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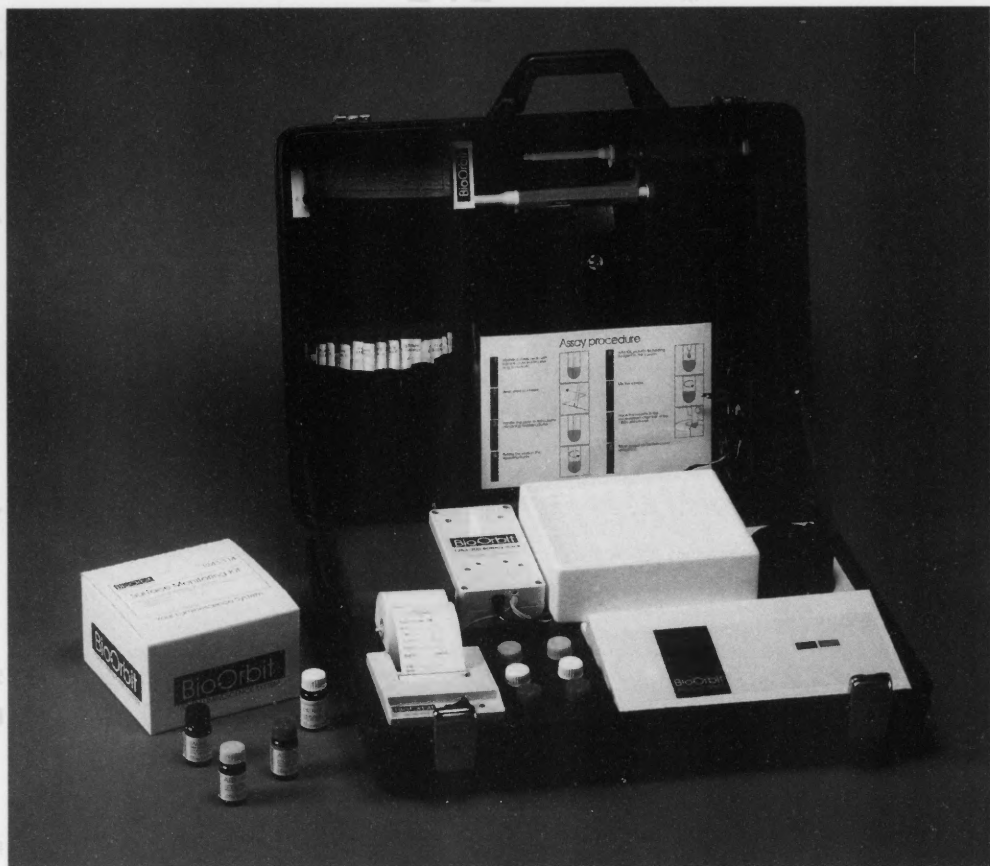
DAIRY FOOD AND ENVIRONMENTAL Sanitation

PUBLICATION OF THE INTERNATIONAL ASSOCIATION OF MILK, FOOD AND ENVIRONMENTAL SANITARIANS, INC. NOVEMBER 1995



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Photo courtesy of Penn State Creamery.
"Penn State University Creamery pasteurizer operator Jerry E. Homan prepares to send a vat of ricotta cheese over to the Creamery's culture products room. The Allen-Bradley T-30 PLC (pictured), is one example of how the dairy industry is using process controls to improve production efficiency and achieve food quality and safety standards."

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ARTICLES

Foods with Low Numbers of Microorganisms may not be the Safest Foods OR, Why did Human Listeriosis and Hemorrhagic Colitis become Foodborne Diseases 674

James M. Jay

Meat and Poultry Inspection Reform—Fundamental Change to Improve Food Safety 678

Michael Taylor

Editor's Note:

The October issue of *Dairy, Food and Environmental Sanitation* ran an article on illegal pesticides in our News Section on page 637. The article was to remind readers of cases of illegal pesticide uses and the need to work with reputable pest control firms who have only licensed and certified staff. The headline, "Copesan Services—Illegal Pesticide Uses," was meant to reflect the fact that Copesan Services was a source of the information. The headline was not meant to associate Copesan with any illegal pesticide uses. Our apologies to Copesan Services over any confusion this headline might have caused.

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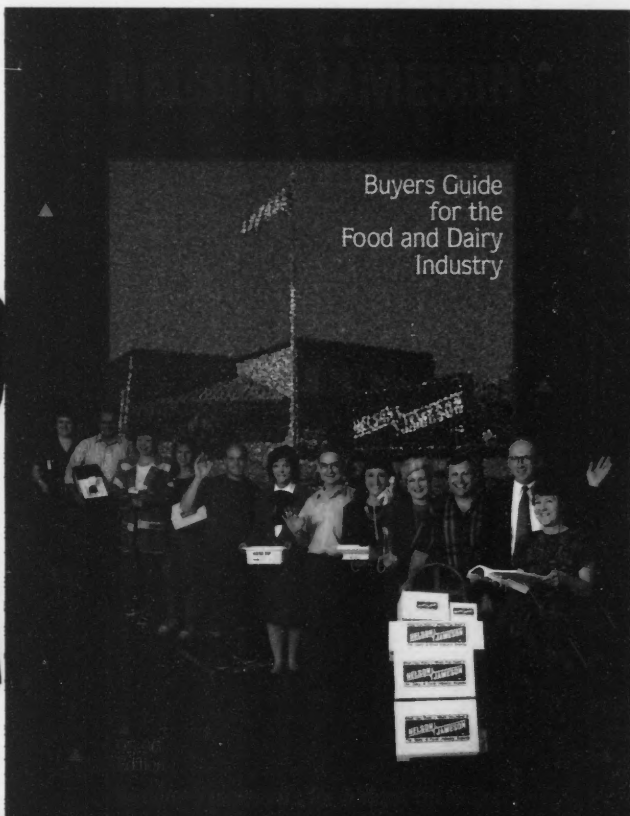
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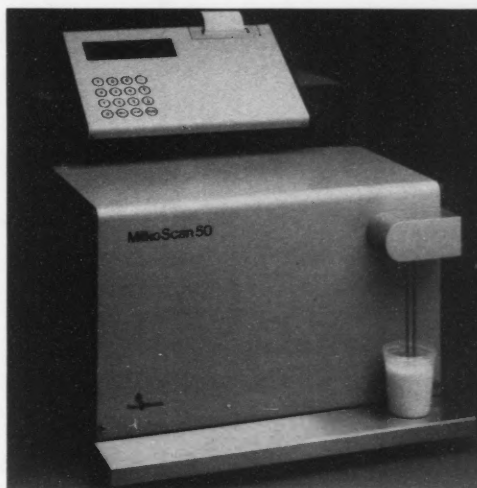
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By F. ANN DRAUGHON,
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publications group have revitalized our journals, providing a new look, getting them on schedule and producing publications of which IAMFES can feel proud. Please feel free to call and congratulate Carol on her new appointment. I know she is going to continue doing a great job as our Managing Editor.

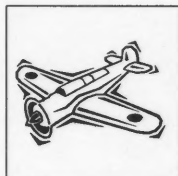
Most of us have begun using E-mail and the Internet or World Wide Webs for both work and pleasure. I wonder if it is time for IAMFES to get more involved with electronic media and how we can best serve our members. This is where I need your help! We would like to make DFES more informative and even more useful to our members. Would a new section on useful World Wide Web or Internet addresses of importance to food sanitarians and all those interested in food safety and food protection be helpful to our members? For example, would you like to reach the Centers for Disease Control and Prevention's epidemiological and public health datasets and on-line documents such as Morbidity and Mortality at no cost? To get on-line call 404-332-4569 and request the CDC WONDER software free of charge. You can also access the CDC information through the World Wide Web page "<http://www.cdc.gov:80/>". Would you like to have on-line access to a medical glossary, CDC reports, scientific papers, the "Bad Bug Book"? It's available from the FDA's Center for Food Safety and Applied Nutrition web page: "<http://vm.cfsan.fda.gov/index.html>". You can also reach the USDA/National Agricultural Library/Food and Nutrition Information Center for an incred-

ible amount of information "<http://www.nalusda.gov/fnic.html>". There were over 5000 citations just on foods the last time I browsed the Web and the information was FREE. Should we try to get guest articles on how to use the Internet to get information on food protection? Do we need another workshop at the Annual Meeting on the World Wide Web? We have a new chair of the Food Safety Network Professional Development Group; Linda Harris. She can be reached at 519-824-4120; fax 519-824-6631. If you would like to get involved in the PDG, please call Linda. We are in the process of getting the IAMFES office on-line and it will cost us \$200 to \$300 a year. Is this money well spent? Do you want an IAMFES bulletin board on the Internet? No one person can put all this together. It will require input from you and your colleagues as you learn what information is available. If we look at the IAMFES Mission Statement "To provide food safety professionals worldwide with a forum to exchange information on protecting the food supply," how can we use the Web to help fulfill our mission?

If you feel a little overwhelmed by everything that's happening in electronic media, join the crowd. How will we find the time to learn all the new things we need to learn? I think we can do it together. I am reminded of a little quotation by Vesta M. Kelly whenever I feel overwhelmed, "Snowflakes are one of nature's most fragile creations, but just look at what they can do when they stay together!"

Let me hear from you and have a great holiday season!

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Affiliates are an important part of IAMFES, and that's why we need you, our Affiliate Associations and Affiliate Members, to let us know what is going on in your organizations. Keep us abreast of meetings, activities, seminars and other events by sending us min-

utes, announcements or just a quick update. In return, we'll publish it in our next issue of *Dairy, Food and Environmental Sanitation*. All we ask is that you please send information regarding upcoming events at least two months in advance.

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Our Affiliates Count!

A MESSAGE

From the Home Office

“Evidence of progress is not always obvious”

Evidence of progress is not always obvious to those not directly involved. However, in the case of IAMFES publications the progress is clearly visible. Over the course of the last year, members, authors, subscribers and others have seen many improvements. Improvements, including cover designs, formats, handling of manuscripts, promptness of responses to inquiries and most importantly the overall quality of *Dairy, Food and Environmental Sanitation* and *Journal of Food Protection*.

In the last issue, you will remember we profiled part of the staff responsible for these improvements. This article includes another member of our staff whom we consider the cornerstone of the publications department, Carol Mouchka. Carol has taken the responsibility of Acting Editor of both journals for nearly a year and has borne the brunt of criticism during our difficult times. The occasions of praise have increased as the journals have displayed progress under her supervision. Her ability to coordinate staff, projects, and free-lance workers has helped both *Dairy, Food and Environmental Sanitation* and *Journal of Food Protection*.

While overseeing the publications department, Carol also maintained her responsibilities as Marketing Director. This also included planning for our Annual Meeting in Pittsburgh, a meeting which response indicates was extremely successful. Carol's dedication has been an important

part of holding the publication department together through the changes that have occurred since 1994. Carol also notes, her success is due greatly to the fact that she is a part of a very talented team.

After several months of managing the publications, Carol has decided to remain a part of the team. She has been offered and has accepted the position of Managing Editor for IAMFES. She officially assumed these duties the beginning of October.

Another vital member of the publications team is someone who most people overlook unless something out of place is discovered in the journals. Pam Wanninger holds the important position of proofreader of our publications. Pam has been with IAMFES for three years and has seen growth in her responsibilities and our reliance on her. This is evident in the vast improvement in the quality of the journals. Pam has worked closely with the publications team members to develop a system to continually improve our quality control.

As we all know, it takes the effort of all members of a team in order for the organization to be successful as a whole. This team includes the members of IAMFES as well. We need your involvement and input. If you have an idea, comment or suggestion, please take a couple minutes to jot it down and mail or fax it to the office. Our office hours are 8:00 a.m. to 4:30 p.m. central time; phone (800)369-6337 or (515)276-3344, fax (515)276-8655.

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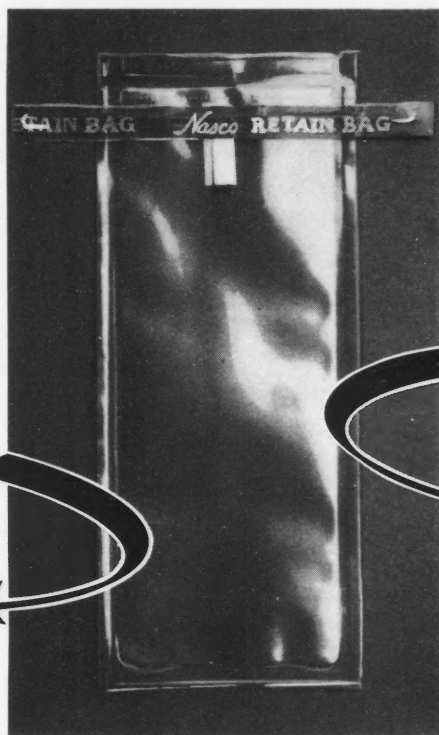
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Reader Service No. 171

"Foods with Low Numbers of Microorganisms may not be the Safest Foods OR, Why did Human Listeriosis and Hemorrhagic Colitis become Foodborne Diseases?"

James M. Jay

Professor Emeritus, Wayne State University, Adjunct Professor, Biological Sciences,
University of Nevada Las Vegas, Las Vegas, NV 89154

The largest U. S. outbreaks ever recorded of three foodborne diseases occurred during the past 10 years or so, and they are as follows:

1985—Chicago area, salmonellosis, pasteurized milk.

1985—Los Angeles area, listeriosis, cream-style cheese, 142 victims.

1993—Pacific Northwest, hemorrhagic colitis/hemolytic uremic syndrome, ground beef, over 800 victims.

