

# The Food Safety Educator

Vol. 5, No. 1, 2000

## Meet Thermy™!

Developed by the Food Safety and Inspection Service (FSIS), Thermy™ is the new food safety messenger designed to encourage consumers to cook food to a safe internal temperature.

Thermy™ was “launched” in spring 2000 with a national kick-off by Secretary of Agriculture Dan Glickman and Under Secretary for Food Safety Catherine Woteki.

Simultaneous launches took place throughout the country as food safety cooperators from grocery stores to thermometer manufacturers and FSIS district staff took Thermy™ and the food thermometer message to the public.

**“Using a food thermometer is the only way to tell that food has reached a high enough temperature to destroy harmful pathogens that may be in the raw food,” according to Under Secretary for Food Safety Catherine Woteki.**

Less than half of American cooks own a food thermometer and most people only use them for holiday meals.

“We want folks to use a food thermometer for everyday meals, whether it’s hamburger or turkey roast. Food thermometers deliver two for one: safer meals and better quality because food’s not over-cooked,” according to Susan Conley, director of the FSIS food safety education staff.

“People rely on their experience and judgement to tell when food is cooked, but these methods can be misleading,” Conley said. “The ONLY way to be sure, is to use a food thermometer.”

Safe cooking is one of the four key messages under the Fight BAC!™ campaign, so Thermy™ is a great way to fight BAC! Conley added.

Campaign materials—which educators are encouraged to copy and redistribute—include:



- Thermy™ brochure: “Use a Food Thermometer”
- a refrigerator magnet with a temperature chart
- a research fact sheet, tips sheets for educators and supermarkets, a background on kitchen thermometers, a special kid’s page and more.

According to Holly McPeak, campaign coordinator, FSIS is direct-mailing packets of materials to 50,000 food safety educators and schools around the country as well as major media markets.

In addition, McPeak says, “all the educational materials—as well as graphics and photos—will be available on the FSIS web site. We’re encouraging educators to use Thermy™ and be creative!”

Materials are available through:  
[www.fsis.usda.gov/thermy](http://www.fsis.usda.gov/thermy) ●

# Cook With Thermy™

## When Cooking by Color Is Misleading

Consumer research shows that cooking by color is just one of the ways consumers typically judge whether or not food is “done.” Consumers said they also “eyeball” the food and trust their judgement and experience.

The only problem is, these methods may be misleading.

In 1995, for instance, a study by Kansas State University indicated that ground beef may turn brown before it’s cooked to a safe internal temperature.

In 1998, the U.S. Department of Agriculture’s Agricultural Research Service (ARS) and Food Safety and Inspection Service (FSIS) also examined the color of ground beef as it relates to doneness.

### Their findings?

One out of every four hamburgers turns brown before it’s been cooked to a safe internal temperature.

And yet, only 3 percent of consumers check hamburgers with a food thermometer according to a 1998 consumer food safety survey conducted by the Food and Drug Administration and FSIS.

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**One out of every four hamburgers turns brown before it’s been cooked to a safe internal temperature.**

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Today’s new thermometer technologies, however, make checking the temperature of thin food—like hamburgers—a “piece of cake.”

According to Susan Conley, director of the FSIS food safety education staff, “digital instant-read thermometers only need to be inserted a very short way into food. You can easily check the temperature by going in from the top.

“It’s not complicated—and it’s worth the effort! This is especially true for people who are at high risk for foodborne illness—young children, people over 65, pregnant women and people with chronic illnesses,” Conley said.

For more information on different types of thermometers and their use, check out the FSIS web site: [www.fsis.usda.gov/thermy](http://www.fsis.usda.gov/thermy) ●

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## A Color Primer

There are a number of reasons why color is not a good indicator of “doneness.” A look at the ARS/FSIS study of hamburgers provides some insights.

### ■ Brown too soon:

Hamburger meat may turn brown before it’s been safely cooked because of extensive oxidation—exposure to oxygen that causes the pink pigment in the beef to turn brown. This happens, for instance, when fresh ground beef has been frozen and then thawed over a prolonged period in the refrigerator. It can

also happen when beef has been stored for a long period of time.

The bottom line is this: Research has shown that some ground beef patties look well-done at internal temperatures as low as 135 degrees F.—when the safe internal temperature is 160 degrees F.

### ■ Persistently pink:

There are several reasons why ground beef may remain pink at temperatures above 160 degrees F.—the pH of the food, the level of pigment in the meat and the meat’s fat content.

