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Handy Reference for Drying Meat Jerky

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YIELD OF DRIED MEAT

Four pounds of fresh, trimmed meat will yield 1 pound of jerky, a lightweight dried meat product. Suggested cuts include lean beef round, flank, chuck, rump, or brisket.

SAFE PREPARATION METHODS

Traditional jerky is made from raw meat, however illnesses due to *Salmonella* and *E. coli* O157:H7, both extremely dangerous bacteria, have resulted in new recommendations for making homemade jerky. *E. coli* can adapt to acidic conditions and has been found to survive many weeks on dry surfaces, even at refrigerated temperatures. Therefore, there is a strong possibility that *E. coli* will survive in dried foods.

There are three ways to make a safer jerky product.

1. Precook meat to 160°F before drying to kill *E. coli* and other bacteria. This method creates a product that is different in texture and flavor from traditional jerky.
2. Follow preparation methods developed at Colorado State University included in this publication.
3. Place dried meat strips, prepared and dried traditionally or by one of the methods listed above, in a pre-heated 275°F oven for 10 minutes.

SAFETY PRECAUTIONS WHEN HANDLING RAW MEAT

Always wash, rinse, and sanitize cutting boards, utensils, and counters before and after any contact with raw meat or juices. Wash hands and equipment with hot soapy water and rinse well. To make a sanitizing solution, use 1 teaspoon of household chlorine bleach to 1 gallon of water. Immerse equipment in this solution for 7 seconds, according to the 1999 Model Food Code.

Always wash hands thoroughly with soap and warm water for at least 20 seconds before and after handling raw meats.

Keep meat refrigerated at 40°F or below no longer than 3 to 5 days. Thaw frozen meat in the refrigerator, not on the kitchen counter.

Marinate meat in the refrigerator. Do not save or re-use the marinade.

DRYING

Once jerky strips have been prepared according to one of the methods in this publication, they are ready to be dried.

Use an accurate thermometer to monitor air temperature of dehydrator or oven. Pre-heat the oven to 145 to 150°F for 15 to 30 minutes. Dry 8 to 12 hours. Properly dried jerky is chewy and leathery. To test for dryness, remove a strip, let cool slightly, then bend the jerky. It should crack, but not break.

When jerky is sufficiently dried, transfer strips from drying racks to a clean surface. Pat off any beads of oil with a paper towel and let cool.

STORAGE

Place cooled jerky strips in an airtight plastic food bag or jar with a tight fitting lid. Pack jerky with the least possible amount of air trapped in the container. Too much air causes off flavors and rancidity to develop. Label and date packages. Store containers of jerky in a cool, dry, dark place, or in the refrigerator or freezer.

Properly dried jerky will keep for approximately 1 month in a sealed container at room temperature. It will keep for 3 to 6 months in the refrigerator and up to 1 year in the freezer. Check occasionally to be sure no mold is forming.

Making Meat Jerky Safely

Hot Pickle Cure Preparation Method*

Ingredients:

2 pounds lean meat, slightly frozen

Pickling Spices:

1-1/2 tablespoons salt

1 tablespoon sugar

1 teaspoon black pepper

Hot Pickle Brine:

3/4 cup salt

2 tablespoons black pepper

2 tablespoons sugar

1 gallon water

Directions:

1. Trim visible fat from meat. Slice on clean cutting board while still slightly frozen into long thin strips, no more than 1/4-inch thick, 1-1/2 inches wide and 10 inches long. For chewy jerky slice with the grain, for a tender brittle jerky, slice across the grain.
2. Lay the strips in a single layer on a clean and sanitized smooth surface (cutting board, counter top, or cookie sheet). Flatten the strips with a rolling pin to a uniform thickness.
3. Mix pickling spices and sprinkle half on the surface of the slices. Press spices into meat with a rubber mallet or meat tenderizer. Turn slices and repeat on opposite side. Cover and refrigerate 24 hours.
4. Combine hot pickle brine ingredients in large kettle. Bring to a gentle boil, stirring to dissolve spices. In a steamer basket, immerse a few meat strips in the brine. Simmer 1-1/2 to 2 minutes. Lift basket out of kettle. Using clean tongs, remove meat strips and place flat, without touching, on clean drying trays. Repeat process with all meat pieces.
5. Immediately begin drying in pre-heated 145 to 150°F oven or dehydrator for 8 to 12 hours. To test for dryness, remove a strip, let cool slightly, then bend the jerky. It should crack, but not break.

Acidified Marinade Preparation Method*

Ingredients:

2 pounds lean meat, slightly frozen

1/2 cup soy sauce

1 tablespoon Worcestershire sauce

1/4 teaspoon black pepper

1/4 teaspoon garlic powder

1/2 teaspoon onion powder

1 teaspoon hickory smoked salt

OR salt

3 teaspoons ascorbic acid

OR 1 teaspoon citric acid crystals

Directions:

1. Cut raw meat as described in Hot Pickle Cure Preparation Method. Combine all ingredients in a one-gallon self-locking plastic bag; seal bag and massage to distribute marinade over all meat strips.
2. Refrigerate bag 1 hour only. Marinating for a longer period is not recommended, as it may provide time for *E coli* O157:H7 bacteria to become acid resistant.
3. Remove meat strips from bag and place flat, without touching, on clean drying trays.
4. Immediately begin drying in pre-heated 145 to 150°F oven or dehydrator for 8 to 12 hours. To test for dryness, remove a strip, let cool slightly, then bend the jerky. It should crack, but not break.

Resources:

Home style beef jerky: Effect of four preparation methods on consumer acceptability and pathogen inactivation, *Journal of Food Protection*, pages 1194-1198, Vol. 64, No. 8, 2001

**Leathers and Jerkies*, P. Kendall and J. Sofos, Colorado State University Cooperative Extension, 2000.

So Easy to Preserve, 4th Edition, Cooperative Extension Service, The University of Georgia, 1999.

For additional information, contact your local Cornell Cooperative Extension Office.

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