The salmonellosis and hemorrhagic colitis (HC) outbreaks are the largest from any country while the listeriosis outbreak noted is the fourth largest (largest was the pâté outbreak in the U. K. 1987-1989 with 366 victims/ followed by a 1966 dairy products outbreak in Germany and another in 1992 in France traced to pork tongue in aspic, each with 279 victims). It should be noted that these events did not occur in underdeveloped or developing countries.

As to our knowledge of the existence of the causative agents of listeriosis and hemorrhagic colitis, sketched above are some aspects of their early history along with some of their earliest known associations with foods.

Foodborne listeriosis

1929	First definitive human case of listeriosis described
1960	About 81 cases in Germany from unknown sources
1966	279 cases in Germany traced to dairy products
1979	23 cases in Boston linked to vegetables
1981	41 cases in Canada traced to cole slaw
1983	49 cases in Boston linked to pasteurized milk
1983-87	122 cases in Switzerland traced to soft cheese
1985	142 cases in Los Angeles area traced to soft cheese
1986-87	36 cases in Philadelphia linked to vegetables
1987-89	366 cases in United Kingdom traced to pâté
1988	One case in Oklahoma traced to turkey franks

I want to make two points about the two syndromes noted. First, they were known to be human pathogens for some time before foodborne transmission was demonstrated—about 30 and 25 years respectively for listeriosis and HC. Why so long? For example, in the case of salmonellosis and staphylococcal food poisoning, the demonstration of foodborne transmission was much closer to the times when these organisms were first described. Second, why at about the same time did both of these diseases essentially "explode" onto the scene

as foodborne entities? Why not, say, in the 1960s? Why not in some underdeveloped country? With specific regard to HC in the U. S., why not in one of the poorer states with a warm climate rather than in states along the Canadian border? Why did the early outbreaks occur during the winter months?

My Hypothesis

Although the older-aged population was larger and natural mutation and selection processes continued to work, I believe something else was

Hemorrhagic colitis/hemolytic uremic syndrome (HUS)

1955	HUS first recognized, but not associated with EC O157:H7 until around 1985
1972	First isolation of <i>E. coli</i> O157:H7 was made from a California patient who had bloody diarrhea
1977	SLT-strains of <i>E. coli</i> were reported in Canada
1979	EC O157:H7 isolated from human stools in Canada
1982	26 cases of HC from ground beef in Oregon; 21 from same type product in Michigan
1983	19 cases from ground beef in Alberta, Canada; 34 cases from same product in Nebraska
1985	24 cases traced to raw potatoes in the U. K.
1986	46 cases traced to raw milk in Ontario, Canada; 37 cases traced to ground beef in the state of Washington
1987	15 cases traced to frozen beef patties in Alberta, Canada; 26 cases to turkey rolls in the U. K.; 51 cases to ground beef in Utah
1988	61 cases traced to roast beef in Wisconsin; 32 cases to frozen cooked beef patties in Minnesota
1989	243 waterborne cases in Cabool, Missouri
1990	10 cases in Montana associated with school lunches; 70 cases in North Dakota traced to roast beef
1991	23 cases in Massachusetts traced to apple cider
1993	Ca. 800 cases traced to ground beef in Washington, Idaho, California and Nevada

involved here; something that occurred in the late 1970s or early 1980s. While I do not know for sure what happened, I offer the following hypothesis:

With advances and improvements in cleaning/sanitizing compounds, and with a better understanding of how to control biofilms on food surfaces and equipment, our fresh meats are so "clean" now that they do not contain enough harmless background organisms to prevent the proliferation of bacterial pathogens.

Further, it is my thesis that foodborne outbreaks of the two syndromes noted did not occur during the time when fresh foods contained larger numbers of microorganisms. Although it is not easy to present in simple tabular form, numbers of organisms in many fresh foods are lower in the 1990s than in decades prior to the 1980s.

Microbial Interference—Background

The protective activity of the normal innocuous biota (flora) of fresh

foods is fairly well established. For example, in the case of freshly produced ground beef, a product with a biota of, say, 1,000,000/g is less likely to support the growth of pathogen contaminants than is one with only 1,000/g. R. Dubos used the expression "bacterial interference" to describe this phenomenon, and some of the known mechanisms of interference are summarized below.

- Production/excretion of substances inhibitory or lethal to other organisms.
- Competition for nutrients.
- Competition for attachment to adhesion sites.
- Rendering the environment unfavorable or undesirable for other organisms.
- Combinations of the above.

An early and now classical review of bacterial interference is that of Sir Howard Florey (1946) who cites the work of Pasteur and Joubert who in 1877 showed that "common bacteria" were inhibitory to the anthrax

bacterium in urine. Between the early 1950s to the early 1970s, clinical researchers published a great deal on the effectiveness of the normal nasal staphylococcal flora to prevent colonization by the more virulent strains of *S. aureus* in newborns as well as adults, and some of this has been reviewed by Shinefield et al. (1971, 1972) and Light et al. (1967).

Microbial Interference in Food Systems

Microbial interference research in foods was actively pursued in the 1960s during which time Dack and Lippitz (1962) observed that the natural biota of frozen pot pies inhibited inoculated cells of *S. aureus*, *E. coli*, and *Salmonella typhimurium*.

Researchers at the Campbell Soup Co., led by A. C. Peterson, showed in a series of papers in the 1960s that the growth of *S. aureus* was repressed in pot pies by the normal biota if the latter contained around 100,000/g. Troller and Frazier (1963) showed how *S. aureus* was inhibited by innocuous organisms in foods. Among more recent reports are those of Hillman et al. (1994) who demonstrated the antagonistic effects of a stable microbial population against an *E. coli* strain, and Diez de Medina et al. (1995) who demonstrated growth suppression of *L. monocytogenes* by the natural flora of crabmeat.

Among the best known and documented examples of microbial interference in foods are the following:

- Competitive exclusion (Nurmi concept), where both salmonellae and campylobacters can be prevented from colonizing the gut of chickens by first exposing hatchlings to the fecal biota of pathogen-free adult birds.
- Lactic antagonism—the long history of safety of fermented dairy products is due to this phenomenon, which includes among other things, bacteriocins that are produced by many lactic acid bacteria.
- The "Wisconsin Process" for cured bacon, which employs the ad-

dition of sucrose and an inoculum of a lactic acid bacterium to prevent the growth of *Clostridium botulinum* in lieu of a high level of nitrite.

Concluding comments from two studies make rather clear the value of the background organisms in protecting against foodborne pathogens. The first is from a study by the Campbell Soup group who demonstrated the antagonism of organisms from chicken pies towards *S. aureus* and concluded (Peterson et al., 1962):

"Particular attention was directed to determine if tens or hundreds of millions of staphylococci... might be produced under conditions of defrost. Since they could not, the hazard of their survival and presence is minimal. Apparently, the greater the saprophytic population, the greater the protection against staphylococcal growth."

The second is from Goepfert and Kim (1975), then at the Food Research Institute of the U. of Wisconsin, who inoculated fresh ground beef with several foodborne pathogens and held the product up to 14 days at temperatures from 1°C to 12.5°C.

"This study has shown that food poisoning microorganisms are unable to compete effectively with the natural flora of raw ground beef over a wide range of refrigeration temperatures. This fact has several ramifications. First, it demonstrates why food poisoning is so rarely attributed to raw ground beef. Second, and almost equally important, it negates the feasibility of protecting the public health by establishing microbiological standards for raw ground beef. The promulgation of microbiological standards limiting nonpathogens in raw meat products in the desire to protect public health is an exercise in futility that quite likely may result in either unenforceable legislation or considerable economic loss and wastage of a valuable source of protein."

There is more in the literature on the subject of how the normal harmless microorganisms in fresh foods such as ground beef actually render

these products safe by inhibiting and/or destroying pathogens, but time will not permit more here.

Pathogen-free Meats and Microbial Interference

The 1993 outbreak of EC O157:H7 in the Pacific northwest led to the emergence and activation of citizens groups who have put pressure on the Congress to ... "do something." In response to these pressures, the Food Safety and Inspection Service (FSIS) of U.S.D.A. has, among other things, proposed a pathogen reduction program for fresh meats. It appears that the hoped-for-goal here is to have fresh meats in supermarkets that contain no pathogens, or at least, none that can be detected. Realistically, we should expect to find some pathogens in fresh meats as long as fresh meats are as abundant and inexpensive as they are now. But since no one at this IAMFES Conference can be in opposition to reducing pathogens in meats, how should it be done? Along the lines of my hypothesis, I suggest consideration of an approach such as this:

1. Proceed with pathogen reduction strategies for beef carcasses, strategies such as the use of organic acid sprays, trisodium phosphate, or steam pasteurization. However, neither of these strategies is specific for pathogens; the background biota will be reduced as well.

2. Immediately following the above step, inoculate/spray carcasses with an appropriate harmless bacterium to achieve a level of around 100,000/cm². Research will determine whether a pure or a mixed culture is best, and how best to apply.

The organisms that are candidates for step #2 above are many including species and strains of the following genera of Gram-positive bacteria: *Brevibacterium*, *Brochothrix*, *Caseobacter*, *Curtobacter*, *Kurthia*, *Microbacterium*, *Micrococcus*, *Corynebacterium*, and the eight genera of the lactic acid bacteria including *Lactococcus*, *Lactobacillus*, *Leucono-*

stoc, and the like. Although the addition of bacteria to a carcass might lead to reduced shelf-life of finished products, this is not necessarily so. An inoculum of lactic acid and related bacteria could lead to an extension of shelf-life.

CONCLUSION

At about this point, it does not matter whether my hypothesis is correct relative to the emergence of foodborne listeriosis and hemorrhagic colitis. It has been established that the normal and harmless microbial population of fresh meats is antagonistic towards human pathogens. Fresh meats with aerobic plate counts of around 100,000 to 1,000,000/g are less likely to be vehicles for disease outbreaks than "cleaner" meats. Fermented products of all types have excellent records of safety, and this is attributed to the activities of the lactic acid bacteria that produce these products. If carcass sprays and washes are to be employed, why don't we "insure" their safety downhill by deliberately adding a harmless protective biota? Used in this way, the added organisms can be regarded as a hurdle along the same lines as are pH and a_w for certain other foods. With fewer and fewer processors producing more and more fresh meats that are shipped farther and farther, and held longer and longer, the opportunities for a colossal foodborne outbreak are obvious. We need only to have a few "clean" carcasses contaminated by a single careless worker immediately following the pathogen reduction step. This prospect can be minimized if we apply what we already know: fresh meats with low microbial numbers may not be the safest.

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Dr. Jay presented this lecture as a guest speaker for the Ivan Parkin Lecture during the Opening Session of the IAMFES 1995 Annual Meeting.



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Reader Service No. 170

Meat and Poultry Inspection Reform— Fundamental Change to Improve Food Safety

Michael Taylor, Acting Under Secretary for Food Safety
and Administrator of the Food Safety and Inspection Service

During the last few weeks, public debate in Congress and in the media over regulatory reform has elevated the subject of food safety, including the safety of meat and poultry products, to new levels of public awareness.

Through all of the public debate, there is one thing on which everyone seems to agree—and that is on the need for real change to improve food safety and, in particular, to reform meat and poultry inspection. The debates of recent weeks have focused not on whether to reform our food safety programs, but on how to reform them.

One reason for this consensus on the need for change is the simple reality that, despite the past food safety accomplishments to which many in this room have contributed so much, and despite the generally strong food safety record of the American food system as a whole, foodborne illness remains an important public health problem in the United States. We have millions of cases of foodborne illness each year and thousands of deaths. Many of these are associated with meat and poultry products, and virtually all are preventable.

A Philosophy of Prevention

This concept of prevention is, I believe, the key to understanding the public's reaction to the food safety debate, and it is the concept that I

believe must organize and drive the efforts of all of us who are engaged professionally in food safety.

People understand that the world is not risk free and that safety—whether it's the safety of airplanes, automobiles, drinking water, or the food supply—is not an absolute.

But people do expect that risks that can reasonably be prevented will be prevented. And, when it comes to the safety of food people purchase for their families, they expect that everything that can reasonably be done to ensure its safety has been done.

Ensuring the safety of food is an enormously complex task. Hazards can arise at every stage of the food production process, from the farm to the processing facility, in transportation and storage, in food service establishments and at retail, and by what individual consumers do in their homes. And, at every step along the way, measures can be taken to prevent or minimize hazards.

That is why, in a very real way, everyone is responsible for food safety. And that is why it is wrong to point the finger at any one point in the food safety chain and claim that is where most of the problem lies.

All of us—in government and all facets of the food industry—should be doing whatever is feasible to minimize and eliminate hazards at every step of the farm-to-table chain. That is how we will deal effectively with the

problem of foodborne illness in the United States. And that is how we will meet the public's legitimate expectation that those engaged in producing and marketing food to American consumers, and we in government charged with overseeing the safety of the food supply, have done everything that is reasonably possible to do to prevent food safety problems.

The Need for Fundamental Change at FSIS

The Food Safety and Inspection Service (FSIS) bears an important share of the responsibility for preventing food safety problems and reducing foodborne illness. And we have a lot of work to do before we can say that we are fully meeting our responsibility.

FSIS employees are rightfully proud of what they do. Our current system of meat and poultry inspection makes important contributions to the safety and quality of the food supply by enforcing sanitation requirements, excluding diseased animals, inspecting carcasses for visible contamination and defects, and enforcing important food safety standards in processing plants.

But our system is not based sufficiently on the principle of prevention. It is not designed to target and reduce harmful bacteria on raw products. And it does not make the best possible use of the resources the American people have given us to do our food safety job.

To meet our food safety responsibility, we at FSIS must fundamentally transform our program. And I want to tell you today that we have embarked on a process of change that will do just that.

