This year: Food Safety Hits High Gear

One year ago this month, President Clinton proposed a \$43 million Food Safety Initiative designed to reduce foodborne illness by strengthening and improving food safety practices and policies.

Today, more than 40 different projects are underway as a result. The Initiative calls for:

- enhanced food safety inspection and monitoring
- more public health surveillance and improved government coordination when food-related illnesses occur, and
- more education for consumers and food service/industry workers.

Without a doubt, momentum is building in food safety. Here's what's happening.

In January, the U.S. Department of Agriculture (USDA) implemented new regulations for major meat and poultry slaughter and processing plants. These plants are required to operate under the Hazard Analysis and Critical Control Points (HACCP) concept, a sciencebased preventive approach to safe food production. This past December, the Food and Drug Administration (FDA) put seafood HACCP regulations into effect. In the future, Federal agencies will be applying the HACCP concept to the production of fruits and vegetables as well as eggs and egg products.

In public health monitoring, the Initiative calls for expanding the FoodNet early-warning sites at state health departments to track cases of foodborne infection. Funding in the Initiative will also allow sites to update technology and build a national "fingerprinting" database of bacterial DNA. This type of "fingerprinting" would allow rapid identification of multi-state outbreaks.

Consumer and food handler education are also key components of the Initiative.

Federal agencies are actively involved in supporting and promoting the Fight BAC!™ campaign launched by the public/private Partnership for Food Safety Education.

According to Carole Schiffman, director of the FDA consumer education staff, teams of

Federal employees are also investigating:

- RESEARCH: What are barriers to changing unsafe food handling behaviors? Who needs it the most?
- FOOD SAFETY EDUCATION IN SCHOOLS: What's the best route?
- A CLEARINGHOUSE FOR FOOD SAFETY EDUCATION MATERIALS: How can we do a better job of sharing?

For more information check the "foods" part of the FDA website:

Phone: 202-690-0351

(http://vm.csfan.fda.gov).

the rip-off section

Subscription Information:

Did you know?

The Food Safety Educator is a free quarterly publication.

If you are interested in subscribing, fax your name and address to: 202/720-9063,

or write:

Public Outreach Room 1180 South FSIS/USDA Washington, D.C. 20250



SIS Fact Sheet Focuses on Kitchen Thermometers

Thorough cooking is essential when it comes to safe food handling. It's also one of the key food safety messages stressed under the new Fight BAC!™ campaign. Supporting the importance of that message, the FSIS Food Safety Education and Communications Staff has developed a new Technical Information fact sheet, *Kitchen Thermometers*, October 1997.

As the new eight-page fact sheet stresses, using a meat thermometer is critical to thorough cooking according to food safety experts and the Meat and Poultry Hotline.

As the publication notes, recent research has shown that

color and texture indicators are not reliable in determining that food has been cooked to the point where potentially dangerous bacteria are destroyed. However, a consumer using a thermometer can feel reassured the food has reached a safe temperature.

The Technical Information publication provides detailed background on the different types of food thermometers as well as instruction on use and calibration tips. It also includes the following two charts. To see the entire publication, check this newsletter's inserts or our website (http://www.usda.gov/fsis). Or, dial Fast Fax 1-800-238-8281.

TYPES OF THERMOMETERS	SPEED	PLACEMENT	USAGE CONSIDERATIONS
LIQUID-FILLED	1 to 2 minutes	At least 2 inches deep in the thickest part of the food	Used in roasts, casseroles, and soups Can be placed in a food while it is cooking Cannot measure thin foods
111111111	Calibration cannot be adjusted Possible breakage while in food Heat conduction of metal shield can cause false high reading		
BIMETAL (oven-safe)	1 to 2 minutes	2 to 2 1/2 inches deep in the thickest part of the food.	Can be used in roasts casseroles, and soups Can be placed in a food while it is cooking Not appropriate for thin foods Heat conduction of metal stem can cause false high reading
BIMETAL (instant-read)	15 to 20 seconds	2 to 2 1/2 inches deep in the thickest part of the food	Can be used in roasts, casseroles, and soups Use to check the internal temperature of a food at the end of cooking time Can be calibrated Cannot measure thin foods unless inserted sideways Cannot be used in an oven while food is cooking Temperature is averaged along 2-3" of probe Readily available in stores
THERMISTOR (digital)	10 seconds	At least 1/2 inch deep in a food	Gives faster reading Can measure temperature in thin foods Digital face easy to read Cannot be used in an oven while food is cooking Available in "kitchen" stores
THERMOCOUPLE (digital)	seconds 000	1/4 deep, or deeper, as needed	Fastest Can quickly measure even the thinnest foods Digital face easy to read Can be calibrated More costly, may be difficult for consumers to find in stores

