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PERIODICALS

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FOOD PROTECTION TRENDS

SCIENCE AND NEWS

FROM THE
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MARCH 2005



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“A VIEW FROM WISCONSIN”

I recently came across a quote from an unknown author, *Volunteer—not so you can build your resume, but so you can build yourself.* This viewpoint represents the philosophy with which my parents raised me and the way of life in which my husband and I strive to raise our own children. Our family tries to do our share in our community, school, church, and other professional activities. Through volunteer activities, we learn teamwork, leadership skills, and enjoy the camaraderie of other volunteers and beneficiaries of our activities. I admit that the activities can be time consuming, but the outcome is worth the efforts.

IAFP is proud of its volunteers and we thank you for your willingness to serve. Our Association boasts a membership of just under 3,000 individuals, with an impressive half of our members (and growing) who attend the Annual Meeting. If you have a chance to look through the 2005 Membership Guide that you received in January, you will notice the long lists of members for each of the professional development groups. Some of these individuals may not have an opportunity to attend the PDG meetings that are held in conjunction with our annual conference, but have indicated that they are willing to participate in activities during the rest of the year via email or conference calls. There are certain select committees, such as the Program Committee, the journal management committees, or the various award selection committees, for which we always have a waiting list of eager members who would like to be considered for appointments.



By **KATHLEEN A. GLASS**
PRESIDENT

***“IAFP encourages
your volunteer
activities in
promoting
food safety”***

In recent years, the response by volunteers to our call for symposia and workshop proposals has been tremendous, but has led to some “growing pains” for the Association. We have roughly twice the number of proposals as we have time slots; this year’s technical program likewise faced similar restrictions due to a record number of abstract submissions. Space and time limitations forced the Program Committee to cull nearly 20% of the technical

abstracts submitted compared with 10% in previous years. While the response allows the Program Committee to be selective, it is an unenviable task to select which symposia and technical presentations will provide the best, well-balanced program. Submissions that may have been accepted two years ago may have unfortunately been cut this year.

It is indeed regrettable that we do not have enough openings in our current programming to take advantage of all the volunteers. We don’t want these individuals to be discouraged, nor do we want to turn down your offers to help and be an integral member of our association. We need you and want you! Therefore, I would like to explore creative ways to utilize our members’ expertise.

One way in which we could use your help is in sorting the meeting program for specific target groups, such as for the dairy or toxicology-related field. As you may have noticed, the Annual Meeting program is packed with over 500 technical and symposia presentations. Going through the program can sometimes be overwhelming because of the sheer number of speakers and poster presentations. Perhaps you have had the experience of missing a presentation because it seemed lost in the crowd of names in the program. If you have a couple hours to spare, please consider volunteering to work with your PDG chair to sort through the final program when it becomes available in April. Find the symposia and technical presentations which are particularly pertinent to your constituency and prepare an E-mail

outlining the relevant presentations to send to your fellow PDG members and to colleagues who may not be currently involved. Your PDG chair can work with the IAFP staff to get the necessary E-mail addresses or set up a listserv. This effort will not only be a great service to your colleagues, but will also benefit the IAFP educational program as a whole. Your volunteer activities will maximize the number of attendees in each session and facilitate helpful discussion.

We also ask our PDGs to consider activities other than symposia or workshops, such as developing booklets helpful to your commodity, or by providing ideas for white papers. We received several suggestions for white papers from members during the past couple months and are currently researching which topics have already been completed (or are nearly completed) by other groups so that we can avoid duplication of efforts. Or perhaps members of your group can write a short essay for the *Thoughts on Food Safety* column or a review for publication

in *Food Protection Trends*. We encourage all PDGs to consider these types of projects; forward your ideas to the Executive Board or your manuscripts to the journal editors for review and approval.

In last month's column I was pleased to introduce the IAFP Student Travel Scholarship Program sponsored by IAFP and the Foundation Fund. As part of the program, a mentor will be assigned to each of the student scholarship winners. When I attended my first Annual Meeting 15 years ago, I didn't know the Association or many of the members and was fairly timid. Fortunately, several active IAFP Members, including then-graduate student Anna Lammerding (2002-03 IAFP President), my boss Mike Doyle (1991-92 IAFP President), and industry colleague John Cervený (winner of the Industry, Citation, and Honorary Lifetime Membership Awards) were willing to take me under their wing, introduce me to key contacts and "show me the ropes." I thank these people who were key to my progressive involvement and long-term

commitment to IAFP. I would like our students to have the same supportive initiation to our Association. We will be looking for mentors who have a record of service to IAFP and who are willing to meet with the student scholarship winner several times during the meeting, encourage their involvement in PDGs or with student activities, and introduce them to the many distinguished scientists who attend our Annual Meeting. If you know someone who is willing to serve in a nurturing role, or would like to be considered yourself, send me an E-mail so that we can include the names on our list. We hope that as our scholarship program grows over the next few years, so will our mentor program.

Regardless of whether you are willing to serve in a leadership position or prefer a behind-the-scenes role, IAFP encourages your volunteer activities in promoting food safety. As always, I welcome your ideas and comments. Please feel free to E-mail me at kglass@wisc.edu and let me know your view.



2005 Workshops

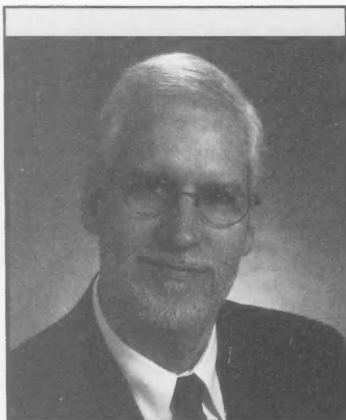
1. Statistics as a Tool for the Microbial Evaluation of Foods
2. Methods, Methods Everywhere but Which is Right for Me? Selection and Verification of Methods
3. Out of the Filing Cabinet and Into Use: Real World Experience with Trending Data
4. Epidemiology and Foodborne Illness: How Disease is Detected and How Investigations Proceed

“COMMENTARY” FROM THE EXECUTIVE DIRECTOR

Change is good! If organizations are doing the same thing they did last year, they *might* be one-year out-of-date. If an organization does not serve their members' needs, someone will quickly pick up on that and attract their interest and support. These are all statements that relate to what most of us deal with on a daily basis. You could replace “members” with students or customers depending on your employment, but the message stays the same. We must always be changing and evolving to meet the new needs of our customers, or Members in IAFP's case.

I can assure you that the IAFP Executive Board is a forward-looking group who are willing to take risks to keep this organization fresh and up-to-date. At our recent Board meeting held in late January, the Board discussed many topics and made decisions that can have a major impact on the future of IAFP. This month, I want to share some of the key items that I feel would be of interest to IAFP Members.

One item of particular interest is a decision to modify our Annual Meeting schedule for IAFP 2005. The most noticeable change will be that our Tuesday afternoon schedule will be shifted to Wednesday afternoon and of course Wednesday's afternoon schedule will move to Tuesday afternoon. This means our short sessions from 1:30 p.m. to 3:30 p.m. and the John H. Silliker Lecture (from 3:45 p.m. to 4:30 p.m.) will now be on Wednesday afternoon and Tuesday afternoon will hold full-length sessions from 1:30 p.m. until 5:00 p.m. The Business Meeting will be



By **DAVID W. THARP, CAE**
EXECUTIVE DIRECTOR

***“We must always
be changing and
evolving to meet
the new needs
of our Members”***

held from 12:15 p.m. until 1:00 p.m. on Tuesday.

The Executive Board and the Program Committee discussed the advantages and disadvantages of making this change and felt it would provide IAFP attendees with additional reasons to stay for Tuesday afternoon and on through Wednesday. Rather than reducing programming on Tuesday afternoon and giving attendees a reason to “exit early,” we now provide program strength to Tuesday afternoon and placed our “carrot,” the John H. Silliker Lecture, at the end of our program. This gives attendees a HUGE reason to stay

until the end of the IAFP meeting, to hear the John H. Silliker Lecture!

Not to get sidetracked, but this year's John H. Silliker Lecturer and Ivan Parkin Lecturer are Michiel van Schothorst and Douglas L. Archer, respectively. Announcements of their lectures are on pages 210 and 211.

Another exciting change in the schedule for IAFP 2005 involves the Exhibit Hall. Beginning this year, the Exhibit Hall will open on Monday and Tuesday mornings at 8:00 a.m. with coffee and pastries available. This will allow attendees to start the day with coffee and a little breakfast while visiting with exhibitors! It also gives a window of “exhibit only” time where there are no sessions in competition for attendees' attention. With the Opening Reception and our Monday Afternoon Reception in the Exhibit Hall, our exhibitors should keep very busy this year! The hours will be as follows:

Sunday 8:00 p.m. – 10:00 p.m.

(Opening Reception)

Monday 8:00 a.m. – 11:00 a.m.

1:00 p.m. – 6:15 p.m.

(Reception from 5:00 p.m. – 6:15 p.m.)

Tuesday 8:00 a.m. – 2:00 p.m.

We believe the new exhibit schedule will benefit both our exhibitors and attendees by allowing additional access to the Exhibit Hall. We are looking forward to these changes and more to improve IAFP 2005!

Another exciting item of particular interest to our European Members is the Board's decision to go forward with a one-day symposium to be held in Europe. More details will be announced soon,

such as the program topic, date (in mid-October) and location of where this symposium will be held. We will work closely with our Portugal and United Kingdom Affiliate organizations and other European groups in carrying out this program.

The Board also supported the IAFP Foundation Fund Committee's efforts to develop new promotional materials to encourage the goal of building the Foundation Fund to \$1 million by 2010. The Foundation subcommittee responsible for developing the promotional materials has scheduled further meetings and it is projected to complete this phase by next July. This is truly an electrifying project for IAFP and the Foundation and one that can have a profound effect upon the future of IAFP!

Also beginning in March, our University Speaker Program is scheduled to get off the ground.

This is an exciting program allowing for our Executive Board Members to deliver presentations to food science students at universities. Frank Yiannas will address both graduate and undergraduate students at Texas A&M University this month. He was scheduled to do the same in January at Iowa State University, but had to reschedule due to weather considerations. At any rate, this is a method for IAFP to reach out to students interested in food science and to invite their participation in IAFP. Students will become informed about the Association while learning from experienced food safety leaders. We believe this will prove to be a tremendous tool to attract additional student interest and participation.

The last subject, for this column at least, is the opportunity for IAFP to quickly respond to a topic of

interest that needs addressing immediately. We have titled this effort the "IAFP Rapid Response Series." We are still in the development stages, but when completed there will be a small team that is on the look out for topics they feel are worthy of a one or two-day session led by topic experts. Because of IAFP's size, it was felt that on short notice, we could assemble the experts and organize a small conference on breaking news affecting our IAFP Members.

I should wrap it up for this month now. As stated earlier, let me assure you that the IAFP Board is looking to a bright future for your Association. If you have thoughts or comments on items discussed this month or have suggestions for other projects for IAFP, please contact me or any Member of the Executive Board. Thanks for your continued support!



Monday Night Social – Harbor Cruise

Monday, August 15, 2005
6:30 p.m. – 10:00 p.m.

Cost: \$45.00 ♦ \$55.00 (after July 13)

Price includes dinner



Purchase your ticket online at www.foodprotection.org
or call the Association office at 800.369.6337; 515.276.3344

Home Processing of Tomatoes and Other Acid Foods in Flowing Steam and Hot Water Bath Canners

MARY SAMIDA,^{1*} LYNN GEER,¹ and GEORGE K. YORK²

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SUMMARY

The Cooperative State Research Extension and Education Service of the United States Department of Agriculture (USDA) does not recommend the use of steam canners for canning acid foods, including fruits, acidified vegetables, and pickles, because of a lack of data demonstrating that the use of flowing steam heat in home canning is safe. There are no published data on comparison of time-temperature relationships for steam and hot water bath canners. It must be emphasized that neither of these canners is being recommended for use in canning low-acid foods (with those pH above 4.6).

This research was conducted to determine whether steam could be as safe as a hot water bath for home canning of acid foods. Four foods of different densities, tomato juice, peaches, whole peeled tomatoes and applesauce, were processed. First, the time for the water or steam to reach a temperature of 212°F for both types of canner was measured; then, a comparison was done of the time to attain the target temperature of 180°F at the center of the product.

The products tested required the same or nearly the same time to attain the target temperature in each type of canner. Thus the processing times are adequate for acid-foods, and the two types of canners are equally safe to use.

INTRODUCTION

Processing acid foods in flowing steam has been used commercially by the canning industry since the early twentieth century. Within the past 30 years, flowing steam has been increasingly employed to can acid foods at home. The Cooperative State Research Extension and Education Service of the United States Department of Agriculture (USDA) does not recommend the use of steam canners for home canning acid foods because of a lack of data demonstrating the safety of flowing steam heat in home canning. These acid foods are foods that naturally have a pH 4.6 or below, or foods with a higher pH but acidified in a vinegar-based pH 2.5 solution, resulting in a final pH 4.6 or below, or pickles whose pH is lowered to 4.6 or below either by acidification with vinegar or by fermentation with lactic acid bacteria. There are no published data on comparisons of time-temperature relationships comparing steam and hot water bath canners.

The purpose of this study was to determine whether flowing steam could be used safely in the home to process acid foods by comparing the time required to reach a given target temperature by use of a steam canner and by use of a hot water bath canner (also known as a boiling water bath canner). These measurements were taken in two phases; the

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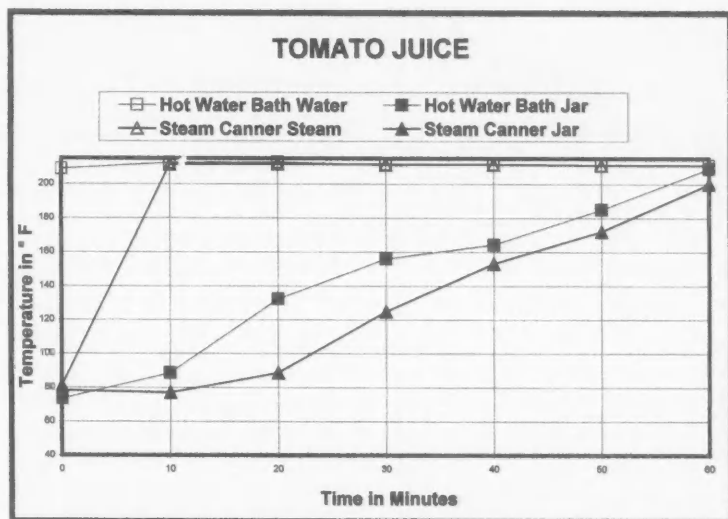
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FIGURE 1. Three canning jars were heated to approximately 140°F before being filled with room-temperature tomato juice and placed in a preheated 212°F hot water bath. Three unheated canning jars containing room-temperature tomato juice were placed in an unheated steam canner. The time to reach an internal temperature of 180°F was measured (using the formula of total time minus come-up time equals processing time):

The steam canner took 55 min – 15 min = 40 min.

The hot water bath canner took 50 min – 5 min = 45 min.



'come-up' time and the 'processing' time. Dividing the measurement into the two parts allows for a possible difference in the come-up times in canners of different metals and designs.

MATERIALS AND METHODS

To prepare the canning jar lids for temperature measurements, a 7/8-inch hole was drilled into three Ball® regular-sized canning lids and the standard thermocouples were fitted through the lids, using rubber grommets that prevented leakage of water from the canner into the jar. The thermocouples were positioned in the center of Ball® pint jars. The hole size was determined by the grommet, not the thermocouple. Quart jars (32 oz) fitted with thermocouples were too tall for the steam canner, and were therefore not tested. Grommets for the lead wires were also drilled in the top of an aluminum steam canner from Back to Basics®, Inc., Draper, Utah. This typical steam canner looks like an inverted soup kettle with a shallow bottom and a high-topped domed lid. Two vent holes are located at opposite sides of the lid near the rim to permit the venting of flowing

steam. The standard hot water bath canner has a loose-fitting lid, which was not used in this study. These canners were readily available, taken off the shelf of the researcher's home. The use of product names in this paper is not intended as an endorsement.

Lead wires were attached to each of 5 thermocouples, 3 for the prepared jars and 2 for measuring the temperature of the water and steam. These 5 lead wires were threaded through the grommets of the steam canner and connected to a Paperless Data-Chart®, Model 3600, by Monarch Instruments. The hot water bath canner did not require a special dome assembly. The thermocouple/Data-Chart combinations were tested and adjusted, in ice and in boiling water, to read 32°F (0°C) and 212°F (100°C) respectively. All readings were taken in Fahrenheit (°F) for ease of understanding by the home canner. All readings were taken at sea level.