We know that fundamental change does not come easily. But we must ask ourselves whether we are going to enter the next century and the next millennium—with a new, science-based system of inspection that works effectively to prevent food safety hazards. Or, are we going to stay with a system that does not target the most significant food safety hazards with the most up-to-date preventive measures and has remained virtually unchanged in its basic approach for decades?

It is clear, we must change. And I can assure you that Secretary of Agriculture, Dan Glickman, and FSIS are committed to a long-term course of very fundamental change.

FSIS Vision of the Future and Strategy for Change

My purpose today is to outline our strategy for change at FSIS and our vision of the future for meat and poultry inspection. Our strategy begins with the rulemaking initiative we began in February to reduce pathogenic microorganisms and implement HACCP (Hazard Analysis and Critical Control Points) in all meat and poultry plants.

But our strategy goes much further: To make HACCP work and achieve our food safety goal, we must also reinvent the existing FSIS regulations to make them compatible with an entirely new regulatory paradigm. And we must reinvent FSIS itself—how it defines its regulatory role, allocates its resources and organizes itself to do its food safety job. We must also consider legislative change to complete the transformation of our program.

Our strategy is intended to change in a fundamental way the relationship between FSIS and the meat and poultry plants we inspect and to create a new system of inspection and oversight that will work better to ensure the safety of meat and poultry products.

We intend to pursue our strategy in close consultation with all of those who have a stake in the success of our program—including producers, processors, food distributors, retailers, the scientific community, consumer organizations, and the public at large.

And we must never lose sight of the fact that the goal of our efforts is safer meat and poultry products.

To achieve this goal, we envision a system that is built on the following core principles:

First, science-based, systematic prevention of food safety hazards must guide the efforts of both government and industry. The current system relies too heavily on FSIS inspectors to detect and correct problems after they have occurred. A system of preventive controls operated by plant management and overseen by FSIS inspectors will work better to produce safer food.

Second, the industry's responsibility for systematically preventing hazards and achieving an acceptable level of food safety performance must be clearly defined, and FSIS must develop objective measures of accountability to verify that meat and poultry plants are meeting their food safety responsibility.

Third, the industry must have the flexibility and the incentive to innovate to improve food safety. Technological innovation in production, slaughter, and processing must be harnessed and applied aggressively if we are to achieve our food safety goals. FSIS must encourage, not stifle, innovation that can improve food safety.

Fourth, we must address the potential hazards that arise throughout the food production and delivery system, including before animals enter FSIS inspected plants and after meat and poultry products leave those plants. Opportunities exist throughout the system to prevent or minimize hazards and improve food safety.

Finally, the system of government oversight must be structured and operated in a manner that ensures the most efficient and effective use of its resources to improve food safety. FSIS must have the flexibility to target its resources and change the allocation of its resources in a manner that allows it to address significant and

emerging food safety problems all along the farm-to-table chain.

Applying these principles, we envision for the future an inspection system that is fundamentally different from the system of today. New detection, process control, and treatment technologies will be in wide use to target, prevent, and reduce contamination with harmful bacteria. FSIS employees will be less involved in daily management of plant activities and more involved in activities to verify that plants are meeting their food safety responsibilities. And FSIS will be transformed from an Agency that focuses virtually all of its resources on visual inspection of products and conditions within meat and poultry plants to one that provides leadership and addresses food safety hazards throughout the chain of production, processing, distribution, and sale.

This is a system that will enhance the contribution every FSIS employee makes to the safety of the food supply. This is a system that will work better for all segments to ensure a safer food supply.

Let me turn now to some of the details of the strategy we are pursuing to transform our program and achieve our vision for the future. Our strategy has three major components.

Proposed Regulations on Pathogen Reduction and HACCP

First, we proposed, in February, regulations that will bring about sweeping changes in our system of meat and poultry inspection—and in what we expect of the meat and poultry plants we regulate. These changes would address the most significant shortcomings in our current system when it comes to preventing hazards and reducing the risk of foodborne illness. We are proposing to directly target harmful bacteria and build the public health principle of prevention into our system by requiring every plant we regulate to adopt HACCP (Hazard Analysis and Critical Control Points). HACCP systems would provide documentation that industry processes are working effectively to prevent hazards and produce safe products. Implementation of HACCP would also clarify that the industry—

not government inspectors—have the primary responsibility, and capability, to produce safe meat and poultry products.

Our regulatory proposals would also establish, for the first time, food safety performance standards slaughter plants must meet when it comes to harmful bacteria on raw meat and poultry products, and we propose to require daily microbial testing to verify that the standards are being met. The standards we have proposed do not establish lot release criteria but instead would verify that slaughter processes are being controlled adequately to reduce harmful bacteria in accordance with established targets. With this change, our food safety program would no longer be based solely on organoleptic inspection for raw meat and poultry products but would include microbial testing as a means of ensuring that food safety standards are met for raw products.

By establishing reasonable performance standards plants must achieve, we will be building more objective measures of accountability into the system and we will be providing companies an incentive to innovate, to incorporate process changes and technologies that will improve the safety of their products.

These proposals are not a silver bullet for food safety that will immediately or completely solve all of our food safety problems. But the move to HACCP and performance standards is the critical first step toward the science-based prevention of food safety hazards and the ultimate transformation of our regulatory system.

The HACCP proposal addresses product safety only within the plant environment. But we recognize that ensuring food safety requires taking steps throughout the chain of production, processing, distribution, sale, and handling by food preparers to prevent hazards and reduce the risk of foodborne illness.

That is why the strategy we laid out in February in conjunction with our HACCP proposal includes working with animal producers and others to develop and implement food safety measures that can be taken before animals enter the slaughter facility to

reduce the risk of harmful contamination of meat and poultry products. In May, we convened an Animal Production Food Safety Forum at the University of Maryland, which brought together producers, processors, academic and industry scientists, the veterinary medical profession, consumer organizations, and State and Federal government officials for real dialogue on food safety issues and cooperative strategies for addressing them.

To minimize the growth of pathogens once a product leaves the plant, FSIS has also announced its intent to initiate rulemaking with the Food and Drug Administration (FDA), to establish Federal standards for the safe transportation and storage of foods. There are currently no Federal standards and there is no Federal oversight governing such basic matters as the temperature at which perishable products should be held during transportation to minimize the growth of harmful bacteria. We need to consider such standards and practical approaches to seeing they are met.

And we are working with FDA to ensure food safety at the retail level by encouraging States to adopt and enforce consistent, science-based standards. We know that the primary responsibility for overseeing food safety at the retail level resides properly with state and local governments, and we are elevating our collaboration with those governments and with the FDA on retail food safety.

Because food handlers share the responsibility for food safety, we also will continue our comprehensive education programs to inform the public and those who prepare and serve food to the public on how to properly handle, prepare, and store meat and poultry products to minimize the growth of foodborne pathogens. Safe handling labels, which are now required on all raw meat and poultry products, is one example of an educational strategy USDA has implemented. We also reach the public with food handling information through USDA's Meat and Poultry Hotline and a variety of educational materials.

These proposals and activities along the farm-to-table chain reflect

our absolute commitment as an Agency to food safety and consumer protection. Our overriding goal is to prevent foodborne illness. But we cannot achieve our food safety goals unless we change FSIS as well.

Change must occur on two levels: One is regulatory reform. We must ensure that our existing regulations are made compatible with HACCP and our new food safety paradigm. The other is institutional reform. We must fundamentally change FSIS itself. We must change what we do and how we do it to ensure we are making the best use of our resources to improve food safety in our new HACCP-oriented food safety paradigm.

The need to change FSIS takes on even more importance considering current budget realities. Agencies that are not making the best use of their resources in today's budget environment are losing their resources. Maintaining adequate resources is essential to the long-term success and credibility of our food safety program.

Let me address first the regulatory reform element of our food safety strategy and then institutional reform.

Regulatory Reform

Our role on behalf of American consumers, put simply, is to set appropriate standards for food safety and then hold companies accountable for meeting those standards. It is important that companies have the flexibility they need to innovate and efficiently meet their food safety responsibilities and that we focus our efforts on our core standard-setting and accountability functions.

We do not produce food. We cannot make food safe by our efforts alone. And we should not maintain unduly prescriptive "command and control" regulations that obscure or undermine the proper allocation of responsibility between FSIS and the plants we regulate.

We have begun the needed change in our existing requirements by completing a page-by-page review of all FSIS regulations. The results of this review, including the identification of specific regulations we believe need to be amended or repealed

to be consistent with HACCP, will soon be published in the **Federal Register** for public comment. Any regulations that need to be changed to be consistent with HACCP will be changed before plants will be required to implement HACCP.

We will be converting our regulations as much as possible from "command and control" prescriptions to performance standards. We also will be streamlining or eliminating some systems currently required by regulation that result in an inefficient use of public and private resources. We plan to eliminate our prior approval systems for facility blueprints, processing equipment and most quality control plans. We plan to stop our prior approval of ingredients added to meat and poultry products, which is redundant to FDA's food ingredient safety review. And we will streamline the prior approval system for meat and poultry labels.

Institutional Reform

This regulatory reinvention is essential to our success in improving food safety, but it is not, by itself, sufficient for our success. We must also fundamentally change FSIS itself. As I said, we must change what we do and how we do it to ensure that we are making the best use of our resources to improve food safety in our new HACCP-oriented food safety paradigm. Our job is growing, but our resources are not. We simply must make the best use of what we have to ensure we achieve our goal—a safer food supply.

To help achieve this goal, we are in the midst of a top-to-bottom review of our Agency that is addressing at a very fundamental level how we define our regulatory roles, allocate our resources, and organize ourselves. I hope this review will produce bold options for real change in how we do our job and use our resources.

We know the roles of our inspectors will have to change to imple-

ment HACCP and our farm-to-table strategy. We know we need to focus more of our resources on the most significant safety issues and on problems that arise outside of plants. And we know we can streamline our headquarters and field management structures to produce an organization that works both more efficiently and more effectively to improve food safety.

We expect a preliminary report from the top-to-bottom review teams this month. There will be an opportunity for public input on the recommendations. And we intend to make decisions by the end of the year.

We know that the role FSIS plays as an institution is critical to ensuring food safety. That is why reinventing FSIS is an important part of the change needed to improve food safety and an important element of our food safety strategy.

Legislative Mandate

The FSIS food safety strategy I have outlined—encompassing HACCP, reinvention of all existing FSIS regulations and reinvention of FSIS itself—will yield very substantial progress on food safety. It will move the Agency toward a food safety system that meets the public's expectations and satisfies our core principles.

It will be built on science-based prevention of food safety hazards.

It will more clearly define both industry and FSIS responsibilities and enhance accountability.

It will provide the flexibility and incentives industry needs to innovate to improve food safety.

It will address food safety from farm to table.

And it will foster better use of both public and private resources to improve food safety.

Our strategy calls for—and we believe it will achieve—fundamental transformation of FSIS and its program. We also believe that the fundamental transformation we seek could

be bolstered by legislative reform.

Many of the food safety and inspection issues we need to address in our farm-to-table food safety strategy are dealt with only generally or not at all in the current meat and poultry inspection statutes. There is an array of other issues that need legislative attention, including the scope of our responsibility for exotic species of food animals, interstate shipment of state-inspected products, and the adequacy of FSIS enforcement authorities in a HACCP environment.

The overall objective of food safety legislative reform should be to make food safer by improving the ability of the Agency to perform its oversight functions and make the best use of its resources. Our legislative authorities, including our statutory mandate for inspection, need to be modernized and strengthened.

USDA wants to work very closely with leaders in Congress, and all interested parties, on legislation that will help achieve our mutual goal of a safer food supply and a system of regulatory oversight that is more effective and more efficient—a system that is better able to meet public expectations and retain public confidence.

Conclusion

This is a time of enormous opportunity for progress on food safety. There is much common ground on the need for change and the necessary direction of change. We will achieve our common goal of a safer food supply by recognizing that all of us are responsible for food safety and by all of us taking responsibility—in our government offices, in our businesses, and in our daily lives—for doing what we can to improve food safety.

There is so much to be gained by working hard—and working together—to change our food safety system and achieve our goal of a safer food supply.

Remarks were delivered by Michael R. Taylor, Acting Under Secretary for Food Safety and Administrator of the Food Safety and Inspection Service, before the International Association of Milk, Food and Environmental Sanitarians, August 1, 1995, Pittsburgh, PA.

Federal Register

Indirect Food Additives: Adjuvants, Production Aids, and Sanitizers

[Docket No. 94F-0423]

Agency: Food and Drug Administration, HHS.

Action: Final rule.

Summary: The Food and Drug Administration (FDA) is amending the food additive regulations to provide for the safe use of 4-chloro-2-[[5-hydroxy-3-methyl-1-(3-sulfophenyl)-1H-pyrazol-4-yl]azo]-5-methylbenzenesulfonic acid, calcium salt (1:1) (C. I. Pigment Yellow 191) as a colorant for all polymers intended for use in contact with food. This action is in response to a petition filed by Hoechst Celanese Corp.

Dates: Effective August 3, 1995; written objections and request for a hearing by September 5, 1995.

Addresses: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

For Further Information Contact: Vir D. Anand, Center for Food Safety and Applied Nutrition (HFS-216), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-418-3081.

Indirect Food Additives: Polymers

21 CFR Part 177

[Docket No. 95F-0017]

Agency: Food and Drug Administration, HHS.

Action: Final rule.

Summary: The Food and Drug Administration (FDA) is amending

the food additive regulations to provide for the safe use of diisopropyl xanthogen polysulfide as a component of rubber articles intended for repeated use in contact with food. This action is in response to a petition filed by Robinson Brothers Ltd.

Dates: Effective August 3, 1995; written objections and requests for a hearing by September 5, 1995.

