

In This Issue

Feature Articles

How & Why Bacteria Communicate in Food Environments.....	1
165°F is Safe End-Point Temperature for All Turkey	2
Staying Informed During Flu Season ..	3
Safe Handling of Pet Treats	4
Pack a Healthy & Safe Lunch.....	5

In the News

Nationwide <i>E. coli</i> Outbreak Linked to Bagged Spinach	5
Newly-Approved Virus Food Additive May Protect Against Listeriosis ..	6

Resources

So Easy to Preserve 5 th Edition.....	7
NEHA Food Safety Programs.....	7
High Altitude Fact Sheets	7
Avian Flu Consumer Fact Sheet	7
Safe Produce Handling-Consumer Education	8
Fight Bac!	8
Food Safety Information Website.....	8
Holiday Food Safety	8

Coming Events

Save the Date	8
Food Safety Trainings.....	8

This newsletter can be found on the SafeFood web site.

Check it out at:

<http://www.colostate.edu/Orgs/safefood/>

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Cooperative Extension, Colorado State University

SAFE FOOD NEWS

Volume XI, No. 1

Fall 2006

HOW AND WHY BACTERIA COMMUNICATE IN FOOD ENVIRONMENTS

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The discovery that bacteria are able to communicate with each other has changed our perceptions of the many single celled organisms that inhabit our world. However, instead of using English or some other language, bacterial cells communicate among themselves using low-molecular-weight compounds (called autoinducers) through what is known as “quorum sensing,” a cell density-dependent signaling system (1).

Quorum sensing enables bacteria to coordinate their behavior. Interestingly, in order to avoid detection by the host immune system, pathogenic bacteria do not use quorum sensing at low levels of cell density, but only when they reach a level sufficient to overcome the host immune system (2). Quorum sensing molecules (autoinducers) have been grouped into four different types and may be involved in such bacterial activities as virulence, bioluminescence, protein production, and biofilm formation (1).

Recently, quorum sensing of bacteria found in food environments has been suggested as a potential target to control food quality and safety. If we understand how bacteria use quorum sensing to communicate and organize themselves, we can develop systems that interfere with or block these signaling systems, thus preventing the bacteria from being dangerous. Jay et al. (3) has suggested that food spoilage and biofilm formation may be caused by quorum sensing of dominant bacteria in fresh meat during low storage temperature (5-7°C). Others (4, 5) have reported that bacterial spoilage in various foods may be associated with quorum sensing. Major pathogenic bacteria such as *Escherichia coli* O157:H7, *Salmonella*, and *Campylobacter* species, have been found to produce autoinducer-2 (AI-2) molecules in foods such as milk, chicken broth, and brucella broth at different storage temperatures (6). Overall, bacteria may use quorum

sensing for their growth, survival, and virulence in food environments (6). While different bacterial species use different signaling molecules to communicate, there is some evidence that interspecies communication (known as cross talk) can also occur.

In complex food environments, the role of the quorum sensing and factors affecting quorum sensing molecule production are not very clear. Thus, we (Drs. Yoon and Sofos) have conducted studies to examine quorum sensing of major foodborne pathogenic bacteria such as *E. coli* O157:H7 and *Salmonella*, and the environmental factors affecting quorum sensing by these pathogens in food environments or related conditions. Additional research is needed to examine the resistance of foodborne pathogenic bacteria against antimicrobials, and their ability to survive under the human immune system.

References

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2. Bauer, W. D., and J. B. Robinson. 2002. 13:234-237.
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165°F IS SAFE END-POINT TEMPERATURE FOR ALL TURKEY PARTS



As Thanksgiving and other year-end holidays draw near, many consumers begin to think about entertaining, cooking, and preparing larger than usual meals for visiting family and friends. Food safety becomes especially important this time of year, when we often cook foods in large quantities or serve meals buffet-style.

