$2.00

University of California Cooperative Extension Master Food Preserver

"Preserve today, Relish tomorrow"

HOLIDAY FOOD SAFETY

Cooking, Serving, and Storing Food Safely
with a focus on the Winter Holidays

UCCE Master Food Preservers of El Dorado County

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Basic Food Safety & Sanitation

When it comes to cooking, serving, and storing food, avoiding food-borne illness is of the utmost importance. Cleaning and sanitizing, washing your hands frequently, properly handling produce and meat (especially foods that won't be cooked), and avoiding cross-contamination are all part of the process in avoiding food-borne illness. Key things to remember include:

Step 1: Clean Your Work Area

Wash your sink and countertops with soap and warm water, rinse well, and dry with clean paper towels. Then apply a sanitizing solution such as bleach (1 scant teaspoon of liquid unscented bleach to 1 quart of water). Spray well and allow to air dry, or let sit for 30 seconds and wipe dry with clean paper towels. If using commercial sanitizers, follow the manufacturer's instructions. Wash and sanitize both before and after preparing food.

Step 2: Wash Your Hands

Wet your hands, apply soap, lather and then scrub for at least 20 seconds. Rinse well and dry with paper towels or a clean cloth. If using gloves, first wash your hands and then wash the gloves following these same procedures. Wash your hands again when switching tasks.

Image Source: FDA

Step 3: Avoid Cross-Contamination

Be sure to use clean cutting boards and kitchen utensils, and wash them thoroughly before switching from one food type to another, or use separate boards and utensils for different types of foods (e.g., use one board for raw fish or meat and another board for vegetables, herbs, etc.). Wipe up spills promptly, and re-clean your work area as often as necessary.

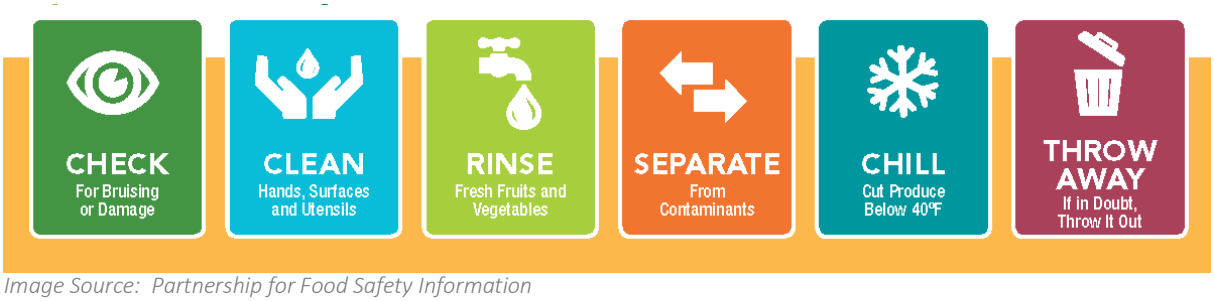

Image Source: Partnership for Food Safety Information

Basic Food Safety & Sanitation – cont.

QUICK TIPS

- use paper towels or a fresh clean dish towel to clean surfaces
- wipe up spills immediately with paper towels or a clean dish towel (and then put that towel straight into the laundry basket)
- change dish cloths and towels **every day**
- sanitize sponges between uses by using one of these 3 methods:
  - moisten the sponge and heat in a microwave for one minute
  - wash in a dishwasher with a drying cycle
  - soak in a bleach solution for one minute
- replace sponges frequently

Step 4: Prepare Your Food

Do not wash raw seafood, meat and poultry – doing so can spread pathogens and potentially cross-contaminate other foods. Wash **all** fresh produce, even if the skin or rinds won't be eaten. To wash produce, rinse under cool running water in a clean sink – do not soak.

