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# FOOD SAFETY RECOMMENDATIONS *for Baked and Canned Food Entries*

The following are food safety recommendations and tips for addressing food exhibits/entries at county fairs or livestock show contests.

The following practices, products, methods, and materials can be considered as being either appropriate or not appropriate for entries or exhibits.

## Recommended Canning Methods

Use pressure canning for vegetables (low-acid foods), utilizing USDA or National Center for Home Food Preservation (NCHFP) guidelines for pressure and time.

Use a boiling-water canner for high-acid foods, such as fruits, pickles, sauerkraut, jams, jellies, marmalades, fruit butter, and properly acidified tomatoes and figs, utilizing USDA or NCHFP guidelines for time.

## Non-Recommended Canning Methods

- Steam canning
- Open kettle canning
- Microwave oven
- Conventional or convection ovens, gas or electric
- Slow cooker/Crock Pot®
- Dishwasher
- Canning powders or aspirin
- The sun (solar)
- Electric multi-cooker appliances such as electric pressure cookers
- Instant Pot®

## Canning Jars

Mason-type jars designed for home canning are recommended. Do not use commercial jars with mouths that cannot be sealed with two-piece canning lids, jars with wire bails and glass cap, or those with one-piece zinc, porcelain-lined caps.

## Canning Lids

Use traditional, two-piece lids (consists of flat metal lid held in place by a metal screw band) during processing. The jars should be properly sealed at the time the product is entered or exhibited. The lid should be concave and not spring up when pressed in the center.

## Ensuring Safe Home-Canned Foods

Growth of the bacterium *Clostridium botulinum* in improperly canned foods may cause botulism—a deadly foodborne illness. Botulism can be present in two forms: spores and active cells.

Botulinum spores are inactive and found on most fresh food surfaces. They become active only when air is absent. When air is not available (as can be the case in a sealed jar), the bacteria grow and, over time, can produce a toxin that can be deadly.

Many foods, such as milk, seafood, poultry, red meats, and all vegetables, are considered low-acid–meaning they have a pH of 4.6 or higher. Some, but not all, tomato products are also considered low-acid. Unless enough citric acid, lemon juice, or vinegar is added to a recipe, many mixtures of low-acid and acid foods have a pH of above 4.6. High acid foods include things like pickles, fruits, sauerkraut, fruit butters, marmalades, jellies, and jams. These high acid foods have pH values of 4.6 and lower. Home canning any pumpkin or winter squash butter, puree, or mash is not recommended.

### *Herbs, vegetables, and garlic in oil*

These products are considered safe only if prepared fresh and kept refrigerated. They are not suitable for room temperature display or storage, and there are specific, safe methods for canning them.

## Use tested recipes

Home canned goods should be prepared and processed using tested recipes from the following:

- USDA Complete Guide to Home Canning (2015)
- Current state Extension publications
- *So Easy to Preserve* (University of Georgia, 6th Edition)
- Manufacturers of home canning supplies

## Perishable Foods

Perishable foods are those with custard, cream cheese, cream type fillings and frostings, or foods that require refrigeration. These foods are not recommended for entry or exhibits in local fairs or shows.

Icings and frostings made with raw eggs are not recommended. The use of raw eggs in any uncooked product is also not recommended. This is to reduce the risk of *Salmonella,* which is another bacterium that can cause foodborne illness. Egg white rinses brushed on **before** baking are safe. Consider replacing raw shell eggs with pasteurized eggs, if needed.

Fruit and pecan pies can be acceptable if made from a traditional recipe using eggs, sugars, and no added water or milk, and appropriately baked. Dairy products should be made from pasteurized milk.

Uncooked fruit garnishes should not be used. Instead, use candied fruit garnishes.

### *Sour Cream, Cream, and Cream Cheeses*

If the sour cream or cream cheese is mixed in and fully cooked, it is considered safe. This means mixed in–not layered in or as a filling. The water activity and moisture content of the food increases in layers and fillings made from sour cream or cream cheese. Even if the ingredient is baked or part of a batter, foodborne pathogens can still grow in foods with higher water activity and moisture content.

Frostings with heavy cream should not be used because there is not enough sugar in the recipe to prevent bacterial growth and would require refrigeration. Frostings with cream cheese should not be used unless the recipe has a water activity of less than 0.85 as tested by an approved food testing lab. These recommendations are for cakes, cupcakes, cookies, brownies, and other baked goods.

### *Flour*

In most cases, flour is a raw food and not ready-to-eat. There are heat-treated flours available. Nevertheless, remember to avoid contamination of a finished product by following safe handling procedures with flour. This could be a concern with No-Bake entries that may contain raw flour.

## Unsafe Baking Containers

### *Home-Style Canned Quick Breads or Baking in a Jar*

Home-style canned quick breads baked in a wide mouth glass jar have been made popular over the internet and through social media. This is not recommended because inadequate heat treatment and favorable storage conditions (if the jar seals) could lead to the development of botulinum toxins. Additionally, canning jars are not tempered for oven use and not designed as bakeware. For these reasons, cooking any baked good in a jar is not recommended.

### *Baking in Bags*

Brown paper bags from grocery stores are not appropriate for baking. They may not be sanitary, may cause fire, and can release toxic fumes from the glue, ink, or recycled materials.

Bake products in food-grade containers. Some pots may have lead-based glaze and should not be used.

## Bake or Cook Your Baked Good Entries

Enter a food that is baked or cooked but does not require refrigeration. No-Bake recipes are not a baked product, and depending on the ingredients, could be unsafe if not refrigerated. Always read the rules for fair and livestock shows for specific details on entries.

## Contestant Reminder

Always wash hands and food contact surfaces before preparing the entries, and do not prepare entries when ill. Transport entries in a way that entries will not be contaminated.

## Additional information

- https://nchfp.uga.edu/publications/nchfp/tech_bull.html
- https://food.unl.edu/food-safety-0
- https://store.extension.iastate.edu/product/Foods-for-Iowa-4-H-Fairs-Quick-Reference-Guide

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Material sourced from Karen Blakeslee, Food Safety Recommendations for Food Preservation Exhibits, Kansas State University, March 2019. For original & full version go to: https://www.bookstore.ksre.ksu.edu/pubs/4H712.pdf and So Easy to Preserve, University of Georgia, 6th Edition

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