

\$1.50

UT Extension

SP494

EGG

University Handbook



on Egg Safety

THE UNIVERSITY of TENNESSEE

Egg University Handbook on Egg Safety

Released by Janie L. Burney, Associate Professor
Written by Gail W. Disney, Professor Emeritus
Family and Consumer Sciences

After you have been to Egg U., you will know “eggsactly” how to handle eggs safely.

Why is egg safety a concern?

Eggs are an excellent source of protein and can be part of a healthy diet. However, they are perishable, just like raw meat, poultry and fish. To be safe, they must be properly refrigerated and cooked.

Also eggs may contain a bacteria, *Salmonella enteritidis*, that can make you sick unless handled correctly. While the number of eggs affected is less than one in 10,000, there have been scattered outbreaks of food poisoning in the last few years. Inadequate refrigeration and insufficient cooking were the primary reasons for these outbreaks.

What part of the egg carries bacteria?

Researchers at Egg U. say *Salmonella* bacteria, if present, are most likely to be in the yolk (yellow), but also can be in egg whites. So everyone is advised against eating raw or undercooked egg yolks, whites or products containing them.

Who should be “eggstra” careful?

People with health problems, the very young, the elderly and pregnant women (the primary risk is to the unborn child) are

particularly vulnerable to *Salmonella enteritidis* infections. Health problems could be a chronic illness or any condition which weakens the immune system.

How to be egg-safe:

Proper refrigeration, cooking and handling of eggs will help you avoid problems.

Avoid eating raw eggs or foods that contain them. This includes “health-shakes” with raw eggs, homemade doughs and batters, Caesar salad, Hollandaise sauce and any other foods like homemade mayonnaise, ice cream or eggnog made from recipes in which the eggs are not cooked.

Use safer egg recipes. Use only recipes in which eggs are cooked. Or update recipes for eggnog, homemade mayonnaise and other uncooked egg preparations by using commercially pasteurized eggs or egg substitutes instead of raw eggs.

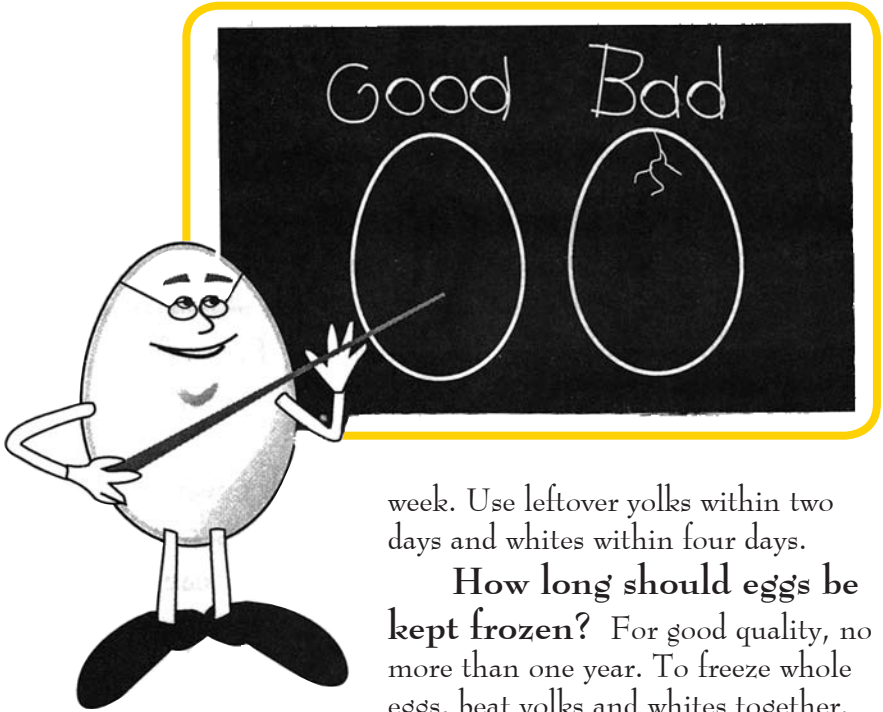
Egg mixtures are safe if they reach 160 F. You can make eggnog, ice cream, cream pies and similar dishes safely from eggs if you start with a cooked base. Use a thermometer or heat gently until a thin film of the mixture coats a metal spoon.

Some egg recipes are included in this brochure for your convenience and to ensure your egg safety.

At the store, choose grade A or AA eggs with clean, uncracked shells. Make sure they’ve been refrigerated in the store. Any bacteria present in an egg can grow quickly at room temperature.