RECOMMENDED INTERNAL TEL	MPERATURES*	
Product	Degrees Fahrenheit	
Eggs & Egg Dishes Eggs Egg dishes	160° 160°	
Ground Meat and Poultry Mixtures Turkey, chicken (including pat Veal, beef, lamb, pork (including patties)	ties) 165° 160°	
Fresh Beef Medium rare Medium Well done	145° 160° 170°	
Fresh Lamb Medium rare Medium Well done	145° 160° 170°	
Fresh Pork Medium Well done	160° 170°	
Poultry Chicken, whole Turkey, whole Poultry breasts, roasts Poultry thighs, wings Stuffing Duck and goose	180° 180° 170° 180° 165° 180°	
Ham Fresh (raw) Pre-cooked (to reheat)	160° 140°	
*These temperatures are recommended for consumer cooking. They are not intended for processing, institutional, or foodservice preparation.		

New Q&A's Cover Topics in the News

Campylobacter Q & A

Campylobacter is not a new bacterium. But it has been a focus of news and was recently identified by FoodNet as the most frequently isolated bacterium from persons with diarrhea.

Campylobacter Questions and Answers, November 1997, was developed by the Food Safety Education and Communications Staff. It answers basic questions about the bacterium, including how to control it.

The Q&A points out that most foodborne illness from bacteria on raw meat or poultry can be prevented by proper food handling in home and institutional kitchens. The Q&A highlights the following tips for consumers:

- To keep food safe at home, refrigerate promptly and properly. Freeze raw meat and poultry you will not use within one or two days.
- Thaw foods in the refrigerator. Foods should not be thawed at room temperature.
- Cross-contamination of bacteria from food to other ready-to-eat food can be prevented by thorough washing of hands, countertops and utensils.
- Campylobacter are very fragile bacteria that are easily destroyed by thorough cooking. Freezing cannot be relied on to destroy the bacteria. Thorough cooking is the step that will make the product safe.

Focus on Ground Beef

Questions about "ground meat" or "hamburger" have always been in the top five topics of calls to the USDA Meat and Poultry Hotline. This new fact sheet answers the most frequently asked questions, including:

- What kind of bacteria can be found in ground beef?
- Why is the *E. coli* O157:H7 bacterium of special concern in ground beef?
- From what cuts of beef are ground beef and hamburger made?
- What is the significance of the "sell-by" date on the package?
- What's the best way to handle raw ground beef when you buy it?
- Why is prepackaged ground beef red on the outside and sometimes dull, grayish-brown on the inside?
- Are microwaved hamburgers safe?

For answers to these questions and more, check out Focus on Ground Beef, October 1997."

Both of these publications are included as inserts in this newsletter.

You can also access at http://www.usda.gov/fsis.

Or dial Fast Fax 1-800/238-8281.

Hotline Recorded Messages: Working for You 24 Hours a Day

"You can never tell when these recorded messages are going to come in handu.' laughs Susan Conley, director of the food safety education and communications staff.

"I came into the office one Monday morning and found a message from a man sending his thanks. His power had gone out over the weekend. He called in to the Hotline number in the middle of the night and found out everything he needed to know from our recorded messages. It works!"

Those recorded messages Conley is talking about are the always-on-duty "Hotline experts" callers can access when they call in to the USDA Meat and Poultry Hotline. (Dial 1-800-535-4555 and follow the prompts.)

The messages were developed in response to consumers' most frequently asked questions, according to management analyst Linda Eckrich. Topics callers can select include:

- Safe Cooking Methods and Safe Use of Cooking Equipment
- Preparing Specific Meat and Poultry **Products**
- Food Storage, Refrigeration and Freezing
- Safe Food Handling at Home or Away
- Foodborne Bacteria and Illnesses
- Recalls, Advisories, Agency News
- Power Failure or Natural Disaster
- Labeling and Nutrition



The Hotline, part of USDA's Food Safety and Inspection Service, provides accurate, up-to-date information to callers on safe food handling and the prevention of foodborne illness. Home economists, registered dietitians and food technologists staff this public health service.



coli 0157:H7: Scientific Status Summary

The following information is excerpted from a Scientific Status Summary published by the Institute of Food Technologist (IFT) Expert Panel on Food Safety and Nutrition. It appeared in the October 1997 issue of Food Technology, Vol. 51, No. 10, pages 69-76. IFT may be reached at 312/782-8424 (www.ift.org).

