



# Food Safety

NEWS

## September is Food Safety Education Month

This September marks the fourth annual designated Food Safety Education Month. The special monthlong observance was organized by the food service industry, and today it is also supported by many state and federal agencies, including the U.S. Department of Agriculture and the Food and Drug Administration.

Throughout Kansas, many local health departments and K-State Research and Extension county offices are teaming up to conduct food service workshops and seminars (see page 4) and to teach food safety and sanitation to schoolchildren.

September 23 has been designated as state Food Safety and Sanitation Day. Check with your health department or county extension office for information about workshops in your area.

The Greater Kansas City area will celebrate its Fourth Annual Food Safety Education Day September 29. Food safety seminars are planned throughout the city. Special classes will be offered in Spanish and Mandarin Chinese. Contact [derekm@swbell.net](mailto:derekm@swbell.net) or call (816) 765-1588 for information.

## Food Safety CURRENT NEWS

# Meat label adds safety specifics

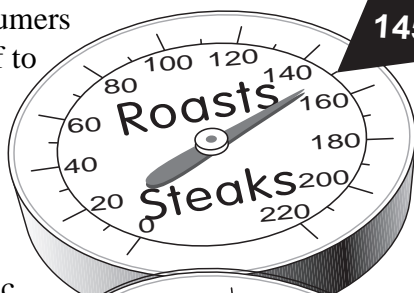
The current safe food handling label required on fresh meat products leaves room for much interpretation, with its guidance to “Cook thoroughly.” If consumers cook ground beef to 160° F, harmful bacteria such as *E.coli* 0157:H7 are killed.

Wegman’s Food Markets, Inc., of Rochester, N.Y., and the Food Marketing Institute plan to give consumers the temperature information they need to know. Wegman’s ground beef will carry a bright yellow label telling consumers to “Cook to 160° F” and “Use a thermometer.”

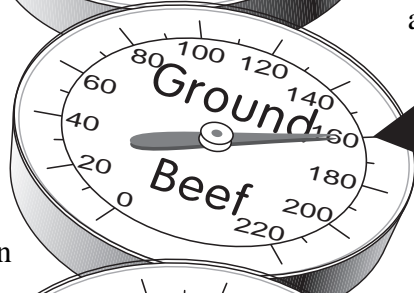
Wegman’s decision was based, in part, on Kansas State University research that indicates color is not a reliable indicator that ground meat is sufficiently done to be safe.

Other K-State research with consumer focus groups indicated that

consumers were dissatisfied with the required safe handling label because of its vague advice to “cook thoroughly.”



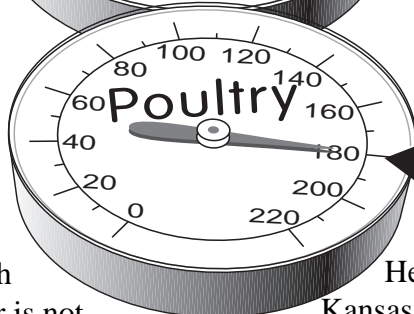
145°



160°



165°



180°

## Committee named

Gary Mitchell, Kansas Secretary of Health and Environment, has named a Food Code Review Committee to review provisions of the Food and Drug Administration 1997 Food Code for application in Kansas.

The committee received its charge in July and met again for a work session August 12 in Topeka. Review completion is expected in the fall.

Members of the committee, representing industry, regulatory and education functions, are: Cary Binney, Ulysses; Mary Lee Edwards, Yates Center; Ed Garner, Wichita; Mary Glassburner, Topeka; Gail Hansen, Topeka; Jim Harris, Hutchinson; Diane

Healy, Wichita; Thad Lawrence, Kansas City; Jack Maybee, Lenexa; Karen Penner, Manhattan; George Puckett, Wichita; James Sheehan, Shawnee Mission; Roger Smith, Wichita; and Francis Walters, Emporia.

## On the World Wide Web

K-State Research and Extension  
Food Safety Pages  
<http://www.oznet.ksu.edu/foodsafety/>

The Food Safety Consortium  
(Kansas State University, University of Arkansas, Iowa State University)  
<http://www.uark.edu/depts/fsc/>

National Food Safety Education Month  
<http://www.foodsafety.gov/september>

The Food and Drug Administration,  
Center for Food Safety and Applied Nutrition  
<http://vm.cfsan.fda.gov/list.html>

The 1997 Food Code (FDA)  
<http://vm.cfsan.fda.gov/~dms/foodcode.html>

The Bad Bug Book  
<http://vm.cfsan.fda.gov/~mow/intro.html>

## Q&A

Q. If a food smells bad, should I assume it will give me a food-borne illness?

A. No. Off odors indicate the presence of spoilage organisms, not pathogens. Certain bacteria will spoil food; other bacteria (pathogens) can make people sick under the right set of conditions. For example, bacteria that spoil food are those that cause milk to sour or the ones that make hamburger feel slimy if it has been in the refrigerator for several days.