For more information, check out the FSIS Technical Information publication titled “Color of Cooked Ground Beef as it Relates to Doneness.” Go to: [www.fsis.usda.gov/OA/pubs/colortech.htm](http://www.fsis.usda.gov/OA/pubs/colortech.htm)



# Focus Groups Talk About Food Thermometers:

Yes, educators, we know that encouraging thermometer use could be a challenge.

Focus group research conducted for the Food Safety and Inspection Service (FSIS) in 1998 confirmed that. Six focus groups involving more than a hundred people revealed both barriers and opportunities in terms of thermometer use.

Many people felt “that they have been cooking without a thermometer for years without suffering any adverse results.”

According to Susan Conley, “it’s important to acknowledge that perception. And then we want to try to create a question in people’s minds, to remind them that they may have been sick from foodborne illness, and just never recognized it. It’s never too late to learn new things.”

The recommendations from the 1998 focus group report stressed these ideas:

## **Behavior Change Is Possible:**

While participants in FSIS-convened focus groups at first tended to dismiss the suggestion of thermometer use, group discussion also “indicates a least the willingness to consider change given the proper circumstances and motivations.”

## **Target Parents:**

“Parents of young children indicated they could be persuaded to change their behaviors if they felt such changes would ensure the safety of their children,” focus group research revealed.

In addition, “parental use of thermometers in the home models this behavior to their children....”

## **Highlight Ordinary Meals, Not Special Events:**

Focus group participants confirmed what consumer researchers report: people use food thermometers when preparing holiday meals. As a result, the report suggests educators emphasize everyday use of food thermometers.

Because participants said they can’t “visualize how a thermometer would be used” on a pork chop, hamburger or chicken breast, demonstrate how it’s done and illustrate with pictures.

In addition, stressing the ease with which a thermometer can be used to check food doneness cannot be overemphasized, according to the report.

## **Emphasize Taste, Not Safety:**

“Many participants stated that they would be more likely to use a thermometer if they were convinced that it would enhance the flavor and quality of the meal they prepared,” according to the report.

The report also noted that cookbooks and recipes would be ideal tools for promoting thermometer use if they would provide instructions for cooking to specified temperature rather than for a specified period of time. To access the report on this focus group research, go to: [www.fsis.usda.gov/OA/topics/focusgp.pdf](http://www.fsis.usda.gov/OA/topics/focusgp.pdf)

A final thought--don’t underestimate the power of information:

In 1999, another round of focus group testing took place on the Thermi™ messenger and educational message. It also demonstrated the power of information.

Once the 1999 focus group participants were informed that new research shows that one out of four hamburgers turns brown prematurely, “they were much more interested in using food thermometers to ensure safety.

“People care about food safety and when they understand food safety risks, they are willing and eager to make changes,” Conley said. ●

## **Marketing Tips:**

■ “Parents of young children indicated they could be persuaded to change their behaviors.”

■ Because participants said they can’t “visualize how a thermometer would be used” on a pork chop, hamburger or chicken breast, demonstrate how it’s done....”

■ Stressing the ease with which a thermometer can be used to check food doneness cannot be over-emphasized.

# Fighting BAC!



In 1999, BAC! fighters were fighting foodborne illness all over the country, and even other parts of the world.

In almost every region of the country, extension educators, grocery stores, public health offices--all of these and more are joining the BAC! team.

In Ohio, extension educators took a graphic image of a backyard picnic from the Fight BAC!™ web site--and made it come to life!

With a demonstration backyard set up like the graphic, people visiting a farm expo got to test themselves and see if they knew where BAC! might hit.

Bob Evans Farms took the BAC! ideas and turned them into posters, poster contests, packets for employees and their families and provided employee training using the BAC! materials.

McDonalds helped fight BAC! in September 1999. More than 12

million "Happy Meals" came with a brochure about safety at home—including food safety and the Fight BAC!™ messages.

Josephine Franklin's **first-graders at Westwood Elementary School in Memphis, Tenn.** are learning--and teaching--the four Fight BAC!™ messages as they study bacteria and foodborne illness. The class produced a PowerPoint presentation on food safety to teach others, made posters and even wrote a rap song. When the kids find Fight BAC!™ materials on the Internet, they chant in unison: "Clean--Separate--Cook--Chill!"

These are just some of the ways people are fighting BAC! around the country.

