



Inappropriate Food Exhibits For Iowa 4-H Fairs

Is a food exhibit appropriate? Ask:

1. Does this product require refrigeration?
2. Would you eat this product at room temperature?
3. Will this product hold up so it represents a standard when evaluated by judges or viewed by the public?

ACCEPTABLE FOR FAIR DISPLAY

(See following pages for details about specific products. If you have questions, please contact your local ISU extension office.)

Canned products – OKAY “IF”

Products prepared according to current recommendations are acceptable.

*Canned salsa – OKAY “IF”

Canned salsa made using accepted methods is allowed.

*Pecan/Walnut pies – OKAY “IF”

Products made from a nontraditional recipe that includes added water or milk are NOT acceptable.

*Frosting, icing, glazes – OKAY “IF”

*Fruit-flavored vinegars – OKAY

Fruit-flavored vinegar will be allowed as an exhibit, providing a specific recipe is used and included.

*Cream cheese mints – OKAY

*Caramel rolls – OKAY

*Pineapple upside down cake – OKAY

Because of the high sugar content of the caramel and toppings, they will not support the growth of bacteria.

*** indicates a change for 2004**

NOT ACCEPTABLE FOR FAIR DISPLAY

(See following pages for details about specific products. If you have questions, please contact your local ISU extension office.)

Breads containing ingredients that are normally refrigerated (chopped vegetables or meats, layers of cheese)

Cake, brownies, bread baked in a jar

Canned/Preserved products using questionable recipe or procedure

Caramel corn or pies baked in a paper grocery bag

Custard and cream-filled pies, cheesecakes

Flavored oils

Fresh salsa

Homemade egg noodles

Jerky of any kind

Meat-filled pastries

Raw egg in any uncooked product

Sourdough, friendship bread, etc.

Sweet rolls with cottage cheese/egg topping

Vegetables marinated in oils and herbs

Digging Deeper: Guidance for Preparation of Safe Foods for 4-H Fairs

Food and nutrition projects for 4-H competitions and events should be prepared with food safety in mind. The importance of food safety cannot be over emphasized. Judges will not evaluate foods that they consider unsafe and you do not want the judges to become ill.

How do foods make people sick?

Proper preparation and handling of foods is critical to avoiding foodborne illness. The *two most important* aspects are to prevent food from being contaminated with bacteria or viruses and to prevent the growth of bacteria. Although a variety of naturally-occurring pathogenic bacteria may be present in foods, processing steps (such as heat and refrigeration) usually kill them or prevent them from growing.

Viruses that make us sick are almost always found in food as a result of fecal contamination from the preparer. The key to preventing pathogenic viruses from causing illness is frequent hand washing, especially after using the restroom.

**An estimated 50 million Americans
get sick yearly because
someone did not wash his/her hands.**

Proper hand washing is the most important step each of us can take to ensure safe food—and it takes only a minute. Wash your hands:

- After using the restroom
- Before preparing food
- Before eating food
- After playing with the pets
- Almost anytime you think they may be dirty!

Critical safe food handling guidelines for events and exhibits

- Keep counters, dishes, and hands clean. Use paper towels or replace handtowels frequently.
- Avoid cross contamination of raw or prepared foods with raw meats or poultry. Cutting boards, knives, hand towels, plates, and hands are all potential sources of cross contamination.
- Thaw foods in the refrigerator and not at room temperature.
- Cook meats and poultry to the proper internal temperatures.
- Cool foods quickly. Remember the two hour rule!

FAT TOM

— factors necessary for bacterial growth

Bacteria are like us; they need specific conditions to grow. The conditions that bacteria need can be summarized in the acronym FAT TOM.

F – food

Bacteria can grow on almost anything; they need only protein and carbohydrate. Think about how fast milk spoils. With 4 percent sugars and 4 percent protein, milk is the perfect food for bacteria.

A – acidity

Bacteria need a neutral environment, neither too acidic nor too alkaline. Optimum growth is in the pH range 4.6 to 7.8. Many common foods are in this range: milk, 6.8; fresh meat, 6.1; green beans, 6.2; bananas, 4.3.

T – temperature

Pathogenic bacteria can grow in temperatures from 40-140°F but they grow best in the 70-110°F zone. In this temperature range, pathogens may double every 20 minutes. No wonder so many people get sick from temperature-abused foods! Hot foods should be kept HOT (above 140°) and cold foods COLD (below 40°).

T – time

Because bacteria can double so quickly, time is as critical as temperature. Remember the two hour rule—“Do not hold foods at room temperature any longer than two hours.”

O – oxygen

Some bacteria are able to grow without oxygen (anaerobic). The process of canning foods creates an anaerobic environment and may allow the growth of the bacterium that causes botulism. Fortunately, the extreme heat of the pressure canner kills the bacterium.

M – moisture

All life needs water to grow. For example, dried rice does not support bacterial growth; however, cooked rice is a very good growth medium for bacteria.

Why are some foods inappropriate for display at fairs?

Most foods are safe to consume immediately after preparation; others pose unique handling considerations that might be difficult to provide. For example,

custards, cream pies, fluid dairy products, egg dishes, and meat products require colder storage temperatures than are usually available away from home. Other foods may be unsafe if kept at room temperature for more than two hours.

Because fairs are events that are judged, you must make sure that the food prepared is safe to eat for the judges. This means following the safe food handling practices outlined above and preparing foods that will survive in warm, humid situations.