Addresses: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

For Further Information Contact: Vir D. Anand, Center for Food Safety and Applied Nutrition (HFS-216), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-418-3081.

Indirect Food Additives: Adhesives and Components of Coatings

21 CFR Part 175

[Docket No. 94F-0090]

Agency: Food and Drug Administration, HHS.

Action: Final rule.

Summary: The Food and Drug Administration (FDA) is amending the food additive regulations to provide broadened specifications for congealing point and oil content for synthetic paraffinic waxes produced by the Fischer-Tropsch process so that the specifications for other synthetic waxes permitted for use in food packaging under other regulations. This action is in response to a petition filed by Shell Oil Co.

Dates: Effective August 3, 1995; written objections and requests for a hearing September 5, 1995.

Addresses: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

For Further Information Contact: Vir D. Anand, Center for Food Safety and Applied Nutrition (HFS-216), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-418-3081.

Indirect Food Additives: Paper and Paperboard Components

21 CFR Part 176

[Docket No. 93F-0335]

Agency: Food and Drug Administration, HHS.

Action: Final rule.

Summary: The Food and Drug Administration (FDA) is amending the food additive regulations to provide for the safe use of ammonium zirconium lactate-citrate complexes for use as insolubilizers for clay coatings with protein binders in coatings for paper and paperboard intended for use in contact with food. This action is in response to a food additive petition filed by Sequa Chemicals, Inc.

Dates: Effective August 29, 1995; written objections and requests for a hearing by September 28, 1995.

Addresses: Submit written objections to the Dockets Management Branch (HFA-305), Food and Drug Administration, rm. 1-23, 12420 Parklawn Dr., Rockville, MD 20857.

For Further Information Contact: Daniel N. Harrison, Center for Food Safety and Applied Nutrition (HFS-216), Food and Drug Administration, 200 C St. SW., Washington, DC 20204, 202-418-3084.

New Members

CALIFORNIA

Christine Bruhn
University of California, Davis

CANADA

Gordon Finley
Agriculture & Agri. Food Canada
Sackville

ENGLAND

Patrick Wall
CDSC, London

FLORIDA

Dr. William E. Pace
Tallahassee

GEORGIA

Douglas E. Cosby
USDA, ARS, PMSRU, Athens

Diana Hao
University of Georgia, Griffin

ILLINOIS

Crystal Megaridis
Liquid Carbonic, Chicago

INDIANA

N. Arlene Klapes
Indiana-Purdue University
at Fort Wayne, Fort Wayne

KANSAS

Don A. Culver
U.S. Army, Manhattan

KENTUCKY

Robert Hess
U. S. Army Vet Services, Ft. Knox

Abigail Villalba
University of Kentucky, Lexington

MASSACHUSETTS

Jennifer Armen Bolen
Pure Produce, Framingham

Thomas R. Hankinson
Pure Produce, Framingham

Esther Presente
Millipore Corp., Bedford

MICHIGAN

Susan Allen
Gerber Products Co., Fremont

Yao Kouassi
Wayne State University, Detroit

MINNESOTA

Harlan Heidebrink
Land O'Lakes Inc., Minneapolis

Donna Knaeble
St. Louis Co. Health Dept., Virginia

Susan Shumaker
University of Minnesota, Woodbury

NEW YORK

John Blood
Henry & Henry Inc., Lancaster

James McAndrew
RB McAndrew Dairy & Water
Orchard Park

Dorothy Nakimbugwe
Cornell University, Ithaca

NORTH CAROLINA

Brian Sheldon
NC State University, Raleigh

Edward Terrell
Raleigh

PENNSYLVANIA

Joe Shebuski
Penn State Univ., State College

TENNESSEE

Lillian Arroyo
University of Tennessee, Knoxville

TEXAS

Johanna Deal-Taylor
Pilgrims Pride, Mt. Pleasant

Eddie L. Teamer, Jr.
Army & Air Force Exchange Service
Dallas

VIRGINIA

Susan Sausville
Federal Milk Market, Alexandria

WASHINGTON

Mike Sweet
Vitarich Ice Cream, Renton

New IAMFES Sustaining Member

Harry E. Grenawitzke
NSF International
3475 Plymouth Road
Ann Arbor, MI 48105

The 82nd Annual Meeting Highlights

Co-hosting the Meeting was the Pennsylvania Association of Milk, Food and Environmental Sanitarians (PAMFES). Several hours of volunteer time for planning and conducting the meeting was provided by the local arrangements committee under the direction of Co-chairs, Paul Hoge and Tom Angstad. PAMFES and especially the hard working local arrangements committee are to be commended for their great support and superb efforts in making sure this year's meeting ran smoothly and was educational and enjoyable for all. Another successful year was accomplished with the 1995 Annual Meeting program which included over 175 food safety professionals who gave 200 presentations. Combined with these were two pre-meeting workshops, 20 professional development groups and committee meetings, and 70 technical and educational exhibits.

Pre-Meeting Workshops

As an excellent compliment to the outstanding scientific presentations of the Annual Meeting, IAMFES sponsored two pre-meeting workshops. Both were held on Saturday, July 29 and one was a day long program and the other a day and one half.

The Microbial Food Safety Risk Assessment workshop presented an overview of the risk analysis process, encompassing risk assessment, risk management, and risk communications. It also introduced participants to the elements of risk assessment: Hazard identification, dose-response assessment, exposure assessment, and risk characterization.

The instructors were Christopher Crockett from McLaren Hart Environmental Engineering ChemRisk Division, Charles Haas with Drexel University and Anna Lammerding with Food Safety Risk Assessment Unit, Agriculture and Agri-Food Canada.

Application and Development of Microbiological Criteria for Foods workshop provided a series of presentations relating to various aspects of microbiological criteria. Topics were: Introduction to Microbiological Criteria, Attributes vs. Variables-Sampling Plans, Development of Indicator and Utility Criteria, Development of Microbiological Criteria for Pathogens, and The Relationship of Microbiological Criteria to GMPs and HACCP.

The instructors were John H. Silliker and Russell S. Flowers from Silliker Laboratories.

Annual Meeting Social Events

An excellent variety of spouse/companion tours showcased the city of Pittsburgh and the surrounding area. The Monday evening Gala was an "Ethnic Evening on Three Rivers." Over 325 people

attended the event which included a River Boat Cruise, a buffet dinner highlighting the ethnic diversity of Pittsburgh and an entertaining floor show.

Annual Meeting Program: A Review Meeting of Committees and Professional Development Groups

On Sunday, July 30 the Meeting began with six committees and 12 development groups. Annual reports from these groups begin on page 693.

Opening Session/Ivan Parkin Lecture

The Ivan Parkin Lecture is sponsored by the IAMFES Foundation which is supported by Sustaining Members. This year's lecturer was Dr. James Jay, University of Nevada Las Vegas. Dr. Jay's lecture was titled "Fresh Foods with Low Numbers of Microorganisms may not be the Safest Foods." The crowd of close to 400 found Dr. Jay's views and research to be intriguing and informative. If you are interested in knowing more about his lecture, turn to page 674. Dr. Jay's lecture has been included in this issue in its entirety.

Technical Sessions

The three day long program consisted of three technical sessions with 34 oral presentations and one video presentation. The sessions included: "Control of Foodborne Microorganisms," "Detection and Enumeration Methods," "Quality Assurance, and Growth/Behavior of Foodborne Microorganisms."

Symposia

The majority of the 1995 program was scientific symposia. Ninety presentations were given for the symposia during the three days. Speakers from Canada, United States, Spain, Australia, Netherlands, Portugal, France, United Kingdom, Korea, Denmark, Mexico, Belgium, South Africa, and Malaysia presented the latest research and information in "International Approaches to Meat Safety and Quality," "Molecular Typing," "Milk Quality, Emerging Issues in Microbiology," and many other food safety topics. Thus bringing together many of the most internationally recognized authorities in food safety.

Sponsored Symposia

Once again we were privileged to receive sponsorship for some of our symposia from

other organizations. This year our sponsors included: The Ontario Food Protection Association, The Canadian Meat Council, J. M. Schneider Incorporated, and Lever Industries who sponsored the symposium, "International Approaches to Meat Safety and Quality;" and International Life Sciences Institute-North America who sponsored "An Introduction to Molecular Typing Methods for the Microbiologist," "Emerging Issues in Microbiological Food Safety," and "ILSI N.A.—Research Update."

Poster Session

The technical poster sessions allowed over 75 presenters an opportunity to display their research and discuss the findings with judges and attendees. The poster winners are listed on page 703.

Video Theater

Over 25 selections from the IAMFES Membership Lending Library were presented over the three day meeting. The videos shown and other titles are available to IAMFES members only.

General Session

This year's general session reflected issues of immense interest to many in the food protection industry; "Equivalency of Inspection—Impact of NAFTA and GATT." Co-conveners, Anna Lammerding and Stan Bailey put together an excellent program which included perspectives from United States; Michael Taylor, USDA, Portugal (European perspective); Laurentina Pedroso, Quality Director, Fricarnes, and Canada; Graham Clark, Policy Development and Organization, Meat & Poultry Products.

Annual Business Meeting

Following the General Session, IAMFES held its Annual Business Meeting. The meeting covered reports from the Executive Manager, Director of Finance, Affiliate Council, *Journal of Food Protection*, *Dairy, Food and Environmental Sanitation* and Foundation. For more details of the Business Meeting see page 690.



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Scenes from the 1995 Annual Meeting...



▲ Pittsburgh provided a wonderful view and setting for the IAMFES Annual Meeting.

▶ PAMFES Local Arrangement members provided "real dairy" hospitality at the Sunday evening Cheese & Wine reception.



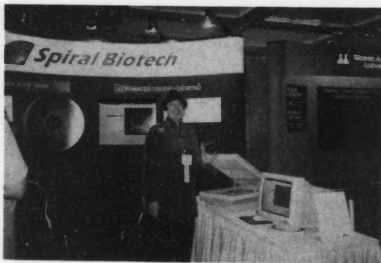
◀ Local Arrangements Co-Chair Paul Hoge and his wife, Julie greeted attendees Sunday evening.



▲ A full audience was the norm for the symposia and technical presentations.



▲ IAMFES Educational Exhibits were once again a great success.



▲ President-elect, Ann Draughon, presented Ivan Parkin Lecturer, Dr. James Jay with an appreciation plaque.



◀ Past Presidents and their wives attended the Awards Banquet. Left to right: Bill and Sara Arledge, Ron and Pat Case, and Bob and Grace Sanders.



▲ IAMFES President, Dee Clingman welcomed everyone to the 82nd IAMFES Annual Meeting Awards Banquet.

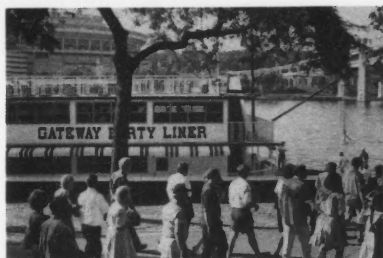
▶ Dee Clingman is presented with IAMFES Presidential gavel and plaque in appreciation for his service by incoming President, Ann Draughon.



◀ IAMFES Staff (left to right) Julie Cattnach, Donna Bahun, David Tharp, Carol Mouchka and IAMFES President, Dee Clingman awaited the start of the 1995 Awards Banquet.



▲ International Life Sciences Institute representatives and speakers enjoyed the IAMFES Awards Banquet.



◀ Attendees boarded the Gateway Party Liner for an evening dinner cruise on Three Rivers.

A Message from the Past President



By C. DEE CLINGMAN
IAMFES Past President

“In retrospect—
incrementally”

In the movie *The Great Gumball Rally* one of the heroes states that when he buys a new car the first thing he does is to remove the rearview mirrors. He boasts “when I drive I don’t care who is behind me because I’m making a path for others to follow.” I guess if we all did that there would be a lot of crashes of very, very alert drivers.

Looking back is not all that bad, providing we don’t focus on the past as the vision for the future. Nothing, for the most part, can ever return to a previous dimension. The “Way We Were” makes great song lyrics but life or romance can never be exactly the same. Professional Associations can also grow and change over time. The future will bring a lot more excitement for us “Past-Presidents” than dwelling on past events during our 5 year tenure on the IAMFES Executive Board.

As I take a quick glance back over the last five years of the 82 years of IAMFES, I see change. Change in small increments of growth, development, expansion, and professionalism. Change is not

bad. We must remember that **the only permanent thing in life is change.** IAMFES members grew and developed and its Association followed suit. This is a healthy sign because if it didn’t it would have ceased to exist over time.

The past few years IAMFES has changed significantly—but incrementally. Not in big steps but continuous small footsteps. We have walked together. As we review the first half of the 90’s decade we see strength being built into our Association’s financial management systems, a long range plan to guide the future, contemporary technical journals, organizational enthusiasm, and other positive changes. In the last half of the decade leadership will be the essential element. And with new leaders we will have—yes, more change.

My best friend said to me recently “to be happy in the future by remembering the great experiences of the past you have to know when to hold on and when to let go.” She didn’t relate to me how difficult it is to make that choice.

Highlights of the Executive Board Meeting

*The Executive Board met five times during the Annual Meeting.
One of these meetings was an Executive Board session.*

The following represents the unofficial highlights of the meetings of the Executive Board.