Canned tomato juice, sliced peaches, whole peeled solid packed tomatoes and applesauce were selected to represent the range of densities and textures of most home-canned foods. For each of these 4 selected foods, three jars were filled with

the food, leaving 1/2" headspace, covered with the prepared lids and placed into the canner. Water sufficient to cover the pint jars by 1 inch was used in the water bath canner, and 3 pints of water were used in the steam canner. Heat was applied until the water boiled and then adjusted to maintain a gentle boiling condition.

Readings were taken at regular intervals until the temperature in the jars reached and maintained the target of 180°F or higher. The jars containing tomato juice and sliced peaches were placed into the heated (212°F) water bath canner, as this is the technique that closely duplicates home canning. The applesauce and whole peeled tomatoes were cold packed, as this is also a common home canning method. The procedures were repeated twice, to a total of 3 times, for each food, in each type of canner. This study does not attempt to provide any recipes for the home canner, who is encouraged to use only proven recipes, including specific times, for the product being canned.

The total time was divided into two intervals. The first, called 'come-up' time, is the time for the water bath canner to reach 212°F and the bubbles first break the surface of the water. The come-up time for the steam canner is the time for the steam to reach 212°F and flow steadily from the vent holes for 5 minutes, to purge all air from the cover. The second interval, called the 'processing time', is the time for the temperature of the food inside the jars to reach the target temperature of 180°F. Dividing the measurement into these two parts allows the user to compensate for differences in come-up times in different canner types and designs.

The formula used for determining the processing time, in minutes, is expressed as (total test time) minus (come-up time) equals (processing time); for example: 55 min – 15 min = 40 min.

DISCUSSION AND RESULTS

The bacteria, molds and fungi that spoil food need to be destroyed by the canning process. These results will show that the steam canner gives sufficient control over the following situations:

B. coagulans spores in tomatoes and tomato juice are destroyed at temperatures of 175°F and above. For example, at 180°F it takes about 15–20 minutes to kill 1,000 endospores in whole peeled tomatoes in

FIGURE 2. Three canning jars were heated to approximately 140°F before being filled with room temperature peaches and placed in a 212°F hot water bath. Three unheated canning jars containing room-temperature tomato juice were placed in an unheated steam canner. The time to reach an internal temperature of 180°F (using the formula of total time minus come-up time equals processing time) was measured:

The steam canner took 40 min – 15 min = 25 min.
 The hot water bath canner took 35 min – 5 min = 30 min.

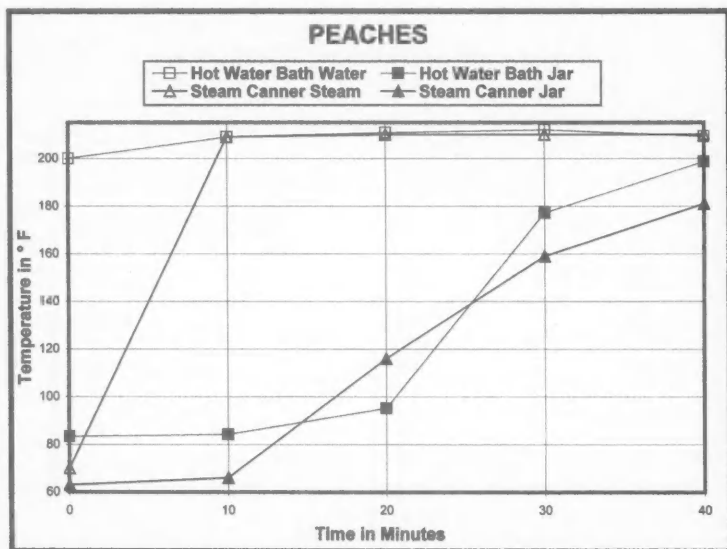
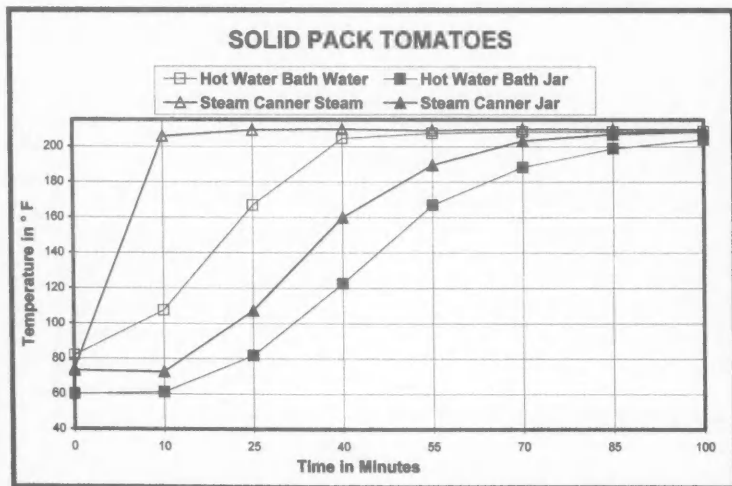


FIGURE 3. The six canning jars were filled with tomatoes and placed into the two canners at room temperature. The time to reach an internal temperature of 180°F (using the formula of total time minus come-up time equals processing time) was measured:

The steam canner took 50 min – 15 min = 35 min.
 The water bath canner took 70 min – 40 min = 30 min.



16 oz jars. With *C. pasteurianum*, at 180°F under the same conditions it takes approximately 10–15 minutes (1).

A group of acid tolerant, non-heat resistant, non-spore-forming microbes, which are obligate aerobes, cannot grow in the absence of oxygen. These include the oxidative "scum" yeast, filamentous fungi, "molds", and the *Acetobacter* or "vinegar" bacteria. These microbes will not grow in properly canned acid foods (1).

Spore-forming bacteria, e.g., *Clostridium botulinum*, types A, B, C, D, E, and F, although they have heat-resistant spores, will not grow in foods at pH 4.6 or below, nor will *C. perfringens*, which causes gastroenteritis in man. *Clostridium pasteurianum* and *Bacillus coagulans*, which grow primarily in tomato products, cause spoilage but do not cause disease in man or animals (1, 3).

As regards to the fermentative yeast *Saccharomyces cerevisiae* in apple juice (16 oz), it takes 1.5–2.0 minutes at 160°F to destroy 1 million cells per container (2). Another acid-tolerant, facultative, heat-resistant spoilage microbe, the mold *Byssosclamyces fulva*, is primarily a cause of spoilage in canned grapes and non-alcoholic grape products and in gooseberries and similar fruit; it requires 15–20 minutes at 180°F to kill *B. fulva* in canned gooseberries (2).

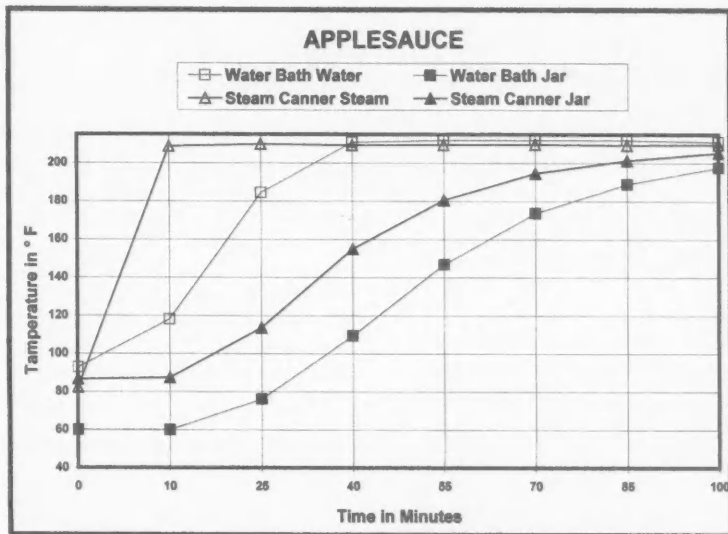
Non-sporulating bacterial pathogens are readily destroyed by heat; for example, enteropathogenic *E. coli* and *Salmonella* spp., are killed in a few minutes at 160°F. Salmonellae and *E. coli* are generally defined as non-acid tolerant and have not been found to grow in foods with pH 4.6 or below (3).

More commonly found in fruits, pickles, and acidified low-acid foods are the acid tolerant, non-sporing, facultative, lactic acid bacteria, including the genera *Leuconostoc*, *Streptococcus*, *Pediococcus*, and *Lactobacillus*. For lactic acid bacteria of all species, it requires only about 1 minute at 160°F to destroy 1×10^6 cells in whole peeled tomatoes in a pint jar (4).

The measurements taken of the come-up time and the processing time for the four different acid foods are illustrated in Figures 1 through 4. The smaller volume of water in the steam canner obviously heats faster than the larger volume of water in the hot water bath canner. These come-up times are about 15 minutes in the steam canner. The hot water bath takes about 40 minutes to boil when

FIGURE 4. The six canning jars were filled with applesauce and placed in the two canners at room temperature. The time to reach an internal temperature of 180°F was measured (using the formula of total time minus come-up time equals processing time):

The steam canner took 55 min – 15 min = 40 min.
 The water bath canner took 80 min – 40 min = 40 min.



the food being processed is at room temperature but only about 5 minutes if heated jars filled with hot food are placed into the already boiling water.

Figures 1 and 2 show processing times when the hot water bath canner had already been heated to 212°F and the product was placed into heated jars and then processed, the usual method used for processing food in a hot water bath canner. This was done to determine whether or not the preheated water bath influenced the processing time, compared to results with the cold start methods used in Figures 3 and 4. As seen, preheating the water does not affect the processing time. All of the foods reached 180°F in both the steam and hot water bath canners. Tomato juice required a processing time of 40 minutes in the steam canner and 45 min in the hot water bath canner; peaches required 25 mins in a steam canner and 30 min in the hot water bath; solid pack tomatoes required 35 min in a

steam canner and 30 min in the hot water bath; and applesauce required 40 minutes both in a steam canner and in the hot water bath. Each data point on the graphs are the average of the results of nine tests. The times quoted in this paragraph and above each plot are rounded up to the nearest 5 minutes.

CONCLUSION

Bringing the internal temperature of these products to 180°F and holding it for a specified number of minutes destroys the pathogens that cause spoilage in acid foods. This study demonstrated that the flowing steam canner accomplishes this; therefore, flowing steam may now be accepted as safe, along with the hot water bath canner, for processing acid foods. Both methods brought the internal temperature of the test products (tomato juice, peaches, solid packed tomatoes and applesauce) to 180°F within a comparable number of minutes.

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Application of HACCP in Retail Food Production Operations

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SUMMARY

This is a report of the successful application of HACCP principles in production of safe food at four Rochester, Minnesota foodservice units (three restaurants and a school food production system for 25,000 students), all of which are under the jurisdiction of the Olmsted County Public Health Services. The chef (head food preparation manager), along with the kitchen HACCP team (cooks, kitchen personnel, and servers), can reduce the risk of foodborne illness and control the hazards in food preparation and service. Food preparation personnel are the only individuals who can validate HACCP production methods and verify that they are used for the menu items that they prepare and serve. The chef trains and coaches personnel and posts audits that continue to involve the HACCP team in corrective action(s) and safe food production processes. Results are personnel pride and involvement, customer satisfaction, and protection of public health, as well as protection of the owner's financial investment.

INTRODUCTION

Throughout the world, food coming from farms and other production areas is potentially contaminated with biological, chemical, and physical hazards. Because cooks/food preparers are the ultimate hazard controllers, scientific information related to food safety must be translated into hazard control rules that cooks can use to prevent or eliminate hazards in the food that they prepare, or reduce such hazards to a tolerable level (1, 3).

The HACCP program developed by the author requires the following minimum records.

1. A biological, chemical, and physical hazard control operations (HACCP) checklist
2. An employee training form that mirrors the checklist
3. A HACCP kitchen team meeting form
4. A corrective action form

A HACCP kitchen operations checklist, which is written by the chef (hereafter referred to as the head food preparation manager), lists the hazards and controls to be used by kitchen personnel to produce safe food. This checklist can also be used to train line cooks and other

kitchen personnel in the production of safe food. The cooks must follow these food preparation procedures until the head food preparation manager changes the checklist/procedures.

MATERIAL AND METHODS

The foodservice HACCP program begins with a qualitative risk assessment of the ingredients and preparation methods, as well as risk management of the environment and personnel by the head food preparation manager. In most foodservice operations, there is no "zero" risk, because, even though correct controls are stipulated, it is possible that an employee simply forgets for a moment and does a task incorrectly, and a supervisor does not see and correct the defective food. The objective of risk management is to reduce employee mistakes to an acceptable level and to strive for "zero" errors.

The head food preparation manager assesses the hazards in the prerequisite food processes and the probability of each hazard's causing illness or injury. Qualitative risk assessment occurs when the head food preparation manager estimates the cost per year of loss of control of the hazards (e.g., loss of business, litigation). There must also be an analysis of what it will cost to control the risk. Finally, there is risk management, in which management and/or the head food preparation manager determines the hazards that are significant and the location where control is required (Fig. 1).

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FIGURE 1. Hazard Analysis and Qualitative Risk Assessment

The Head Food Preparation Manager identifies the risks. Expected hazards are identified and controls are specified as necessary.

Hazard Analysis	Qualitative Risk Assessment	Control Analysis	Risk Management
What is the probability of illness?	Assuming no control – the cost per year.	What it will cost to control the risk.	Define control if necessary.

FIGURE 2. Food HACCP Processes

1. PREREQUISITE HACCP PROCESSES	2. FOOD HACCP PROCESSES
<ul style="list-style-type: none"> • Management Commitment • Potable water • Food ingredients (supplier) • Chemicals • Physical objects • Equipment calibration • Personal hygiene • Food contact surfaces sanitation 	<ul style="list-style-type: none"> • Wash fresh fruits and vegetables in flowing water • Fermentation, additives, acidity • Pasteurization • Hot holding • Cooling • Cold holding • Transport • Consume as soon as possible after preparation

Some consumers may be willing or may even want to assume the risk of consuming food that has received no pathogen control step in the kitchen (e.g., eating fresh, raw oysters, which may be contaminated with *Vibrio parahaemolyticus* and/or *Vibrio vulnificus* from their source environment). These consumers must be warned that consuming raw or undercooked meat, poultry, seafood, or eggs may increase the risk of foodborne illness, especially in individuals with certain medical conditions (2).

HACCP processes within the kitchen are identified as: (1) prerequisite HACCP processes and (2) food HACCP processes (Fig. 2).

Prerequisite HACCP processes are related to management commitment; a dependable supply of potable water; reliable food ingredient suppliers who specify the safety and microbial quality of their products; safe use and storage of chemicals; preventive measures for controlling the presence of physical objects in food; equipment calibration; good personal hygiene by all foodservice personnel; and cleaning and sanitizing of food contact surfaces to prevent cross-contamination of products. Food HACCP processes include washing of fruits and vegetables in flowing water; adequate fermentation and/or acidification of selected products to reduce microbial growth; use of recommended amounts of GRAS additives in food products if necessary; pas-

teurization, hot holding, cooling, and cold holding for times and temperatures that prevent or inhibit microbial growth; and consumption of food as soon as possible after final food preparation.

The first step in retail process HACCP is the hazard analysis and qualitative risk assessment in order to identify the biological, chemical, and physical hazards in each process (Fig. 3). For example, the tolerable level of contaminant or particulate matter must be specified. Then, the significance of the risk can be analyzed. What is the unsafe level or size? What is the probable hazard level or size? What is the probability of occurrence, detection, and prevention? What is the severity and cost of the illness?

When there is significant risk, the head food preparation manager specifies a hazard control and preventive measure with critical limits. Following this, in accordance with HACCP procedures, monitoring and self-checking must also be specified so that this information can be used to measure the degree of control. Monitoring and checking includes standards on what is done, how, when, and by whom, to keep the process variation within critical limits. Personnel must also be trained to inspect food so as to detect any food that has been prepared incorrectly, before it is taken/given to the customer. If there is a deviation that creates a significant risk, corrective action will be

determined and taken. Finally, there is verification by management that the process is in control.

This HACCP Retail Foodservice Program was implemented at four foodservice units (three restaurants and a school food production system for 25,000 students) in Rochester, Minnesota, all of which are under the jurisdiction of the Olmsted County Public Health Services. The Four-Step HACCP Management Cycle illustrated in Figure 4 was followed.

During the first step, **Management Planning and Pre-Control**, management (the chef or head food preparation manager) and the kitchen HACCP team, with the aid of the process authority, did planning, pre-control, and the hazard analysis. They specified the controls and set objectives for achieving food safety as well as writing a full HACCP policies, procedures, and standards manual for each establishment.