**But BAC has definitely gone international:**

Canada has jumped into BAC! with its own web site, [www.canfightbac.org](http://www.canfightbac.org), and they've

adapted materials produced in the U.S. such as the "Presenter's Guide: K-3."

BAC! posters have turned up in food production facilities in **Japan**; BAC! materials are being used in **New Zealand** and **Ireland**.

If you want to add your own BAC!-fighting campaign to the BAC! scrapbook, go to [www.fightbac.org](http://www.fightbac.org) and click on "Give Us Your Feed BAC!" ●

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## BAC! Tools Are Hot

Educational materials produced by the Partnership for Food Safety Education for the Fight BAC!™ campaign have flown off the shelves this year.

The food safety curriculum for grades 4-6, "Your Game Plan for Food Safety," was first released in the summer of 1999. As of January 2000, more than 15,000 kits had been ordered.

Other BAC! tools include brochures in English, Spanish and Chinese, a guide for working with preschoolers, a PowerPoint slide show and even how to make a Fight BAC!™ bean bag toss game.

Some materials can be downloaded for free—others can be ordered through the BAC! store at [www.fightbac.org](http://www.fightbac.org). ●

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## New Look for [www.fightbac.org](http://www.fightbac.org)

The award-winning BAC! web site has a whole new look. If you haven't visited lately, you might want to click on.

The brand new layout and design make it easier to navigate and more quickly find resource materials.

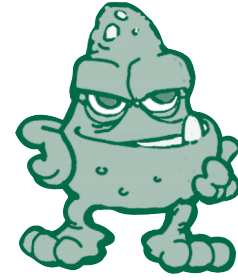
**The web site's reorganized content now features the popular seasonal "toolbox" that highlights food safety information.**

Designed for educators, the toolbox includes:

- ready-to-use food safety tips
- sample news releases
- public service announcements
- fact sheets and graphics
- how-to's for working with the media such as suggested demonstrations for TV, and
- pitch letters for radio and TV.

All these resources can be downloaded from the web site and you can tailor them to your individual needs! ●

# ■ My Year With BAC!



“I had a wonderful year,” says Susan Conley, of her recent assignment as the U.S. Department of Agriculture’s education liaison to the Fight BAC!™ campaign.

“Out there in the country, people are doing amazing things. What was so gratifying was seeing the products we’ve worked so hard on—the Fight BAC! messages and educational tools—come to life as local educators put their own spin on them,” Conley said.

In January 1999, Conley began a one-year assignment under an intergovernmental exchange program. During that year she was assigned to the University of Maryland with a number of projects, including assisting with coordination of the national Fight BAC!™ program.

Her job took her everywhere. Crisscrossing the country with the BAC! campaign—not to mention the BAC! character—she met with food safety educators in every

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venue: extension educators, food manufacturers, grocery store chains and many others.

“One of the things I learned was that you can never overlook a potential partner. Some of our best partners were in the most unlikely places. All it takes is an individual who cares,” Conley said.

One of Conley’s major tasks was implementing grassroots campaigns as pilot projects in Annapolis, MD and San Diego, CA.

“We’re taking what we learned from doing these campaigns and publishing a grassroots partnering workbook due out by summer of

2000,” Conley said.

“What I found was that food safety educators at the local level—public health people, school food service, extension and others—had not necessarily worked with each other. And the idea of working together as a local food safety team is not necessarily embraced at first.

“But once people tried it, they don’t want to let it go. It’s great, it works!” Conley said.

“The great thing for us at the national level is that we can develop prototype tools—camera-ready copy—and people at the local level are ready to go.

“It’s not that the people at the local level couldn’t produce these tools in a heartbeat—they could! But they don’t have the heartbeat it takes to do it. They have so much on their plates already.

“That’s why teaming makes so much sense,” Conley said. “Stay tuned on partnerships, you’ll be hearing more.” ●

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## Buy It From BAC!—Items From the Store

There’s no question about it—there’s a great menu of things to pick from at the BAC! store—all at reasonable prices!



You’ll find a “gazillion” items, including:

- aprons, \$8 each
- Fight BAC! puppets, \$15 each
- BAC!-Catchers, \$10 for 150 sheets
- ceramic mugs, \$10
- stickers, \$30 (1 roll min.)
- embroidered patches, \$1.25 (10 min.)
- posters, \$1 (10 min.)
- bookmarks, \$.75 (10 min.)
- magnets, \$.75 (25 min.)