The definition of spoilage is somewhat based on cultural expectations of food quality as well as the perceptive level of one's senses. Most would agree, though, that food with gross discolorations, strong off odors and slime is spoiled.

## Food Safety RESEARCH

# Researchers test hand cleaners

A growing array of hand cleansers is available for both commercial users and consumers to rid hands of transient microorganisms.

Transient pathogenic microorganisms can contaminate the hands of those who feed us. That contamination can come from contact with a food worker's own excretions or infected areas. In the process of preparing food, those contaminants can be transferred to food and to the people who eat it.

Food also can become contaminated via exposures to the feces of raw animal products while being processed. Bacteria most likely to be contacted in this manner are species of *Salmonella*, *Shigella*, *Escherichia*, *Yersinia*, *Klebsiella*, *Proteus*, *Clostridium*, *Citrobacter*, *Staphylococcus* and *Streptococcus*.

The purpose of a recent study was to help those responsible for food sanitation make appropriate choices for hand cleansing products. Both immediate antimicrobial effect and the persistent effect were studied. The "immediate" effect is the measurement of both the mechanical removal (if a handwash is used) and the immediate inactivation of the microorganisms by the antimicrobial compound (e.g., alcohol, triclosan, parachlorometaxylene) if one is used in the product. The "persistent" effect is the measurement of the product's antimicrobial ability to prevent microbial recolonization of the skin surfaces (either by inhibition or lethality) after the product has been used.

Six common handwash product formulations were compared: a non-antimicrobial lotion soap; an antimicrobial lotion soap; an E2 sanitizing soap (a USDA classification based on an equivalency of 50 ppm chlorine); an

alcohol gel sanitizer; a non-antimicrobial lotion soap used in conjunction with an alcohol gel sanitizer; and an antimicrobial lotion soap used with an alcohol gel sanitizer.

Products were tested on 30 male and female subjects. Immediate and persistent antimicrobial effects and product irritation to the hands were evaluated.

Results indicate that each of the six product configurations reduced transient microorganism populations. Each configuration, however, had advantages and disadvantages.

### Non-antimicrobial lotion soap.

This product showed that mechanical removal of transient skin bacteria is effective and consistent, but not optimum. No skin irritation was found.

**Antimicrobial lotion soap.** More effective than the plain soap in both immediate and persistent antimicrobial properties.

**E2 sanitizing soap.** Very effective in both immediate and persistent antimicrobial effects, with sustained high reductions in transient organisms. Skin irritations were more prevalent.

**Alcohol gel sanitizer.** The most immediately effective product in reducing microorganism populations. The product of choice when transient organism contamination is possible, and water is NOT available for thorough hand washing. The product maintained significant reductions of organisms over a series of hand washes, but after three to five uses, an antimicrobial or non-antimicrobial hand wash product should be used. Alcohol gel showed low skin irritation, comparable to plain soap.

The most effective product regimens were the **combinations of alco-**

**hol gel with antimicrobial or plain lotion soap.** Both combinations showed immediate transient organism reduction because of mechanical degerming by the soap hand washing together with the alcohol's ability to inactivate organisms. Both regimens also were persistently effective.

– Paulson, D.S., *Dairy, Food and Environmental Sanitation*. 14(9):524, 1998.

## Spices reduce *E.coli* 0157:H7 in meat

Spices historically have been valued for their preservative effects and medicinal powers, in addition to their flavors and aromas. Now, researchers at Kansas State University are studying the effects of various spices on *E.coli* 0157:H7.

Twenty-four spices were tested in laboratory conditions on agar plates. Spices were added at 0.5, 1.0, 1.5, 5.0 and 10.0 percent. Bacteria were added and the plates incubated 24 hours to determine the inhibitory effects of the spices on *E.coli*. Garlic had the highest inhibitory effect.

Garlic, clove, cinnamon, oregano

and sage were further tested at 1.0, 2.5, 5.0 and 7.5 percent in ground beef containing the pathogen. Bacterial cell counts were determined for 24 hours before and after incubation. Clove was most effective in inhibiting *E.coli* 0157:H7 in the ground meat.

The addition of 1.0 percent spice (garlic, clove and cinnamon) to salami mixed with starter culture and *E.coli* 0157:H7 resulted in successful salami fermentation and slight reduction of the bacteria. The addition of 7.5 percent garlic and clove, however, killed 99 percent of the bacteria and still resulted in successful salami fermentation.