QUICK TIPS

- clean produce right before using
- gently rub soft fruits and vegetables (such as tomatoes) with your hands under running water to remove dirt
- scrub firm fruits and vegetables (such as potatoes, carrots, and melons) with a vegetable brush (don't forget to clean the brush!)
- remove outer leaves of lettuce and cabbage before washing
- rinse herbs and sprouts, then shake to remove excess water
- use a kitchen sink sprayer to rinse berries in a colander, gently turning and shaking the colander to remove dirt and excess water

For more information on cleaning and sanitizing the kitchen using inexpensive and food-safe household products, check out this publication:
https://extension.colostate.edu/docs/pubs/foodnut/kitchen-sanitize.pdf

When In Doubt, Throw It Out

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

For general information on food safety, here are some good websites to visit:
http://nchfp.uga.edu
www.foodsafety.gov
www.fightbac.org
https://www.cdc.gov/foodsafety/cdc-and-food-safety.html

Let's Talk Turkey

PLANNING IS KEY: When possible, plan as much of your menu several weeks before the holiday. If turkey is on the menu, whether it's fresh or frozen (and its size as well) can have a big impact on your timeline, and you will need to plan accordingly.

FRESH OR FROZEN? There is no appreciable difference between fresh and frozen turkeys; it's just a personal preference as to which you choose. Frozen turkeys can be purchased at any time, provided that you have adequate storage space in your freezer. Keep frozen turkeys frozen until ready to thaw. Purchase fresh turkeys 1-2 days before cooking.

PRE-STUFFED TURKEYS: If you prefer a pre-stuffed turkey, choose one that has been commercially frozen and has a USDA or state mark of inspection. **Fresh pre-stuffed turkeys can be unsafe and are not recommended.**

HOW MUCH? The next decision is the size of the turkey to purchase. Plan on the following amounts, based on whether you purchase a whole or partial turkey.

Whole Turkey:	1 pound per person (1½ lbs if you want leftovers)
Breast of Turkey:	¾ pound per person
Boneless Breast of Turkey:	½ pound per person
Pre-stuffed Frozen Turkey:	1¼ pounds per person (keep frozen until ready to cook)

NO WASHING! Poultry (as well as meat and fish) should not be washed, as that can spread pathogenic bacteria. See Pg. 3 for further details on handling meat and produce.

THAWING: Because of the long defrosting time, planning in advance is key, as noted above. To thaw a frozen turkey in the refrigerator, place it in its original wrapper on a tray or in a pan to catch any juices that may leak. Allow approximately 24 hours of thawing time per 4-5 lbs. of whole turkey. Once thawed, keep the turkey refrigerated for only 1-2 days. If necessary, a turkey properly defrosted in the refrigerator may be refrozen.

If you forgot to thaw the turkey in time or don't have room in your refrigerator for thawing, the bird may be thawed in cold water. Wrap the turkey well, making sure water is not able to leak through the wrapping. Submerge the turkey in cold water, and change the water every 30 minutes to maintain the cold temperature. Allow about 30 minutes of defrosting time per pound of whole turkey. *A turkey defrosted in water cannot be safely refrozen.* **Cook the turkey immediately after it is thawed.**

TURKEY THAWING CHART		
Weight	**Refrigerator**	**Cold Water**
4 – 12 lbs	1 – 3 days	2 – 6 hours
12 – 16 lbs	3 – 4 days	6 – 8 hours
16 – 20 lbs	4 – 5 days	8 – 10 hours
20 – 24 lbs	5 – 6 days	10 – 12 hours

NOTE: DO NOT THAW POULTRY (OR ANY MEAT) AT ROOM TEMPERATURE!

Let's Talk Turkey (cont.)

THE DAY BEFORE: Avoid stress levels – and an emergency run to the market – by checking to make sure you have all of the ingredients and equipment necessary. You'll need a roasting pan large enough to hold the turkey as well as a meat or food thermometer. Wet and dry stuffing ingredients can be prepared in advance and stored *separately* in the refrigerator until they are ready to be cooked in a casserole dish or the turkey. **Do not stuff the turkey until it's ready to be cooked.** Refer to the *Stuffing – In or Out?* section below for further details.