The HACCP operations checklist was written to serve as a short summary of the policies, procedures, and standards manual and is used by foodservice personnel in the preparation, service and storage of food. A training checklist that mirrors the HACCP operations checklist was also developed to educate and train personnel concerning procedures to assure food safety. Personnel must know these procedures in order to strive for zero defects on the HACCP operations checklist.

In the second step of the management cycle, referred to as **Organizing and Training**, the equipment was checked and calibrated, and new equipment was purchased as necessary. Facilities were inspected and modified if necessary. Employees were trained to identify hazards and demonstrate the validated controls. In the "test" of training, employees were asked to identify the hazards in food preparation processes and then to list or demonstrate control of the hazards. For example, to prepare tuna salad safely, minimizing microbial growth and contamination, the salad must be prepared by use of cold ingredients at <50°F (<10°C), clean and sanitized utensils, and clean hands.

Food Operations, the third management cycle step, begins when it is certain that the kitchen and equipment are clean and sanitized as needed, equipment is calibrated and functioning, and all employees are trained. During this step, food is produced, and the cooks monitor production and keep processes in control. The information, which includes process times and temperatures, is recorded on the HACCP operations checklist, which is reviewed later by the HACCP team. If there are any deviations from the standard in the control steps, corrective action is taken, and the food may be repro-

FIGURE 3. Retail Process HACCP

Hazard Analysis / Risk Assessment	Hazard Control	Monitoring / Self-Check	Corrective Action (by HACCP team)	Verification and Improvement
<ul style="list-style-type: none"> • Assessment of biological, chemical, physical hazards: Epidemiological evidence; Hazard identification; Tolerable level / size • Significant risk analysis: Unsafe levels / size; Severity (cost); Probable hazard levels / size; Probability of occurrence; Probability of detection and prevention 	<ul style="list-style-type: none"> • Preventive measures: critical limits, and controls to prevent / eliminate / reduce a risk • Expected process deviations 	<ul style="list-style-type: none"> • How to measure the degree of control • Who, how, when, what to keep process variation inside the critical limit(s); Where is it recorded? 	<ul style="list-style-type: none"> • Failure mode effect analysis. If deviation creates a significant risk, what corrective action will be taken (or was taken)? 	<ul style="list-style-type: none"> • Who, how, when, what? <p>Documentation of hazard control</p>

cessed, if appropriate. However, if there is any question of food safety, the food product is discarded.

The fourth step in the HACCP management cycle is the regularly scheduled meeting of the **HACCP Team**. The team reviews the operation's HACCP checklist, training records, customer comments, employee suggestions, and reports of corrective actions. If any necessary changes are simply process improvements, the team member who is responsible for that process implements them. If a change involves a policy or standard, the information is sent to management for consideration of improvement of both the HACCP operations checklist and the training checklist.

The monthly meeting of the kitchen HACCP team is one of the most important aspects of this program. The results of the HACCP team audit of the kitchen, comments, and suggestions are reviewed at this time. Changes are made when necessary in order to improve the consistency of the HACCP control program within the kitchen. The monthly meeting report form (Fig. 5) is used to record the meeting's proceedings and suggestions.

If there is a deviation from the standard in a process and if a critical control was omitted, even though the deviation was minor, details must be recorded and the HACCP team must review or complete a Corrective Action Report (Fig. 6).

The Corrective Action Report requires the HACCP team to document the following four items.

1. Description of the problem
2. Elimination of the problem
3. Verification that process is back in control
4. Listing of measures to prevent recurrence

Assessment of HACCP retail food-service operations requires evaluation of both prerequisite processes and food processes. Figure 7 is a listing of controls used to evaluate the effectiveness of the HACCP operation.

After the HACCP team has signed the report and has declared that the kitchen is safe for another month of operation, management reviews the report. When appropriate, the process authority also reviews the report and makes comments.

RESULTS AND DISCUSSION

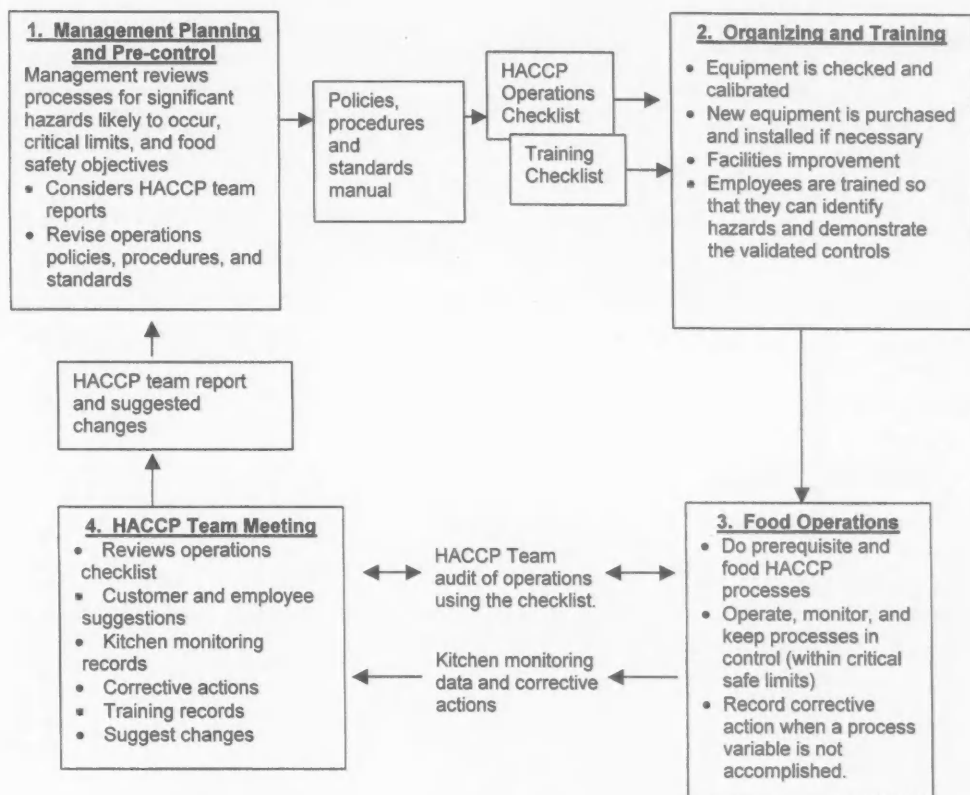
Food process HACCP begins with an analysis of the menu and grouping of menu items according to similarity of hazards. A food process HACCP can be very simple if most of the ingredients are made safe by the supplier (e.g., fully cooked hamburger, fully cooked pizza, etc.) and are simply warmed for service. This is typical of many foods served in school lunch

programs. In contrast, restaurant food operation HACCP is more complicated, because the menus are varied and are based to a large extent on raw ingredient preparation. Thus, checklists need to be customized for specific operations.

The measure of success of the HACCP foodservice program is the degree to which the employees in the kitchen can identify the hazards in the foods that they prepare and the tasks that they perform and can demonstrate the controls, such as cooking hamburger to 65.6°C (150°F) for 1 minute or double washing hands with use of the nail brush on the fingertips in the first wash. New employees are always trained to competency through use of the checklist before they are allowed to handle food in the kitchen. The competency of the food production staff in the four Rochester, Minnesota foodservice operations that cooperated in this HACCP study is now very high as a result of this program.

Microbiological testing of surfaces, using Petrifilm™ (3M, St. Paul, Minnesota), was done initially to validate the efficacy of cleaning processes and cooking processes. At present, this microbiological testing method is used only to educate employees and/or to validate new processes. This testing method is simple to perform, and cooks can be trained to use it.

FIGURE 4. Four-Step HACCP Management Cycle



The morale of the kitchen staff in these four foodservice HACCP operations is extremely high, because personnel are involved and have developed real proficiency in terms of hazard identification and control. They are very proud of their accomplishment. The results of regulatory inspections of their operations are almost perfect. Of course, it is always possible for an employee to make a mistake due to lack of concentration and for the mistake to remain uncorrected, thus causing a customer to become ill. However, the probability of a mistake that causes foodborne illness has been reduced.

These four foodservice operations have no difficulty in complying with regulatory inspection. The kitchen staffs in these four operations are competent in safe production and service of food because of their training and use of HACCP production methods.

SUMMARY

The head food preparation manager, with the kitchen HACCP team (cooks,

kitchen personnel, and servers), can reduce the risk of foodborne illness and control the hazards in food preparation and service. Food preparation personnel are the only individuals who can validate HACCP production methods and verify that these methods are used for menu items that they prepare and serve. Regulatory officials cannot ensure that the food is safe; they can only provide correct hazard and control information. Regulatory inspectors are in a facility for only a few hours a year and may observe little or no food preparation.

The person who decides on the process controls, based on risk identification, is the head chef or head food preparation manager. This person trains and coaches personnel, posts audits, and holds meetings that continue to involve the HACCP team in the corrective actions and continuous improvement of the processes within the kitchen. The result of this HACCP production process is customer satisfaction because of the recognized higher quality and safety of the food that is produced and served; hence, the

implementation of this process also protects the owner's financial investment.

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3. National Advisory Committee on Microbiological Criteria for Foods (NACMCF). 1998. Hazard analysis and critical control point principles and application guidelines. *J. Food Prot.* 61(9):1246-1259.
4. Code of Federal Regulations. Title 9 Part 417 - Hazard Analysis and Critical Control Point (HACCP) Systems.

FIGURE 5. HACCP Team Monthly Meeting Report

<u>HACCP Team Members</u>	<u>Initial if present</u> (leader)	Suggested topics
<hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/> <hr/>		<ol style="list-style-type: none"> 1. Verification of effective HACCP program: review operation checklist, customer and employee comments, kitchen monitoring records, corrective actions, training records, improvements, changes to manual. 2. Other
Topics		Follow-up
<p>NEXT MEETING: _____</p> <p>HACCP Team Aim: Preparation and service of safe food.</p> <p>Management review, comments _____ Signature _____</p> <p>Process authority review, comments: _____ Signature _____</p>		

FIGURE 6. Corrective Action Report⁽¹⁾

Person completing report _____ **Date** _____

Critical limit corrective action

Quality corrective action

a. **Description of the problem:** *What was done immediately to take care of the problem? What was done with any questionable food?*

b. **Elimination.** *It must include what action was taken to put process back into control according to Corrective Action plan.*

c. **Verification that process was back in control.** *Show data that the critical control point was under control after correction: Example: Take data at the CCP for a time following corrective action to PROVE that problem was fixed.*

d. **List measures to prevent recurrence:** *Examples: Training in use of nail brush, new thermometer, fans added to refrigerator, food panned <2 inches deep.*

Reviewed by _____

Date _____

FIGURE 7. Assessment of HACCP Retail Foodservice Operations

Prerequisite HACCP Processes

1. Chef (head food preparation manager) and HACCP team prepare:
 - a. Self-assessment checklist
 - b. Training checklist
2. Good personal hygiene is specified. Hand washing is emphasized.
 - a. Employees must use the double hand wash when coming into food preparation area after using the restroom and before starting work.

The double hand wash utilizes flowing warm water, plain hand soap or detergent and a fingernail brush and is described as follows. *After the hands and fingernail brush are wet, plain hand soap or detergent is applied to the brush. The brush is used to produce a lather and scrub the fingertips and fingernails of the hands. The hands and fingernail brush are rinsed in flowing warm water. (The brush is cleaned when the water flows over the fingertips to rinse both the brush and fingertips. The brush is stored with bristles up and allowed to dry between uses.) The second step of this hand wash is the reapplication of soap or detergent to hands and lathering of hands and skin (without the brush) up to the tips of sleeves for at least 20 seconds. The lather is then rinsed from hand and arm surfaces that are then dried with paper towels.*
 - b. Employees must use the single hand wash when preparing and handling food or any other time they may have become contaminated in order to prevent cross-contamination.

The single hand wash is the second step of the double hand wash as described above. No fingernail brush is used.
 - c. Hand washing sign is posted at each sink.
3. Environment / facilities hazards and controls:
 - a. Environment is clean and maintained.
 - b. Potable water supply is used.
 - c. Entrance and presence of insects and rodents are controlled.
 - d. Toxic chemicals are labeled and stored properly, away from food and food contact surfaces.
4. Equipment is of type and quantity necessary for food production facility
 - a. All food contact surfaces are cleaned after use. (This is accomplished by pre-rinsing, washing, rinsing, sanitizing, and air drying.) Sanitizer concentration / temperature is observed and recorded.
 - b. Thermostats and instruments are calibrated $\pm 2^{\circ}\text{F}$ ($\pm 1.1^{\circ}\text{C}$).
 - c. There is no cross-contamination from raw to ready-to-eat food.
 - d. Hot holding equipment is capable of holding food $\geq 135^{\circ}\text{F}$ - 140°F (≥ 57.2 - 60°C).
 - e. Refrigerators hold food $\leq 41^{\circ}\text{F}$ ($\leq 5^{\circ}\text{C}$); freezers hold food $\leq 0^{\circ}\text{F}$ ($\leq -17.8^{\circ}\text{C}$).
5. Food sources, receiving, storage: Supplies are obtained from approved sources. Potentially hazardous food is received at $\leq 41^{\circ}\text{F}$ ($\leq 5^{\circ}\text{C}$) and is stored promptly. It is rejected and returned to supplier if there are signs of temperature abuse.

Food HACCP Processes With Process Performance Standards

1. Fresh fruits and vegetables are washed in flowing potable water. Brushes are used to remove dirt from heavily soiled items. After washing, excess moisture is removed from fruit and vegetable surfaces.
2. Potentially hazardous foods are cooked (heated) according to government regulations.

Unpasteurized shell eggs and raw fish are cooked to an internal temperature of 145°F (62.8°C) for 15 seconds.
Ground beef and other raw ground meats are cooked to an internal temperature of 155°F (68.3°C) for 15 seconds or 150°F (65.6°C) for 1 minute.
Raw poultry products and stuffed meat, fish and poultry products are cooked to an internal temperature of 165°F (73.9°C) for 15 seconds.
Temperatures are monitored as necessary and recorded.
3. Hot food is held at $\geq 135^{\circ}\text{F}$ - 140°F (≥ 57.2 - 60°C) during transport and service. Temperatures are monitored and recorded.
4. Hot foods are continuously cooled to $\leq 41^{\circ}\text{F}$ ($\leq 5^{\circ}\text{C}$) within 6 hours according to government regulations.
5. Cold ready-to-eat foods are held at $\leq 41^{\circ}\text{F}$ ($\leq 5^{\circ}\text{C}$) during transport and service. Temperatures are monitored and recorded.
6. Foods held out of temperature for 4 hours are discarded.
7. Refrigerated potentially hazardous foods are date-marked and discarded if not served within 7 days after preparation or opening.



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NFPA Food Safety Award Nominations Wanted!

The International Association for Food Protection welcomes your nominations for the National Food Processors Association (NFPA) Food Safety Award. This award will be presented in 2005 to an individual in recognition of a long history of outstanding contributions to food safety research and education.

Eligibility: Individuals may be from government, academia, or industry including consultants. The nominee must have a minimum of 10 years of service in the food safety arena.

Nomination deadline is March 14, 2005.

Nomination criteria available
at our Web site or call our office at 800.369.6337; 515.276.3344

www.foodprotection.org



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Award Nominations

The International Association for Food Protection welcomes your nominations for our Association Awards. Nominate your colleagues for one of the Awards listed below. You do not have to be an IAFP Member to nominate a deserving professional. To request nomination criteria, contact:

International Association for Food Protection
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Des Moines, Iowa 50322-2864
Phone: 800.369.6337; 515.276.3344
Fax: 515.276.8655
Web site: www.foodprotection.org
E-mail: info@foodprotection.org

You may make multiple nominations. All nominations must be received at the IAFP office by March 14, 2005.

- ◆ Persons nominated for individual awards must be current IAFP Members. Black Pearl Award nominees must be companies employing current IAFP Members. NFPA Food Safety Award nominees do not have to be IAFP Members.
- ◆ Previous award winners are not eligible for the same award.
- ◆ Executive Board Members and Awards Committee Members are not eligible for nomination.
- ◆ Presentation of awards will be during the Awards Banquet at IAFP 2005 – the Association's 92nd Annual Meeting in Baltimore, Maryland on August 17, 2005.

Nominations deadline is March 14, 2005

Nominations will be accepted for the following Awards:

Black Pearl Award — Award Showcasing the Black Pearl

Presented in recognition of a company for its outstanding commitment to, and achievement in, corporate excellence in food safety and quality.

Sponsored by Wilbur Feagan and FEH Food Equipment Company

Fellows Award — Distinguished Plaque

Presented to IAFP Members who have contributed to the Association and its Affiliates with distinction over an extended period of time.