1. The Board approved the recommendation of the JFP Management Committee appointing John Sofos for a four year term as Scientific Co-editor of JFP. The appointment is effective as of January 1, 1996. A transition arrangement has been made by the Board effective September 1st.
2. Susan Sumner will be the Awards Task Force Chairperson for 1996.
3. Harold Bengsch has agreed to establishing a Black Pearl Award Committee.
4. John Cervený will be Chairperson of the 1996 Program Advisory Committee.
5. Bob Sanders was named Chairperson of the Nominating Committee.
6. It was learned that John Bruhn had been elected Secretary of the Affiliate Council.
7. The Board was advised that an Internal Revenue Service audit of the financial activities of IAMFES was found to be in order.
8. The Board was informed that within the past month all of the symposia papers had been received for publication as a group in an upcoming supplemental issue of the JFP. In the interest of more timely publication of symposia papers, the Board has set a November 1st date following the Annual Meeting as the deadline for submission of symposia papers for publication.
9. The Board recommended investigation of a possible co-op program with a local school to assist with the audio visual library.
10. The Board approved a budget with Net Revenues of \$48,800 for the fiscal year Sept. 1, 1995 to August 31, 1996. This is an effort to reduce the deficit in the General Fund. The budget included due increases as follows: Membership with DFES only increased by \$10 and becomes \$70. Membership with DFES and JFP increased by \$20 and becomes \$110. Sustaining Membership increased by \$35 and becomes \$485.
11. The dues increase is effective with membership renewals of September 1, 1995.
12. The Board received a status report of a complaint filed with the Iowa Civil Rights Commission by a former IAMFES part-time employee.
13. The Board voted not to renew the contract of Steve Halstead as the Executive Manager. The Board named David Tharp as Acting Administrator in the interim. The Board approved the search committee which includes the IAMFES Executive Board and Past President Damien Gabis. The Board approved the use of an executive search firm to screen candidates for an Executive Manager for IAMFES.
14. Met with representatives of the 3-A Symbol Council and 3-A Sanitary Procedures Task Force to review relationship with IAMFES and 3-A Sanitary Practices and Procedures.
15. Accepted the Foundation Fund Budget for fiscal year 1996 as put forth by the IAMFES Foundation Fund Committee.
16. Approved the appointment of Dee Clingman as the Industry Representative to the IAMFES Foundation.
17. Approved the proposed IAMFES policy on Commercialism with the recommendation from the Program Advisory Committee.
18. Established Des Moines as the site for the November 19-21, 1995 meeting of the Executive Board and Seattle as the site of the February 18-20, 1996 meeting.

Minutes of the IAMFES 82nd Annual Business Meeting

Welcome and Introduction: President Elect F. Ann Draughon welcomed those assembled and introduced IAMFES President Dee Clingman.

Presidential Address: Mr. Clingman proceeded to deliver the 1995 Presidential Address.

Business Meeting:

I. Call to Order: Following his address, President Clingman called the 82nd Annual Meeting of the International Association of Milk, Food and Environmental Sanitarians, Inc. to order at 4:22 p.m. on Tuesday, August 1, 1995 at the Hilton Towers Hotel in Pittsburgh, Pennsylvania. A quorum, as defined by the IAMFES Constitution, was declared to be present.

II. Moment of Silence: Mr. Clingman asked the audience to rise and to observe a moment of silence in memory of departed colleagues.

III. Minutes of the Last Meeting: Secretary Michael H. Brodsky informed those gathered that the Minutes of the 81st Annual Meeting had been printed in the November 1994 issue of *Dairy, Food and Environmental Sanitation*.

MOTION To dispense with the reading of the Brodsky Minutes of the 81st Annual Meeting and Wright to approve them as printed in the November 1994 Dairy, Food and Environmental Sanitation.
PASSED

IV. Reports: The meeting then received the following reports:

- A. Executive Manager: Steven Halstead
- B. Director of Finance: David Tharp
- C. Affiliate Council: Susan Sumner
- D. *Journal of Food Protection* Management Committee: Joe Frank
- E. *Dairy, Food and Environmental Sanitation* Management Committee: John Bruhn
- F. Foundation Report: Harry Haverland

Mr. Clingman thanked all who had served on the various Committees, Professional Development

Groups and Task Forces and called attention to the fact that reports of the meetings held on July 30th were posted outside the Ballroom.

Appreciation was extended to Susan Sumner for her outstanding leadership of the Affiliate Council and her services on the Executive Board. Also, a special thanks to Lloyd Bullerman for his services as Co-editor of the *Journal of Food Protection*. John Sofos will become Co-editor on January 1, 1996.

V. Old Business: Kathy Glass reported for Nominating Committee Chairperson Frank Busta that Bruce Langlois and Robert Brackett had been nominated to the office of IAMFES Secretary and that in the ensuing election, Robert Brackett had been elected to the post. The President thanked Dr. Busta and his committee for their work.

MOTION To destroy ballots.
Glass
Sanders
PASSED

There was no other Old Business to come before the Association.

VI. New Business: President Clingman called upon Ron Case, Chairperson of the Constitution and Bylaws Committee, for his report.

Mr. Case reported that the Executive Board had submitted a proposed change to the Constitution and Bylaws Committee which would change the title of the Executive Manager to Executive Director.

MOTION Move the Constitution be amended to Case change the title of our chief staff position Price from Executive Manager to Executive Director.
PASSED

MOTION Move Bylaws be amended to change the Case title of our chief staff position from Brodsky Executive Manager to Executive Director. PASSED pending the approval of the similar Constitutional change.

MOTION Move to Section V of the Bylaws be
Case amended with the wording sent to mem-
Brodsky bers to make Communicable Diseases a
FAILED Standing Committee.

VII. Resolutions: Immediate Past President Harold Bengsch presented two resolutions to the meeting for consideration:

Resolution #1: Relating to the meeting's gratitude to the Pennsylvania Affiliate for their outstanding performance as hosts of the 82nd Annual Meeting.

MOTION To adopt Resolution #1.
Bengsch
Brazis
PASSED

Resolution #2: Relating to the meeting's gratitude to the International Life Sciences Institute for its

outstanding contributions to the educational programming of the 82nd Annual Meeting.

MOTION To adopt Resolution #2.
Bengsch
Haverland
PASSED

VIII. Adjournment: There being no further business to come before the meeting, the President called for a motion to adjourn.

MOTION To adjourn.
Haverland
Bengsch
PASSED

President Clingman declared the meeting adjourned at 5:22 p.m.

Respectfully submitted,
Gale Prince, Secretary

"PROCEDURES TO INVESTIGATE WATERBORNE ILLNESS"

Second Edition

Updated for the first time since 1979! Keep watching in future issues of
Dairy, Food and Environmental Sanitation for more information.

Coming Soon!

Resolutions Adopted by IAMFES

RESOLUTION #1

WHEREAS: The Pennsylvania Association of Milk, Food and Environmental Sanitarians and the Local Arrangements Committee have labored long, hard and with joy to plan, coordinate and host the 82nd Annual Meeting of the International Association of Milk, Food and Environmental Sanitarians in Pittsburgh, PA and,

WHEREAS: The entire Annual Meeting was conducted and planned with style, grace and excellence by the Affiliate and the Local Arrangements Committee, and,

WHEREAS: The gracious hosts coordinated the efforts of industry, educational and governmental members towards the great success of this Annual Meeting, and,

WHEREAS: The 1995 Meeting was truly an outstanding event and contributed to the goals of our Association.

THEREFORE, BE IT RESOLVED: That the International Association of Milk, Food and Environmental Sanitarians, Inc. adopt this resolution of appreciation and gratitude to the Pennsylvania Association of Milk, Food and Environmental Sanitarians and the Local Arrangements Committee and further that a

copy of this resolution be sent to the Pennsylvania Association of Milk, Food and Environmental Sanitarians and be published in *Dairy, Food and Environmental Sanitation*.

RESOLUTION #2

WHEREAS: The International Life Sciences Institute through their Program Committee and Administrative Staff volunteered to sponsor three symposia at the 82nd Annual Meeting of IAMFES.

WHEREAS: Through the invitations extended by the International Life Sciences Institute, internationally distinguished scientists were participants in and contributed to the success of the 82nd Annual Meeting.

WHEREAS: The Administrative Staff of the International Life Sciences Institute, namely Catherine Nnoka, Beth Brueggemeyer and Suprina Moore met and exceeded all expectations in making the arrangements and conducting the administrative work necessary for the success of this cooperative effort between the International Life Sciences Institute and IAMFES.

THEREFORE, BE IT RESOLVED: That IAMFES recognizes, deeply appreciates and commends the International Life Sciences for their unparalleled contributions to the success of this 82nd Annual Meeting of IAMFES.

Minutes

Committee/Professional Development Group

Dairy, Food and Environmental Sanitation Management Committee

Date: July 30, 1995

Members Present: Pete Cook, Jim Dickson, Ann Draughon, Bob Gravani, Tom Gilmore, Bill LaGrange, and Bob Sanders.

Others Present: Joe Frank, Ivan Linjachi, Steve Halstead, Carol Mouchka, and Donna Bahun.

Presiding: John C. Bruhn, Committee Chair.

Summary of Activities and Actions Taken:

P. Cook brought up the subject as to why the word foodborne was being hyphenated. Carol Mouchka told us it's the style used by ASM, whose style we normally use. We had a discussion and B. Gravani moved to amend the ASM style to reflect foodborne as one word, not as a hyphenated word. P. Cook seconded. There was a unanimous "yes" vote. Motion carried.

Recommendations to the Executive Board:

A. Scientific Editor—DFES

1. On the appointment of a Scientific Editor, the board will support all travel expenses, lodging, meals, miscellaneous expenses of the DFES Scientific Editor to the Annual Meeting.
2. That the term of the Scientific Editor be 4 years, with a renewal appointment possible.
3. John Bruhn will serve as Acting Scientific Editor until one is appointed.

B. That the Board continue to support the changes recommended by the Management Committee to improve the quality of DFES, and to make the overall processes of publication parallel to JFP.

Suggested Wording for Motion to the Board:

Effective with the 1996 meeting and every two years thereafter, the President-elect of IAMFES shall appoint a vice chair to a 2 year term who shall then advance to chair for an additional and final two year term. In the second year of each chair's term, recommendations by the chair for a new vice chair shall be forward to the President-elect. If adopted, this shall be the policy for appointing a vice chair and chair to this committee.

Interim Procedures:

Between 1995-96, John Bruhn will serve as committee chair. He will recommend to the President, Ann Draughon a person who can serve as vice chair and who will advance to chair following the 1996 meeting.

Submitted by: John C. Bruhn, Chair.

Journal of Food Protection Management Committee

Date: July 30, 1995

Members Present: M. Cousin, J. Hall, S. Bailey, E. Todd, L. Bullerman, L. Beuchat, J. Sofos, J. Bruhn, M. Davidson, P. Linjachi, A. Lammerding, B. Brackett, S. Halstead, and C. Mouchka.

Presiding: Joe Frank, Committee Chair.

Summary of Activities and Actions Taken:

1. John Sofos was welcomed as new Scientific Editor.
2. Susan Sumner was appointed Secretary.
3. Editor's report: The complete editor's report is attached. The journal continues to increase in size. Over 300 papers were submitted in 1994. Current backlog is over 6 months.
4. Committee recommended that meeting abstracts be published as a supplement to JFP.
5. Committee recommended to discontinue author anonymity to reviewers.

Recommendations to the Executive Board: None

Submitted by: Joe Frank, Chair.

Program Advisory Committee

Date: July 30, 1995

Members Present: John Cerveny, Jeff Farber, Dave Golden, Elizabeth Johnson, Kathy Glass, Wally Jackson, Sonya Gambrel-Lenarz, Bruce Langlois, Susan Sumner, Michael Brodsky, Ann Draughon, Steve Halstead, Doug Marshall and Carol Mouchka.

Presiding: John Cerveny, PAC Chairperson.

Summary of Activities and Actions Taken:

Twenty-eight proposals for symposia, 4 proposals for workshops, and 2 proposals for special events during the meeting were received. Special events include ongoing computer workshop and dairy product taste testing. The PAC will discuss the merits of these proposed symposia and workshops at the meeting on Wednesday and selected symposia for the Seattle program.

The following twenty proposed symposia were selected for further development:

Wednesday, August 2, 1995

1. Activities in Food Safety—Six Dairy Centers
2. Aseptic and Near Aseptic Processing of Milk
3. Increasing Finished Dairy Product Shelf Life
4. Designing the 2,000 Cow Dairy Operation
5. Reverse Osmosis on the Dairy Farm
6. Competitive Exclusion
7. Global Perspectives on Verotoxigenic *E. coli* O157:H7 and Other Serotypes
8. Controlling *E. coli* O157:H7 and Friends in Meat
9. Intervention Strategies to Control Pathogens during Meat and Poultry Processing
10. Use of Indicator Microorganisms in Food Safety
11. International Issues in Seafood
12. Fresh-Cut Fruits
13. Wine Microbiology
14. Travelers Advisory—"Don't Leave Home without It!"
15. Rapid Methods—"Are We Slowing Down?"
16. Emerging Issues in Food Mycology
17. Ensuring an Adequate Global Food Supply
18. Emerging Issues in Communicating Microbial Food Safety Risks
19. Surveillance of Food and Waterborne Diseases
20. Risk Assessment

We will request a list of the individual topics, speakers and the names of two convenors by November 15, 1995, for each symposium. These twenty symposia will again be reviewed at the PAC winter meeting and final selections will be made at that time.

One Day Workshops

After some discussion, the PAC selected two one-day workshops for further developing.

- Risk Communication and Microbial Food Safety
- Food Research Institute (FRI) Workshop on Emerging Foodborne Pathogens and Modeling Techniques

Workshops Concurrent with Annual Meeting

- Dairy Product Sensory Evaluation Clinic
- Computer Workshop

IAMFES Policy on Commercialism:

After a brief discussion, the PAC approved the newly developed policy on commercialism. It was suggested

that the policy be reviewed next year to determine if changes need to be made.

Recommendations to the Executive Board:

After some discussion, the PAC recommended that IAMFES consider changing the format for the business meeting. Replace the current format of having three or four speakers with just one speaker with a national and/or international reputation. The talk should be one hour in length.