COOKING: A turkey may be cooked frozen, or after thawing. A frozen turkey will take at least 50% longer to cook than a fully thawed bird. Be sure to remove the giblets from the turkey cavity before stuffing and cooking. If cooking a frozen turkey, remove the bag of neck and giblets from the cavity after cooking for 3 hours, then continue cooking. Cook the neck and giblets separately.

Whether cooking a fresh, thawed, or still-frozen turkey, **always cook it until the correct minimum internal temperature is reached (165°F)**. Doneness should be checked with a food thermometer – don't rely on time or the pop-up thermometer in the bird. Insert the tip of the thermometer into the thickest part of the thigh, away from the bone. If the temp there has reached 180°F, there is usually no other part of the bird lower than the safe temperature of 165°F. To be sure, check the temperature at several locations, including the breast and the wing joint. **And do clean the thermometer's probe after each use!**

The following cooking times are for fresh or thawed turkey in an oven at 325°F. The USDA does not recommend cooking a turkey at an oven temperature lower than 325°F. It is safe to roast a still-frozen turkey, however cooking times will be approximately 50% longer than that for a fresh or thawed bird. Note that all turkey meat – including any that remains pink – is safe to eat as long as all parts have reached at least 165°F. Stuffing, whether cooked in the bird or in a separate dish, should also reach a minimum temperature of 165°F.

TURKEY COOKING TIMES		
Weight	**Unstuffed**	**Stuffed**
4 – 8 lb breast	1½ - 3¼ hrs	not applicable
8 – 12 lbs	2¾ – 3 hours	3 – 3½ hours
12 – 14 lbs	3 – 3¾ hours	3½ – 4 hours
14 – 18 lbs	3¾ – 4¼ hours	4 – 4¼ hours
18 – 20 lbs	4¼ - 4½ hours	4¼ - 4¾ hours
20 – 24 lbs	4½ – 5 hours	4¾ – 5¼ hours

After checking with a thermometer that both the turkey and the stuffing are done, remove the turkey from the oven and let it stand for 20 minutes to allow the juices to settle. Remove the stuffing from the cavity (if applicable) and carve the turkey.

Let's Talk Turkey (cont.)

LEFTOVER TURKEY: Discard any turkey or side dishes left out at room temperature longer than 2 hours (1 hour in temperatures above 90°F). See *The 2-Hour Rule* section below for further details. Cut the turkey into small pieces. Refrigerate turkey, stuffing, and gravy separately in shallow containers. Use leftover turkey and stuffing within 3 to 4 days; use leftover gravy within 1 to 2 days. These foods can be frozen for longer-term storage. Always reheat turkey, stuffing and gravy to a temperature of 165°F or until hot and steaming.

Stuffing – In or Out?

The USDA recommends *against* cooking stuffing inside the cavity of whole turkeys, for one main reason: bacteria. Warm, moist stuffing is an ideal environment in which bacteria can proliferate, potentially causing foodborne illness. Stuffing that's cooked inside the bird may not reach the correct temperature for killing off bacteria, even if the turkey itself reaches the correct temp. **For safety, it's best to cook stuffing separately.** (And a side benefit is that the turkey will cook more quickly without the stuffing.)

However you decide to cook the stuffing, follow these preparation and cooking safety tips.

- do not make *fully prepared uncooked* stuffing ahead of time
- wet and dry ingredients for stuffing can be prepared separately, then refrigerated
- *fully prepared cooked stuffing* can be made ahead, then refrigerated for serving later
- once stuffing ingredients are mixed together, make sure the stuffing is evenly moist (heat destroys bacteria more rapidly in a moist environment), then place in the vessel of your choice (casserole dish, slow cooker, or the turkey cavity) and cook immediately
- if stuffing the turkey, stuff *loosely* – about ¾ cup of stuffing per pound of turkey
- do not stuff the turkey until it is ready to be cooked
- cook stuffing in an oven at a temperature setting no lower than 325°F
- use a food thermometer to make sure that the stuffing reaches at least 165°F
- refrigerate stuffing within 2 hours after cooking

Stuffing may be safely made in a slow cooker, following these guidelines. Refer to the *Slow Cooker Safety* section below for additional safety information on using slow cookers.