Looking ahead to the holiday season, a main concern for many families is planning and preparing the traditional turkey dinner for Thanksgiving day. Since turkeys are often sold frozen, it is important to plan ahead to ensure that the meat is cooked thoroughly and safely. The USDA's Food Safety and Inspection Service (FSIS) offers guidelines on thawing and cooking frozen turkeys safely based on the weight of the turkey.

Safe Thawing: FSIS recommends thawing frozen turkeys in the refrigerator in the original wrapper or packaging for approximately 24 hours per 5 pounds of turkey. Using this guideline, a 10-12 pound turkey will take about 2 days to thaw; a 12-16 pound turkey 2-3 days; and a 16-20 pound turkey 3-4 days. Once thawed, it's important to cook the turkey within 1 to 2 days. Another option, if time is short, is to thaw a turkey immersed in cold water, as long as the water is changed every 30 minutes. FSIS guidelines recommend 30 minutes thawing time in cold water for every pound of turkey – for instance, 4-6 hours for an 8-12 pound turkey.

Safe Cooking: After years of recommending that turkeys be cooked to 180°F in the thigh and 165°F in the breast and stuffing, FSIS is now recommending 165°F as the ONE safe end-point temperature to remember for all parts of the turkey. Note that if you like your turkey very tender and well done, you may want to cook it to a higher end-point temperature. The thermometer should be inserted into the innermost part of the turkey, and the temperature of the stuffing inside the turkey should be checked as well. Once the reading in all parts of the bird is 165°F, the turkey is safe to serve. Any remaining leftovers should also be heated to 165°F.

In addition to online information at <http://www.fsis.usda.gov>, USDA-FSIS provides a Meat and Poultry Hotline free of charge for consumers to get answers to food preparation questions. The hotline is available toll-free at 1-800-535-4555 and includes automated responses to common questions 24/7 as well



as live responses in English or Spanish from 8-2 pm MT. Consumers can also send e-mail questions through the "Ask Karen!" program at MPHotline.fsis@usda.gov.

Source: Countdown to the Thanksgiving Holiday. USDA-FSIS, Oct. 2005, Available at http://www.fsis.usda.gov/PDF/Countdown_to_Thanksgiving_Holiday.pdf

STAYING INFORMED DURING THE FLU SEASON

As the winter months and colder weather approach, the flu season looms and we begin to think more about flu shots and staying up to date with the latest information. Besides typical daily worries about the common seasonal flu that affects so many of us annually, there has been growing public concern and confusion over recent reports of avian flu and pandemic flu. There are some differences between these types of illnesses, so it is helpful to be as informed as possible in order to stay healthy.

The type of flu that sends many people to their doctors during this time of year is known as common or seasonal flu, a respiratory illness that is contagious and can easily be passed from person to person. Each year, 5 to 20% of the U.S. population gets the flu. While the common flu is usually not serious for otherwise healthy individuals, it can lead to serious complications, including hospitalization and death in young children, older adults and persons with certain medical conditions. A yearly flu shot is recommended for children between the ages of 6 months and 5 years, pregnant women, persons over age 50 and anyone with a chronic medical condition or living in a nursing home. It's also recommended for health care workers and persons who take care of high risk patients.

The main type of flu attracting attention in recent headlines is the avian flu - or bird flu - which is caused by influenza viruses occurring naturally in wild birds. Migratory birds can carry avian flu in their intestines, although they often do not become sick from the virus. Avian flu is, however, very contagious among birds, and domesticated birds can become seriously ill or die after contracting the flu from contaminated surfaces, food, or water. There are various subtypes of avian flu, all of which can be found in birds. The strain known as avian influenza H5N1 is highly pathogenic, has infected birds in Asia, Europe, and Africa, and can be spread to humans through direct contact with infected birds. Although the spread of the virus to humans has been very rare so far, public health officials consider the H5N1 bird flu to be a major concern because humans have no immunity to the H5N1 strain and there is currently no vaccine available. The effort to find an

effective vaccine is ongoing, but in the meantime, concern continues over potential serious illness and death in humans.