A commentary on the Summary was authored by I. Kaye Wachsmuth, Ph.D., deputy administrator of the FSIS office of public health and science.

Commenting on the Scientific Status Summary on *Escherichia coli* O157:H7 and other enterohemorrhagic *E. coli*, Kaye Wachsmuth detailed food safety changes since the 1993 Western States outbreak attributed to undercooked hamburger.

At the same time, she cautioned that "the traditional barriers of time/temperature and acid must be reevaluated. Many of the pathogen's attributes addressed so well in the status summary by Buchanan and Doyle are defying food safety conventions."

In addition, Wachsmuth pointed out that new surveillance data indicate only a few clusters of illness associated with contaminated beef.

"There has been a shift to other sources of contaminated foods, such as alfalfa sprouts, unpasteurized apple juice and lettuce," she wrote.

For farmers, she added, there is a growing recognition that fruits and vegetables "are raw agricultural products that are ready-to-eat and must be treated accordingly.

"The tradition of recycling manure for vegetable gardening has caused *E.coli* O157:H7 illness; the pathogen can survive longer than the traditional 60-day holding period. Harvesters of produce for raw consumption might well be thought of as food handlers."

"E. coli O157:H7," she concluded, "has been a driving force for change in many areas and has shaken tradition; but it remains an enigma. Where did it come from? What happened in 1982? Now that it is here can it be eradicated?"

The Scientific Status Summary was authored by Robert L. Buchanan of USDA's Agricultural Research Service and Michael P. Doyle, director of the center for food safety and quality enhancement, University of Georgia.

"The unusually virulent enterohemorrhagic strains of *Escherichia coli*, including the O157:H7 serotype, have prompted food microbiologists to rewrite the rule book on food safety" write authors Buchanan and Dovle.

The authors note that the pathogens are more significant than others because of the severe consequences of infection, their low infectious dose, unusual acid tolerance and "inexplicable association with ruminants that are used for food."

"The need for consumer education on the safe handling of foods has never been more acute" they write.

Enterohemorrhagic *E. coli* (EHEC): The defining symptom of the disease is hemorrhagic colitis (HC), i.e., bloody diarrhea.

The authors point out that the initial symptoms of HC generally occur one to two days after eating contaminated food, though longer periods (three to five days) have been reported.

Hemolytic Uremic Syndrome (HUS): This is the most common life-threatening complication and the onset begins approximately a week after the onset of gastrointestinal symptoms. HUS occurs most often in children under the age of ten. The authors add that the "pathogen is likely responsible for 85-95% of HUS cases."

Acid tolerance: Like all bacteria, the survival and growth of *E. coli* O157:H7 are dependent on the interaction of various factors such as temperature, pH, and water activity.

"Acid tolerance in E. coli is a com-

plex phenomenon" the authors note. And "induction of acid tolerance of *E. coli* can enhance its survival in acidic foods." Recent studies have indicated this may also increase the microorganisms's resistance to "heating, radiation, and antimicrobials."

Disease prevention: The authors write that the Hazard Analysis and Critical Control Points (HACCP) system from farm to table is the most effective means for reducing the risk for the disease.

For consumers, their recommendations for reducing risks are specific:

- Cook ground beef and venison thoroughly (minimum 160 degrees F) before eating.
- Drink only pasteurized milk and apple juice.
- Wash fresh fruits and vegetables thoroughly before eating.
- Wash hands thoroughly after handling animals, particularly cattle, deer, goats or dogs.
- Wash hands thoroughly after changing diapers or providing care to children or adults suffering from a diarrheal disease.
- Do not use fresh manure from ruminants to fertilize vegetables or fruits.
- Avoid swimming in lakes or ponds used by cattle and drinking surface water that has not been properly treated to eliminate pathogens.

Finally, they write: "a key lesson dramatically reinforced by the emergence of *E. coli* O157:H7 is that both the macroscopic and microscopic worlds change continually. We cannot take for granted that foods and food practices that have been traditionally safe will remain that way in the future."