(Plus shipping and handling charges.)

And don’t forget to check this out: there are discounts for bulk orders.

You can order by phone: 301/731-6100.

You can order by fax: 301/731-6101.

Or you can order online through the BAC! store: [www.fightbac.org](http://www.fightbac.org) ●

# Healthy People 2010: Focusing on Food Safety

New goals and objectives published in January 2000 for Healthy People 2010 continue to highlight the importance of food safety.

Healthy People 2010 is a national health promotion and disease prevention initiative that brings partners together from every level of government and every corner of American society.

Objective 10 in the initiative addresses food safety and builds on goals first established by Healthy People 2000.

For the first time, the four key food safety messages from the Fight BAC!™ campaign—Clean, Separate, Cook and Chill—have been added to the objectives. The goal is to increase the percentage of consumers who follow these food safety rules from 72 percent to 79 percent.



To reduce infections caused by microorganisms, Healthy People 2010 continues to focus on *Campylobacter*, *Escherichia coli* O157:H7, *Listeria monocytogenes* and *Salmonella* species.

In addition, Healthy People 2010 is developing new infection reduction objectives dealing with *Cyclospora caytanensis*, postdiarrheal hemolytic uremic syndrome and congenital *Toxoplasma gondii*.

Because of concerns about microbial resistance to antibiotics, Healthy People 2010 also places new emphasis on preventing an increase in illnesses from drug-resistant *Salmonella* species.

Other new areas of emphasis include:

- reducing deaths from food allergies
- improving food preparation and storage practices of food employees, and
- reducing exposure to organophosphate pesticides in food.

Objective 10—Food Safety—is accessible at:

<http://www.health.gov/healthypeople/Document/HTML/Volume1/10Food.htm> ●

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## Extension Educators Innovate Again!

USDA extension educators have been leaders for years in teaching about food safety.

Last year's grants to extension departments throughout the country demonstrate the innovative and resourceful projects now in the works.

Forty eight extension grants were awarded in October 1999. Here's just a sampling of the projects now being developed:

• **Food Handler Education and Training for Hispanic Consumers and Youths**, \$100,000, University of Connecticut, Storrs, CT.

• **Food Handler Education for Consumers and Youth Using Fight BAC!™—a Video Curriculum**, \$248,911, University of Georgia, Athens, GA.

• **Woodlands Wisdom: Holistic Approach to Food Safety Education**, \$99,998, University of Minnesota, St. Paul, MN.

• **Trilingual (Navajo/Spanish/English) Games/Interactive Activities for Fight BAC!™** Outreach to Hard-to-Reach Audiences, \$100,000, New Mexico State University, Las Cruces, NM.

• **Native American Storytelling Teaches Food Safety in Oregon and Alaska**, \$86,287, Oregon State University, Corvallis, OR.

• **A National Risk Assessment Tool for Consumer Safety**, \$100,000, University of Wisconsin, Madison, WI.

For a complete list of the grants awarded, as well as names and phone numbers of contacts, go to:

[www.usda.gov/news/releases/1999/10/0399](http://www.usda.gov/news/releases/1999/10/0399) ●

## newsbriefs

### ■ Links to Extension and Public Health

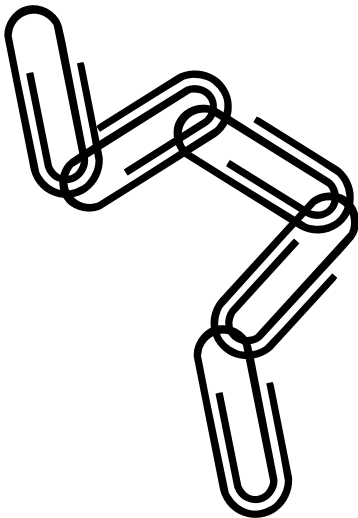
Interested in food safety initiatives in other states and localities?

Go to [www.FoodSafety.gov](http://www.FoodSafety.gov) and click on "Federal and State Gov't Agencies."

Under "State and Local Government," click on "Extension Educators and Other Food Resource People." You'll find a nationwide contact list with e-mail addresses.

At the bottom of that web page (and continuing for another three pages) you find a listing of 28 states with links to extension, agriculture and public health sites dealing specifically with food safety.