Submitted by: Jeff Farber.

Past President's Advisory

Date: July 30, 1995

Presiding: Harold Bengsch.

Summary of Activities and Actions Taken:

Group felt trying a symposia for the next meeting was too soon, but would take under study a symposia for Florida with possible subject (on the firing line—a view from the sanitarians).

Recommendations to the Executive Board:

Consider inserting the word "Quality" into the mission statement.

Submitted by: Harold Bengsch.

PROFESSIONAL DEVELOPMENT GROUPS

Applied Laboratory Methods

Date: July 30, 1995

Members Present: 12 members were present representing regulatory, industry and academia. Sue McAllister, Yvon-Louis Trottier, Shelagh McDonagh, Frank Wang, Pat Rodney, Sidney Barnard, Lawrence Roth, Elizabeth Johnson, Lee-Ann Jaykus, Mary Ann Barron, Pat Thummel and Michael Brodsky.

Presiding: The meeting was called to order by Sue McAllister, in Tom Graham's absence.

Summary of Activities and Actions Taken:

1. Approved minutes of 1994 annual meeting.
2. Old Business
 - A. Manuscript for extended refrigeration of plates (after inoculation and before incubation) will be

published in August *Journal of Food Protection* (M. Brodsky). This study was an overview. The next step is to take a closer look at ruggedness factors for the application.

- B. Manuscript for extended coliform incubation has been published. MPN incubation can be extended to 72 hr. but results may be higher (L. Roth). No further work planned.
 - C. Mike Brodsky gave an update on the project to look at upper counting limits for selective media. Draft manuscript expected around September.
3. New Business

- A. Mike Brodsky reported he will be initiating a study on the shelf life of prepared media.
- B. Brainstorming session for possible symposia for 1996 meeting.
 - 1. Use of indicator microorganisms in food safety was submitted to program committee for consideration. Lee Ann Jaykus, Lawrence Roth and Sue McAllister agreed to work on this symposium if it is accepted.
 - 2. There was an open discussion about a symposium/program on new and emerging rapid methods. The format of a modified poster session was considered. Content would include presentation by manufacturers of rapid methods, and would be a forum for comparison of methods. The group decided the concept needs more work and should be considered in 1996.
- C. There was an informal discussion around the topic of federal and state agencies considering privatization of testing currently done by departments of health and agriculture. There were general concerns around issues of certification of private laboratories, liability issues, and regulatory industry allegiance of private labs.

Submitted by: Sue McAllister.

Sanitary Procedures

Date: July 30, 1995

Summary of Activities and Actions Taken:

The Committee on Sanitary Procedures (CSP) met as a standing committee of the 3-A Sanitary Standards Committee during the week of May 22-26, 1995, at the Grand Milwaukee Hotel in Milwaukee, Wisconsin. CSP reviewed twelve standards, approved ten, and returned two documents to the task committees for further development. In addition, CSP participated in plenary discussions concerning "Test Methods" presented by the European Hygienic Design Group and in discussions concerning 3-A's Model Document for proposed 3-A Sanitary Standards and Accepted Practices.

Yesterday, CSP met for the purpose of discussing ways and means of creating more interest and participation in committee activities by Milk Program Regulatory and Rating Personnel across the country. Several suggestions have been made and will be put to the task. The chair has appointed Mr. Everett Johnson as Vice Chairman of CSP. We are pleased that Mr. Johnson accepted this position.

Submitted by: Norris Robertson, Jr., Chair.

Meat Safety and Quality

Date: July 30, 1995

Members Present: John Cervený, Stan Bailey, Kathleen Glass, Tom Ross, Leora Shelef, Isabel Walls, Dave Bernard, Anna Lammerding, Fran Rossem, Jenny Scott, Warren Charminsk, Tom McMeekin, Wayne Sprung, Bob Tiffin, Mike May and Coleen Stevens.

Presiding: Anna Lammerding and Kathy Glass.

Summary of Activities and Actions Taken:

Three symposia proposed:

- 1. Global perspectives on *E. coli* O157:H7 and its relatives. (ILSI proposes to sponsor.)
 - 2. Controlling O157:H7 and friends.
 - 3. Pathogen control in the food manufacturing plant.
- One suggested workshop – (or workshop)
Methodology for detection of O157:H7.

Submitted by: Anna Lammerding and Kathy Glass.

Communicable Disease Affecting Man

Date: July 30, 1995

(Waterborne sub-committee members met in April and December of 1994.)

Members Present: F. L. Bryan, Pete Cook, Jack Guzewich, Richard Swanson, Ewen Todd; New member: Pete Snyder, 5 observers.

Presiding: Frank L. Bryan.

Summary of Activities and Actions Taken:

The 2nd edition of the manual, Procedures to Investigate Waterborne Illness has been completed and in galley. Final review will be completed after this meeting and publication should be done within the next few months.

Procedures to Investigate Foodborne Diseases has been put on computer disk and has been distributed to members for review. Revision will be done between now and next year and discussed at the next meeting.

The project on procedures for Foodborne Disease Surveillance has been put off for a while.

Recommendations to the Executive Board:

1. Reassess use of word foodborne rather than foodborne (see letter to Executive Director).
2. Support Committee status of the Committee.
3. Hold a symposium on Waterborne Disease Investigation Surveillance and one on Surveillance of Foodborne Diseases at the next meeting. Renewed waterborne manual can be introduced at that time.

Submitted by: Frank L. Bryan.

Poultry Safety and Quality

Date: July 30, 1995

Members Present: Stan Bailey, John Marcy, Tom Ross, Tom McMeekin, Yvon-Louis Trotter, Wayne Sprung, Roberta Morales, Brian Sheldon.

Presiding: Stan Bailey.

Summary of Activities and Actions Taken:

An extensive discussion was held concerning the pathogen reduction HACCP document currently being rewritten in Washington. Next, pathogen intervention technologies were reviewed. Ongoing and past research concerning reprocessing of processed chickens and use of ATP technology was reviewed. A symposium "Intervention Strategies to Control Pathogens during Poultry Processing," was developed and submitted to the Program Advisory Committee for consideration for next year's annual meeting.

Submitted by: Stan Bailey.

Audio Visual Library

Date: July 30, 1995

Members Present: Tom Gilmore (Chair), Sid Barnard, Charles Felix, Harry Haverland, Ron Schmidt and David Tharp (Staff).

Presiding: T. Gilmore.

Summary of Activities and Actions Taken:

The AV-PDG recommends that the IAMFES Foundation allocate \$6500.00 to the AV-Library for fiscal year 1996 with up to 50% of this money to be used for expediting the cataloging, mailing and receiving AV materials.

Recommendations to the Executive Board:

The AV-PDG recommend to the IAMFES Board that additional staff be hired for the purpose of administration of the AV-Library.

Submitted by: T. Gilmore, Chair, AV-PDG.

Foundation Fund (IAMFES Advisory Group)

Date: July 30, 1995

Members Present: C. Dee Clingman, F. Ann Draughon, Michael H. Brodsky, Earl Wright, Harry Haverland, David Fry, Steven K. Halstead, David W. Tharp and Carol Mouchka.

Presiding: Harry Haverland.

Summary of Activities and Actions Taken:

The chairman welcomed the participants and provided some remarks about the Foundation Fund and the supported activities. There were no comments concerning the 1994 minutes except for a name correction.

The initial topic centered around the Sustaining Membership and the noted increase in membership. Although the numbers vary, on an average the journals list is in excess of 80 members. The Foundation Fund receives \$125.00 for each new member or renewal. Each year headquarters sends each Sustaining Member a letter thanking them for their support and identifying the activities supported by their dollars. It was also noted that foundation activities are appropriately labeled in the program. Dr. Brodsky felt that the membership, in general, may not be aware of the Foundation Fund and the activities that are funded. It was the consensus of the group that a greater effort should be put forth to increase the visibility of the Foundation Fund and the associated activities. President Dee Clingman agreed to "plug" the Foundation Fund and the sustaining members at the opening session. Carol Mouchka indicated that on occasions unsold space occurs in the journals and this could be utilized to highlight the Foundation Fund. The role of affiliate support arose and Steve Halstead advised that a letter could be sent to the affiliates inviting them to support the Foundation Fund. Following last year's recommendation a line was added to membership renewals asking for a donation to the Foundation Fund. This has resulted in several hundred dollars in donations.

Next, the chair opened a discussion on financial support to offset the costs of shipping surplus journals to developing countries via the Food and Agriculture Organization of the United Nations, Rome, and Italy. Steve Halstead indicated it cost approximately \$500/shipment. Shipments are made twice a year. Ann Draughon made a motion to provide up to \$1000.00 to support the shipment of surplus journals to developing countries. Dee Clingman seconded the motion. Motion carried.

The chairman advised the committee that he had attended the Audio-Visual Library Committee meeting this a.m. and learned that during the past year IAMFES' ability to respond to requests for visual aid had dropped dramatically. Dee Clingman indicated he had received complaints regarding response time to AV requests. It was agreed that

the situation was less than desirable and that action was needed to improve response time. Two alternatives were discussed (a) funding could be provided to more efficiently distribute training materials, or (b) this service to membership could be contracted. Alternative (a) appears to be most viable at this time.

Dee Clingman made a motion to designate up to 50% of the Library's budget of \$6500.00 to administer the distribution of training materials. Ann Draughon seconded the motion. Motion carried.

1996 Proposed Budget and Projected Income:

Income

Interest	\$3,800.00
Sustaining Member	9,875.00
Contributions	750.00
	<u>\$14,425.00</u>

Expenses

Postage/Shipping	\$1,000.00
Supplies	25.00
Speaker Travel	2,000.00
Awards	2,500.00
Ivan Parkin Lecture	1,800.00 (\$1,000.00 honorarium)
Lending Library	<u>6,500.00</u>
	<u>\$13,825.00</u>

Excess of income over expenses \$600.00.

Motion by Dee Clingman to accept the proposed budget. Seconded by Ann Draughon. Motion carried.

Recommendations to the Executive Board:

1. The Executive Board supports creating greater visibility to the Foundation Fund and the supported activities through:
 - (a) A letter to each Affiliate asking for their support.
 - (b) Utilizing open space in the journals.
 - (c) Continuing to send annual "thank-you" letters to Sustaining Members.
 - (d) Encourage donations to the Foundation Fund.
2. The Executive Board concur on the recommendation to provide up to \$1000.00 to support the distribution of journals to developing countries.
3. The Executive Board concur on the proposed budget.
4. The Executive Board (President Ann Draughon) to appoint C. Dee Clingman to be the Industry Representative to the Advisory Group. This delegated position is unfilled.

Submitted by: Harry Haverland.

Food Sanitation

Date: July 30, 1995

Members Present: Joe Huseman, Michael Kasnia, Charles Felix, Phil Ventresca, Leslie Wisniewski, John Marcy, Tom Schwartz, and also present were Michael Brodsky and Thomas McCaskey.

Presiding: Gloria Swick, Chair.

Summary of Activities and Actions Taken:

Charles Felix completed the project of developing a Temporary Food Service Events Leaflet. Leslie Wisniewski will work on the project of Food Carts and Kiosks. Mike Kasnia is investigating what is available and what should be included in the Elementary School Curricula on Food Safety. Gloria Swick prepared a draft of the Food Sanitation/Disaster Manual and the committee examined the contents giving suggestions. A revised copy of the brochure will be mailed to committee members for examination and further input.

Recommendations to the Executive Board:

We submitted a proposal for a symposium for 1996 on Ethnic Food Safety.

Submitted by: Gloria Swick, MSA, RS.

Dairy Quality and Safety

Date: July 30, 1995

Mission Statement:

"This IAMFES committee works to improve quality and safety in production, processing and distribution of dairy products from farm to consumer."

Key Activities:

- Identify the needs of the dairy industry.
- Develop procedures and recommendations which address these needs.
- Disseminate information to appropriate dairy industry groups.

Presiding: Steven Sims, Chair, Dairy Quality and Safety; John Scheffel-Farm Section 10:00 a.m. to 10:30 a.m.; Wally Jackson, Educational Development Section, 10:30 a.m.-12:00 noon; Chris Newcomer (for Gaylord Smith) Plant Section, 12:00 noon to 12:45 p.m.

Members & Attendees Present: Craig Weaver, Ken Anderson, Stephanie Olmsted, Richard White, Don Kimball, Eugene Frey, Jeff Bloom, Chris Newcomer, Michael Brodsky, Randy Daggs, Everett Johnson, Wally Jackson, Terry Musson, Charles Price, Joe Huseman, Sid Barnard and Donald A. Yanick.

Summary of Activities and Actions Taken:

1. Symposia were prepared on 4 subjects:
 - Designing the 2,000 dairy operation.
 - Reverse osmosis on the dairy farm.
 - Increasing finished dairy product shelf life.
 - Aseptic and near aseptic processing of milk.

2. A dairy product test panel and judging contest was also proposed.
3. A draft IAMFES and Dairy practices council guideline for the handling of returned and reworked dairy products was reviewed and the next draft prepared.
4. The Educational Development section of this committee was formed and Mr. Wally Jackson asked to chair it. Mr. Jackson will select his own leadership cadre from the membership of this professional development group.
5. A project was begun to update membership and leadership members.
6. The mission statement and key activities of this PDG will remain the same.

Submitted by: Steven T. Sims, Chair.

Awards Committee

Date: July 30, 1995

Panels of IAMFES members participated in review of nominating. Very worthy candidates were selected for the Barnum, Educator, Citation and Sanitarian Awards.

Harold Barnum Industry Award – Damien A. Gabis

Citation Award – Charles Felix

Educator Award – Robert A. Gravani

Sanitarian of the Year – Everett Johnson

Submitted by: Charles D. Price.