Continued vigilance and the ability to rapidly mobilize research capabilities are essential, they say.

E coli–An Agent for Change

The following are excerpts from remarks for delivery by Dr. Catherine Woteki, USDA Under Secretary for Food Safety, before the Ceres Forum of the Center for Food and Nutrition Policy and the American Association of Veterinary Medical Colleges, Sept. 25, 1997, Georgetown University, Washington, D.C.

Speaking before the conference focusing on E. coli O157:H7, Catherine Woteki was clear about the bacterium: "such a tiny organism, but such a large impact," she said.

"Less than a decade ago, the pervasive attitude among industry--and even among some regulators--was that bacteria, including pathogens, are a natural part of the environment and can't be controlled" she pointed out.

"The idea that government would begin setting standards for pathogen reduction, and testing raw products for bacteria contamination, was beyond belief. And the idea that industry would begin to embrace Hazard Analysis and Critical Control Points (HACCP) as good business was a reality only among the most progressive leaders.

"But that's exactly what happened," Woteki said.

Woteki noted that many factors have contributed to the increased emphasis on foodborne pathogens. New pathogens are emerging, new food production and preparation practices increase risks, and more of the population faces increased risks due to age or immune-compromising conditions.

But Woteki pointed out that it was the 1993 outbreak of E. coli O157:H7 that "was a defining moment in the history of pathogen reduction. That outbreak sickened hundreds, was responsible for four deaths, and provided a national impetus for ground-breaking change."

"That outbreak had far-reaching ramifications for everyone--industry, regulators and consumers With mobilized support for change, the new Administration in Washington proposed a major overhaul of an antiquated food safety system," Woteki said.

Following are some of the changes Woteki identified:

- Safe handling labels are now required on raw meat and poultry and provide instruction on storage, cooking and holding practices.
- The USDA pathogen reduction and **HACCP** rule requires all plants that slaughter and process meat and poultry to prevent contamination. The rule also sets performance standards for pathogen reduction.
- The FoodNet Sentinel Sites Study is collecting more precise information about the incidence of foodborne illness.
- New technology is providing better tools to fight pathogens such as steam pasteurization and antimicrobial carcass sprays.
- Farm-to-table strategies are targeting other points in the food chain including animal production, transportation and retail.
- Research is increasing, among other things, understanding of the natural history of human pathogens in animals, setting the stage for potential breakthroughs in vaccines and other preventive approaches.

• Education is being newly emphasized through conferences such as the 1997 "Changing Strategies/Changing Behaviors Conference" sponsored by USDA, the Food and Drug Administration and the Centers for Disease Control and Prevention.

Woteki noted in closing: "This conference focuses heavily on *E. coli* O157:H7, but we must be careful not to lose sight of the many other foodborne pathogens that are already here and those with new disease-causing capabilities that have yet to emerge

"The challenge, for regulators, industry and academia, is to develop a comprehensive approach that addresses all known pathogens and to be constantly vigilant to emerging ones."

Catherine Woteki became USDA Under Secretary for Food Safety in July 1997. Prior to that she served as Acting Under Secretary for Research, Education and Economics. From 1994 to 1995, she was Deputy to the Associate Director of Science at the White House Office of Science and Technology Policy, From 1990 to 1994 she was Director of the Food and Nutrition Board. Institute of Medicine, National Academy of Sciences. She holds a Ph.D. in human nutrition and is a registered dietitian.

To read an interview with Under Secretary Woteki, check our Fast Fax: 1-800-238-8281

> or visit our website: (http://www.usda.gov/fsis).

Websites

There is so much good information on the Internet. Here are just a few interesting sites. If Internet access is not available, check out the local library. It's worth the trip.

And while there, look up this new government site: *U.S. Consumer Gateway*. It's exactly what the name says, a "gateway" integrating access to all kinds of consumer information throughout government (http://www.consumer.gov/).

GOVERNMENT AGENCIES:

- USDA/FDA Foodborne Illness Education Information Center (http://www.nal.usda.gov/fnic/foodborne/foodborn.htm).
- Centers for Disease Control and Prevention (www.cdc.gov/). You can check the Morbidity and Mortality Weekly Report (http://www.cdc.gov/epo/mmwr/ mmwr.html).