Honorary Life Membership Award — Plaque and Lifetime Membership in IAFP

Presented to IAFP Members for their dedication to the high ideals and objectives of the International Association for Food Protection and for dedicated service to the Association.

Harry Haverland Citation Award — Plaque and \$1,000 Honorarium

Presented to an active IAFP Member for many years of dedication and devotion to the Association and its ideals and objectives.

Sponsored by Zep Manufacturing Company

Harold Barnum Industry Award — Plaque and \$1,000 Honorarium

Presented to an active IAFP Member for dedicated and exceptional service to IAFP, the public, and the food industry.

Sponsored by Nasco International, Inc.

Educator Award — Plaque and \$1,000 Honorarium

Presented to an active IAFP Member for dedicated and exceptional contributions to the profession of the Educator.

Sponsored by Nelson-Jameson, Inc.

Sanitarian Award — Plaque and \$1,000 Honorarium

Presented to an active IAFP Member for dedicated and exceptional service to the profession of Sanitarian, serving the public and the food industry.

Sponsored by Ecolab, Inc., Food and Beverage Division

Maurice Weber Laboratorian Award — Plaque and \$1,500 Honorarium

Presented to an IAFP Member for dedicated and exceptional contributions in the laboratory. The Award recognizes a commitment to the development and/or application of innovative and practical analytical approaches in support of food safety.

Sponsored by Weber Scientific

International Leadership Award — Plaque, \$1,000 Honorarium and Reimbursement to attend IAFP 2005

Presented to an IAFP Member for their dedication to the high ideals and objectives of the International Association for Food Protection and for promotion of the mission of the Association in countries outside of the United States and Canada.

Sponsored by Unilever— Safety and Environmental Assurance Centre

Food Safety Innovation Award — Plaque and \$2,500 Honorarium

Presented to an individual or organization for creating a new idea, practice, or product that has had a positive impact on food safety, thus, improving public health and the quality of life.

Sponsored by 3M Microbiology

NFPA Food Safety Award — Plaque and \$3,000 Honorarium

This Award honors an individual or a group or organization for preeminence in and outstanding contributions to the field of food safety. The award will be presented in 2005 to an individual in recognition of a long history of outstanding contributions to food safety research and education.

Sponsored by National Food Processors Association



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2005–2006 Secretary Election

The following page contains biographical information for the 2005-2006 Secretary candidates. Review the information carefully as you make your voting decision. Ballots were mailed to all International Association for Food Protection Members during the first week of February. Completed ballots are due back to the Association office by March 18, 2005. Sealed ballot envelopes are forwarded to the Tellers Committee for opening and counting. Watch for the election results in the May issue of *Food Protection Trends*.

If you have questions about the election process, contact David W. Tharp, CAE, Executive Director at 800.369.6337, or 515.276.3344, or E-mail dtharp@foodprotection.org.



J. STAN BAILEY



LEEANNE JACKSON

The Candidates

Biographical Information

J. STAN BAILEY, PH.D.

Dr. J. Stan Bailey is a Lead Scientist and Research Microbiologist for the United States Department of Agriculture, Agricultural Research Service where he is responsible for research directed toward monitoring, controlling, reducing and ultimately eliminating contamination of live poultry by human enteric pathogens. During his 31-year career, Dr. Bailey has authored or coauthored over 500 scientific publications in the area of food microbiology, concentrating on controlling *Salmonella* in poultry production and processing, *Salmonella* methodology, *Listeria* methodology, and rapid methods of identification.

Dr. Bailey's professional stature is recognized both nationally and internationally as is seen in: (1) his receiving the USDA, ARS award for Outstanding Senior Research Scientist for 2002; (2) receipt of the 2003 IAFF Maurice Weber Laboratorian Award; (3) election to the position of Chairman of the Food Microbiology Division of the American Society for Microbiology in 1992; (4) appointment to the position of Secretary of the Microbiological Methods Committee of the AOAC; (5) appointment to the position of Adjunct Professor in the Poultry Science Department at the University of Georgia and the Department of Food Science and Technology at Kansas State University; (6) national and international invitations to speak, teach, participate in committees, and symposia including appointment as Expert Consultant on Animal Feeding and Food Safety by the Food and Agriculture Organization of the United Nations; (7) serving as faculty for 21 years at the "Rapid Methods and Automation in Microbiology Workshop" taught at Kansas State University educating over 1,000 scientists from 50 countries; (8) being named Fellow of the American Academy of Microbiology; (9) appointment as Technical Advisor on Poultry Production to the National Advisory Committee on Microbiological Criteria in Foods; (10) appointment as Scientific Advisor to the International Life Sciences Institute; (11) winning the ARS Technology Transfer Award and Federal Laboratory Consortium Award for technology transfer; and (12) receiving 14 USDA Certificates of Merit.

Dr. Bailey has been an active Member of IAFF since 1987. In addition to organizing and convening numerous symposia, Dr. Bailey was a member of the Program Committee from 1997 to 2001 and was the Chairperson of this committee in 2001. He is currently a member of the Foundation Fund Committee, was Chairperson of the Poultry Safety and Quality Professional Development Group from 1993-95, and has served on the Editorial Board of the *Journal of Food Protection*.

Dr. Bailey has a B.S. in Environmental Health Sciences, M.S. in Food Science and Ph.D. in Poultry Science all from the University of Georgia. Other professional affiliations for Dr. Bailey include serving on the Editorial Boards of *Poultry Science*, *Journal of Rapid Methods and Automation in Microbiology*, and the *Journal of Applied Poultry Research* and membership in Southern Poultry Science Society, World's Poultry Science, American Society for Microbiology, American Academy of Microbiology, Poultry Science Society, Georgia Association for Food Protection, and AOAC International.

LEEANNE JACKSON, PH.D.

Dr. LeeAnne Jackson is currently a Health Science Policy Advisor within the Food and Drug Administration's Center for Food Safety and Applied Nutrition (FDA/CFSAN) where she serves as part of the Food Safety and Defense Staff. Prior to joining the FDA, Dr. Jackson accepted a post-doctoral assignment in 1990 with the United States Department of Agriculture, Eastern Regional Research Center, Philadelphia, PA where she conducted research with *Clostridium botulinum* and *Salmonella* spp. Dr. Jackson joined the FDA in 1991 as a Staff Fellow conducting research on *Vibrio* spp. In 1994, she joined the Division of HACCP within FDA/CFSAN and led two teams for piloting HACCP within the food industry. In 1996, she joined the Executive Operations Staff within FDA/CFSAN and coordinated science policy issues. In addition to her responsibilities on the Executive Operations Staff, in 2000, Dr. Jackson took on the responsibility of co-coordinating counter-terrorism issues for foods. In 2004, Dr. Jackson moved to the Food Safety and Defense Staff where CFSAN's counter-terrorism efforts were consolidated.

To ensure the safety and security of the nation's food supply, she serves on a variety of government working groups to discuss food defense activities. She is the Co-Chair of the Chemical, Biological, Radiological and Nuclear Countermeasures Subgroup of the Technical Support Working Group for the Department of Defense. She also serves on numerous working groups within the Department of Homeland Security.

Since joining IAFF in 1988, Dr. Jackson has been an active participant by speaking at symposia and workshops, serving on IAFF committees and professional development groups (PDGs). She served on the Program Committee from 2000-2003, *Food Protection Trends* Management Committee from 1998-2001, Developing Scientist Committee from 2001-2002, the Nominating Committee for 2003 and 2004, and is a member of the Food Hygiene and Sanitation PDG and the Fruit and Vegetable Safety and Quality PDG. She is also active in the Capital Area Food Protection Association, which was chartered in 2001.

Other professional affiliations for Dr. Jackson include: Professional Member of the Institute of Food Technologists, member of the American Society for Microbiology, and the FDA Liaison to the Executive Committee for the National Advisory Committee on Microbiological Criteria for Foods. Within the Institute of Food Technologists, Dr. Jackson has participated on numerous committees at the local and national level as well as served as the Chair of the Food Microbiology Division. She currently serves on the Executive Committee of the Institute of Food Technologists.

Dr. Jackson has also received a number of awards during her government career. She received the T.W. Edminster Research Award from USDA in 1990. She has received numerous awards during her FDA career, but most notably she received the FDA Award of Merit in 2003.

Dr. Jackson earned her Bachelor of Science Degree in Microbiology in 1984 from the College of Arts and Sciences at the University of Kentucky. She continued her education in the College of Agriculture, Department of Animal Sciences, Lexington, KY. She was awarded her Masters Degree in 1986 and her Doctor of Philosophy (Ph.D.) in 1990 with a degree in Food Science, specializing in food microbiology.



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San Diego, CA, USA

UPDATES

New Chilled Food Association Chairman

Ron Mellow of H.J. Heinz Ltd. is the new chairman of CFA. Previously CFA's vice chairman, Ron has been a member of CFA's Executive Committee since 1999. He takes over from Dr. Geoff Andrews who has left the food industry.

Ron chairs the CFA Executive (CFA's Board of Directors) which is responsible for the governance and development of CFA. Comprising senior management representatives of full member companies, the Board oversees all CFA activities and addresses non-technical issues impacting the industry.

Ron started his career with Unilever in 1971, on their graduate management scheme and worked in a wide variety of roles and locations in the UK and Africa. In 1988 he joined United Biscuits in a business subsequently acquired by Heinz in 1999, where he is currently divisional director for the Marks and Spencer business.

Executive Management Changes at Chr. Hansen

Chr. Hansen, Inc. announces the immediate appointment of David R. Carpenter as president and CEO for North America, following the resignation of Donald Combs from this position on January 4, 2005. Mr. Carpenter has been with Chr. Hansen since 1999 in various positions and has had much success as a strong leader.

Mr. Carpenter was initially responsible for the sales activities

of the dairy business, then for the entire bio ingredients business, and most recently as senior vice president of sales and marketing for North America. He has spent his entire career in the food ingredients business, which included vice president and global business unit manager at Degussa (formerly Sanofi Bio Industries), vice president of sales and marketing for Continental Colloids, vice president of sales and marketing for Ramsey/SIAS Laboratories (now ATYS), and 10 years at Sensient (Universal Flavors). He holds a BS in agriculture and an MBA.

Along with the change in the top management at Chr. Hansen-North America, the company also announces the promotion of Don Cox to senior vice president of sales and marketing. Effective immediately, Mr. Cox is responsible for the overall direction of the sales and marketing organization in North America including activities in Canada and Mexico.

Mr. Cox has been with Chr. Hansen for 11 years, and has held several positions in sales management, marketing and supply chain. He recently completed his Masters in business administration from Marquette University, Milwaukee, WI.

American Institute of Baking Selects James Munyon as President

The board of trustees of the American Institute of Baking (AIB) elected James Munyon as

president effective Jan. 31, 2005. Mr. Munyon was a senior executive with J. R. Simplot Co., and is chairman of the American Frozen Food Institute.

Prior to his career at J. R. Simplot, he worked for Nestlé Brand Food-service in Glendale, CA, as operational director and then as vice president and general manager. He also worked for 13 years in plant and quality assurance management positions for the Carnation Company.

Mr. Munyon holds a bachelor's degree in microbiology from Oregon State University in Corvallis, and a master's degree in food science from Washington State University in Pullman. He also completed the executive program at the University of Virginia's The Darden School of Business in Charlottesville.

Organic Valley Appoints George Konovalov Eastern Division Sales Manager

George Konovalov has joined the Organic Valley sales management team as eastern division sales manager.

Mr. Konovalov is responsible for developing and executing Organic Valley's business plan within the Eastern United States for all classes of trade. Primary responsibilities include managing sales within his division as well as managing four regional sales managers.

He previously held the position of account manager at Food Associates Food Brokers.

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New Third Party Equipment Inspection Program Registers Successful First Year

The Third Party Verification (TPV) program launched by 3-A Sanitary Standards, Inc. (3-A SSI) in late 2003 received high acceptance among equipment fabricators and positive recognition by regulatory sanitarians following the first full year of implementation in 2004. The new TPV requirement applies to equipment built to 3-A Sanitary Standards that displays the 3-A symbol.

Under the new inspection requirement, a 3-A symbol holder must engage an accredited inspection professional, a Certified Conformance Evaluator (CCE), to conduct an on-site evaluation of finished equipment and other production data to affirm the equipment conforms to provisions of the applicable 3-A Sanitary Standard. If deficiencies are found, these must be corrected if equipment is to retain the 3-A symbol. Equipment manufacturers that do not comply with the TPV inspection program will lose their right to display the 3-A symbol on their products. 3-A SSI is stepping up efforts to promote timely compliance with the program.

"This TPV process has brought enhanced credibility to the 3-A symbol," explains David Tharp of the International Association for Food Protection and the incoming chairman of 3-A SSI. "It replaces our previous system of self-certification and ensures that food processors can have strong confidence that equipment displaying the 3-A symbol meets the highest standards in hygienic design and cleanliness."

The TPV program has strong support from regulatory officials in the Food and Drug Administration and the US Department of Agriculture, which have long recognized the 3-A symbol for dairy and food processing equipment. FDA and USDA officials serve on the 3-A SSI Board of Directors and on committees charged with oversight of the TPV and 3-A symbol programs. Representatives from major trade associations representing equipment fabricators and processors also participate in the leadership of 3-A SSI and committees.

Robert F. Hennes, chief of the Milk Safety Branch of the Food and Drug Administration (FDA) Center for Food Safety and Applied Nutrition, explains, "FDA is pleased to be a member of the 3-A SSI Executive Board, since this program supports our efforts to protect milk safety and public health. If a piece of dairy equipment complies with the 3-A standards, the milk regulatory community has added assurance that the dairy equipment complies with the Grade "A" Pasteurized Milk Ordinance (PMO). The TPV program provides the regulatory community with a greater assurance that equipment which carries a 3-A symbol meets the construction standards of the PMO."

Duane Spomer, associate deputy administrator for standards and grading for the US Department of Agriculture (USDA) Agricultural Marketing Service, adds, "3-A standards have been a foundation for the sanitary construction of equipment used in the dairy industry for many years and USDA relies on these standards to promote food safety and quality in dairy products. The inclusion of a third-party verification process provides greater assurance that equipment displaying

the 3-A symbol meets the criteria of the standards."

Lou Beaudette, president of Admix, Inc., is one equipment manufacturer that supports use of the 3-A program and carries the symbol on five of its product lines. "Using the 3-A symbol means a lot to our company," he reports. "One of our product lines went through the TPV process and it went fine. We will make a few minor modifications to future equipment as a result of the TPV review. The new inspection method is a substantial improvement over the previous method of compliance, because it is more rigorous and will bring more value to our customers than ever before. Our customers appreciate the commitment on our part to use equipment with the symbol."

Food processors know that when they purchase a piece of equipment that carries the 3-A symbol, it will meet their sanitation needs and it will improve acceptance by the government authorities. "The TPV process is really not that difficult if a company does a little advance planning. For example, companies need a letter of compliance for all plastics and rubbers to make sure that they comply with the 3-A Sanitary Standards. They also need to compile an Engineering Design and Technical Construction File (EDTCF). Many companies have never done this, but it simply involves collecting information about the equipment and organizing it for easy review," explains Dick Smith, one of the CCEs who has already completed several TPVs and has contracts for a few more.

Dean Girton of Girton Manufacturing Company, who serves as chairman of the 3-A SSI Symbol



Authorization Advisory Committee, reminds the industry of how difficult it was to comply with regulations before the 3-A symbol was introduced more than 50 years ago. "It used to be nearly impossible to keep up with all the different conflicting regulations among state and local sanitarians. We've had the 3-A symbol for a long time now, and it has made things much easier. But we can't take it for granted. It's critical that we use the TPV process to keep the symbol strong and protect the companies that work hard to comply with the standards. Otherwise, we'll be back in the same boat we were in before."

David Tharp adds, "The TPV program is the positive result of extensive discussions and planning among several major food industry associations, regulatory agencies and the 3-A Symbol Council. It allows the 3-A symbol to retain its prestige and reputation in the industry as a mark that ensures the highest level of hygienic design and cleanability of equipment. We encourage all equipment manufacturers to support the TPV program and provide us with any comments for future development."

A list of equipment groups and the phase-in date for the TPV requirement is shown with many other basic details on the program in a special FAQ section on the 3-A SSI Web site at www.3-a.org/faq.htm.

NFPA to Become Food Products Association in 2005

The National Food Processors Association (NFPA) has announced that the Association's name will be changed to the Food Products Association (FPA). The name change will be phased in during the first half of 2005.

"The name change reflects the continuing evolution of this Association," said president and CEO John R. Cady. "NFPA now offers representation to an increasingly broad range of members — including not only new types of food companies but also restaurants, retail grocers, and suppliers to the industry. The term 'processors' no longer reflects our full membership; in fact, the word does not resonate with our many audiences. Additionally, our new name reflects that the Association's scope is more than 'national,' which will be helpful in our activities in the international arena."