Take eggs straight home to the refrigerator. The temperature inside a home refrigerator should be 40 F or below. Store eggs in the egg carton in the main body of the refrigerator, not in the door. Don’t wash eggs before refrigerating them. You’ll remove a protective oil coating applied at the packing plant.

How long will eggs keep in the refrigerator? Use raw-shell eggs within three weeks. Hard-cooked eggs will keep one



week. Use leftover yolks within two days and whites within four days.

How long should eggs be kept frozen? For good quality, no more than one year. To freeze whole eggs, beat yolks and whites together.

Whites and yolks can be frozen separately. To prevent gelling of egg yolks, beat with one and one-half teaspoons sugar or corn syrup **or** 1/8 teaspoon salt for each four yolks. One tablespoon yolk and two tablespoons white equals one egg. Three tablespoons of whole egg mixture equals one egg. Thaw eggs in the refrigerator. Never thaw eggs, or any food, at room temperature (on the counter).

Handling eggs - Wash hands, utensils, equipment and work areas with hot, soapy water before and after contact with eggs and egg-rich foods.

Avoid keeping eggs out of the refrigerator more than two hours. Serve cooked eggs and egg-rich foods immediately after cooking, or refrigerate at once for later use. Use within three days.

Leftovers - Divide large amounts of egg-rich foods into small containers and refrigerate immediately for quick cooling.

Cooking - For most basic egg dishes, cook until the white is completely set and the yolk is beginning to thicken but is not hard; cook scrambled eggs, frittatas and French toast until the eggs are thickened and no visible liquid egg remains.

Easter eggs - Egg hunting is “eggsciting,” but precautions should be taken. Cooking removes the eggshell’s protective coating. Hard-cooked eggs are more susceptible to bacteria than fresh shell eggs.

Eggs Cooked in the Shell

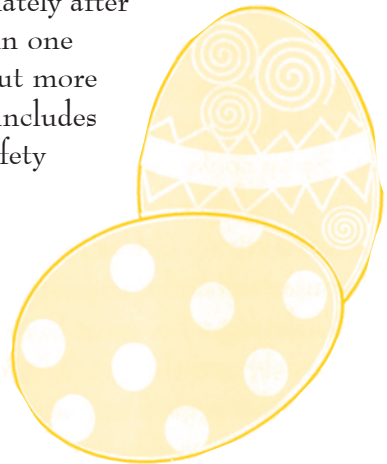
Place eggs in a single layer in a saucepan. Add enough tap water to come at least 1 inch above eggs. Cover and quickly bring just to boiling. Turn off heat. If necessary, remove pan from burner to prevent further boiling.

For hard-cooked eggs, let eggs stand, covered, in the hot water about 15 minutes for large eggs. Adjust time up or down by about three minutes for each size larger or smaller. Immediately run cold water over eggs or place them in ice water until completely cold.

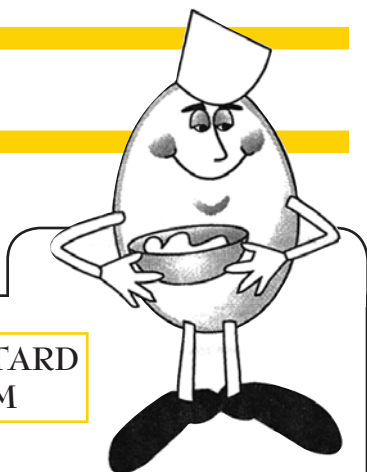
To remove shell, crackle it by tapping gently all over. Roll egg between hands to loosen shell, then peel, starting at large end. Hold egg under running cold water or dip in bowl of water to help ease off shell.

Refrigerate Easter eggs immediately after cooking and dyeing, preferably within one hour. Discard eggs that have been out more than two hours after cooking. This includes dyeing and hiding time. For food safety reasons, it is best not to plan to eat eggs that have been used in egg hunts.

After your “bunnies” have found their eggs, discard any cracked eggs. Refrigerate intact eggs. They should keep about a week.



Egg Recipes



FROZEN CUSTARD ICE CREAM

- 6 eggs
- 2 cups milk
- 3/4 cup sugar
- 2 to 3 tablespoons honey
- 1/4 teaspoon salt
- 2 cups whipping cream
- 1 tablespoon vanilla
- Crushed ice
- Rock salt

In medium saucepan, beat together eggs, milk, sugar, honey and salt. Cook over low heat, stirring constantly, until mixture is thick enough to coat a metal spoon with a thin film and reaches at least 160 F. Cool quickly by setting pan in ice or cold water and stirring for a few minutes. Cover and refrigerate until thoroughly chilled, at least 1 hour. When ready to freeze, pour chilled custard, whipping cream and vanilla into 1-gallon ice cream freezer can. Freeze according to manufacturer's directions, using 6 parts ice to 1 part rock salt. Transfer to freezer containers and freeze until firm.