You can also access full-text documents from the journal *Emerging Infectious Diseases* which is published four times a year. Look at their most recent Special Issue (Vol. 3 No. 4) which focuses entirely on foodborne disease (http://www.cdc.gov/ncidod/EID/eid.htm).

- USDA Economic Research Service (www.econ.ag.gov/) provides analysis of the costs of foodborne pathogens (http:/ www.econ.ag.gov/Briefing/ foodsafe/pathbr2.htm).
- Food Safety and Inspection
 Service (http://www.usda.gov/
 agency/fsis). Look for consumer
 publications, product recall alerts
 and Food Net info.
- FDA Center for Food Safety and Applied Nutrition (http:// vm.cfsan.fda.gov/list). You'll find facts on the Food Safety Initiative, the 1997 Food Code and The Bad Bug Book.

 Cooperative State Research, Education and Extension Service USDA (http://www.reeusda.gov/).

INDUSTRY, TRADE AND PROFESSIONAL ORGANIZATIONS:

- The Partnership for Food Safety Education. This is the industry, government and organizational team bringing you the Fight BAC!™ campaign (www.fightbac.org).
- International Food Information Council (http://ificinfo.health.org/).
- World Health Organization (http://www.who.ch) offers numerous food safety documents including The Weekly Epidemiological Record (http://www.who.ch/wer/wer home.htm).
- Institute of Food Technologists (http://www.ift.org). Check out their newsletter Food Science Communicators' Alert (http://www.ift.org/sc/communicators/9710.html).

ACADEMIA

- National Food Safety Database from the University of Florida, a great resource, with full-text documents (http://www.foodsafety.org/).
- Iowa State University Extension Food Safety Project, (http:// www.exnet.iastate.edu/Pages/ families/fs/homepage.html).
- North Carolina State University (http://www.ces.ncsu.edu/depts/ foodsci/safety/).

Web-Based Curriculums

F ood safety curriculums are beginning to find their way to the Internet. Here's one you might find of interest.

This web-based curriculum produced by Iowa State is a comic strip set in "Artichoker's Cafe" where the owner learns about the dangers of foodborne illness as he prepares Thanksgiving turkey.

The comic strip is part of a curriculum for young people called "Safe Food: It's Up to You!" designed by The Food Safety Project, Iowa State University Extension Office.

The curriculum's four lessons are presented in simple language and accompanied by colorful artwork.

Lesson One, "What's Bugging You?" provides an overview to food safety and common pathogens.

Lesson Two, "What Are Consumer Control Points?" applies HACCP to the home.

Lesson Three, "Where is the Danger Zone?" explains the importance of time and temperature.

Lesson Four, "Who is FAT TOM?" introduces an animated turkey to explain the importance of Food, Acidity, Time/ Temperature, Oxygen and Moisture on safe food practices.

Each lesson is followed by an achievement test, which students complete and check against the computer.

The program is now being pilot tested in 15 Iowa high schools. In addition, more than 3,000 people around the world have already completed the course via the Internet.

The program developers are also planning a new and "nifty" inter-active lesson for kids concerning hygiene and germs. It's due up on the Web in April.

For more information contact Peggy Sherry, 515/294-1592.

On the Internet, access:

http://www.exnet.iastate.edu/Pages/families/fs/Lesson/Lessonfs.html



That's the title of a new CD-ROM for kids from the University of Florida, and it's hot stuff. Designed for children in grades 4 through 12, these highly interactive lessons, games and quizzes can be used in a computer lab, library or students' homes.

Kids take off on a fictional cookout and along the way they learn the basics of safe food handling. Students are taken on a trip to the grocery store to learn the proper order in which to shop for foods, how to spot damaged packages and expired date-labels, and which foods to bag separately.

Next kids are shown how to safely handle foods in their own kitchen and how to avoid cross-contamination.

The format includes slide shows, videos and audio files. Interactive games give kids the chance to practice what they've learned and a built-in student evaluation helps teachers know how far through the lessons each student has progressed. The cost is \$70 plus shipping.

For information, call 1-800/ 226-1764. ■

Meat and Poultry Recall Information Available on the Web

FSIS is now posting information on product recalls on the agency's website. The agency began posting the information last August to ensure the public has access to the information. Information on recalls from 1990 to the present is also available on the site (http://www.usda.gov/fsis).