"Our new name will better communicate this Association's focus and who we represent to various audiences, including government, consumers and media in the United States and worldwide. We believe that it will help create a better understanding of this Association and its activities on behalf of the food products industry," Cady noted.

International Outbreak of *Salmonella* Thompson Caused by Contaminated Rucicola Salad – Update

We recently reported an outbreak of *Salmonella* Thompson associated with rucicola salad in Norway. Almost all of patients interviewed mentioned having eaten rucicola from a pre-prepared salad mix in pre-packed plastic bags. So far, 20 laboratory confirmed cases linked to this outbreak have been identified in Norway. No new cases have been reported in December.

Based on evidence from our epidemiological investigation, the Norwegian Food Safety Authority temporarily withdrew the incriminated product from the market on

November 25, 2004. The decision was also influenced by an alert of *Salmonella* Thompson isolated from rucicola salad sent by the Swedish National Food Administration through the European Rapid Alert System for Food and Feed (RASFF, <http://europa.eu.int/comm/food/food/rapidalert/>). The rucicola in both Norway and Sweden came from the same producer in Italy. After control measures were implemented by the Norwegian Food Safety Authority and the distributor of the incriminated salad, the ban was lifted on December 14.

A request for information was sent via Enternet (the international surveillance network for human gastrointestinal infections, http://www.hpa.org.uk/hpa/inter/enter-net_menu.htm) on November 19, 2004, to ascertain whether any other country had noticed an increase in notifications of *Salmonella* Thompson infections. Sweden and England and Wales reported possible increases in cases of *S. Thompson* from August, while other countries had not experienced any increase in this serovar recently.

S. Thompson is a rare serovar; data from the Enternet *Salmonella* database show that in 2003, there were only 192 cases out of 73,894 (0.26%) reported in Europe, and in 2002 there were 153 out of 70,296 (0.22%). The emergence of this rare serotype in three countries at the same time is a very unusual event. PFGE analyses to determine any relationship between isolates from cases in England and Wales, Norway and Sweden are being performed. Isolates from foods are also included in the PFGE analysis.

Recently, *Salmonella* in rucicola imported from Italy has been detected in Denmark (type not specified) and in Slovenia (*Salmonella* Napoli), as well as *Campylobacter* in this rucicola in Sweden. In Norway,



Salmonella Braenderup has been isolated from a sample from a pre-packed bag with mixed salad containing rucola.

Although few countries have reported cases related to this outbreak, the fact that different serovars have been detected in different countries may indicate that the outbreak is not limited to *Salmonella* Thompson cases. This emphasizes the need for good manufacturing practices for fruit and vegetables that are to be consumed raw, and the potential for large outbreaks related to fresh produce with wide distribution. Of great value in this outbreak investigation was rapid communication of information through international networks such as EnterNet, the Early Warning and Response System and RASFF.

Human Risk from Beef Feedlot Bacteria Studied

Western Canadian research scientists from several institutes will collaborate over the next four years to determine if a common, but lesser known bacteria shed by cattle pose a threat to human health through food transmission.

The major project involving federal, provincial and university researchers is intended to answer whether *Campylobacter* and other bacteria shed by cattle cause illness in humans, says lead researcher Dr. Doug Inglis of the Agriculture and Agri-Food Canada Lethbridge Research Centre. While the human health risk from other bacteria such as *E. coli* is familiar to most people, Inglis says, the lesser known *Campylobacter* might pose an even greater threat.

More information on the study is available in a new article on the

Meristem Land and Science Web site, www.meristem.com. Land and Science is a service featuring information on the sustainability of agriculture, food production and the environment. It is presented by Meristem Information Resources Ltd., in cooperation with partners in agriculture, food, environment and life sciences.

"*Campylobacter* species, particularly *Campylobacter jejuni* and *C. coli*, are recognized as one of the most common causes of acute diarrheal disease (campylobacteriosis) in humans throughout the world, including Canada. Currently, poultry are thought to be the primary reservoir of *Campylobacter* species infecting humans. However there are strong indications that cattle are a major source as well," says Inglis.

The health risk these bacteria represent to humans consuming contaminated beef or water is currently uncertain, Inglis says. "But, in light of increasing evidence implicating cattle as a source of the infectious bacteria, the new study aims to determine the risk to humans represented by several microorganisms, including *Campylobacter*, originating from beef cattle," he says.

Inglis and his Lethbridge research team have been studying *Campylobacter*, for several years. The work has involved quantifying the species of bacteria shed in cattle manure, and they also have determined where these bacteria live in the intestines of beef cattle. In related research, Inglis found feedlot cattle routinely treated with antibiotics shed *Campylobacter* bacteria possessing resistance to these drugs. These bacteria, known as antimicrobial resistant (AMR) bacteria, may survive in the manure, but it's not known if they can be transmitted to humans.

"Considering the widespread use of antibiotics in cattle produc-

tion and high frequency of beef cattle that shed campylobacters, it is important that we continue to monitor the development of antimicrobial-resistant bacteria in feedlot cattle," he says. "The question we really need to answer is what risk do AMR bacteria from cattle represent to humans?" Meristem Land and Science, anchored at www.meristem.com, features "Progress and perspective from the best minds in agriculture, food and the environment."

Food-grade Starch Put to New Industrial Use

A technique for changing the water repellency of plastic films using coatings of steam-jet-cooked starch has been developed by Agricultural Research Service scientists.

Among the reasons for using this process is to improve plastic's retention of water-based dyes and printing inks, such as those used on food labels, as well as to reduce buildup of static charge. Commercial polymers like polyethylene are hydrophobic, or water-repelling, until rendered otherwise (hydrophilic) with chemical reagents. But according to ARS scientists Fred Felker and George Fanta, coating such plastics with soluble starch—prepared by steam-jet cooking—could offer a cheaper, easier and safer alternative.

In studies since 2001 at the ARS National Center for Agricultural Utilization Research, Peoria, IL, the scientists showed that tiny particles of starch comprising the one-micrometer-thick coating hold water in place, preventing it from beading and rolling off the plastic's surface.

And if a film of polyethylene is thin enough, the scientists observed, the coating will temporarily change the film's shape when the coating dries.



The scientists made the hydrophilic coating as part of an ARS research effort at Peoria to develop new, value-added products from agricultural commodities, especially cornstarch. The US supply of cornstarch—along with starches from rice, potato and other crops—often outpaces demand for the commodity, the researchers note in a published paper describing their invention. Felker and Fanta are hoping the hydrophilic starch coating will nibble away at that surplus, either by making plastic films more water-friendly or by another novel application. One possible use: preventing the buildup of electrostatic charges, which may prove useful in plastic packaging used to wrap electronics equipment. The coating's water-friendly surface may also offer a way to make medical devices more compatible with the human body. Earlier this year, ARS obtained a patent (US Patent 6,709,763) on the invention and is seeking to license it to a company that can explore such possibilities. ARS is the US Department of Agriculture's principal scientific research agency.

Eat Safe Launched in Scotland

The Eat Safe award scheme has been launched in Scotland. Eat Safe aims to promote excellence in food hygiene and food safety management and improve public confidence and choice in catering establishments across the country.

At first the award will be limited to catering operations to which the public has access, including hotels, restaurants, cafes, pubs serving food, takeaways, coffee shops, in-store restaurants, most hospital canteens, some workplace restaurants (with public access) and catering college restaurants.

Thirty of Scotland's 32 local authorities have given their backing to the scheme, and consumer and trade organizations have also provided their support to ensure a coordinated roll out of Eat Safe across the country.

FSA Scotland Director Dr. George Paterson said: "The Eat Safe award scheme will provide an incentive to caterers to strive for standards beyond those required by law, and will help consumers make informed choices about where to eat out in Scotland by providing a recognizable and well publicized sign of excellence in standards of food hygiene."

"We are not planning to reward businesses for meeting their legal obligations to their customers. They will have to go that extra mile to be entitled to display the Eat Safe logo. Consumers want to be confident in the food they eat, and the Eat Safe award will be a readily recognisable symbol of high food hygiene standards across Scotland."

A pilot of the Eat Safe award scheme has already been developed and implemented in Northern Ireland and the FSA Scotland took advice from their colleagues in Northern Ireland before developing the scheme in Scotland. Visit the Eat Safe Web site for further information at <http://www.eatsafe.gov.uk>.

New Detection Methods Improve Food Safety

A new technique developed by the Agricultural Research Service (ARS) to detect heat-resistant toxins in foods such as ham, milk and eggs should help researchers and inspectors detect toxins that cause gastroenteritis.

Marjorie B. Medina, a research chemist at the ARS Eastern Regional Research Center in Wyndmoor,

PA, developed a biosensor-based method that detects chemical signals from toxin-producing bacteria and provides information about their specific biological activities.

Bacteria produce toxins under stressful conditions, such as when they are too crowded, denied food or fighting back against antibiotics. Generally, conventional heating and processing kill foodborne bacteria but do not destroy their toxins.

In her studies, Medina focused on *Staphylococcus aureus* enterotoxins A (SEA) and B (SEB). Her biosensor test makes use of what's called surface plasmon resonance (SPR) to detect toxins. SPR uses light reflected off thin metal films. Attached to these films are toxin or antitoxin antibody molecules.

When these molecules bind to the film surface, they change the way light refracts. These changes in light intensity, monitored by an optical detector, provide a measure of how much toxin, if any, is present in a food sample. One potential use for the method would be to detect enterotoxins in liquid whole eggs. Medina's semi-automated method will be able to detect several bacterial toxins in a single food sample.

In addition to detecting bacteria and their toxins, Medina and other chemists at the Wyndmoor center are using advanced technologies to develop methods to screen, detect and confirm multiple chemical residues—such as veterinary drugs and pesticides—in food products.

New General Practitioner Study Highlights the Burden of Acute Gastroenteritis to General Practice

A survey of General Practitioners' (GP) has revealed that acute infectious gastroenteritis (GE) is one of the



most common conditions seen by GPs on the island of Ireland. The new study facilitated by safefood, the Food Safety Promotion Board entitled 'Acute Gastroenteritis North and South' found that GE accounts for 4.5% of all consultations per day on the island of Ireland. This makes acute gastroenteritis one of the most common conditions seen in general practice.

This study follows on from the population survey published in 2003 which analyzed the incidence of GE from the patient's perspective. Both surveys were commissioned by safefood, the Food Safety Promotion Board in partnership with public health and academic bodies North and South.

This particular study designed to assess the impact of acute GE in General Practice and GPs' attitudes and practices with regard to the clinical management of their patients. The project also aimed to understand GPs' views on surveillance and notification of cases of GE as well as their interface with the public health system. The overall aim of these two studies is to develop better awareness and training among GPs in the area of food safety and infectious intestinal illnesses.

GPs were almost unanimous in their approach to treatment with

93% claiming that they would advise patients to take extra fluids along with continued feeding especially for children, elderly and vulnerable patients. There was no consensus on the use of anti-diarrheal agents with GPs in the North less likely to prescribe them, compared with colleagues in the South.

To aid the diagnosis of acute GE during consultation with their patients, GPs looked at issues such as the level of exposure to unsafe foods, recent foreign travel and contact with other ill persons – all factors in the spread of infectious disease. It was unlikely though that the GP would question if the patient was a foodhandler or healthcare worker.

A significant issue highlighted in the South of Ireland was the lack of a clinical specimen collection service as applies in the North. 40% of GPs in the South, particularly in rural areas, compared with 16.7% of GPs in the North regularly faced problems with collection services and GPs often personally deliver samples to the laboratory or rely on the postal service.

Commenting on the report, Dr. Margaret Fitzgerald, chairperson of the steering committee said, "Acute gastroenteritis is a common illness

in the community affecting over 8,000 patients every day North and South. Our study found that it is also a significant condition in General Practice with on average each GP seeing seven cases per week. The results will help to measure the true burden of the disease in primary care. Again the report highlighted where GPs could interact with their patients on prevention, hygiene, handwashing, exclusion from work and safe food preparation in the prevention of acute GE. Another area highlighted is the need to develop transport for clinical specimens including stools in the South.

The study highlighted the need for improved liaison between general practice and public health in the area of infectious diseases. "A number of factors in the GPs management of patients with acute GE, were not fully understood including, exposure history, stool checks, treatment and advice, health education, high risk groups, notification and reporting to public health," Dr. Fitzgerald continued.

Safefood is working in consultation with GPs in developing training material and guidelines in the management of foodborne infections.

Nominate a Colleague Today for the Association Fellows Award

The nominee must be a current International Association for Food Protection Member, and must have been a Member of the Association for 15 or more consecutive years.

The purpose of the Fellows Award is to honor and recognize Association Members who have contributed to the International Association for Food Protection and its Affiliates with distinction over an extended period of time.

Nomination deadline is March 14, 2005.

Nomination criteria available
at our Web site or call our office at 800.369.6337; 515.276.3344

www.foodprotection.org



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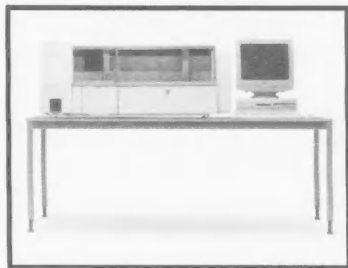
If you have any questions,
E-mail Julie Cattanach at
jcattanach@foodprotection.org

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E-mail: larson6@mchsi.com

INDUSTRY PRODUCTS



Qualicon

Data Merging Option and Updated Database Now Available for DuPont Qualicon RiboPrinter® System

The RiboPrinter® Data Merging Workstation is a new option available from DuPont Qualicon for advanced microbial tracking. Customers who use several RiboPrinter® systems in their labs can now combine records from each system into one integrated database for comprehensive comparison, grouping and identification of unknown bacteria. For regulated industries, a Data Merging/Validation package of ready-made protocols is also available.

Additionally, DuPont Qualicon has released an update to the RiboPrinter® system identification database, adding over 400 new RiboPrint™ patterns of critical interest to the pharmaceutical industry.

"We created the new options in direct response to customer requests for a fast and convenient way to share data. Each database expansion moves the RiboPrinter® closer to becoming

the easiest, most demanded identification system in the industry today," said Kevin Huttman, president of DuPont Qualicon.

The RiboPrinter® system uses powerful genetic information to provide an automated genetic snapshot, or RiboPrint™ pattern, of any bacterium in less than eight hours. With over 6,400 patterns in the identification database, electronic data security and characterization below the species level, the RiboPrinter® system surpasses US Food and Drug Association guidelines for preventing contamination and assuring consistency in aseptic processing.

In addition to the RiboPrinter® system, DuPont Qualicon markets the award-winning BAX® detection system, an innovative DNA-based technology for screening food and environmental samples for pathogens or other organisms. The BAX® detection system provides polymerase chain reaction (PCR) assays to screen food and other samples for *Salmonella*, *Listeria monocytogenes*, *Listeria* spp., *E. coli* O157:H7 and *Enterobacter sakazakii*.

DuPont Qualicon
Wilmington, DE
302.695.5300
www.qualicon.com

New Silliker and FARRP Video Supports Training to Control Food Allergens in Plants

"Controlling Food Allergens in the Plant," a new employee training program developed by Silliker,

Inc. and the Food Allergy Research and Resource Program (FARRP) at the University of Nebraska-Lincoln, delivers the most current industry knowledge to help companies enhance their in-plant allergen training sessions.

According to estimates, eleven million people in the US, both young and old, suffer from food allergies. Although they affect only a small portion of our population, the health implications can be serious. Allergic reactions lead to about 29,000 hospital visits and 150–200 estimated deaths each year, according to a *Journal of Allergy and Clinical Immunology* report.

An effective employee training program can help prevent these serious problems. The comprehensive Silliker-FARRP training program video visually communicates allergen-specific Good Manufacturing Practices, from checking raw material receipt to formulation to cleaning and sanitation practices. To facilitate discussions about plant-specific programs, the video is divided into sections and includes questions to help create a customized training session.

The video is accompanied by a CD, which contains the *Instructor Guide*, reproducible employee workbook, 15-question quiz and attendance sheet. By using the materials on the CD, managers can expand the program with plant-specific information and print quantities for each training session.

Ideal for new hires and experienced workers, "Controlling Food

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INDUSTRY PRODUCTS

Allergens in the Plant" will help companies achieve their allergen training goals. The \$225 training program is being introduced in English and Spanish. In addition, Silliker and FARRP have adapted the program to meet the needs of Australian and French companies (the French program is in French). To learn more about the training program, or to place an order, log onto www.silliker.com. For more information about FARRP, please log onto www.farrp.com.