- make sure that the stuffing is very moist
- loosely fill the slow cooker, no more than ⅔ full
- ensure that the lid fits tightly on the slow cooker
- start cooking on the high setting for at least 1 hour before reducing to low

For further information on safely cooking stuffing (and the turkey, too), visit these websites:
https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/poultry/stuffing-and-food-safety
https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/poultry.

THANKSGIVING TURKEY HOTLINES

If you have questions about preparing your turkey – whether during the days leading up to Thanksgiving or even on the day itself, there are several resources available.

The USDA Meat and Poultry Hotline
1-888-MPHOTLINE (1-888-674-6854)
Thanksgiving Day: 8am – 2pm ET
Year-round: Monday-Friday 10am – 6pm ET

Butterball Turkey Talk-Line
1-800-BUTTERBALL (1-800-288-8372)
Thanksgiving Day: 5am – 6pm CST
Weekdays, November & December: 8am – 8pm CST

Online, Chat, & Other Resources
Ask USDA: https://ask.usda.gov/s/ (24/7; live chat during hotline hours)
USDA Online Info: https://www.fsis.usda.gov/food-safety
U. Wyoming Extension: https://wyoextension.org/publications/html/MP135/
Butterball Skill on Amazon Alexa ("*Alexa, ask Butterball…*")
Butterball Email / Live Chat: https://www.butterball.com/contact-us
Butterball Online Info: https://www.butterball.com/online-turkey-talk-line

Cook to the Correct Temperatures

Whether it's a holiday turkey, a roast, eggs, or leftovers, all foods should be cooked to the correct internal temperature to be safe. Use a calibrated food thermometer to be sure.

Image Source: USDA Food Safety and Inspection Service

The 2-Hour Rule

One of the basic maxims of food safety – besides cooking to proper temperatures of course – is to **keep hot foods hot and cold foods cold**. Not keeping perishable food cold enough (at or below 40°F) or hot enough (at or above 140°F) allows bacteria to multiply quickly, causing the food to become unsafe. This temperature range between 40°F to 140°F is known as the "**Danger Zone**." Thus, when preparing or serving perishable food, it's important that it not be left at room temperature for more than two hours. If the temperature is above 90°F (such as when you're entertaining outdoors), don't leave food out for more than one hour. Food left out for more than these time limits should be discarded.

Care should also be taken when defrosting frozen foods, as pathogenic bacteria can multiply as the food begins to defrost when left at room temperature. Thaw frozen foods in the fridge or under cold running water, not at room temperature.

To recap:

- **Do not leave perishable food at room temperature for more than two hours (one hour if the temperature is above 90°F).**
- This goes for food that is freshly cooked, or leftovers remaining after serving a meal or entertaining. Store foods in shallow containers and refrigerate or freeze promptly.
- Defrost frozen food safely in the refrigerator – not at room temperature.