According to the Centers for Disease Control and Prevention (CDC), there are currently ongoing outbreaks of avian flu among poultry in several countries, but only a few human cases of illness have been associated with these outbreaks. Since 1997, the World Health Organization (WHO) has tracked cases of human avian influenza H5N1. To date (10/03/06), 252 human cases resulting in 148 deaths have been reported to the WHO, mostly in China and the Middle East. Most cases have resulted from direct contact with infected birds. The CDC stresses that the H5N1 virus is not easily or frequently transmitted to humans.

The main concern among public health officials over the H5N1 avian flu is the potential for the strain to mutate and become more easily spread from person to person. Since humans have no immunity to this type of flu, a pandemic, or worldwide disease outbreak, could result. There is currently no pandemic flu causing serious illness, and health officials are closely monitoring the bird flu situation and working to develop an effective vaccine. Meanwhile, shots for the common flu are available. Detailed information about influenza viruses is available and frequently updated through the following resources:

<http://www.cdc.gov/flu>

<http://www.pandemicflu.gov>

http://www.who.int/csr/disease/avian_influenza/en/

References

1. Centers for Disease Control and Prevention. Avian Influenza: Current Situation. Accessed September 25, 2006, at: <http://www.cdc.gov/flu/avian/outbreaks/current.htm>.
2. Centers for Disease Control and Prevention. Fact Sheet: Key Facts About Avian Influenza (Bird Flu) and Avian Influenza A (H5N1) Virus. Accessed September 25, 2006, at: <http://www.cdc.gov/flu/avian/gen-info/facts.htm>.
3. Colorado State Home to Avian Influenza Surveillance Program. E-Insight, May 2006 edition. College of Veterinary Medicine and Biomedical Sciences, Colorado State University. Available at: http://welcome.colostate.edu/index.asp?url=programs_pabilonia. Accessed September 25, 2006.



SAFE HANDLING OF PET TREATS

For most people, food safety concerns stem from the foods they eat or feed their families.

However, the foods and treats people give to family pets may also be contaminated with pathogens that can cause human illness. In fact, in response to several recent cases of foodborne illness in humans, the Centers for Disease Control and Prevention (CDC) recently released a report about the possible dangers of handling pet foods that may be contaminated with harmful bacteria.

The CDC report detailed nine confirmed cases of *Salmonella* Thompson infection linked to pet treats made with raw dehydrated beef and seafood ingredients. *Salmonella* Thompson is a strain of *Salmonella* bacteria that can cause symptoms of diarrhea, nausea, and vomiting in humans and may cause serious illnesses in immunocompromised individuals.

Salmonella infections are usually caused by handling or consuming contaminated foods, especially those of animal origin, or through contact with farm animals, reptiles, and pets. In this report, *Salmonella* Thompson was identified in beef and seafood-derived pet treats from manufacturers in Washington state and British Columbia, Canada; nine pet owners who handled these treats became ill. All of the infected patients had symptoms of diarrhea, one experienced vomiting, and one was hospitalized for a more serious infection. The outbreak may have included many more infections, according to the CDC, because this type of illness often is not reported to public health authorities.

The two companies that produced and distributed the treats in the *Salmonella* Thompson outbreak both reportedly used dehydration processes to kill bacteria on the finished products, but their dehydration temperatures were likely not high enough. The CDC now recommends that pet food producers use heat treatments or irradiation as a final step in processing to successfully destroy potentially harmful bacteria in their products. In addition, it is recommended that manufacturers package their products promptly after treatment as an extra precaution to keep them safe. In



conjunction with the FDA, with the American Pet Products Manufacturers Association has created voluntary guidelines for pet food production and handling designed to reduce bacterial contamination on finished products.

Pet treats are regulated in the United States by the Food and Drug Administration (FDA), under the federal Food, Drug, and Cosmetic Act and *Salmonella*-contaminated pet treats are considered adulterated. In 2004, the FDA initiated annual nationwide testing of pet treats for salmonellae. Because the prevalence of *Salmonella* organisms in pet treats in the U.S. has not decreased since the testing program was begun, the FDA recently announced plans to broaden its use of enforcement actions to ensure the safety of pet foods and treats.