Silliker, Inc.
Homewood, IL
708.957.7878
www.silliker.com

Sigma Introduces New Plasmid DNA Isolation Method

Sigma, a division of Sigma-Aldrich Corporation, has introduced a new plasmid DNA isolation method designed to help researchers achieve high-quality DNA for automated sequencing in less time.

The GenElute™ Five-Minute Plasmid Miniprep Kit procedure relies on two new technologies developed at Sigma. The first is a patent-pending, novel lysis chemistry that enables DNA purification directly from an overnight culture. The standard miniprep steps of pelleting cells and neutralizing and clearing the lysate have been eliminated. The second is a unique DNA binding column, specially designed to isolate plasmid DNA directly from bacterial growth media. The combination of these discoveries has resulted in an ultra-streamlined procedure that does not compromise DNA quality.

"The new GenElute Five-Minute Plasmid Miniprep Kit is a great example of the type of innovations that are possible with Sigma's silica-binding chemistry," said Keith Jolliff, Global marketing manager of Molecular Biology Products. "We focused on researchers conducting minipreps specifically for DNA sequencing and revised the prep time and yield accordingly. With the development of our novel lysis buffer coupled with an excellent silica-binding chemistry, we reduced prep time to around five minutes while still delivering enough DNA for around 15 sequencing reactions."

Sigma-Aldrich Corporation
St. Louis, MO
800.521.8956
www.sigma-sial.com

New Range of Specialized Filters for Process Sample Filtration from Parker Hannifin Corporation

Several new fast loop Balston® sample filters are now available from Parker Hannifin Corp. These new designs offer the benefit of real-time sampling with high efficiency filtration. The unique flow pattern continuously flushes the filter cartridge carrying the contaminates back out to the process stream, thus maximizing the filter cartridge life. Axial velocity flushes the bulk contaminants through the filter housing back to the process stream. The sample stream passes through the filter cartridge wall with low flow and radial velocity. The clean side of the sample filter system has very low volume which minimizes lag time. Filter cartridges are offered in a wide range

of efficiencies from 100 micron to 0.01 micron, several of which are cleanable and re-usable.

These new filters significantly reduce the maintenance requirements and costs of the entire sampling system by offering maximum protection to the analyzer and extending the life of the filter cartridge.

Parker Hannifin Corporation
Haverhill, MA
800.343.4048
www.parker.com

Warsaw Chemical's DDDS Disinfectant/Germicidal Detergent/Deodorant Adds New EPA Claims

DDDS, a concentrated one-step disinfectant, germicidal detergent and deodorant from Warsaw Chemical, offers a new list of updated EPA claims. DDDS is now effective against numerous bacteria (*Staphylococcus aureus*, *Pseudomonas aeruginosa*, *Salmonella choleraesuis*, *Chlamydia psittaci*, etc.), viruses (Hepatitis B and C, Herpes Types 1 and 2, HIV-1 (AIDS virus), Influenza A/Hong Kong, etc.), animal viruses (Canine distemper, feline leukemia, etc.) and fungi (*Aspergillus niger*, *Candida albicans*, *Trichophyton mentagrophytes*). DDDS also offers Mildew-static, which helps to control the growth and odor of mold and mildew.

It can be used on surfaces such as floors, walls (non-medical), metal surfaces (non-medical), stainless steel surfaces, glazed porcelain and plastic surfaces. DDDS is recommended for use in areas such as hospitals, nursing homes, schools, commercial and industrial institutions, office buildings, vet-

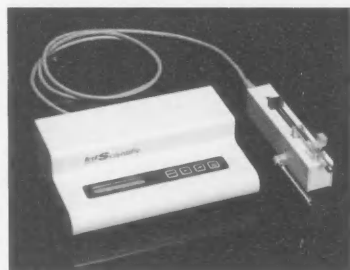
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erinary clinics, animal life science laboratories, zoos, federally inspected meat and poultry establishments, pet shops, airports, kennels, hotels, breeding establishments, grooming establishments, tanning salons and households.

Warsaw Chemical Co., Inc.

Warsaw, IN
800.548.3396
www.warsaw-chem.com



KD Scientific Inc.

New Compact Nanoliter Syringe Pump from KD Scientific

KD Scientific has released the Model KDS 310 Plus, a Nanoliter Syringe Pump augmenting their broad line. This new Nanoliter Pump works with syringes from 0.5 μ l up to 250 μ l with accurate "pulseless" flow delivery from 1nl/min to 363.7 μ l/hr.

The KDS 310 features a unique remote injector which allows the user to deliver small volumes without wasting precious fluids in excessively long tubing. The compact remote injector has dimensions of 7 x 1.7 x 2 in (17.8 x 4.4 x 5.1 cm) and can be placed up to 6 ft from the controller.

Syringes fit snugly in a new mounting bracket design so the fluid is delivered precisely without movement of the syringe. The assembly will

mount on a clamp for positioning on a frame.

The controller is set up in 3 easy steps. The user can set the flow rate, dispense volume and syringe diameter. The syringe table is preprogrammed with most popular syringes.

The KDS 310 is actually 2 pumps in one featuring a dispense/infuse mode and a withdraw mode. Loading the syringes with the fluid is easy using a fast forward or reverse mode.

Optionally, the KDS 310 can be triggered remotely by a foot pedal or remote switch. This will offer the user true versatility in using the unit in a "hands-free" mode.

Applications for the KDS 310 include pharmaceutical, chemical, petrochemical, biotechnology, semiconductor, plastics, industrial, government, scientific research and development markets.

KD Scientific Inc.
Holliston, MA
508.429.6809
www.kdscientific.com

Spiroflow Systems Introduces Height Restricted Bulk Bag Discharger

Spiroflow Systems has introduced a new Bulk Bag Discharger with the ability to discharge powder material in problematic height-restricted areas where the raised forklift frame is higher than actual heights.

The Spiroflow Type 5 Bulk Bag Discharger utilizes a special removable frame design that reduces the necessary height for forklift tines. Where normal dischargers often require the forklift tines to use the bag loop frame

and position the frame over the tensioning bars at the top of the discharger, Spiroflow's Type 5 Low Loading Discharger offers the comfort and convenience of allowing the operator to load the bag and frame at the lower half of the discharger. This is advantageous in that the forklift tines do not rise above the frame and thus can be used anywhere the discharger can fit without having several feet of overhead clearance.

The upper frame uses a unique sealing mechanism that ensures no product loss during discharge. The patented locking system allows easy access to the bag spout through a large viewing porthole.

The versatility of the discharger means that multiple bag frames can be purchased for batching different materials. Multiple options are available including loss-in-weight load cells and pneumatic bottom massage arms. The discharger is available in carbon steel, stainless steel, and a USDA/3A Dairy model.

Spiroflow Systems, Inc.
Charlotte, NC
704.291.9595
www.spiroflowsystems.com

New Sensaphone Farm-Sitter® Remote Monitoring System Protects Agribusinesses against Costly Disasters

Sensaphone, a pioneer in the design and development of remote monitoring systems for business and industry, announces the availability of the new Sensaphone FarmSitter®, a remote monitoring system designed exclusively to protect farm premises,

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INDUSTRY PRODUCTS

poultry and turkey farms, breeders, laying operations, hatcheries, swine and hog growers, and farrowing operations from dramatic and potentially dangerous changes in environmental conditions.

The FarmSitter remotely monitors poultry and layer houses, dairy buildings, greenhouses, hog and swine buildings and other facilities 24 hours a day, alerting managers when environmental conditions fluctuate, threatening livestock, personnel, and actual facility locations and equipment. The Sensaphone FarmSitter tracks such conditions as temperature changes, power failures, timers, alarms, excess humidity, water seepage, floods, and intrusion, or any other condition.

"For years, growers have relied on Sensaphone products to protect their livelihoods. With improved technology and our industry experience,

we are able to deliver the more advanced FarmSitter, which is designed specifically for the often harsh agribusiness environment," said James Fairburn, director of sales and marketing at Sensaphone.

The Sensaphone FarmSitter technology includes the latest in remote alarm notification, flexible programming capabilities, and voice alarms. In the event of an alarm, the FarmSitter instantly sends a message to the pre-programmed location via a telephone call or pager. Call escalation ensures that all necessary personnel are notified of the threatening event so that appropriate actions can be taken.

Growers and integrators can program the FarmSitter according to their specific needs. For example, the system, which comes with a 12-hour battery backup, can be programmed to issue an alert several hours after a

power failure, providing an opportunity for the power to return without having to issue an alarm.

Sensaphone FarmSitter features include:

- Eight universal inputs
- Dial-out capabilities to eight telephone numbers
- High sound-level monitor
- Microphone for on-site listen-in
- User-recordable voice messages
- Time-stamped alarm history
- Improved protection on all inputs, telephones, and power supply for power surges
- Durable, weather-tight enclosure suitable for inside or outside installations.

Sensaphone

Aston, PA

610.558.2700

www.sensaphone.com

Be sure to mention, "I read about it in *Food Protection Trends*!"

Announcing . . .

The IAFP Food Safety Innovation Award

Proudly sponsored by 3M Microbiology

This new award will be presented to an IAFP Member or organization for creating a new idea, practice, or product that has had a positive impact on food safety, thus, improving public health and the quality of life. The award's purpose is to recognize individuals or teams that have made an innovative contribution to food safety and to encourage other professionals to search for creative solutions to their problems.

Visit the IAFP Web site at
www.foodprotection.org
for award criteria

Nomination Deadline March 14, 2005



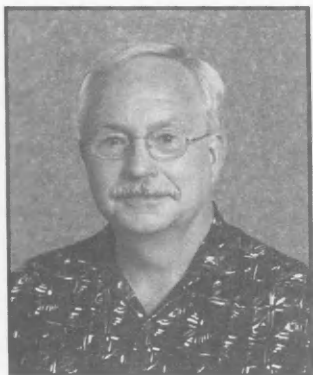
Juan Parkin Lecture

Sunday, August 14
7:00 p.m. – 8:00 p.m.

Presented by

Douglas L. Archer, Ph.D.

Professor and Past Chair
Food Science and Human Nutrition Department
University of Florida
Gainesville, Florida, USA



Dr. Douglas L. Archer is a professor and Past Chair of the Food Science and Human Nutrition Department, Institute of Food and Agricultural Sciences at the University of Florida, Gainesville. He received a B.A. degree in Zoology in 1968, a M.S. degree in Bacteriology in 1970 from the University of Maine and a Ph.D. degree in Microbiology in 1973 from the University of Maryland.

Dr. Archer served as Deputy Director, Center for Food Safety and Applied Nutrition, US Food and Drug Administration (FDA) in charge of research, regulatory and policy activities of programs including foods, food additives and food labeling; dietary supplements; seafood, cosmetics and colors. He was a Commissioned Officer in the United States Public

Health Service (USPHS) and was appointed Assistant Surgeon General in July 1990. He received numerous awards including five citations for excellence, three Meritorious Service Medals and the Distinguished Service Medal. Other awards included the 1988 Tanner Memorial Award from the Institute of Food Technologists and the J. C. Frazier Memorial Award from the University of Wisconsin in 1992. Dr. Archer retired from the USPHS on January 1, 1994.

Dr. Archer also served as Chairman of the FAO/WHO Codex Alimentarius Committee on Food Hygiene from 1984 to 1994. He is the past US Associate Editor for Food Control where he now serves on the Editorial Board, and since 1990 has been a member of the WHO Expert Advisory Panel on Food Safety.

Dr. Archer is a member of the International Association for Food Protection and the Institute of Food Technologists and also serves as an advisor to the FDA and the WHO. Dr. Archer has authored or co-authored more than 80 scientific publications and given hundreds of presentations to scientific organizations, trade organizations and consumer groups.



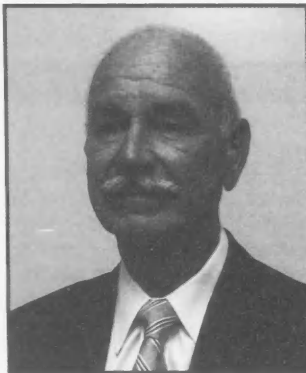
John H. Silliker Lecture

Wednesday, August 17
3:45 p.m. – 4:30 p.m.

Presented by

Michiel van Schothorst, Ph.D.

Retired Vice President, Food Safety Affairs
Nestlé
Vevey, Switzerland



Dr. Michiel van Schothorst studied Veterinary Medicine and obtained his Ph.D. at the University of Utrecht (NL). He began his career as a food microbiologist at the National Institute of Public Health in The Netherlands

where he became Head of the Laboratory for Zoonosis in 1975. From 1965 to 1980 Dr. Schothorst was Secretary-Treasurer of the World Association of Veterinary Food Hygienists (WAVFH).

In 1980, Dr. Schothorst continued his career at the Nestlé Head Office in Vevey, Switzerland where he was appointed Head of Quality Assurance in 1985. In 1992 he was nominated Vice President of Food Safety Affairs until he retired in 2002.

Dr. Schothorst was elected to become the first professor and European Chair in Food Safety Microbiology at the University of Wageningen (NL) in 1997. In addition he has been active in developing Quality Assurance and Food Safety programs and promoting the HACCP concept through textbooks, publications, lecturing and training.

Dr. Schothorst was a member of the Permanent Food Safety Advisory Panel of the World Health Organization from 1986-2002, participating in the Codex Food Hygiene Committee from 1968-2002. He was also a member of the International Commission on Microbiological Specifications for Foods (ICMSF) from 1973-2003 and Secretary from 1992-2003.

Dr. Schothorst participated in many FAO/WHO expert meetings on Food Safety and Public Health, and plays an active role in the WHO/ICD Food Safety training programs such as "Food Safety for Nutritionists and other Health Workers," "HACCP" and "Microbiological Risk Assessment". He is author or co-author of more than 140 scientific publications or chapters in scientific books.



IAFP 2005 Preliminary Program

SUNDAY, AUGUST 14

Opening Session – 7:00 p.m.

- Ivan Parkin Lecture – Douglas L. Archer, Ph.D.

MONDAY, AUGUST 15

Morning – 8:30 a.m. – 12:00 p.m.

Symposium Topics

- Laboratory Response to Food Bioterrorism: How Prepared are We?
- Microbiological Predictive Models: Development, Use and Misuse
- Food Allergens: Concerns for the Packaged Food and Food Service Industries
- Global Water Quality Concerns
- Recent Regulatory Changes and Issues Affecting Your Dairy Operation

Technical Session

- Produce

Poster Session

- Pathogens

Afternoon – 1:30 p.m. – 5:00 p.m.

Symposium Topics

- Update on Foodborne Disease Outbreaks
- Safety Concerns of Food Chemical Contaminants
- Data for Decision Making
- Materials for Multi-Use Food Contact Surfaces: Characteristics, Fabrication, and Evaluation

Technical Session

- Foods of Animal Origin

Poster Session

- Risk Assessment and Antimicrobials

TUESDAY, AUGUST 16

Morning – 8:30 a.m. – 12:00 p.m.

Symposium Topics

- Foodborne Diseases: Discovery of Causes and Reduction Strategies
- Safety of Raw Milk Cheeses – A Global Perspective
- Yeast and Molds: When Fungi Go Bad, Who Do You Call?
- They Said What? – The Risky World of Risk Communication
- Pre-Harvest Issues Associated with the Transmission of Viruses and Parasitic Protozoa – The Problems and the Solutions

Technical Session

- Pathogens

Poster Session

- Produce and General Microbiology

Afternoon – 12:15 p.m. – 1:00 p.m.

- IAFP Business Meeting

Afternoon – 1:30 p.m. – 5:00 p.m.

Symposium Topics

- Managing the Risk of *Listeria monocytogenes* at Retail and Restaurants
- Risk and Control of *Salmonella* in Raw Nuts
- Oceans and Human Health: Trends and Practical Tools for Seafood Safety
- Risk Ranking for Foodborne Pathogens
- Enrichment Media and Sample Preparation: What's New?

Technical Session

- Antimicrobials

Poster Session

- Miscellaneous Food Commodities

WEDNESDAY, AUGUST 17

Morning – 8:30 a.m. – 12:00 p.m.

Symposium Topics

- A Behavioral Approach to Performance-based Food Safety Management – Theory, Practice and Outcome for Successful Retail Food Safety Programs
- Produce Packinghouse Sanitation: Designing and Implementing Effective Food Safety Programs
- International Food Safety Opportunities and Challenges in the Developing World
- Recent Advances in Intervention Strategies for Pathogen Control

Technical Session

- Risk Assessment
- Education

Poster Session

- Method Development for Pathogen Testing

Afternoon – 1:30 p.m. – 3:30 p.m.

