrigerated immediately. Package links or bulk sausage in a plastic freezer bag or in freezer paper. Freeze for longer storage.
8. Sausage can be boiled, baked, grilled or cooked in a skillet. All ground meat should be cooked to an internal temperature of 160°F; turkey or poultry should be cooked to 165°F and bear meat to 185°F.

Tips

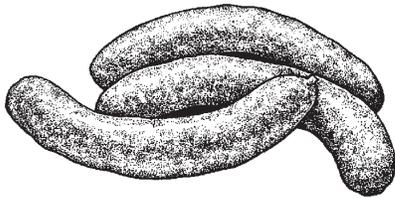
- When grinding, run a piece of bread or potato through the grinder last. It helps clear the grinding plates of fat and helps with the cleaning process.
- If you aren't sure about your recipe, divide the meat in half. Mix half the spices and herbs in 1 cup water. Mix with the meat, cook it, and taste for flavor. If the flavor is good, repeat the recipe with the other half of the meat. If it isn't flavored enough, put more spices and herbs in the second half of the meat.
- Always use food-safe containers to mix sausage. Using a large 5-gallon bucket may work easily, but be sure it is of food-safe construction and has been used for food storage only.
- Be sure to grind ice or use ice water in mixing. It will keep your product cold and safe throughout the mixing process.

Food Safety Guidelines

Bacteria can spread throughout a work area and contaminate equipment and work surfaces. To reduce your risk of foodborne illnesses

- Wash your hands for at least 20 seconds with soap and water before beginning work, after changing tasks or after doing anything that could contaminate your hands (such as sneezing or using the bathroom).

- Start with clean equipment and clean thoroughly after using. Be sure all surfaces that come into contact with meat are clean.
- Sanitize surfaces with a solution of 1 tablespoon bleach per gallon of water. Allow to air dry.
- If using frozen meat in sausage, thaw it in a cooler or on the lowest shelf of the refrigerator to prevent juices from dripping on ready-to-eat foods. Keep raw meat separate from other foods.
- Keep meat as cold as possible (40°F or lower) during processing.



Deer Sausage (also reindeer, caribou or moose)

*Adapted from Sausage from Alaskan Game,
Cooperative Extension Service, 1980*

10 pounds	clean, sound venison
10 pounds	pork
6 tablespoons	salt
2 tablespoons	ground pepper
pinch	ground sage

Grind meats and seasoning together thoroughly. Stuff into casings or make patties. Freeze.

Breakfast Pork Sausage

*From Making Sausage at Home,
Cooperative Extension Service, 1983*

2½ pounds	pork (75 percent lean and 25 percent fat)
2 teaspoons	sage
1½ teaspoons	marjoram
1 teaspoon	savory
2 teaspoons	salt
2 teaspoons	ground black pepper

Cut pork and put through meat grinder using coarse blade. Flush with 3 ice cubes.

Add spices and mix with a wooden spoon.

Grind on a finer blade. This helps distribute the fat, lean and seasonings.

Easiest Fresh Sausage

Makes 5 pounds of links or patties

2½ pounds	ground game meat (moose, caribou, reindeer)
2½ pounds	ground pork
2 tablespoons	garlic powder
2 tablespoons	dried onion (or one fresh onion, ground with meat)
1 teaspoon	salt
1 tablespoon	black pepper

If available, add 1 tablespoon fennel seed, 1 tablespoon red pepper or other favorite spices to taste.

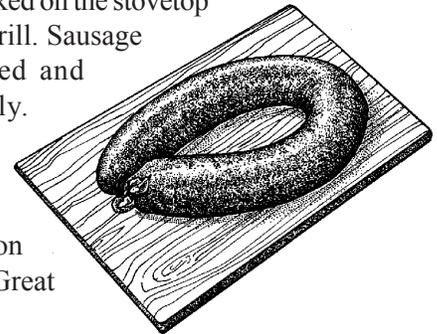
Grind meat. Mix ingredients thoroughly with clean hands. Keep meat cold (under 40°F) as you work.