IAMFES Affiliate Council

Date: July 30, 1995

Chairperson Susan Sumner called the meeting to order at 7:08 a.m.

Roll call of delegates by Affiliate Council Secretary, Joe Disch.

Delegates Present:

James A. McCaskey, AL
 Lawrence Roth, Alberta
 John Bruhn, CA
 Beth Johnson, Carolina's
 Peter Hibbard, FL
 Dave Fry, GAP
 Michael Davidson, ID
 Charles Price, IL
 Helene Uhlman, IN
 Randy Hanson, IA

David W. Klee, KY
 Fred Weber, Metropolitan
 Paul Nierman, MN
 Terry S. Long, MO
 Susan Sumner, NE
 Terry Musson, NY
 Gloria Swick, OH
 Sue Fraser, Ontario
 Michael John, PA
 Janie Park, TX
 Randy Osborne, VA
 Lloyd O. Luedecke, WA
 Joseph J. Disch, WI

Guests:

Steve Tackitt, NEHA President
 Joe Huseman
 Stephanie Olmsted

IAMFES Board: C. Dee Clingman, Ann Draughon, Michael Brodsky, Gale Prince and Harold Bengsch.

IAMFES Staff: Steve Halstead and Carol Mouchka.

Susan announced the winners of the Affiliate Council Awards:

Wisconsin won the Shogren award. Texas won the Membership award. Florida won the Citation for best Annual Meeting. Wisconsin won the Citation for their Educational Programs. Ontario won the Citation for Communications. Terry Musson gave a brief discussion on the Dairy and Food Symposia that are being presented at this year's annual meeting. He also thanked all of the members of the committees that worked on this program.

Joe presented the 1994 minutes for approval. Motion was made by David Klee, second by James McCaskey to approve the minutes as written. Motion carried.

Susan introduced President Dee Clingman. President Clingman gave a summary of the Association membership and gave a challenge to the Affiliates to bring in new members. President Clingman also indicated that there would be another dues increase this coming year. Some discussion developed on this subject. He also discussed the recommendations that were presented at the 1994 Affiliate Council meeting and indicated that most of those recommendations had been implemented. President Clingman also commented on the fine program that Susan Sumner had drawn up for this year's Affiliate Council meeting.

Susan introduced Steve Halstead who gave a brief discussion on the Affiliates being able to get speakers from the IAMFES officers. Affiliates will pay half of the travel and food costs involved and IAMFES will pay half of the travel and lodging.

Susan introduced Ann Draughon, President-elect, who thanked all of those present that worked on the PAC committee. Ann also gave a discussion on the Undergraduate Task Force. She proposed to the Affiliates that they develop an Undergraduate Recognition Award. The Affiliates would be responsible for administering the award and the Affiliates would be asked to provide \$50.00/affiliate. Susan asked for members who would serve on a committee to come up with some guidelines for administering the award with their recommendations being forwarded to the Executive Board. Beth Johnson(Chair), Lawrence Roth and Peter Hibbard agreed to serve on that committee.

John Bruhn then discussed the Operational Guidelines that his committee was asked by the Council at last year's meeting to develop. Discussion was held on all of the options that John had developed. (Guidelines were sent to all delegates before the meeting.) John made the suggestion that the Affiliate keep the status of the Affiliate Chairperson the same as is, but make the incoming Affiliate Council Secretary a non-voting participant of the Executive Board and to receive the minutes of board meetings. Charles Price moved that the Council adopt the operational draft without the options. Terry Musson seconded. Question was called. The operational guideline under section III, paragraph 2 was changed to read, the Executive Manager of IAMFES shall serve as a liaison to the Affiliate Council. Motion passed. The guidelines, as amended, will be sent to all Affiliates after the IAMFES Executive Board approves them.

Susan discussed the survey that was sent out to the Affiliates on what they thought of their role of hosting an annual meeting. This survey was sent to those Affiliates that had hosted an annual meeting since 1990.

Susan then chaired the Focus Group discussion. Each group was to prepare a list of the following: A. Strengths of the Affiliate Council; B. Weakness of the Affiliate Council; C. Role/Function of the Affiliate to IAMFES; D. Role/Function of IAMFES to the Affiliate.

After each group came up with many very good lists, a report was made by each group. All of the lists were posted and each delegate was asked to put a star by those suggestions that they thought were usable. (Susan will comply these in the order of the delegates list of important, so that they may be presented to the Executive Board.)

Then each group prepared ideas on how the Affiliates should be compensated for the Annual Meeting. These ideas will also be compiled and presented to the board.

Due to the lack of time there were no Affiliate reports conducted. Some of the Affiliate delegates did submit reports to the chair.

Election of Secretary: There were two candidates for the Affiliate Council Secretary position. They were John Bruhn of California and Peter Hibbard from Florida. Susan asked for nominations from the floor. Helene Uhlman moved to close the nominations, seconded by Paul Nierman. Motion passed. Ballot election was held, and John Bruhn was elected as Affiliate Council Secretary. Congratulations John!

Joe Disch thanked Susan Sumner for her fine work this past year as our Affiliate Council Chairperson.

Motion was made by John Bruhn to adjoin the meeting, seconded by Gloria Swick. Motion passed, meeting was adjointed at 10:35 a.m.

Submitted by: J. J. Disch, Council Secretary.

Announcement

As required by the IAMFES Constitution, we are notifying the membership that our vote tally on changing the title of "Executive Manager" to "Executive Director" was overwhelmingly in favor of the change. This announcement to the membership completes the entire process and from now forward, the Executive for IAMFES will be known as our "Executive Director."

Respectfully submitted,
F. Ann Draughon, President

Publish It.

The Editors are seeking articles of general interest and applied research with an emphasis on food safety for publication in *Dairy, Food and Environmental Sanitation*.

Submit your articles to:

Managing Editor
Dairy, Food and Environmental Sanitation
c/o IAMFES, Inc.
6200 Aurora Ave., Suite 200W
Des Moines, Iowa 50322-2863

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IAMFES FINANCIAL STATUS SEPTEMBER 1, 1994 TO AUGUST 31, 1995

**CASH ON HAND
SEPTEMBER 1, 1994** 226,105

Cash Flow from Operations:

Revenue:		% of Total Revenue:
Advertising	140,749	14.19
Membership	248,598	25.06
Communication	368,422	37.14
Administrative	22,310	2.25
Annual Meeting	169,860	17.13
Workshops	17,630	1.78
Feagan Award Fund	6,666	0.67
Restricted Fund	1,866	0.19
Foundation Fund	15,751	1.59
Total Revenue	991,852	100.00

Expense:

Salaries & Benefits	350,722	35.36
Termination Salary & Benefits	27,750	2.80
Building Operations	41,359	4.17
Office Operations	94,039	9.48
Professional Services	69,378	6.99
Publications	278,254	28.05
Travel	14,916	1.50
Executive Board	16,055	1.62
General Committee	3,098	0.31
Annual Meeting	121,418	12.24
Workshops	8,933	0.90
Feagan Award Fund	5,087	0.51
Restricted Fund	1,297	0.13
Foundation Fund	10,506	1.06

Total Expense 1,042,812 105.12

Revenue Less Expense (50,960)* (5.12)

Change In:

Asset/Liability Accounts 114,834

Net Cash Flow from Operations 63,874

Investing Activities:

Proceeds—Sale of Equipment 500

Equipment Purchases (14,456)

Net Change in Cash Flow 49,918

Cash on Hand

August 31, 1995 276,023

* Revenue Generated by Fund

General Fund (58,353)

Feagan Fund 1,579

Restricted Fund 569

Foundation Fund 5,245

Revenue Less Expense (50,960)

IAMFES

AWARDS

1 • 9 • 9 • 5

Citation Award

The Citation Award is presented by IAMFES to an individual in recognition of years of services and devotion to the ideals and objectives of the Association. The 1995 Citation Award winner is Charles Felix. Charles, owner and President of Charles Felix Associates, a public health consulting firm, has been an IAMFES member for the majority of his professional life. He seldom misses an IAMFES Annual Meeting and his firm has been an exhibitor for a number of years.

With a Masters in Public Health from Yale University, Mr. Felix began his professional career working for the Food Service and Packaging Institute. In this position, he developed his political savvy and sharpened his communication skills. He currently edits and publishes the *Food Protection Report*, *Food Talk* and *Environmental News Digest*.

Mr. Felix was instrumental in establishing the Food Protection Conference and played a key role in developing a letter of understanding between the FDA and the Conference. This facilitates the process of incorporating Conference recommendations in the federal rule making process.

Since 1966, Mr. Felix has managed the selection process for the Samuel J. Crumbine Award, an award which identifies and recognizes the country's leaders in county level environmental health programs.

Active in several professional organizations, Mr. Felix is a recipient of the American Public Health Association's Distinguished Service Award and the National Environmental Health Association's Past President's Award as well as its Industry Sanitarian Award.

Mr. Felix has served on a number of IAMFES committees and task forces. Most recently, he has been chairperson of the Food Service PDG. He has given unselfishly of his time in consulting with the IAMFES publications staff and his efforts deserve much credit for the improvements seen in that area.

Harold Barnum Industry Award

The Harold Barnum Industry Award, sponsored by NASCO International, is given in recognition of outstanding service to the public, IAMFES and the profession of a Sanitarian. The 1995 recipient of the Harold Barnum Industry was Damien Gabis. Born and raised in Ohio, Damien Gabis was educated at Steubenville College, the University of Kentucky and North Carolina State University.

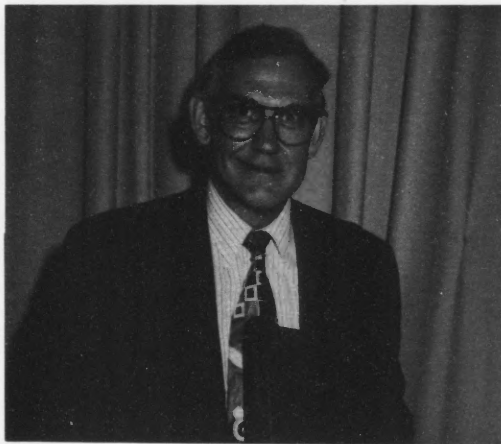
Outside of working for the Ohio Department of Health for one year, all of Dr. Gabis' professional career has been spent with Silliker Laboratories, Homewood, Illinois, where he has been the Chief Executive Officer since 1990.

Dr. Gabis has shown great leadership in the growth and impact of Silliker Labs. He has been at the fore-front of several highly publicized foodborne outbreaks, establishing the causes and remediating the problem.

Dr. Gabis has published over 30 papers and made more than 60 presentations to various groups. He has volunteered his talents as a consultant for the Aid to Developing Countries program, most recently in Nepal and Costa Rica.

Dr. Gabis is active in a number of professional organizations. He was elected IAMFES Secretary in 1988 and served the Association as its President in 1992.

Damien Gabis accepts the Harold Barnum Industry Award.



Everett Johnson accepts the Sanitarian Award.



Sanitarian Award

The Sanitarian Award is sponsored by Diversy Corporation, Klenzade and H.B. Fuller Co., Monarch Division, to recognize an individual for outstanding service to the profession of the Sanitarian. The 1995 Sanitarian Award recipient was Everett Johnson. Born and raised on a Wisconsin dairy farm, Everett Johnson soon developed an interest in all aspects of dairy and food processing but was particularly interested in sanitation. As time went on, he came to realize the value of designing processing equipment with sanitation principals in mind and became an outstanding proponent for sanitary design.

His early career with the Wisconsin Department of Agriculture was as a dairy inspector. Over time, his knowledge of food and dairy processing led him to head up this work for the state of Wisconsin. He has travelled extensively internationally both as a processing inspector and as a consultant.

A longtime member of the Wisconsin Dairy and Food Sanitarians as well as IAMFES, Mr. Johnson has served for over fifteen years on the IAMFES Sanitary Procedures Task Force. This task force is responsible, in part, for the 3-A Sanitary Standards and Procedures. In this role, Mr. Johnson recently represented the task force in its discussions with the ISO 9000 committee on sanitary equipment design and implementation for food and dairy processors.

Educator Award

The Educator Award, sponsored by IBA, Inc., honors outstanding service in academic contribution to the profession of the Sanitarian. The 1995 Educator Award was presented to Robert Gravani, Associate Professor of Food Science, Cornell University. Robert received his BS from Rutgers University and his MS and Ph.D. from Cornell University.

His professional career began at the Institute of Food Science. From there he became the Science Director for the Cereal Institute. In 1978, he was appointed to the faculty at Cornell University. He has been there ever since, becoming a full professor in 1991. His appointment allows him ample opportunity to teach and develop new courses at the graduate and undergraduate levels as well as spending time in extension work while keeping his research interests active through the supervision of graduate students.

Dr. Gravani has written over one hundred thirty articles, booklets, pamphlets, slide series, videos and book chapters. He makes dozens of presentations annually to a wide variety of groups. He especially enjoys working with consumer groups.

Dr. Gravani is very active in several professional organizations and has received numerous honors and awards. He was a member of the IAMFES Executive Board from 1986 - 1991, serving as IAMFES President in 1990.



Robert Gravani accepts the Educator Award.

Developing Scientist Awards

The Developing Scientist Awards Competition is sponsored by the IAMFES Foundation. Graduate Students' papers and presentations are judged by committee and first through third place are announced for oral presentations and poster presentations. First place recipients receive a plaque and \$500, second place recipients receive a certificate and \$300, and third place recipients receive a certificate and \$100.

Oral Presentation Award Winners were:

First Place—Maria Nazarowec-White, Health Canada, Ottawa, Ontario, Canada for: "Biological Characterization of *Enterobacter sakazakii*."