Symposium Topics

- Microarray Technology: An Emerging Tool in the Food Microbiologists' Toolbox
- Pathogen Survival in Dried Fermented Meat and Partially Cooked Products
- Food Safety Objectives – Now We Have Decided to Have Them, How Do We Think They Will be Used in Food Safety Management?
- Current Practices and Innovations in Cold Chain Management for Food Products

Technical Session

- General Microbiology

Afternoon – 3:45 p.m. – 4:30 p.m.

- John H. Silliker Lecture – Michiel van Schothorst, Ph.D.

Subject to change



IAFP 2005

Networking Opportunities

IAFP FUNCTIONS

NEW MEMBER RECEPTION

Saturday, August 13, 2005 • 4:30 p.m. - 5:30 p.m.

If you recently joined the Association or if this is your first time attending an IAFP Annual Meeting, welcome! Attend this informal reception to learn how to get the most out of attending the Meeting and meet some of today's leaders.

AFFILIATE RECEPTION

Saturday, August 13, 2005 • 5:30 p.m. - 7:00 p.m.

Affiliate Officers and Delegates plan to arrive in time to participate in this educational reception. Watch your mail for additional details.

COMMITTEE MEETINGS

Sunday, August 14, 2005 • 7:00 a.m. - 5:00 p.m.

Committees and Professional Development Groups (PDGs) plan, develop and institute many of the Association's projects, including workshops, publications, and educational sessions. Share your expertise by volunteering to serve on any number of committees or PDGs. Everyone is invited to attend.

STUDENT LUNCHEON

Sunday, August 14, 2005 • 12:00 p.m. - 1:30 p.m.

The mission of the Student PDG is to provide students of food safety with a platform to enrich their experience as Members of IAFP. Sign up for the luncheon to help start building your professional network.

OPENING SESSION AND IVAN PARKIN LECTURE

Sunday, August 14, 2005 • 7:00 p.m. - 8:00 p.m.

Join us to kick off IAFP 2005 at the Opening Session. Listen to the prestigious Ivan Parkin Lecture delivered by Douglas L. Archer, Ph.D., Professor and Past Chair, Food Science and Human Nutrition Department, University of Florida, Gainesville, Florida.

CHEESE AND WINE RECEPTION

Sunday, August 14, 2005 • 8:00 p.m. - 10:00 p.m.

Sponsored by Kraft Foods, Inc.

An IAFP tradition for attendees and guests. The reception begins in the Exhibit Hall immediately following the Ivan Parkin Lecture on Sunday evening.

IAFP JOB FAIR

Sunday, August 14 through Wednesday, August 17, 2005

Employers, take advantage of recruiting the top food scientists in the world! Post your job announcements and interview candidates.

COMMITTEE AND PDG CHAIRPERSON BREAKFAST

(By invitation)

Monday, August 15, 2005 • 7:00 a.m. - 9:00 a.m.

Chairpersons and Vice Chairpersons are invited to attend this breakfast to report on the activities of your committees.

EXHIBIT HALL RECEPTION

Monday, August 15, 2005 • 5:00 p.m. - 6:15 p.m.

Sponsored in part by DuPont Qualicon and REMEL, Inc.

Join your colleagues in the Exhibit Hall to see the most up-to-date trends in food safety techniques and equipment. Discuss with exhibitors their latest products or use this time to view the poster presentations. Take advantage of this great networking reception.

BUSINESS MEETING

Tuesday, August 16, 2005 • 12:15 p.m. - 1:00 p.m.

You are encouraged to attend the Business Meeting to keep informed of the actions of YOUR Association.

PRESIDENT'S RECEPTION (By invitation)

Tuesday, August 16, 2005 • 5:30 p.m. - 6:30 p.m.

This by invitation event is held each year to honor those who have contributed to the Association during the year.

PAST PRESIDENTS' DINNER (By invitation)

Tuesday, August 16, 2005 • 6:30 p.m. - 9:00 p.m.

Past Presidents and their guests are invited to this dinner to socialize and reminisce.

JOHN H. SILLIKER LECTURE

Wednesday, August 17, 2005 • 3:45 p.m. - 4:30 p.m.

Presented by Michiel van Schothorst, Ph.D., Retired Vice President, Food Safety Affairs, Nestlé, Vevey, Switzerland.

AWARDS BANQUET

Wednesday, August 17, 2005 • 7:00 p.m. - 9:30 p.m.

Bring IAFP 2005 to a close at the Awards Banquet. Award recipients will be recognized for their outstanding achievements and the gavel will be passed from Dr. Kathleen Glass to Incoming President Dr. Jeffrey Farber.



IAFP 2005 Event Information

EVENING EVENTS



Orioles Baseball Game

Saturday, August 13, 2005 • 3:30 p.m. - 7:30 p.m.

Play Ball! Join the fun as the Orioles take on the Toronto Blue Jays. Oriole Park at Camden Yards became the official home of the Orioles on April 6, 1992. The one-time railroad center is only 2 blocks from the birthplace of baseball's most legendary hero, George Herman "Babe" Ruth. Ruth's father operated Ruth's Cafe on the ground floor of the family residence, now center field at Oriole Park.

Oriole Park is state-of-the-art yet unique, traditional and intimate in design. It blends with the urban context of downtown Baltimore while taking its image from baseball parks built in the early 20th century. Ticket price includes admission to the game and transportation between the Baltimore Marriott Waterfront Hotel and Camden Yards.

Monday Night Social - Harbor Cruise

Monday, August 15, 2005 • 6:30 p.m. - 10:00 p.m.



Let the good times float on a Harbor Cruise. After a short walk from the Baltimore Marriott Waterfront to the Pier, the Bay Lady will be waiting for you to come on board and enjoy the evening. The Bay Lady will take you across the harbor and along the Patapsco River, with the city skyline in view. Enjoy a fabulous spread of food within the enclosed air-conditioned deck or go up to the top deck for a refreshing breeze and the most gorgeous panoramic view of Baltimore's Historic Harbor. Get your ticket today to reserve your spot aboard the Bay Lady! Everyone is welcome.

Let the good times float on a Harbor Cruise. After a short walk from the Baltimore Marriott Waterfront to the Pier, the Bay Lady will be waiting for you to come on board and enjoy the evening.

Little Italy Walking Tour and Dinner

Tuesday, August 16, 2005 • 6:30 p.m. - 10:30 p.m.



Take a guided walking tour through Little Italy, founded in 1849 and located in the heart of the downtown renaissance in Baltimore. Nestled between the Inner

Harbor and Historic Fells Point, the area boasts more than 20 of Maryland's best Italian restaurants and trattorias. It's so hard to pick just one of the fabulous restaurants - so tonight you'll try three! Appetizer, entrée and dessert are served in charming trattorias for which this neighborhood is known regionally. Limited tickets available.

GOLF TOURNAMENT

Golf Tournament

Saturday, August 13, 2005 • 8:45 a.m. - 4:00 p.m.



Begin IAFP 2005 with a relaxing round of golf with your friends. This year's tournament will be held at Waverly Woods Golf Club, which was recognized as the "2002 Maryland Course of the Year" for its unique design and playability. The appeal of this new but mature and lush course is its wide-landing areas for tee shots while much of the challenge comes from the small, undulating greens. Course designer Arthur Hills was selected by *Golf Digest* magazine as one of their "Top Five Favorite Present-Day Architects." Everyone is welcome to play in this fun best-ball tournament. Registration fee includes green fees, cart, range balls, transportation to and from the course, a box lunch and prizes!

DAYTIME TOURS

Welcome to Washington

Saturday, August 13, 2005 • 9:00 a.m. - 5:00 p.m.



Welcome to America's most unique city! One of the few capitals founded as a show-place and a seat of government, Washington is really several cities in one and you will get a chance to experience something of each.

This all-encompassing tour of Washington is designed to introduce you to the most magnificent monuments, memorials and architectural structures of the city. You will ride by the White House, Washington Monument, Capitol Building, Supreme Court, Library of Congress, Smithsonian Complex, as well as many other Washington attractions. You will stop at the Lincoln Memorial, World War II Monument, Vietnam Veterans Memorial, Korean War Veterans Memorial, and the Jefferson Memorial.

While visiting these sites, you will hear the story of Washington's unique city plan devised by the gifted architect, Pierre L'Enfant. L'Enfant was the master architect who envisioned placing broad avenues, dramatic vistas and plentiful parkland in what was then a swamp.

Lunch will be at Washington, D.C.'s historic Union Station, a Beaux Arts national landmark. After lunch, guests may enjoy over 100 stores in which to browse and window shop.

Baltimore City Tour by Land and by Sea

Sunday, August 14, 2005 • 10:00 a.m. - 2:00 p.m.



Guests will take a guided tour through the historic Mt. Vernon, Federal Hill and Fells Point neighborhoods. Once arriving in Fells Point, the original harbor of Baltimore, a costumed Living-History Narrator brings to life

Baltimore's colorful history with stories about real people. Lunch in an authentic Fells Point pub is also included.

Then sail aboard a blue and white Water Taxi out to the place where Francis Scott Key wrote our nation's anthem. From the water, you'll see where British ships fired on Fort McHenry in 1814.

From the fastest sailing vessels in the history of the Navy to the arrest of Southern sympathizers in City Hall at the beginning of the "War between the States", to the oldest continually working waterfront in the country, you'll take home a new opinion of Baltimore as a stalwart city of national importance.

Annapolis Past and Present

Monday, August 15, 2005 • 9:00 a.m. - 2:00 p.m.

The brick streets, the charming church, state circles around which colonial era homes and inns are built, and the history that breathes from every antique house all contribute to a fascinating day's adventure in Maryland's Capital, Annapolis.

You'll begin with a walking tour of the historic center of Annapolis. Led by costumed guides you will hear fascinating stories.



The State House, the oldest continually operating in the US, is another highlight of your visit. It is where George Washington resigned as Commander-in-Chief of the Continental Armies.

There's much more to this quaint seaport town, and as you continue your exploration, you'll walk through the US Naval Academy, with its stately brick campus, and passing Bancroft Hall Dormitory, where thousands of midshipmen are fed in a matter

of minutes; the famous Tecumseh statue, which serves as an Academy mascot; and stopping at the Chapel and at the dolphin-supported grave of Naval hero John Paul Jones.

Lunch will be served at the historic Maryland Inn. The Maryland Inn has a rich history - dating back to our country's revolutionary era.

PLEASE NOTE: Photo Identification is required for admittance to the US Naval Academy.

A Taste of Baltimore from the Inside

Tuesday, August 16, 2005 • 10:30 a.m. - 3:30 p.m.



Take a guided tour through the new world headquarters of Phillips Foods in Baltimore, where millions of crab cakes and seafood products are prepared for distribution across the country. Known for award-winning Mary-

land style crab cakes and simple dedication to quality, Phillips has served millions of seafood lovers from around the world.

Guests will see how Phillips produces more than 150 crab cakes per minute - 80,000 crab cakes a day - 20 million crab cakes per year! Then, get a true taste for blue crab with a Maryland crab cake sandwich.

Next, it's on to Clipper City Brewing Company. Clipper City is Baltimore's largest brewing facility producing hand-crafted draught and bottled beers. Enjoy complimentary samples after the tour featuring Baltimore's "best locally brewed beer."

Chesapeake Bay Cooking Class

Wednesday, August 17, 2005 • 10:00 a.m. - 1:00 p.m.



Executive Chef Jerry Pellegrino is fascinated by food and wine, and the way they work in harmony on the palate. His understanding of the two goes all the way to the molecular level, drawing on his advanced education in molecular biology. His cuisine is simple and surprising, pairing unexpected ingredients together

to work with wines from the US.

Participate and observe as the Chef prepares regional specialties step-by-step. You will dine on the chef's creations and learn about what makes a wine complement or clash with cuisine.

Each course will be served with Maryland wines - Cheers!



IMPORTANT! Please read this information before completing your registration form.

MEETING INFORMATION

Register to attend the world's leading food safety conference.

Full Registration includes:

- Technical Sessions
- Symposia
- Poster Presentations
- Ivan Parkin Lecture
- John H. Silliker Lecture
- Awards Banquet
- Exhibit Hall Admittance
- Cheese and Wine Reception
- Exhibit Hall Reception
- Program and Abstract Book

4 EASY WAYS TO REGISTER

Complete the Attendee Registration Form and submit it to the International Association for Food Protection by:



Online: www.foodprotection.org



Fax: 515.276.8655



Mail: 6200 Aurora Avenue, Suite 200W
Des Moines, IA 50322-2864, USA



Phone: 800.369.6337; 515.276.3344

The early registration deadline is July 13, 2005. After this date, late registration fees are in effect.

REFUND/CANCELLATION POLICY

Registration fees, less a \$50 administration fee and any applicable bank charges, will be refunded for written cancellations received by July 29, 2005. No refunds will be made after July 29, 2005; however, the registration may be transferred to a colleague with written notification. Refunds will be processed after August 22, 2005. Event and tour tickets purchased are nonrefundable.

STUDENT FUNDRAISER

Help support the students with their annual fund raiser. See page 218 to order T-shirts or polo shirts.



EXHIBIT HOURS

Sunday, August 14, 2005	8:00 p.m. - 10:00 p.m.
Monday, August 15, 2005	8:00 a.m. - 11:00 a.m. 1:00 p.m. - 6:15 p.m.
Tuesday, August 16, 2005	8:00 a.m. - 2:00 p.m.

DAYTIME TOURS - Lunch included

Saturday, August 13, 2005	9:00 a.m. - 5:00 p.m.
Welcome to Washington	
Sunday, August 14, 2005	10:00 a.m. - 2:00 p.m.
Baltimore City Tour by Land and by Sea	
Monday, August 15, 2005	9:00 a.m. - 2:00 p.m.
Annapolis Past and Present	
Tuesday, August 16, 2005	10:00 a.m. - 3:30 p.m.
A Taste of Baltimore from the Inside	
Wednesday, August 17, 2005	10:00 a.m. - 1:00 p.m.
Chesapeake Bay Cooking Class	

EVENING EVENTS

Saturday, August 13, 2005	
Orioles Baseball Game	3:30 p.m. - 7:30 p.m.
Sunday, August 14, 2005	
Opening Session	7:00 p.m. - 8:00 p.m.
Cheese and Wine Reception	8:00 p.m. - 10:00 p.m.
<i>Sponsored by Kraft Foods North America</i>	
Monday, August 15, 2005	
Exhibit Hall Reception	5:00 p.m. - 6:30 p.m.
<i>Sponsored in part by DuPont Qualicon and REMEL, Inc.</i>	
Monday Night Social - Harbor Cruise	6:30 p.m. - 10:00 p.m.
Tuesday, August 16, 2005	
Little Italy Walking Tour and Dinner	6:30 p.m. - 10:30 p.m.
Wednesday, August 17, 2005	
Awards Banquet Reception	6:00 p.m. - 7:00 p.m.
Awards Banquet	7:00 p.m. - 9:30 p.m.

GOLF TOURNAMENT

Saturday, August 13, 2005	
Golf Tournament at Waverly Woods Golf Club	8:45 a.m. - 4:00 p.m.

HOTEL INFORMATION

For reservations, contact the hotel directly and identify yourself as an IAFP 2005 attendee to receive a special rate of \$149 per night, single/double or make your reservations online. This special rate is available only until July 13, 2005 or until sold out.

Baltimore Marriott Waterfront Hotel
700 Aliceanna St.

Baltimore, Maryland 21202

Phone: 800.228.9290 • 410.385.3000 • Fax: 410.895.1910

Web site: www.stayatmarriott.com/IAFP2005

(Group Code iaifa)

TRAVEL DISCOUNTS

Visit our Web site at www.foodprotection.org for air travel, Amtrak and rental car information.



Attendee Registration Form

Member Number: _____

First name (as it will appear on your badge) _____ Last name _____

Employer _____ Title _____

Mailing Address (Please specify: Home Work) _____

City _____ State/Province _____ Country _____ Postal/Zip Code _____

Telephone _____ Fax _____ E-mail _____

Regarding the ADA, please attach a brief description of special requirements you may have.

Member since: _____

IAFP occasionally provides Attendees' addresses (excluding phone and E-mail) to vendors and exhibitors supplying products and services for the food safety industry. If you prefer NOT to be included in these lists, please check the box.