The CDC provides this advice to help reduce the risk for transmission of *Salmonella* organisms from pet treats to humans:

- Always thoroughly wash your hands with soap and water after handling pet foods containing animal ingredients, such as beef and seafood.
- If you are at increased risk of infection or serious illness from salmonellosis (e.g., child <5 years, older adult, immunocompromised person) avoid contact with animal derived pet treats.
- Pet store owners, health-care providers veterinarians, and pet food manufacturers should provide information to pet owners about the potential health risks associated with animal-derived pet treats
- Pet treat manufacturers should implement a heat treatment or irradiation step that destroys *Salmonella* and other bacteria during the processing of pet treats and should provide labels containing product information.

Source: Human salmonellosis associated with animal-derived pet treats – United States and Canada, 2005. MMWR, June 30, 2006; 55:702-705.

For more information:

1. Centers for Disease Control and Prevention Website. Available at <http://www.cdc.gov>.
2. Food and Drug Administration Website. Available at <http://www.fda.gov>.
3. American Pet Products Manufacturers Association Website. Available at <http://www.appma.org>.

PACK A HEALTHY AND SAFE LUNCH

Juggling work and family places a premium on time. In 78 percent of today's families, both parents work away from home, and stay-at-home parents will tell you their lives are equally busy. If you remember the television program, "Leave It to Beaver," mom always packed the lunch for school, but today more children are taking on this task themselves.



Children need to learn how to pack a lunch in a healthy and safe way. This should start with having children accompany a parent to the grocery store to help choose a variety of healthy lunch items. This teaches them to plan ahead and ensures they'll put items in their

lunch they're less likely to toss or trade and more likely to eat. Teach children the basics of food safety as outlined below by the Partnership for Food Safety Education.

- Keep everything clean. Start with clean hands - wash with soap under running water, and clean food preparation surfaces and utensils.
- Germs that can make you sick may be on the outside of fresh fruits and vegetables. Rinse them under running tap water and blot dry with a paper towel before packing.
- Keep hot foods such as soup, chili or stew hot - 140 degrees F or above - by using an insulated container. First, preheat the container by filling it with boiling water and letting it stand for a few minutes. Drain and then fill with hot food.
- Insulated, soft-sided lunch totes are best for keeping perishable food cold, but metal or plastic lunch boxes and paper bags can also be used. Paper lunch bags do little to help insulate the food, but doubling the bags will help. After lunch, discard all used food packaging and paper bags due to the possibility of prior contamination.
- Harmful bacteria multiply rapidly between the temperatures of 40 degrees and 140 degrees F. A cold source, such as a small frozen gel pack, should be packed in any type of lunch container with food that can spoil easily. Freezer gel packs will keep

foods cold until lunchtime, but are not recommended for all-day storage.

- Another option for keeping cold foods cold is to try freezing single-sized juice packs overnight and placing the frozen drink in your child's lunch. If your child's lunchtime is late enough, the juice will thaw by lunchtime, but it will still be cold.
- If a refrigerator is available at school, that's the best option to keep food cold. If not, make sure your child understands the importance of keeping their lunch out of direct sunlight and away from radiators, baseboards and other heat sources found in the classroom.
- Any food left after lunch that was not eaten and could spoil (such as meat, poultry, egg sandwiches and fresh-cut fruits and vegetables) should be thrown away.
- Consider keeping a supply of shelf-stable foods on hand for easy packing. These include crackers, nuts, dried fruit, peanut butter, packaged pudding and canned fruits or meats.
- Making up the lunch the night before can be a real time saver. Sandwiches should be kept in the refrigerator until time to go in the morning.



Source:

BAC!® to School: *Quick Tips to Packing a Safe Lunch*. Downloaded 9/24/06 from Partnership for Food Safety Education website at <http://www.fightbac.org/content/view/78/>.