Researchers concluded that clove, cinnamon and garlic could be used in meat products – especially in fermented meat products – for controlling the growth of *E.coli* 0157:H7. Spices alone, though, will not eliminate *E.coli* 0157:H7. They may potentially add another margin of safety, along with proper cooking and handling. Only thorough cooking or irradiation can eliminate the pathogen.

– E. Ceylan, D.H. Kang and D.Y.C. Fung, *Department of Animal Sciences and Industry, Kansas State University, Manhattan*

## FDA releases industry guide

The FDA has a new *Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables*. The guide, still in draft form, is intended to assist growers and packers improve the safety of produce.

The guide is based on the following principles associated with minimizing microbial food safety hazards from the field through distribution.

1. Prevention of microbial contamination is favored over reliance on corrective actions.
2. Growers and packers should use good agricultural practices in those areas over which they have some degree of control.
3. Anything that touches produce has potential to contaminate it. For most foodborne pathogens associated with produce, the main source of contamination is associated with human or animal feces.
4. When water comes in contact with produce, its source and quality dictate potential for contamination.
5. Practices using manure or municipal biosolids should be closely managed to minimize potential for contamination.
6. Worker hygiene and sanitation practices along the production cycle play a critical role in minimizing potential for contamination.
7. It is important to understand and follow all local, state and federal government regulations relative to established agricultural practices.
8. Establish a system for accountability at all levels of your agricultural environment (farm, packing facility, distribution center or transport operation). A successful food safety program should include provisions for qualified personnel and effective monitoring and maintenance to ensure that all elements of the program are functioning and to help track produce back through distribution channels to the producer.

The guide can be found at the FDA website:

<http://vm.cfsan.fda.gov/~dms/prodguid.html>

## Auditors check home food safety

Audits International collected behavior data from 106 households in 81 cities across the United States and Canada to determine home food safety practices. People in the study were better educated than average (73 percent had a college degree).

Auditors watched meal preparation, service, cleanup and leftover storage practices. Performance was compared to standards from the 1997 Food Code of the Food and Drug Administration. To be acceptable, a home was allowed no "critical violations" and no more

than four "major violations." A critical violation, can potentially lead to a foodborne illness. A major violation is very unlikely to cause a foodborne illness but may be a contributing factor.

Of the 106 households evaluated, fewer than 1 percent met the minimum criteria for acceptable performance. The number of critical violations per household ranged from 0 to 8 and averaged 2.8. At least one critical violation was observed in 96 percent of the homes. The most frequent critical violations were

cross-contamination (76 percent) and hand washing neglected (57 percent). In about 25 percent of households, chemicals were stored or labeled improperly, products were not cooked to high enough internal temperature, or the refrigerator temperature was too high.

These data show there is room for improvement in food safety and handling practices in American homes.

– Daniels, R., *Food Technology* 53(2):54, 1998.

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All educational programs and materials are available  
without discrimination on the basis of race, color,  
religion, national origin, sex, age, or disability.

### September 1998 National Food Safety Education Month

**August 26-27, 1998**  
Serving Safe Food  
Overland Park, KS  
Contact : Nada Thoden  
(913) 764-6300

Serving Safe Food (ServSafe®) is a  
food safety and sanitation  
certification course of the  
Educational Foundation of the  
National Restaurant Association.  
The course includes an 80-question  
certification exam. It is taught by K-  
State Research and Extension,  
county, area and state faculty;  
Kansas Department of Health and  
Environment; and local health  
department inspectors/sanitarians.

## Upcoming Events

**September 2-3, 1998**  
Serving Safe Food  
Pittsburg, KS  
Contact: Martha Murphy  
(316) 232-1930

**September 8-9, 1998**  
Serving Safe Food  
Hays, KS  
Contact: Carla Morrical-Frederking  
(785) 628-9430

**September 23, 1998**  
Kansas Food Safety and  
Sanitation Day

**September 29, 1998**  
Greater Kansas City  
Food Safety Day

**October 11-13, 1998**  
Food Safety Consortium Meeting  
Kansas City  
Contact: Curtis Kastner  
(785) 532-1234

**October 12-13, 1998**  
Serving Safe Food  
Wichita, KS  
Contact: Teresa Lang  
(316) 722-7721

**October 14-15, 1998**  
Serving Safe Food  
Overland Park, KS  
Contact: Nada Thoden  
(913) 764-6300

**March xx, 1999**  
Second Kansas Conference on Food  
Protection  
Wichita, KS  
Contact: Stephen Paige  
(785) 296-0189