Food Safety for Seniors

This educational video produced by Texas Woman's University demonstrates food safety basics for seniors. It covers safe food handling at home including buying, storing and preparing. It also has food safety tips for eating out. It's available for only \$8.95.

Write:

Dr. Carolyn Bednar
TWU–Dept. of Nutrition &
Food Science
P.O. 425888
Denton, TX 76204-5888

1764.

From the American Culinary Federation— Food Handler Training

Also on CD-ROM, *The Food Handler's Sanitation Interactive* offers employers an easy-to-use method to train food handling staff. Staff can study at their own pace at home or the program can be used in staff meeting or classroom settings.

Topics:

•	The Importance of Food Safety	• Leftovers
•	Receiving	• Hazards
•	Storing	Cleaning and Sanitation
•	Cooking	Personal Hygiene

The cost: \$75. For information, call 1/800-624-9458.

"Serve Food Safely: A Volunteer Training System" ©

Where would we be without volunteers? They help serve meals in senior centers, at church suppers, service clubs and soup kitchens. But how do you train volunteers to handle food safely?

This consumer education program addresses that need with a multimedia food safety training system which can be used by volunteers in every setting.

Developed by a Pennsylvania Area Agency on Aging, Serve Food Safely: A Volunteer Training System® was a merit award winner in the National Mature Media Awards Program.

The program includes a 45-minute video divided into nine lessons covering each stage of food preparation, including home-delivered meals.

According to Project Director Pamela B. Roberts, *Serve Food Safely* is an ideal training system for anyone who serves food.

"It teaches food basics quickly and easily, is NOT time intensive and is easy for trainers and students to use.

"Workers will learn how to properly wash their hands, thaw food safely, use a temperature probe, the importance of time and temperature, and much, much more" she said.

The program was produced by Active Aging, Inc., in cooperation with the County Department of Health and the Pennsylvania Department of Aging.

The program includes a reproducible volunteer handbook and a supervisor's training guide. Cost: \$94.95.

Call 1-800/321-7705 or write: Active Aging, Inc. Area Agency on Aging 1034 Park Avenue Meadville, PA 16335

Solution of the second secon Info in Spanish

Developed by Ohio State University Extension staff, this educational program was originally developed for migrant farm families but can be used by anyone with a need for materials serving the Spanish-language commu-

Curriculum components include:

- Five mini-lessons (5 minutes each)
- Five full lessons (1 hour each)
- Teaching aids including handouts, overhead transparancies and activity sheets
- · A camera-ready "Good Food Newsletter"
- "Better Living Services Fact Sheets," with low-literacy presentation
- Evaluation tools.

The cost is \$21.50. To order call 614/292-1607 or write: Ohio State University Extension Publications Office 385 Kottman Hall 2021 Coffey Rd. Columbus, OH 43210-1044

Conference Proceedings **Now Being Mailed**

The proceedings are now off-press from the 1997 conference "Changing Strategies, Changing Behaviors: What Food Safety Educators Need to Know." The proceedings are being mailed to conference participants and are also available through our website (http:// www.usda.gov/fsis). Check the Food Safety Education section under "What's New."

Fight BAC!™: Update

Momentum is continuing with the Fight BAC! $^{\scriptscriptstyle{\mathrm{IM}}}$ educational campaign launched by The Partnership For Food Safety Education, the public/private team joining industry, government and organizations.

Community Action Kits as well as Supermarket Action Kits are being mailed out shortly.

In addition, the Fight BAC!™ brochure is now being made available through The Consumer Information Center. Single, free copies are available by writing:

Fight BAC!™

Consumer Information Center

Pueblo, CO 81009

Also in the works is a Spanish version of the Fight BAC!™brochure. It will be available in the Community Action Kit.

Check the website, www.fightbac.org, for more information on how we're "fighting bac."

Ask Yourself:

Many people wonder why it's so important to cool food properly. Think about this:

If you had an eight-inch stockpot full of steaming chicken stew, how long do you think it would take to cool in the refrigerator.

Would you believe **24 hours?**

To be safe, store hot food in shallow containers in layers less than 3 inches deep.



USDA's Food Safety and Consumer



The Food Safety Educator is produced by the Food Safety and Consumer Education Staff of FSIS. For more than 15 years, staff educators have been working cooperatively with researchers, scientists and marketing and design experts to produce educational materials including print, video and teleconferencing services.

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