ACCEPTABLE FOODS FOR FAIR DISPLAY

Canned products – OKAY “IF”

Products are acceptable if the recipe and process are from an approved source (University Extension publications, USDA canning guide, or Ball Blue Book). Products presented in anything other than a “Mason-type” threaded jar with a matching lid will not be accepted. Jars that previously contained a commercially processed product (mayonnaise, for example) are not acceptable. Paraffin or waxes must not be used as a jar sealant. All products must have the canning method, processing time, recipe, and source of recipe (including publication date). Only products processed since September of the previous year will be accepted. Canned products will not be tasted by judges but will be evaluated on color, appearance, aroma, and texture.

Canned fruits, jams and jellies, and pickled products—Boiling water canner processing may be used. Acidification of tomatoes is required. See “Canning and Freezing Tomatoes” (PM 638) for acidification methods.

Canned vegetables and meat products—These are evaluated only by appearance, texture, and aroma; they are not tasted. In addition to canning method, processing time, and recipe, a pressure test record of the pressure vessel must accompany the product.

Canned salsa – OKAY “IF”

Acceptable only if the process used is from an acceptable source. Statement of entire process and source, (including publication date) must accompany product. (One recipe source is New Mexico University Extension at http://www.cahe.nmsu.edu/pubs/_e/e-323.pdf.)

Pecan/Walnut pies – OKAY “IF”

These pies are safe if made from a traditional recipe using eggs, sugars, and no added water or milk. Although these are very rich and moist, they are safe because there is not enough moisture to support bacterial growth. Products made from a nontraditional recipe that includes added water or milk are NOT acceptable.

Frosting, icing, glazes – OKAY “IF”

Icing and frostings made with raw eggs are NOT acceptable. Cream cheese frostings made with commercially available cream cheese are acceptable if made with at least 4 cups of sugar per 8 ounces or less of cream cheese. Whipped cream cheese frostings made without powdered sugar are NOT acceptable. Frostings made with meringue powder are acceptable. Frostings and glazes made of powdered sugar, milk, and vanilla or other flavorings are acceptable. Note that frostings and glazes will “melt” in hot, humid weather and may interfere with product evaluation.

Fruit-flavored vinegars – OKAY

Fruit-flavored vinegar will be allowed as an exhibit, providing a specific recipe is used and included (with publication date); simply adding fruit to vinegar is not enough. Note that the color of the fruit may change with storage. Use only commercially available vinegars and do not dilute.

Cream cheese mints – OKAY

Caramel rolls – OKAY

Pineapple upside down cake – OKAY

Because of the high sugar content of the caramel and toppings, they will not support the growth of bacteria.

UNACCEPTABLE FOODS FOR FAIR DISPLAY

Breads containing ingredients that are normally refrigerated

Breads that contain products that are normally refrigerated (such as cut-up mushrooms, chopped onions, chopped peppers, and salsa) and/or high protein items (such as pork and beans or layers of cheese) would be used in a timely manner at home. They are not acceptable as a fair exhibit because of their short shelf life.

Cake, brownies, bread baked in a jar

Preparation method creates potential botulinum risk.

Canned/Preserved products using questionable recipe or procedure

(Refer to instructions in previous section.)

Caramel corn or pies baked in a paper grocery bag

Bags are inappropriate cooking containers because:

- 1) the bag may not be sanitary,
- 2) the glue and ink used on the bag have not been approved for contact with food and may give off toxic fumes when heated,
- 3) the bag may catch on fire,
- 4) grocery bags made of recycled paper may contain a variety of contaminants that may leach into the food.

Custard and cream-filled pies, cheesecakes
Require refrigeration and cannot be allowed.

Flavored oils

Oils infused with herbs or garlic are a potential botulism risk. Products made with these oils also are considered unsafe.

Fresh salsa

Requires refrigeration and cannot be allowed.

Homemade egg noodles

The United States Department of Agriculture "Meat and Poultry Hotline" says that noodles made with whole raw eggs should be dried and stored in the refrigerator or frozen to prevent salmonella from growing to disease-causing levels.

Jerky of any kind

Not acceptable because of safe handling considerations. A poster or notebook is a better choice as an exhibit.

Meat-filled pastries

These products have a significant chance of bacterial growth.

Raw egg in any uncooked product

Eggs have been implicated in an increasing number of cases of food borne illness. Salmonella can lurk inside the egg, even one with a clean, uncracked shell. That means that some recipes, unless modified, are unsafe. Many old favorite recipes were written before salmonella was recognized as a problem in raw eggs.

Sourdough, friendship bread, etc.

Although bakery products leavened by wild microorganisms have been used for years, the potential for abuse may result in an unsafe product. Of particular concern are toxins produced by a variety of organisms including Staphylococcus.

Sweet rolls with cottage cheese/egg topping

Implies a sugar, egg, cream cheese (or other unripened cheese such as cottage or ricotta cheese) mixture that is protein-rich, moist, and can be easily contaminated. Bacteria love high protein, high moisture, and a neutral pH environment.

Vegetables marinated in oils and herbs

The vegetables could harbor botulism spores. Covering moist vegetables with oil results in anaerobic conditions that may allow botulinum growth.

Additional resources

Iowa State University Extension Answerline

1-800-262-3804

<http://www.extension.iastate.edu/answerline/>

Iowa State University Extension Publications

<http://www.extension.iastate.edu/pubs/fo1.htm>

(See especially the sections on food safety and food preservation.)

Iowa State University Extension Food Safety Web site

<http://www.extension.iastate.edu/foodsafety/>

The USDA Complete Guide to Home Canning 1994

http://www.uga.edu/nchfp/publications/publications_usda.html

Alltrista Corporation – Home of the Ball Blue Book

<http://www.homecanning.com/usa/ALSiteMap.asp>

The Ball Blue Book of Preserving (2003 edition)

Prepared by Sam Beattie, extension food science specialist; Sue Bogue, state youth development specialist; and Diane Nelson, communication specialist.

... and justice for all

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