Yield: 1 1/2 to 2 quarts

CLASSIC COOKED EGG NOG

6 eggs
1/4 cup sugar
1/4 teaspoon salt, optional
1 quart milk, divided
1 teaspoon vanilla

In large saucepan, beat together eggs, sugar and salt, if desired. Stir in 2 cups of the milk. Cook over low heat, stirring constantly, until mixture is thick enough to coat a metal spoon with a thin film and reaches at least 160 F. Remove from heat. Stir in remaining 2 cups milk and vanilla. Cover and refrigerate until thoroughly chilled, several hours or overnight. Just before serving, pour into bowl or pitcher. Serve immediately.

Yield: 1 1/2 quarts or 12 (1/2-cup) servings

SOFT PIE MERINGUE for 9-inch pie

3 eggs
1/4 teaspoon cream of tartar
6 tablespoons sugar
1/2 teaspoon vanilla

In small mixing bowl, beat egg whites with cream of tartar at highspeed until foamy. Add sugar, 1 tablespoon at a time, beating constantly until sugar is dissolved and whites are glossy and stand in soft peaks. (Rub just a bit of meringue between thumb and forefinger to feel if sugar has dissolved.) Beat in vanilla. Spread meringue over hot pie filling, starting with small amounts at edges and sealing to crust all around. Cover pie with remaining meringue, spreading evenly in attractive swirls. Bake in preheated 350 F oven until peaks are lightly browned, about 12 to 15 minutes.

COOKED MAYONNAISE

- 2 egg yolks
- 2 tablespoons vinegar or lemon juice
- 2 tablespoons water
- 1 teaspoon sugar
- 2 teaspoon dry mustard
- 1/2 teaspoon salt
- dash pepper
- 1 cup cooking oil

In small saucepan, stir together egg yolks, vinegar, water, sugar, mustard, salt and pepper until thoroughly blended. Cook over very low heat, stirring constantly, until mixture bubbles in 1 or 2 places. Remove from heat. Let stand 4 minutes. Pour into blender container. Cover and blend at high speed. While blending, very slowly add oil. Blend until thick and smooth. Occasionally, turn off blender and scrape down sides of container with rubber spatula, if necessary. Cover and chill if not using immediately.

Yield: about 1 1/4 cups

COOKED CREAMY CAESAR-STYLE DRESSING

- 1/2 cup cooking oil
- 1 clove garlic, crushed
- 2 egg yolks
- 2 tablespoons wine vinegar
- 2 tablespoons lemon juice
- 1/4 teaspoon dry mustard
- 1/8 teaspoon Worcestershire sauce

Combine oil and garlic in jar with tight-fitting lid. Refrigerate several hours or overnight. Remove garlic. Set oil aside. In small saucepan over **very** low heat, cook remaining ingredients, stirring constantly, until mixture thickens and bubbles at edges. Remove from heat. Let stand to cool 15 minutes. Pour into reserved oil, cover and shake until well blended **or** pour into blender container, add reserved oil, cover and blend at high speed until smooth. Cover and chill if not using immediately.

Yield: about 2/3 cup

COOKED HOLLANDAISE SAUCE

3 egg yolks
1/4 cup water
2 tablespoon lemon juice
1/2 cup firm cold butter, cut into eighths
1/4 teaspoon salt, optional
1/8 teaspoon paprika
dash ground red pepper

In small saucepan, beat together egg yolks, water and lemon juice. Cook over **very** low heat, stirring constantly, until yolk mixture bubbles at edges. Stir in butter, 1 piece at a time, until melted and sauce is thickened. Stir in seasonings. Remove from heat. Cover and chill if not using immediately.

Yield: about 3/4 cup

Now that you have graduated from Egg University, you can “eggscel” in egg safety. If you need additional information on egg safety, contact your county Extension home economist or phone USDA’s Meat and Poultry Hotline at 1-888-MPHotline or 1-888-674-6854.

Based on information from the USDA Meat and Poultry Hotline. Recipes printed with permission from the American Egg Board.

Visit the UT Extension Web site at
<http://www.utextension.utk.edu/> and
the Family and Consumer Sciences Web site at
<http://www.utextension.utk.edu/fcs/>

SP494 5M Rep6/07 E12-5330-00-047-07 07-0278

Programs in agriculture and natural resources, 4-H youth development, family and consumer sciences, and resource development. University of Tennessee Institute of Agriculture, U.S. Department of Agriculture and county governments cooperating. UT Extension provides equal opportunities in programs and employment.