IN THE NEWS

NATIONWIDE *E. COLI* OUTBREAK LINKED TO BAGGED SPINACH

In mid-September, an outbreak of serious foodborne illness across more than 20 states prompted grocers and retailers to pull bagged spinach from their shelves, and caused a scare among consumers who use conveniently pre-packaged spinach at home. As of October 6, 2006, 199 cases of *E. coli* O157:H7 infection across 26 states had been reported to the Centers for Disease Control and Prevention (CDC). Of these, 102 people

had been hospitalized, 31 illnesses progressed to Hemolytic Uremic Syndrome (HUS), a serious condition resulting from *Escherichia coli* infection that can lead to kidney failure, and 3 people affected by the outbreak have died (2 elderly women and 1 toddler). Thus far in Colorado, one case of *E. coli* O157:H7 infection has been linked to the outbreak and one outbreak strain has been confirmed in a sample of Dole spinach with a “best if used by” date of August 30, 2006.

On September 29, the U.S. Food and Drug Administration (FDA) announced that all spinach implicated in the nationwide outbreak had been traced back to Natural Selection Foods LLC of San Juan Bautista, California, which supplies many other packaging companies including Dole, Earthbound Farm, Trader Joe’s, and Ready Pac. Two weeks earlier, Natural Selection Foods had issued a recall of all implicated products. Four other companies also issued recalls because they received the recalled product from Natural Selections. When the initial recalls were announced, the FDA immediately recommended that consumers throw away all bagged, pre-packaged spinach products, and later expanded the recommendation to include fresh unbagged spinach as well. Spinach and salad mixes containing spinach disappeared from grocery store shelves and consumers were urged to avoid fresh spinach until further notice. Since then, the FDA has cleared all spinach grown in states other than California and all spinach grown in California except for that grown in three California counties.



Although *E. coli* contamination is often associated with undercooked meats such as ground beef, it can be very problematic in fresh produce, such as spinach, raw sprouts, and lettuce, and in unpasteurized juices. *E. coli* outbreaks have periodically been linked to fresh produce; the recent nationwide outbreak is the 20th episode of foodborne illness caused by spinach or lettuce since 1995. The main symptom of *E. coli* infection is diarrhea, often with bloody stools and accompanied by stomach cramps. For most healthy people, illness clears up on its own within about a week, but for children, the elderly, and others with

compromised immune systems, infection can result in kidney failure and even death. The FDA is currently recommending that persons who have recently consumed spinach and have symptoms of *E. coli* infection should see a doctor.

While the current outbreak may ultimately be traced back to a specific field(s), the central California regions has a long history of *E. coli* O157:H7 outbreaks involving leafy greens and the FDA, State of California and industry leaders have begun working together to develop a comprehensive plan designed to minimize the risk of another outbreak due to *E. coli* O157:H7.

A web page with up-to-date information on the outbreak and product recalls is available at <http://www.fda.gov/oc/opacom/hottopics/spinach.html>. Information can also be obtained from the FDA consumer inquiry line at 1-888-INFO-FDA or Natural Selection Foods at 1-800-690-3200.

Sources:

1. FDA announces findings from investigation of foodborne *E. coli* O157:H7 outbreak in spinach. U.S. FDA News, Sept. 29, 2006, Available at <http://www.fda.gov/bbs/topics/NEWS/2006/NEW01474.html>
2. Nationwide *E. coli* O157:H7 outbreak: questions and answers. U.S. FDA, Oct. 1, 2006, Available at: <http://www.cfsan.fda.gov/~dms/spinacqa.html>
3. Ongoing multi-state outbreak of *Escherichia coli* serotype O157:H7 infections associated with consumption of fresh spinach – U.S. September 2006. MMWR Dispatch, Sept 26, 2006; 55(Dispatch);1-2, Available at <http://www.cdc.gov/mmwr/preview/mmwrhtml/mm55d926a1.htm>

NEWLY-APPROVED VIRUS FOOD ADDITIVE MAY PROTECT AGAINST LISTERIOSIS

Viruses are not typically considered useful in everyday life, but a certain kind of viruses, called bacteriophages, have recently received approval for a new role in food protection. In mid-August, the Food and Drug Administration (FDA) approved the use of a combination of six bacteriophages developed as a food additive to be sprayed on cold meats and other ready-to-eat poultry products.