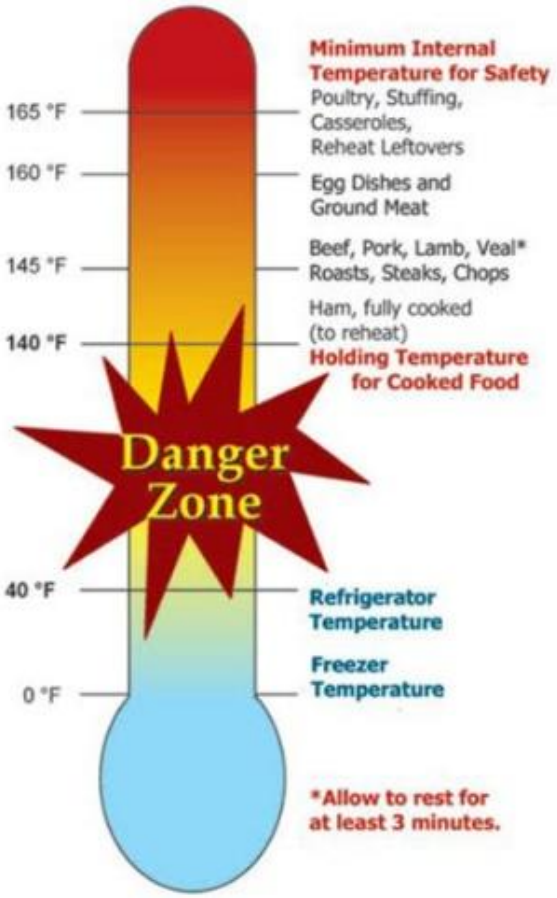

Image Source: U.S. Department of Agriculture

Slow Cooker Safety

Slow cookers (aka "crock pots") are popular electric appliances which are an advantageous way to cook meals: They are convenient, economical, and are great for tenderizing less expensive and tougher cuts of meat (such as shoulder, round, and chuck). They are also a *safe* way to cook, as long as the devices are used correctly. Slow cookers work by cooking food at a low temperature (generally between 170-280°F) for several hours. Direct heat from the pot, steam, and long cooking times combine to destroy bacteria, making foods cooked in slow cookers safe to consume. Specific safety considerations include:

- **ADD LIQUID:** Water or some form of liquid is necessary to create steam. When cooking meat or poultry, ingredients should be covered to ensure heat transfer throughout the pot. Follow the manufacturer's instructions for how much liquid to add. Foods with a high moisture content (chili, soup, stew, or spaghetti sauce) are good choices for slow cookers.
- **THAW FIRST:** Meat or poultry should always be thawed before putting it in the slow cooker. Frozen meat will not quickly enough reach the minimum temperature necessary to ensure safety.
- **PREHEAT THE COOKER:** Preheat the slow cooker before adding ingredients. Liquids should preferably be hot before being added.
- **SET TO HIGH FOR THE FIRST HOUR:** Setting the temperature to high for the first hour helps ensure a rapid heat start, and it shortens the time foods are in the temperature "danger zone." It is highly recommended to do this when cooking meat or poultry.
- **DO NOT COOK ON WARM:** The warm setting on slow cookers is designed to keep foods hot, not to cook them.
- **SOAK & BOIL DRIED BEANS FIRST:** Dried beans contain natural toxins that are destroyed by boiling temperatures (which are not reached in slow cookers). Before adding dried beans to a slow cooker, soak them for 12 hours, rinse, and then boil them on a stove top for at least 10 minutes.
- **ADD VEGGIES FIRST:** Vegetables cook the slowest, so add them first. Or, they can be arranged on the bottom or along of the sides of the slower cooker with meat in the center.
- **KEEP THE LID ON:** It's so tempting to lift the slow cooker's cover, but refrain from doing so unnecessarily during the cooking cycle. Each time the cover is opened, steam is released, the internal temperature drops 10-15 degrees, and the cooking process is slowed down by 30 minutes.
- **USE A CALIBRATED THERMOMETER:** Before eating food prepared in a slow cooker, check to ensure that it has reached a safe temperature (see pg. 6).
- **COOL PROPERLY:** Cooked food should not be allowed to cool down in the slow cooker. If not eaten immediately, transfer to containers and refrigerate promptly (see pg. 7).
- **NO REHEATING IN THE SLOW COOKER:** Food should not be reheated in slow cookers. Instead, reheat leftovers on the stove top or microwave to 165°F or above, after which point the food can be transferred to a slow cooker and kept warm (140°F or above).

For further information on slow cooker safety, visit:
https://www.fsis.usda.gov/food-safety/safe-food-handling-and-preparation/food-safety-basics/slow-cookers-and-food-safety

Leftover Lifetimes

Leftovers can be a lifesaver when you need a meal in a hurry, but unfortunately they don't last forever. Or even a long time. And no, turning leftovers into another kind of leftover does not extend the life of the original food. Keeping food at proper temperatures and storing it for limited times is paramount for food safety. Label and date your leftovers, and check your fridge often and purge as required.

