



Volunteer Quantity Cooking Safety

Londa Nwadike, Ph.D.

Kansas State University/University of Missouri Extension Food Safety Specialist

Introduction

Food is a great way to bring people together, and selling food is often a key way for nonprofit groups such as 4-H clubs, churches, schools, and others to raise funds for their activities. However, cooking the large quantities of food required for events such as fundraising dinners, concession stands, community meals, family reunions, or funeral meals is different than cooking for your family.

Most of the cooks for these events are volunteers and the events generally do not have any regulatory oversight. Because volunteers for these organizations may not be accustomed to cooking in such large quantities and may not necessarily have the proper equipment, serious food safety problems can occur if proper practices are not followed. Unfortunately, numerous cases of foodborne illness have been linked to such events. In addition to the great remorse that an organization's members would feel for making someone sick, such an occurrence also could lead to a tarnished reputation or even legal repercussions for the organization.

The good food-safety practices that should be used when cooking for you or your family should also be practiced when cooking for large groups. Also, follow some additional steps because of the large volume of food. The following checklist can be used to help ensure that food served at your next event is as safe as possible.

Objectives

- Identify key food safety practices that will help ensure food served by volunteers who occasionally cook in large quantities is as safe as possible.
- Discuss and demonstrate practical ways to encourage implementation of these safe food-handling practices.
- Develop a list of the top items that groups should focus on the next time they prepare a larger than normal quantity of food.

Intended Audiences

Adults that may be organizing or assisting with a volunteer occasional quantity cooking operation, such as:

- Fundraising meals for school parent-teacher organizations, community clubs, 4-H clubs, etc.
- Volunteer concession stands.



- Church suppers or funeral dinners.
- Meals at family reunions.
- Community meals for the hungry.

Before the Lesson

- Review this leaders guide and the fact sheet (MF3213).
- Check listed references for more information.
- Assemble materials including the following:
 - Pens or pencils
 - Copies of the fact sheet
 - Copies of the evaluation to be distributed following the program
- Look at the list of suggested illustrations and activities in points #8 and #9 in the "During the Lesson" section below and determine which illustrations and activities you will use to reinforce food safety concepts. Gather the necessary materials for those illustrations and/or activities.

During the Lesson

1. Give each participant a copy of the fact sheet and a pencil. Allow a few minutes for each person to review the sheet.
2. Allow 45 to 50 minutes to teach the lesson. Try to answer questions as you go along, instead of waiting until the end.
3. Begin by asking participants why they think food safety is important for people who volunteer occasionally to cook in large quantities.

4. Discuss the introductory paragraphs from the fact sheet. Be sure to emphasize the points in the second paragraph and highlight the other reasons.
5. Discuss that many of the food safety practices listed also are important when cooking for yourself or your family, but there are some additional important considerations due to the large volume of food served.
6. Ask participants to list steps where they think it is important to practice food safety (planning, personnel, shopping, storing, preparing food, transporting prepared food, serving food, cleaning up, leftovers). Participants may also list specific items within each of the steps.
7. Use the accompanying PowerPoint presentation (including photos on slides) to discuss some of the important food safety practices for volunteer occasional quantity cooks.
8. Use any of the following suggested illustrations while discussing the relevant section:
 - a. Show participants how microorganisms multiply and discuss how quickly this can occur by using pennies, small candies, or other small objects. Start with one organism (penny or candy or other) at time zero and explain that bacteria can double every 20 minutes when they are in their ideal conditions (right temperature, food source, etc.). Show two organisms after 20 minutes, four at 40 minutes, eight at 60 minutes, etc. Explain that with some bacteria, only a few are needed to make someone sick. This is why it's important to keep foods out of the temperature danger zone as much as possible.
 - b. Show a refrigerator/freezer thermometer and a food thermometer and discuss the safe refrigerator temperature (<40°F), freezer temperature (<0°F), as well as safe cooking temperatures (see table of safe internal product cooking temperatures at the end of the fact sheet).
 - Reiterate that food thermometers are inexpensive (~\$5) and important to monitor the proper temperature to control microbial growth.
 - Demonstrate how to calibrate a food thermometer to ensure accuracy.
 - c. Show an example of a large food-grade container that is safe for holding food. Also, show a garbage bag or can, which should be used for holding trash, not for holding food for consumption.
 - d. Show how a large container of hot food (such as a pot of soup) can be quickly cooled in an ice bath in a (clean) sink or dish pan. Show how stirring the food helps transfer out heat faster. Show how to check the internal product temperature and ensure that it gets to <40°F within four hours of cooking.
 - To demonstrate the importance of using shallow containers or an ice bath to help food cool quickly, pour hot food (or boiling water) into a deep plastic container and a shallow metal container. Take the temperature in each container several times to see which cools more quickly.
- e. Show different colored cutting boards that can be used to keep raw and ready to eat foods separate.
- f. Show how dishpans can be used as a temporary “sink bay” if a three-compartment sink is not available. Demonstrate the wash, rinse, and sanitize steps as described on page 4 in the fact sheet.
 - Show how to mix a sanitizing solution. For a bleach solution, mix 1 teaspoon bleach per 1 gallon water. Be sure to label the container so everyone knows the contents.
9. Use any of the following suggested activities while discussing the relevant section:
 - a. If there is a refrigerator and/or freezer in the room, have participants practice using the thermometer to check its temperature and discuss how to adjust its temperature. Discuss the importance of not over-filling the refrigerator.
 - b. If there is a refrigerator in the room, have participants practice arranging food in the refrigerator (poultry on the bottom, with ground meats above that, followed by whole muscle meat cuts, and ready-to-eat foods, such as lettuce, tomatoes and cheeses on top). You could use real food for this, models of food, or even pictures of food. This could also be done with pictures on a wall or board.
 - c. Have participants practice putting a food thermometer into the thickest part of a food. If possible, have some food examples at various temperatures so they can test the temperature and determine if it is a safe temperature (<40°F for cold foods, >140°F for hot holding, see table in fact sheet for safe cooking temperatures).
 - d. Hold hot food in a chafing dish over one candle-type (Sterno or otherwise) warmer. Have participants check the product temperature. If the product temperature is not >140°F, ask participants how to hold the food at the required temperature (add more candles underneath, use an electric appliance, keep the product covered as much as possible). Check the product temperature again after making any changes.