Bacteriophages – literally “bacteria eaters” – are viruses that specifically target and attack bacterial

cells such as *Listeria monocytogenes*. Bacteriophages are designed to infiltrate harmful bacteria and destroy them, creating and releasing even more protective phages in the process, which are then able to invade and kill other bacterial cells. The newly-approved virus spray, developed by a company called Intralytix Inc., combines six different bacteriophages because bacteria can become resistant rather quickly. The combination was also created to specifically target and kill *Listeria* bacteria.

According to the Centers for Disease Control and Prevention (CDC), listeriosis, the infection caused by *Listeria monocytogenes* bacteria, is thought to cause 2,500 illnesses and 500 deaths each year in the United States. Persons with compromised immunity, including pregnant women and the elderly, are at greatest risk of serious illness and complications from listeriosis. Foods such as ready-to-eat meats and poultry can easily become contaminated with *Listeria* during the production process, and are often consumed without being heated – so the bacteria are not killed and can be harmful to those with compromised immune systems.

The development of a protective bacteriophage spray may help to reduce illnesses in situations where *Listeria* contamination could otherwise be difficult to prevent. The virus spray, which has been approved by the FDA as a food additive, is the first of its kind to gain approval. It is designed for use on cold meats and similar products prior to packaging. According to USDA, phage preparation will need to be declared as an ingredient on the label of treated meat or poultry product, e.g., “bacteriophage preparation” or “treated with an antimicrobial solution to reduce microorganisms.”

Time will tell whether manufacturers will adopt phage technology and consumers will accept the use of viral sprays on their cold cuts. Meanwhile, scientists are developing another bacteriophage to specifically target *Escherichia coli* bacteria.

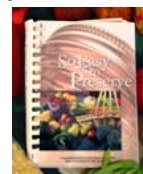
Source:

FDA approval of *Listeria*-specific bacteriophage preparation on ready-to-eat (RTE) meat and poultry products. U.S. FDA Center for Food Safety and Applied Nutrition. August 2006. Available at www.cfsan.fda.gov/~dms/opabacqa.html

RESOURCES

So Easy to Preserve 5th Edition is finally here!

The long awaited University of Georgia Cooperative Extension's *So Easy to Preserve 5th edition* is now available.



This beautiful book contains the latest U.S. Department of Agriculture recommendations for safe food preservation. *So Easy To Preserve* is now a 375-page book with over 185 tested recipes, along with step by step instructions and in-depth information for both the new and experienced food preserver. Cost is \$18, which includes shipping.

To order the book, go to

http://www.uga.edu/setp/order_book.pdf. An order

form for the DVD set is also available at

http://www.uga.edu/setp/order_dvd.pdf.

NEHA Food Safety Programs



The National Environmental Health Association (NEHA) now offers a convenient option to those seeking manager level certification in food safety. Participants can

attend a food safety manager class offered by a registered trainer, followed by the certification exam for only \$37.95 (includes *Food Safety Management Principles* course book and exam). For more information, visit the NEHA website at <http://www.nehatraining.com/>; email support@nehatraining.com or call (303) 756-9090 x 340. Additionally, individuals interested in becoming a certified NEHA trainer may apply online at www.nehatraining.com/trainers/application.htm.

High Altitude Fact Sheet

An updated fact sheet on *High Altitude Cooking and Food Safety* is now available on the USDA/FSIS website.

To download a color PDF, go to

http://www.fsis.usda.gov/PDF/High_Altitude_Cooking_and_Food_Safety.pdf.