PAYMENT MUST BE RECEIVED BY JULY 13, 2005 TO AVOID LATE REGISTRATION FEES

REGISTRATION FEES:

Registration _____
 Association Student Member _____
 Retired Association Member _____
 One Day Registration* Mon. Tues. Wed. _____
 Spouse/Companion* (Name): _____
 Children 15 & Over* (Names): _____
 Children 14 & Under* (Names): _____
 *Awards Banquet not included

MEMBERS	NONMEMBERS	TOTAL
\$ 385 (\$ 435 late)	\$ 583 (\$633 late)	_____
\$ 78 (\$ 88 late)	Not Available	_____
\$ 78 (\$ 88 late)	Not Available	_____
\$ 210 (\$235 late)	\$ 320 (\$345 late)	_____
\$ 55 (\$ 55 late)	\$ 55 (\$ 55 late)	_____
\$ 25 (\$ 25 late)	\$ 25 (\$ 25 late)	_____
FREE	FREE	_____

EVENING EVENTS:

Golf Tournament (Saturday, 8/13) _____
 Baseball Game (Saturday, 8/13 - 3:30 p.m.-7:30 p.m.) _____
 Student Luncheon (Sunday, 8/14) _____
 Monday Night Social - Harbor Cruise (Monday, 8/15)
 Children 14 and under _____
 Tuesday Evening - Little Italy Walking Tour and Dinner (Tuesday, 8/16) _____
 Additional Awards Banquet Ticket (Wednesday, 8/17) _____

# OF TICKETS	TOTAL
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____
_____	_____

DAYTIME TOURS: (Lunch included in daytime tours)

Welcome to Washington (Saturday, 8/13) _____
 Baltimore City Tour by Land and by Sea (Sunday, 8/14) _____
 Annapolis Past and Present (Monday, 8/15) _____
 A Taste of Baltimore from the Inside (Tuesday, 8/16) _____
 Chesapeake Bay Cooking Class (Wednesday, 8/17) _____

# OF TICKETS	TOTAL
_____	_____
_____	_____
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_____	_____
_____	_____
_____	_____

PAYMENT OPTIONS:



Check Enclosed

Credit Card # _____

Name on Card _____

Signature _____

Check box if you are a technical, poster, or symposium speaker.

TOTAL AMOUNT ENCLOSED \$ _____
US FUNDS on US BANK

Expiration Date _____

JOIN TODAY AND SAVE!!!
(Attach a completed Membership application)



International Association for
Food Protection

6200 Aurora Avenue, Suite 200W
Des Moines, IA 50322-2864, USA
Phone: 800.369.6337 • 515.276.3344
Fax: 515.276.8655
E-mail: info@foodprotection.org
Web site: www.foodprotection.org

EXHIBITORS DO NOT USE THIS FORM

STUDENT FUNDRAISER!



Purchase an IAFP 2005 long-sleeve T-shirt or Polo Shirt from the Student PDG to help raise money in support of our Students. Pre-ordered T-shirts are \$18.00 and Polo shirts are \$25.00. Shirts will be available for pick-up from the SPDG booth throughout IAFP 2005. All order forms are due by July 13th. If you have any questions, contact Renee Raiden at rraiden@vt.edu.

IAFP SPDG Shirt Order Form

If you choose to pay by credit card, make sure you include the amount to be charged. If you are paying by check make checks payable to IAFP and enclose the check with your order form. Please mail order forms for receipt by July 13, 2005 for pre-orders.

Please return order form to the following address: Renee Raiden, Virginia Tech, 22 Food Science Bldg., Blacksburg, VA 24061-0418; Fax: 540.231.9293.

Name _____ Title _____

Mailing Address _____

City _____ State/Province _____ Country _____ Postal/Zip Code _____

Telephone _____ Fax _____ E-mail _____

Quantity _____ **T-shirts** S M L XL \$18.00
(long-sleeve)

Polo Shirts S M L XL \$25.00

METHOD OF PAYMENT:   

(Payable to IAFP)

TOTAL AMOUNT ENCLOSED \$ _____
US FUNDS on US BANK

Check or Money Order Enclosed

Credit Card # _____

Name on Card _____

Signature _____

Expiration Date _____

Contribute to the Eighth Annual Foundation Fund Silent Auction Today!



The Foundation of the International Association for Food Protection will hold its Annual Silent Auction during IAFP 2005, the Association's 92nd Annual Meeting in Baltimore, Maryland, August 14-17, 2005. The Foundation Fund supports:

- Ivan Parkin Lecture
- Travel support for exceptional speakers at the Annual Meeting
- Audiovisual Library
- Developing Scientist Competition
- Shipment of volumes of surplus *JFP* and *FPT* journals to developing countries through FAO in Rome

Support the Foundation by donating an item today. A sample of items donated last year included:

- Bausch & Lomb Student Microscope
- Georgia Gift Basket
- Brazil Cook's Tour
- International Food Safety Icons CD
- Country Cured Ham
- New York State Pure Maple Syrup
- Cultured Pearl Necklace
- Premium Export Brandy
- The Food Safety Professional Guide Set
- Wine

Complete the form and send it in today.



Description of Auction Items _____
Estimated Value _____
Name of Donor _____
Company (if relevant) _____
Mailing Address _____
(Please specify: Home Work)
City _____ State or Province _____
Postal Code/Zip + 4 _____ Country _____
Telephone # _____ Fax # _____
E-mail _____

Return to:

Donna Gronstal
International Association for Food Protection
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International Association for
Food Protection®

Student Travel Scholarship

The International Association for Food Protection and the IAFP Foundation Fund are proud to announce the establishment of a Student Travel Scholarship program.

The scholarships will provide travel funds to enable the selected students to travel to IAFP 2005 in Baltimore, Maryland, USA.

For 2005, two scholarships will be awarded. As the IAFP Foundation Fund grows, additional scholarships will be added to this program.

Full details of the scholarship program are available on the IAFP Web site at

www.foodprotection.org

Application deadline is March 14, 2005.



Come Early for these Special Events!

Golf Tournament

Waverly Woods Golf Club
Saturday, August 13, 2005
8:45 a.m. - 4:00 p.m.

Orioles Baseball Game

Saturday, August 13, 2005
3:30 p.m. - 7:30 p.m.

Welcome to Washington

Saturday, August 13, 2005
9:00 a.m. - 5:00 p.m.

Visit the Web site at www.foodprotection.org to sign up.

COMING EVENTS

APRIL

- **5-7, Principles of Food Microbiology**, Atlanta, GA. For more information, call 708.957.8449 or go to www.silliker.com.
- **6-8, Missouri Milk, Food and Environmental Health Association Educational Conference**, Ramada Inn, Columbia, MO. For more information, contact Marsha Perkins at 573.874.7346; E-mail: mlp@gocolumbiamo.com.
- **11-12, Advanced HACCP**, Atlanta, GA. For more information, contact Jennifer Epstein at 202.637.4818; E-mail: JEpstein@nfpa-food.org.
- **11-12, Basic HACCP**, Atlanta, GA. For more information, contact Jennifer Epstein at 202.637.4818; E-mail: JEpstein@nfpa-food.org.
- **11-14, Marine and Freshwater Toxins Analysis: 1st Joint Symposium and AOAC Task Force Meeting**, Baiona, Spain. For more information, contact James Hungerford at 425.483.4894 or go to www.aoac.org/marine_toxins/task_force.htm.
- **11-15, HACCP Institute**, Atlanta, GA. For more information, contact Jennifer Epstein at 202.637.4818; E-mail: JEpstein@nfpa-food.org.
- **13, HACCP: A Management Summary**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, call Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.
- **13, Metropolitan Association for Food Protection Spring Meeting**, Cook College Student Center, Rutgers University, New Brunswick, NJ. For more information, contact Carol Schwar at 908.689.6693; E-mail: cschwar@entermail.net.
- **14, Microbiology V: Listeria Control**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, contact Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.
- **14-15, FSIS Verification**, Atlanta, GA. For more information, contact Jennifer Epstein at 202.637.4818; E-mail: JEpstein@nfpa-food.org.
- **14-15, Principles of HACCP Training**, Los Angeles, CA. For more information, contact Jeanette Hugé at 800.477.0778 ext. 113 or go to www.asifood.com.
- **14-16, International Fresh-Cut Expo**, Phoenix, AZ. For more information, call 703.299.6282; or go to www.fresh-cuts.org.
- **19-21, Practical HACCP for Food Processors**, Chicago, IL. For more information, call 708.957.8449 or go to www.silliker.com.
- **25-27, Microbiology I: Practical Food Micro and Troubleshooting**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, call Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.
- **28-May 1, Culinology® 101 Workshop I, Park IV Food Science and Technology for Chefs**, Johnson & Wales University, Providence, RI. For more information, contact Deb North at 404.252.3663; E-mail: dnorth@kellencompany.com.
- **30, Packaging 101: Portion Control and Flexible Packaging Systems**, The Brown Hotel, Louisville, KY. For more information, call Donna Smith at 404.252.3663; or go to www.dressings-sauces.org.
- **12-17, The 30th National Conference on Interstate Milk Shipments**, Hyatt on Capitol Square, Columbus, OH. For more information, contact Leon Townsend at 502.695.0253; E-mail: ltownsend@ncims.org.
- **17-18, Pennsylvania Association of Milk, Food and Environmental Sanitarians Annual Spring Meeting**, Penn State University, State College, PA. For more information, contact Gene Frey at 717.397.0719; E-mail: efrey@landolakes.com.
- **17-19, Intermediate Laboratory Methods in Food Microbiology**, South Holland, IL. For more information, call 708.957.8449 or go to www.silliker.com.
- **18, Allergen Program Toolkit for Food Service & Retail**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, contact Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.
- **19, Ohio Association of Food and Environmental Sanitarians Spring Meeting**, Waldo, OH. For more information, contact Gloria Swick-Brown at 614.466.7760; E-mail: gswick@odh.ohio.gov.
- **23-26, 3-A SSI Annual Meeting**, Four Points by Sheraton Milwaukee, Milwaukee, WI. For more information, contact Timothy Rugh at 703.790.0295; E-mail: trugh@3-a.org.
- **23-26, AOAC Midwest Section Meeting and Expo**, Kansas City, MO. For more information, contact Ron Jenkins at 816.891.0442; Web site: www.midwestaoac.org.
- **24, Associated Illinois Milk, Food and Environmental Sanitarians Annual Spring Meeting**, Bloomington, IL. For more information, contact Don Wilding at 217.785.2439; E-mail: dwilding@idph.state.il.us.
- **24-26, Penn State Food Microbiology Short Course Detection and Control of Foodborne Pathogens**, Penn State University, Berks-Lehigh Valley College, Reading, PA. For more information, contact Dr. Hassan Gourama at 610.396.6121; E-mail: hxg7@psu.edu; <http://foodsafety.cas.psu.edu>.

MAY

- **1-3, ADPI/ABI Annual Conference**, Fairmont Hotel, Chicago, IL. For more information, call ADPI at 630.530.8700; E-mail: info@adpi.org.
- **2-6, Thermal Processing: Principles & Practices in Food Preservation**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, contact Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.
- **11-12, Essentials of Auditing Management**, Las Vegas, NV. For more information, call 708.957.8449 or go to www.silliker.com.
- **12-14, Interbake China 2005**, Guangzhou International Conventional and Exhibition Center, Guangzhou, China. For more information, contact Ms. Athena Wu at 86.20.87746095; E-mail: sales@faircanton.com or go to www.faircanton.com.

COMING EVENTS

- **31, Microbiology VI: Salmonella Control**, Guelph Food Technology Centre, Guelph, Ontario, Canada. For more information, contact Marlene Inglis at 519.821.1246; E-mail: minglis@gftc.ca.

JUNE

- **8, Texas Association for Food Protection Annual Meeting**, Omni Hotel, Austin, TX. For more information, contact Tom Supak at 979.836.7977; E-mail: tommy.supak@bluebell.com.
- **12-15, 4th IDF International Mastitis Conference**, Maastricht, The Netherlands. For more information, go to www.fil-idf.org/mastitis2005.
- **13-14, Brazil Association for Food Protection Annual Meeting**,

Conselho Regional de Química do Estado de São Paulo, São Paulo, SP, Brazil. For more information, contact Maria Teresa Destro at 55.113.091.2199; E-mail: mtdestro@usp.br.

- **16-24, XXV Quarter Century Gala International Workshop/Symposium on Rapid Methods and Automation in Microbiology**, Kansas State University, Manhattan, KS. For more information, contact Daniel Y. C. Fung at 785.532.5654; E-mail: dfung@oznet.ksu.edu.
- **29-30, 4th European Young Cereal Scientists and Technologists Workshop**, Vienna, Austria. For more information, call 32.16204035 or go to www.boku.ac.at/dlwt.

AUGUST

- **12-13, IAFP 2005 Workshops**, See page 175 of this issue.
- **14-17, IAFP 2005, the Association's 92nd Annual Meeting**, Baltimore Marriott Waterfront Hotel, Baltimore, MD. For more information, see page 217 of this issue or contact Julie Cattanach at 800.369.6337; E-mail: jcattanach@foodprotection.org.
- **15-19, Culinology Arts for Food Technologists, A Culinology® Workshop**, The Culinary Institute of America, St. Helena, CA. For more information, contact Deb North at 404.252.3663; E-mail: dnorth@kellencompany.com.

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IAFP UPCOMING MEETINGS

AUGUST 14-17, 2005
Baltimore, Maryland

AUGUST 13-16, 2006
Calgary, Alberta, Canada

JULY 8-11, 2007
Lake Buena Vista, Florida

CAREER SERVICES SECTION

Department Head Department of Food Science and Technology and Director, Food Processing Center

The University of Nebraska-Lincoln Institute of Agriculture and Natural Resources is seeking applications and nominations for the position of Head, Department of Food Science and Technology (FST), and Director, Food Processing Center (FPC). Visit either of the following web sites for a complete announcement and more details on the FST and FPC (<http://www.foodsci.unl.edu> or www.fpc.unl.edu).

Requires an earned Ph.D. degree in food science, food engineering, or a closely related field. Candidates must meet the qualifications for appointment as a tenured professor in the unit and should demonstrate outstanding leadership and communication skills.

Applicants should send a letter of interest; an updated curriculum vitae; and the names, addresses, and telephone numbers of three references who can speak to his/her expertise to:

Dr. Andrew Benson, Chair
FST/FPC Head/Director Search
Advisory Committee
c/o IANR Vice Chancellors Office
University of Nebraska-Lincoln
P.O. Box 830708, 202 Agricultural Hall
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Electronic applications are encouraged.

The Search Advisory Committee will begin reviewing applications on April 15, 2005, and will continue to review applications until the position is filled or the search is closed.

The University of Nebraska is committed to a pluralistic campus community through affirmative action and equal opportunity and is responsive to the needs of dual career couples. We assure reasonable accommodation under the Americans with Disabilities Act; contact Dr. Benson, Search Advisory Committee Chair, at 402-472-5637 (abenson1@unl.edu) for assistance.

Director - Quality Assurance

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- Transform the quality and HACCP function in operating units from checkers to teachers building an employee based organization empowered to assure all food safety and customer specification requirements are achieved every minute of the working day.
- Engage the GM management team-building consensus around best practices and institutionalize a common process in all operating units.

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- BA degree
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- Proven ability to build food safety programs and lead change
- USDA facility management required

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List your open positions in *Food Protection Trends*. Special rates for this section provide a cost-effective means for you to reach the leading professionals in the industry. Call today for rate information.

Ads appearing in *FPT* will be posted on the Association Web site at www.foodprotection.org at no additional cost.

Send your job ads to Donna Bahun at dbahun@foodprotection.org or to the Association office: 6200 Aurora Ave., Suite 200W, Des Moines, IA 50322-2864; Phone: 800.369.6337; 515.276.3344; Fax: 515.276.8655.



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Assistant Professor (tenure track) position in the Department of Animal Sciences/Colorado State University. This is a 9-month position (75% research/25% teaching). Successful applicant is expected to contribute to an established food/meat microbiology/safety program and establish a competitive, extramurally funded research program in microbial food safety. Qualifications include: A Ph.D. in Food Microbiology or related field, with research experience in microbial foodborne pathogens. Expertise in basic microbial and molecular techniques and post-doctoral experience are desired. Review of applications will begin on April 1, 2005 and will continue until a qualified applicant is selected. Salary is commensurate with qualifications and experience.

Please send a letter of intent, statement of research/teaching interests/philosophy, current curriculum vitae, all academic transcripts, a comprehensive list of publications, plus names, addresses and phone numbers of three persons who may be contacted for letters of recommendation, if requested by the Search Committee. Send materials to: Dr. John N. Sofos, Professor, Department of Animal Sciences, Colorado State University, 1171 Campus Delivery, Fort Collins, CO 80523-1171, Phone: (970) 491-7703; Fax: (970) 491-0278, E-mail: John.Sofos@Colostate.edu.

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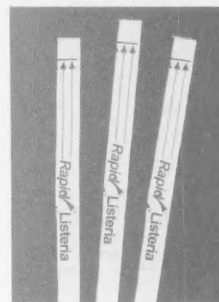
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