- e. Use Glo Germ™ to demonstrate various food safety practices. Note that a Glo Germ™ kit may be available for borrowing at the local extension office. Contact the office to confirm.
- Demonstrate the importance of washing hands properly by putting Glo Germ™ on hands, using black light to show the “germs,” rewashing hands, and using the black light again to show how effective the washing was at removing the “germs.”
 - Demonstrate cross-contamination potential by rubbing Glo Germ™ on a raw chicken and then have participants prepare part of a meal. Darken the room and use the black light to show all the places where the Glo Germ™ spread.
 - Demonstrate the efficacy of cleaning by rubbing Glo Germ™ on a countertop, then using the black light to show how “dirty” it is. Ask participants to clean the countertop as they normally would and use the black light again to show what has been removed.
10. Allow the participants to discuss the top items that they plan to work on before the next time they prepare a larger quantity of food. Have them write down a few key practices they plan to use on the fact sheet.
11. Ask the participants to fill out an evaluation for the program.
12. Thank the audience for their participation.

References

Food Safety and Sanitation: Guidelines for Volunteer Group Social Functions. Kansas State Research and Extension 2010. Available from: www.bookstore.ksre.ksu.edu/pubs/mf1078.pdf

Food Safety on the Move. The Partnership for Food Safety Education 2013. Available from www.fightbac.org

Check Your Steps. FoodSafety.gov 2013. Available from www.foodsafety.gov/keep/basics

Sources for Further Information:

Parties and Large Groups General Information. Foodsafety.gov. Available from: www.foodsafety.gov/keep/events/parties/

Cooking for a Crowd. Penn State Extension. 2003. Available from: <http://extension.psu.edu/food/safety/educators/cooking-for-crowds>

Author

Prepared by Londa Nwadike, PhD, Kansas State University/University of Missouri Extension Food Safety Specialist

Reviewed by:

Karen Blakeslee, K-State Research and Extension Rapid Response Center Coordinator

Linda Beech, Ellis County Family and Consumer Science Extension Agent, K-State Research and Extension

Evaluation

For the workshop evaluation, use the KPICs template entitled: "FCS Series: Volunteer Quantity Cooking Safety."

We appreciate your opinions! Please help us make our programs better by taking about 5 minutes to answer the following questions. Your participation is completely voluntary, and you may skip answering one or more questions if you wish. The information that you share will be held in the strictest confidence. We will summarize it in reports, in order to evaluate our program. We greatly value your participation. Thank you!

(Scale: Agree completely- 5, Agree somewhat- 4, Neutral- 3, Disagree somewhat- 2, Disagree completely-1)

	1	2	3	4	5
1. As a result of this program, I feel more motivated to follow food safety recommendations.					
2. As a result of this program, I learned how to cool hot foods safely.					
3. As a result of this program, I intend to check food temperatures with a thermometer.					
4. As a result of this program, I intend to be more careful to not leave perishable foods at room temperature for more than 2 hours.					
5. As a result of this program, I have also learned (please indicate) _____ _____					
6. I plan to take action and/or change something in my life (at home, play, or at work).					
7. If agree, please describe the action or changes you plan to make and when: _____ _____					
8. Additional comments: _____ _____					
9. A K-State representative may contact me later to talk about this program (We are asking for your contact information so that we may follow up with you about what you learned from this program): ___ No ___ Yes					
10. If yes, my contact information is below: (e.g. name, phone and/or email): _____ _____ _____					

Publications from Kansas State University are available at:
www.ksre.ksu.edu

Publications are reviewed or revised annually by appropriate faculty to reflect current research and practice. Date shown is that of publication or last revision. Contents of this publication may be freely reproduced for educational purposes. All other rights reserved. In each case, credit Londa Nwadike, *Volunteer Quantity Cooking Safety, Leader's Guide*, Kansas State University, July 2015.

Kansas State University Agricultural Experiment Station and Cooperative Extension Service

K-State Research and Extension is an equal opportunity provider and employer. Issued in furtherance of Cooperative Extension Work, Acts of May 8 and June 30, 1914, as amended. Kansas State University, County Extension Councils, Extension Districts, and United States Department of Agriculture Cooperating, John D. Floros, Director.