Avian Influenza (Bird Flu) Consumer Fact Sheet

In conjunction with this issue's flu article, USDA and the American Meat Institute have compiled fact sheets to help consumers understand bird flu and what is being done to minimize its impact on the poultry industry. To download this information, go to <http://www.usda.gov/birdflu> and <http://www.meatami.com/Content/PressCenter/Factsheets/FSAvianInfluenza.pdf>.

Safe Produce Handling-Consumer Education

With safety concerns about fresh produce in the news, now is a good time to facilitate safe produce handling education efforts among consumers. The Partnership for Food Safety Education has enhanced the existing FightBAC!® program offerings with new produce handling educational materials and community outreach ideas. Use of these materials by the industry, media, public health officials, educators, and health and nutrition professionals is key to helping Americans understand what they can do to reduce risk of foodborne illness from fresh fruits and vegetables.



FIGHT BAC! Six Steps to Safer Fruits and Vegetables produce sheet can be downloaded at

<http://www.fightbac.org/images/pdfs/ProducefactSheet.pdf>.

Additionally, the brochure **FIGHT BAC! Safer Handling of Fresh Fruits and Vegetables** is available at <http://www.fightbac.org/images/pdfs/ProduceBro-BW.pdf>.

Food Safety Information Website

Looking for the latest in food safety research? The Food Safety Research Information Office (FSRIO) at the National Agricultural Library (NAL) has launched a redesigned user-friendly Web site for accessing food safety research information. The site features hundreds of links to food safety research information, including over 1700 research projects at Federal agencies, academic institutions and other organizations. Go to <http://fsrio.nal.usda.gov> and be sure to bookmark the site for future reference!

Holiday Food Safety

With the holidays fast approaching, it's a good time to reviews tips for safely mailing and receiving perishable food gifts. **Glorious Goodies to Send and Receive** is available at <http://www.fightbac.org/content/view/79/10/>.

Additionally, the Partnership for Food Safety Education has developed a brochure **Glorious Holiday Goodies!** which contains food safety tips for using raw eggs in holiday baking. For eggnog lovers, a safe eggnog recipe is included. Go to:

http://www.fsis.usda.gov/OA/pubs/holiday_goodies1.pdf (pg 1);

http://www.fsis.usda.gov/OA/pubs/holiday_goodies2.pdf (pg 2).

COMING EVENTS

SAVE THE DATE!

Next year's Rocky Mountain Annual Food Safety Conference will be held on May 22 and 23, 2007, in Arvada, Colorado.

SERVSAFE® TRAININGS

Denver Metro Region

Manager level ServSafe® trainings are offered monthly in the Denver metro area through the Colorado Restaurant Association. Cost: members - \$130; non-members - \$170. Please call 303-830-2972 for a complete schedule of dates and locations.

Western Region

Date	Location	Intended Audience	Fee
10/26/06 830 – 6p	Eagle County	Mgrs Certification Training	\$100
<i>Contact: Glenda Wentworth (970) 328-8630</i>			
10/30/06 730-5p	Mesa County- Delta/Montrose Vo-Tech College	Mgrs Certification Training	\$120 (after 10/16) \$140
<i>Contact: Norraine Harvey (970) 244-1834</i>			

Northern Region

Date	Location	Intended Audience	Fee
11/08/06 130 – 6p	Wray, CO	Food Handler Training	\$25 (after 10/25) \$40
<i>Contact: Joy Akey (970) 332-4151</i>			

ADDITIONAL FOOD HANDLER TRAININGS

Larimer County Food Safety Works Program – Food Handler Training Fee: \$25

Date	Location	Time
11/06/06	Loveland, CO (Spanish) Chilson Senior Center	2 – 5p
11/13/06	Ft. Collins, CO (English) Larimer County Extension Office	2 – 5p
<i>Contact: Edie McSherry (970) 498-6015</i>		

This newsletter was prepared by Food Science & Human Nutrition Extension Specialists:

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