First, whether you're serving a family meal or you're setting out food when entertaining, be sure to **keep perishable food at room temperature no longer than 2 hours (1 hour if you're outdoors and the temp is over 90°F)**. Bacteria that cause foodborne illness multiply rapidly at temperatures in the "Danger Zone" (temperatures between 40°F and 140°F), rendering food potentially unsafe. Food that is not eaten during this timeframe should be promptly refrigerated or frozen.

Most leftover foods will last in the refrigerator for **3 to 4 days**. After that time, leftovers should be tossed. And it should go without saying that any food that is obviously spoiled (it smells unpleasant, or is discolored or moldy or abnormally soft) should be immediately thrown out, no matter how long it has been stored.

One of the most basic food safety practices is: **When in doubt, throw it out**.

For more information on storing food and beverages, visit **The FoodKeeper page** at https://www.foodsafety.gov/keep-food-safe/foodkeeper-app, where you can browse by category or use the search function to look up something specific. There's also a **FoodKeeper mobile app** available for Android and Apple devices.

Pie Storage

Counter or refrigerator? It depends on the type of pie. Following are recommendations for storing various types of freshly baked pies. Note that some perishable commercial pies contain preservatives, so be sure to check the label for their specific storage instructions.

FRUIT PIES MADE WITH SUGAR: Fruit pies (apple, berry, etc.) can be kept at room temperature up to 2 days and thereafter wrapped loosely and stored in the refrigerator for up to 2 more days. Or, put them straight in the fridge for up to 7 days. Fruit-with-sugar pies can also be frozen: Place uncovered in the freezer until frozen solid, then wrap well and return to the freezer for up to 4 months.

FRESH FRUIT, CUSTARD, CREAM, AND CHIFFON PIES: Refrigerate promptly after cooking and cooling, and keep in the fridge until ready to serve. Store in the refrigerator for up to 4 days. These pies don't freeze well.

PUMPKIN, PECAN, AND OTHER PIES MADE WITH EGGS: Store these pies in the fridge for up to 4 days. Pumpkin and pecan pies keep moderately well in the freezer for up to 2 months, but they may get a soggy crust or the filling may separate somewhat. Thaw these frozen pies in the refrigerator.

PIES MADE WITH SUGAR SUBSTITUTE: Lack of sugar shortens the life of these pies, which are best consumed in 1-2 days. Store in the fridge. They can be frozen in an airtight container, or well wrapped in plastic or foil, for up to 2 months.

Handling Raw Flour and Dough

Flour is, generally speaking, a raw agricultural product which has not undergone any type of treatment to kill pathogenic bacteria – such as E. coli and Salmonella – that can cause foodborne illness. Several disease outbreaks associated with flour and flour products (including commercially made cake mix and raw cookie dough) caused many people to become severely ill, with some requiring hospitalization. These cases, and the large product recalls that resulted because of contaminated flour, point out the importance of **never eating raw dough** and for **handling raw flour carefully**. Fortunately, properly cooking or baking flour will inactivate harmful bacteria and make the flour safe to eat.

Here are a few recommendations on handling raw flour and flour products:

- don't eat or even taste any product that contains raw flour (alas, this means don't lick the bowl or the beaters!)
- don't use raw homemade raw cookie dough in ice cream
- cook or bake products to proper temperatures and for specified times
- children should not play with raw dough, including dough made for crafts
- because of the powdery nature of flour, it spreads, so avoid cross-contamination by keeping it separate from other raw foods and by washing hands, utensils and work areas after contact with raw flour

For further information on the dangers of consuming raw flour and flour products, visit the CDC website at https://www.cdc.gov/foodsafety/communication/no-raw-dough.html.

Handling Raw Eggs

Raw eggs can harbor *Salmonella* – both on the shell itself *and* inside the egg, too. Egg shells can be contaminated from *Salmonella* from poultry droppings or from the area in general in which the eggs are laid. Poultry that are infected with *Salmonella* can transfer the bacteria to the inside of eggs before the shells are even formed. *Salmonella* can cause serious foodborne illness, especially for vulnerable populations. For these reasons, it's important to handle and prepare raw eggs carefully.