Several extension web sites have recently formed the "Federal/State Food Safety Web Coordinators Work Group." The group is designed to improve communication between extension sites and federal agencies involved in food safety. ●



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## News to Note: Illnesses Decline

Illness from the most common bacterial foodborne pathogens declined nearly 20 percent between 1997 and 1999, according to new data based on FoodNet surveillance.

The report was published by the Centers for Disease Control and Prevention in the March 17 issue of the *Morbidity and Mortality Weekly Report* (MMWR).

The decline represents at least 855,000 fewer Americans each year suffering from illness caused by foodborne bacteria.

Between 1998 and 1999, the data show a 25-percent decline in the number of *E. coli* O157:H7

infections. They also show a 41 percent drop in the incidence of *Shigella* infections and a 19-percent decline in the number of illnesses caused by *Campylobacter*, the most common foodborne pathogens in the U.S.

"The reported declines in foodborne disease, particularly in *Campylobacter* and *E. coli* O157:H7, are encouraging and suggest that our prevention efforts are paying off," said Agriculture Secretary Dan Glickman.

For more information, go to: <http://www.cdc.gov/epo/mmwr/preview/mmwrhtml/ss4910a1.htm> ●



## FSIS Public Health Fellowships

**A** new fellowship program has been developed by the Food Safety and Inspection Service's Office of Public Health and Science (OPHS). Fellowships are being offered in both risk assessment and epidemiology.

Pending funding approval from Congress, the fellowship program is due to begin in October 2000 and run for 2 years.

According to Dr. Ruth Etzel of OPHS, "the Food Safety Fellows Program is currently recruiting individuals who have recently completed post-doctoral work and research in a variety of fields

including epidemiology, microbiology, statistics, risk assessment, nutrition and engineering."

People who are interested should send a letter summarizing their scientific expertise, qualifications, reasons for wanting to be a Food Safety Fellow and a copy of their curriculum vitae by July 31, 2000 to:

Dr. Ruth Etzel, Director  
Epidemiology and Risk Assessment Division  
Food Safety and Inspection Service  
1400 Independence Ave., SW  
Washington, D.C. 20250-3700 ●

## newsbriefs

### ■ New from CDC: Consumer-Friendly Info on Food Irradiation

Did you know there are actually three different kinds of irradiation technologies?

- Gamma rays are given off by a radioactive substance, like the element cobalt or the element cesium. This type of radiation can penetrate foods to a depth of several feet.
- Electron beams, or e-beams, are a stream of high-energy electrons, propelled out of an electron gun. Electrons can penetrate food only to a depth of about an inch.
- X-ray irradiation is an outgrowth of e-beam technology and still being developed. Like cobalt gamma rays, X-rays can pass through thick food, but like e-beams, no radioactive substances are involved.

To learn more, including how irradiation affects foods, an explanation of the process of irradiation, information on radioactive wastes and how consumers feel about irradiation, check out the new “Frequently Asked Questions about Food Irradiation,” from the Centers for Disease Control and Prevention.

You can access on the web at: [www.cdc.gov/ncidod/dbmd/diseaseinfo/foodirradiation.htm](http://www.cdc.gov/ncidod/dbmd/diseaseinfo/foodirradiation.htm) ●

### ■ Your First Stop for Food Safety Education and Training Info

Have you ever just wished you had one place to go to in order to KNOW what food safety training materials are available?

Here's the place: The USDA/FDA Foodborne Illness Education Information Center.

The Center maintains two databases: one focuses on food safety education training materials, the other on resources and training for Hazard Analysis Critical Control Points (HACCP).

According to Information Specialist Cindy Roberts, the databases now hold more than 500 entries.

The Foodborne Illness Educational Materials Database is a compilation of consumer and food worker educational materials developed by a wide variety of groups including universities, private industry and local, state and federal agencies.

The materials cover the gamut and include computer software, audiovisuals, posters, games, teaching guides and educational programs in other languages.

Of special interest to the food industry and cooperators, the Center also has a database of HACCP training programs and resources.

Both databases provide instructions on how to access the materials.

AND—if you have developed some food safety training materials—or HACCP materials—and you want them included in the database, you can submit them by filling out the “Database Contributors’ form” via the web site.

To view the database, or contribute to it—or join a food safety chat group called Foodsafe—go to: <http://www.nal.usda.gov/foodborne> ●



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**Please feel free to email  
comments or suggestions—  
[fsis.outreach@usda.gov](mailto:fsis.outreach@usda.gov)**

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