To test spice mix, cook a small sample patty in a frying pan. Spices may be adjusted to taste. It's always easier to add more spices than to take them away. However, you can dilute a batch that is too salty or spicy by adding more meat.

Stuff meat into casings or hand form into patties. Store in freezer bags until ready to cook.

Sausage can be cooked on the stovetop or on an outdoor grill. Sausage should be browned and cooked thoroughly.

Serve on noodles, rice or pasta. Delicious with tomato sauce or served on a sourdough roll. Great for breakfast too!



Sweet and Spicy Country-Style Sausage

From Backwoods Home magazine, Jan./Feb. 1998

5 pounds	coarsely ground pork
2 tablespoons	dried sage
1 tablespoon	dried summer savory
1 tablespoon	ground red pepper
1 tablespoon	coarsely ground black pepper
¼ cup brown	sugar

Mix all ingredients in a large bowl. This sausage can either be stuffed or formed into patties. For best flavor, refrigerate overnight before cooking.

Freeze leftovers within two days to preserve freshness.

Italian or Venison Sausage

*Adapted from Sausage from Alaskan Game,
Cooperative Extension Service, 1980*

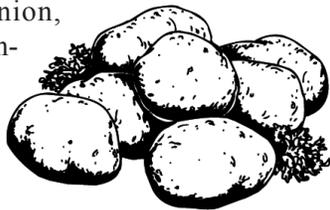
25 pounds	meat (½ pork and ½ beef, venison, reindeer, caribou or moose)
6–8 ounces	salt
1 heaping teaspoon	ground pepper
1 teaspoon	mace
1 teaspoon	nutmeg
1 teaspoon	cloves
1 teaspoon	allspice
	garlic to taste

Grind the meat and thoroughly mix in the seasonings. Stuff into casings or make patties. Store in freezer.

Potato Sausage

3 pounds	beef (ground chuck or similar meat)
3 pounds	fat pork
½ pound	salt pork
6–20 pounds	potatoes
1 teaspoon	pepper
1 teaspoon	whole allspice crushed
1	large onion, ground
	salt to taste
¼ pound	casings

Grind the salt pork with the potatoes (amount of potatoes can be varied according to taste). Grind meat. Sauté ground onion in a small amount of fat until clear. Combine onion, potatoes, meat and seasoning. Stuff into casings. Cook fresh or freeze within 2 days.



Fish Sausage

10 pounds	fish
1 pint	ice water
1 pound	vegetable shortening
12 ounces	cornstarch
4 tablespoons	salt
1 teaspoon	sugar
1 tablespoon	ground black pepper
1 teaspoon	onion powder
1 teaspoon	garlic powder
1 teaspoon	ground nutmeg

Debone the fish. Be sure the flesh is cooled to at least 35°F before grinding. Use a ¾-inch grinder plate to grind fish. Add salt and mix thoroughly. This allows the sausage to bind well. After 10 minutes, add the corn starch mixed with the ice water. The spices and shortening are added last, again mixing thoroughly. The mixture is then stuffed into a fibrous casing of your choice (2-inch or 3½-inches wide.)

Cook sausage in water at 200°F to 205°F until the internal temperature of the sausage reaches 180°F. Place in cold water until the sausage reaches an internal temperature of 70°F. Immerse cooled sausage in boiling water for one minute to tighten the casing on the product.

Fish sausage is a very perishable product and should be stored at a temperature of 35°F or lower. It also keeps well when frozen.

Because this sausage is cooked at such high temperatures, the use of cures is not required. In addition, this sausage may also be made in a loaf for home use and cooked in a loaf pan. If allowed to cool overnight it will slice very nicely as any other lunch meat.

This loaf may be flavored with liquid smoke, using 1 teaspoon to each 5 pounds of meat.

Adapted by Roxie Rodgers Dinstel, Extension Faculty, Health, Home and Family Development, using "Making Fresh Sausage," a handout by Ken Krieg, and "Making Sausage at Home," a fact sheet by Isabel D. Wolf. Reviewed by Kari Van Delden, Julie Casio and Sonja Koukel, Extension Faculty, Health, Home and Family Development.

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