Here are a few recommendations on handling raw eggs and raw egg products:

- always wash your hands and any items that come into contact with raw eggs with soap and water (this includes utensils, dishes, cutting boards and countertops)
- don't wash eggs (commercial eggs are cleaned at the processing plant; for home eggs, it's better to provide a clean environment in the first place as improper washing can actually introduce contaminants into the egg)
- discard cracked or dirty eggs, and keep them refrigerated at 40°F or below
- cook eggs until both the yolk and the white reach a temperature of 160°F
- do not consume raw eggs or egg products (including sauces, salad dressings, tiramisu, etc.) unless the eggs have been pasteurized

For further information on eggs, including safety, egg basics, date codes, etc., see
https://www.cdc.gov/features/salmonellaeggs/index.html
https://ucfoodsafety.ucdavis.edu/sites/g/files/dgvnsk7366/files/inline-files/26416.pdf
https://food.unl.edu/article/cracking-date-code-egg-cartons#:~:text=This%20three%2Ddigit%20code%20indicates,were%20packed%20on%20February%201st.

Eggnog Safety

Eggnog is a seasonal/holiday tradition in many households, and while it can be purchased commercially, some people prefer to make their own at home. Can you do so safely? For sure, but **use only pasteurized eggs when making eggnog**. Raw eggs can be contaminated with *Salmonella* bacteria, which can cause serious foodborne illness, especially among vulnerable populations (young children, the elderly, pregnant women, or those with weakened immune systems).

What about adding eggnog to hot coffee, or adding alcohol to eggnog? No, neither of these will render raw eggs safe (at least not completely). In the case of coffee, its temperature cools down rapidly when mixed with cold eggnog, so the heat may not be sufficient to destroy any *Salmonella* bacteria present. As for alcohol – well, that's complicated. While alcohol may have some antimicrobial effects, there are many factors involved, including pH level, the amount and type of alcohol, the presence of fats (such as from milk or cream), storage time under refrigeration, etc. Alcohol simply cannot be counted upon to kill all pathogenic bacteria.

In summary, to avoid the risk of illness, use only pasteurized eggs or egg products when making eggnog. These can be purchased at the grocery store, or you can pasteurize regular eggs by heating the eggnog base slowly until the mixture measures 160°F (procedure in the first link below). And of course, you can always purchase commercial eggnog, which has been made with pasteurized eggs.

For further information on eggnog safety, see these publications:
https://extension.usu.edu/news_sections/home_family_and_food/safe-eggnog
https://news.ncsu.edu/2014/12/eggnog-food-safety/
https://extension.umn.edu/preserving-and-preparing/making-homemade-egg-nog

Baking in Canning Jars

Baking in canning jars (aka mason jars) is an unsafe practice, despite those cute pictures of miniature pies and cakes you see on the internet, especially around the holidays. Why? Canning jars are not designed for oven use, and the manufacturers of home-use canning jars *specifically recommend against* using their jars in the oven. Canning jar glass (made from lime, soda, and other materials) is annealed, and annealed glass is not as strong as tempered glass. Oven heat, which differs from the heat produced in boiling water and pressure canners, can create stress on a jar, causing it to break into sharp pieces. And no, putting a pan of water in the oven along with the jars does not replicate the environment of a boiling water, atmospheric steam, or pressure canner.

"Oven canning" (putting a lid on a jar after it comes out of the oven) products such as breads and cakes is especially dangerous. While a vacuum seal may be formed as the contents cool, it may not be a good seal and some oxygen may remain in the jar – and that oxygen could allow certain microorganisms, including mold, to grow. Breads and cakes tend to be low in acid and high in moisture. Along with the low-oxygen environment created by sealing the jar, the perfect environment is created in which *C. botulinum* (the organism responsible for producing a toxin that creates botulism, a potentially fatal disease) to grow.

For further information on canning breads and cakes, visit:
https://ucanr.edu/sites/mfp_of_cs/files/360797.pdf