Second Place—Peter Bodnaruk, University of Tennessee, Knoxville, TN, USA for "Influence of pH and Incubation Temperature on Virulence and Fatty Acids of *Yersinia enterocolitica*."

Third Place—Tina S. Schwach, University of Minnesota, St. Paul, MN, USA for "The Effect of Iron Levels on Growth, Toxicity and Adherence of *Enterohemorrhagic Escherichia coli*."

Poster Presentation Winners were:

First Place—J. D. Schuman, North Carolina State University, Raleigh, NC, USA for "Thermal Resistance of *Aeromonas hydrophila* in Liquid Whole Egg."

Second Place—Willie Taylor, University of Tennessee, Knoxville, TN, USA for "*Nannocystis exedens* as a Potential Biocompetitive Agent Against Toxigenic *Aspergillus flavus* and *Aspergillus parasiticus*."

Third Place—Wei Tan, University of Tennessee, Knoxville, TN, USA for "Growth and Survival of *Listeria monocytogenes* in Minimally Processed Green Beans as Influenced by Modified Atmosphere Packaging, NaCl Treatment and Storage Temperature."



Winners for Developing Scientist Awards are front row (left to right) Wei Tan, Tina Schwach, Maria Nazarowec-White, back row (left to right) Peter Bodnaruk, Willie Taylor, and J. D. Schuman.

Lloyd Bullerman accepts the Honorary Life Membership Award.



selected to be *JFP*'s Scientific Editor. Under Dr. Bullerman's leadership, the *JFP* has grown in size and stature to where it is now internationally recognized as the foremost publisher of research in food safety.

In 1985, Dr. Bullerman received the IAMFES Educator Award in recognition of work with graduate and undergraduate food science students.

Honorary Life Members

From time to time, the IAMFES Executive Board recognizes IAMFES members for their outstanding achievements by making them Honorary Life Members. The two most recent recipients of this honor are Lloyd Bullerman, and Robert T. Marshall.

Lloyd Bullerman has been a member of the Food Science Department at the University of Nebraska for over thirty years. His special expertise is mold identification and isolation. His knowledge of this field is internationally renowned.

Dr. Bullerman first joined IAMFES in 1970 and has been an active member ever since. He was instrumental in establishing IAMFES' Developing Scientist Competition. He has served on the Editorial Review Board of the *Journal of Food Protection* for over twenty years and in 1988 was

Bob Marshall was unable to attend the Annual Meeting. Dee Clingman accepted his award in his absence.

After receiving his BA from the University of Missouri, Bob Marshall spent three years in the Air Force as a pilot. He returned to Missouri and completed work on his masters and doctorate degrees. Shortly after receiving his doctorate, he was invited to become a faculty member and has been there ever since. His field of expertise is food and dairy processing with a particular emphasis on dairy desserts.

An active member of IAMFES for over thirty years, Dr. Marshall has given unselfishly of his time and energies in improving the Association. He was a member of the Executive Board from 1977 - 1984, serving as the Association's President in 1983. He has been a member of the *Journal of Food Protection* Editorial Review Board for over twenty years; is a member of the Strategic Long Range Planning Task Force, the Past President's Advisory Committee and the IAMFES Foundation Board of Directors.

In 1986, Dr. Marshall received the IAMFES Educator Award in recognition for his work with undergraduate and graduate students.

Affiliate Council Secretary, Joseph Disch, accepted the C. B. Shogren Award and the Outstanding Educational Program Award for Wisconsin Association of Milk and Food Sanitarians.



Membership Achievement Award

This Award is presented to the IAMFES Affiliate which has had the most new members in the past year. This year's winner was the Texas Association of Milk, Food and Environmental Sanitarians.

C. B. Shogren Award

The Shogren Award is presented to the IAMFES Affiliate that shows outstanding service to its members over the past year. The 1995 recipient is the Wisconsin Association of Milk & Food Sanitarians. The award was presented by Affiliate Council Representative, Susan Sumner and includes a plaque and check for \$100.00.

Norbert F. Sherman Award



Mary Miller and Lucia James-Davis accept the Norbert F. Sherman Award.

The Norbert F. Sherman Award which is sponsored by the Educational Foundation of the National Restaurant Association, provides recognition for outstanding articles on foodservice and food protection appearing in the *Journal of Food Protection* or *Dairy, Food and Environmental Sanitation*. The award honors Norbert F. Sherman, the late treasurer of the Educational Foundation and an advocate of improved industry food protection standards. The 1995 Norbert F. Sherman Award was presented to:

Mary Miller, Lucia James-Davis, and Lori Milanesi - Microbiologists for Darden Restaurants (formerly General Mills Restaurants) for "A Field Study Evaluating the Effectiveness of Different Hand Soaps and Sanitizers."

The article appeared in the March 1994 issue of *Dairy, Food and Environmental Sanitation*. The authors received a distinguished plaque and a \$500 honorarium.

Editor's Note:

Somehow over the last few years a recognition listing of a Honorary Lifetime Member had been dropped from our records. This inadvertant error, fortunately, was pointed out to IAMFES. To make amends for this mistake we are reprinting the original announcement of the Honorary Lifetime Membership Award for Dr. Laurence G. Harmon. The original announcement ran in the November 1980 issue of the *Journal of Food Protection*.

Reprinted from Journal of Food Protection, November 1980

Laurence G. Harmon, just recently retired as Professor of Food Science and Human Nutrition from Michigan State University, received Honorary Life Membership. Harmon served 27 years on the Editorial Board of the *Journal of Food Protection*, a research journal published by IAMFES.

Harmon received his degrees from Kansas State University, Texas Technological University and Iowa State University. He worked with a number of graduate students through his teaching career which began at Texas Tech and continued at Michigan State, where he eventually served as Associate Chairman of his department.

He has published over 100 articles in various scientific publications, several of which resulted in awards, including the Award of Honor of the American Dairy Science Association, Rockefeller Foundation Fellow, and Pfizer Award for Excellence in Research.

Harmon is listed in "American Men and Women of Science" and "Who's Who in America." In addition to IAMFES, he is a member of the American Society for Microbiology, Institute of Food Technologists, and American Dairy Science Association.

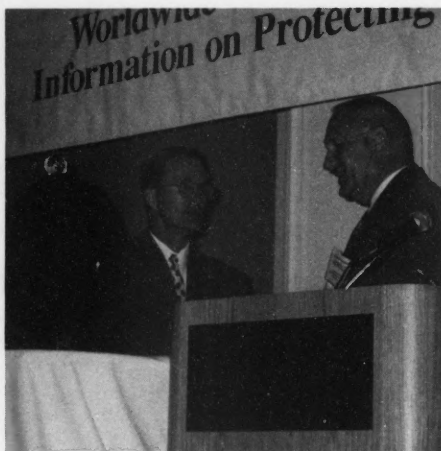
Our sincere apologies to Dr. Harmon and a reassurance that the listing has been corrected.

The Black Pearl Award

The elusive Black Pearl, sought after from oceaania to the orient by European Lords and Asian Emperors alike. Its rarity is a sign of determination. Its luster a sign of quality. Its acquisition a sign of excellence.

"The Black Pearl" award was created from the support of Wilbur Feagan and the F & H Food Equipment Company and through the direction of the IAMFES Board to recognize companies for outstanding achievements and excellence in corporate food safety and quality.

Harald Bengsch presents
the Black Pearl Award
to Steve Hilton of
Albertson's, Inc.



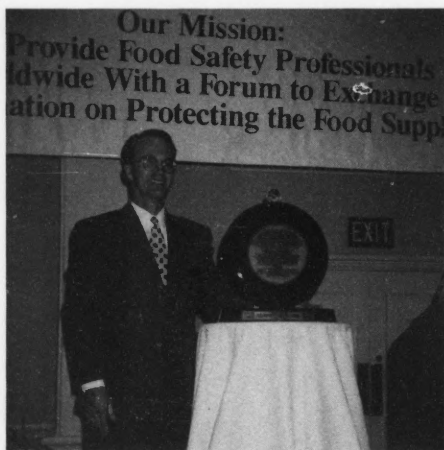
This year's recipient was Albertson's, Inc. Albertson's is the fourth largest food-drug chain in the United States, supporting 720 retail stores in 19 states, 11 company-owned distribution centers, and a total of 77,000 employees.

In 1993, both the Chairman of the Board and President issued the following challenge and solution: "To be the best supermarket in your neighborhood," and "Teamwork." A key element of this process was a FOOD SAFETY and SANITATION TRAINING PROGRAM. This program was designed not only for store directors and department managers, but for the very top management as well. Attesting to executive management's commitment, all Senior Vice Presidents and Division Vice Presidents have successfully completed the National Assessment Institute's exam for Certified Professional Food Managers. To date, over 5,000 executives, divisional staff, store directors, and department managers have been trained. In addition, over 40,000 food handling employees have received the fundamental food handling skills training.

In supporting the goals of IAMFES, Albertson's involved local regulatory officials in each state where they operate the training program.

This year's recipient certainly set a high standard for others to achieve. The letters of support from state regulatory agencies attested to that fact. Congratulations to Albertson's, Inc.

Steve Hilton accepts the
Black Pearl Award for
Albertson's, Inc.



IAMFES Annual Meeting Exhibitors

1995

3-A Sanitary Standards Symbol Council

Columbia, SC 29209-3502
(803) 783-9258
Fax: (803) 783-9265

The 3-A Symbol Council authorizes the voluntary use of the 3-A Symbol for use of dairy equipment. This voluntary use of dairy equipment (1) assures processors that equipment meets sanitary standards, (2) provides accepted criteria to equipment manufacturers for sanitary design and (3) establishes guidelines for uniform evaluation and compliance by sanitarians. Information will be available for all segments of the industry.

3M Microbiology Products

St. Paul, MN 55144-1000
(612) 733-0942
Fax: (612) 737-7678

3M Microbiology Products announces two exciting new additions to the 3M Petrifilm™ line. The new Petrifilm Series 2000 Rapid Coliform Count Plate can provide coliform information in as little as four hours. The new Petrifilm Enterobacteriaceae Count Plate extends the laboratory efficiency benefits of Petrifilm plates to labs performing this popular international indicator test.

ABC Research Corporation

Gainesville, FL 32607
(904) 372-0436
Fax: (904) 378-6483

Full service food chemistry and microbiology laboratory. FDA accepted, seafood imports; decomposition, residues, filth analyses. HACCP training courses, foreman, supervisors or custom designed for individual companies. Nutritional labeling; water and wastewater analyses; product development, pilot plant, plant audits, consulting, government liaison.

Advanced Instruments, Inc.

Norwood, MA 02062
(617) 320-9000
Fax: (617) 320-8181

Advanced Instruments displays cryoscopes for detection of added water in milk, and the Fluorophos® ALP Test, a three minute quantitative alkaline phosphatase assay that detects as little as 0.0006% raw milk contamination in finished dairy products.

Aquionics, Inc.

Erlanger, KY 41018
(606) 341-0710
Fax: (606) 341-2302

High intensity ultraviolet systems for disinfection of fluids, air and packaging will be showcased. Ultraviolet is a non-chemical, non-heat exchange method for killing bacteria, yeast, mold and virus commonly found in food processes.

Atkins Technical, Inc.

Gainesville, FL 32608
(904) 378-5555
Fax: (904) 335-6736

Atkins manufactures digital thermo-couple thermometers, recorders and probes for applications in food safety and quality assurance... to ensure your HACCP Program's Success.

Becton Dickinson Microbiology Systems

Cockeysville, MD 21030
(410) 584-8959
Fax: (410) 584-7146

Becton Dickinson Microbiology Systems will exhibit a comprehensive line of BBL® products for the cultivation and identification of pathogens and other microorganisms. We will also exhibit our complete offering of culture media, including the BBL® pour bottles and

disposable dilution bottles. In addition, an innovative new identification system will be presented.

BioControl Systems, Inc.

Bothell, WA 98011-8214
(206) 487-2055
(800) 245-0113
Fax: (206) 487-1476

BioControl introduces VIP™, the new one-step test that is "built for speed," adding to our range of Rapid Microbiology Test kits for food pathogen screening and HACCP applications: The 1-2 Test® for *Salmonella*, Assurance® ELA's for *Salmonella*, *Listeria* and *E. coli* O157:H7, ColiComplete® and colitrak tests for *E. coli* and coliforms detection.

bioMérieux Vitek

Hazelwood, MO 63042
(314) 731-8500
Fax: (314) 731-8678

bioMérieux Vitek features automated mini VIDAS® for rapid pathogen screening of *Salmonella*, *Listeria*, and *E. coli* O157 and staphylococcal enterotoxin using enzyme-linked fluorescent assays. Also on display will be the fully automated MicroTeam® system for detection, enumeration and identification of microorganisms. Shelf life determination on food and dairy products may also be performed.

Bioscience International, Inc.

Rockville, MD 20849-1098
(301) 230-0072
Fax: (301) 230-1418

Bioscience will demonstrate microbiology equipment designed to increase lab productivity, a full range of spiral platers, including the new Whitley automated spiral

plater; Protos for bacterial colony enumeration; the new SAS Super 90 microbial air sampler; Microbiofood software, and other unique food and environmental sampling tools.

Biotrace, Inc.

Plainsboro, NJ 08536
(609) 897-0282
Fax: (609) 897-0289

The BIOTRACE UNI-LITE SYSTEM is the world's first direct swab monitor for rapid hygiene monitoring. The MULTI-LITE SYSTEM monitors contamination of process water and CIP systems in addition to surface swabs. This technology is supported by a staff committed to customer service and experienced and focused on the implementation of hygiene monitoring.

Capitol Vial, Inc.

Tucson, AZ 85715
(800) 688-9515
(602) 529-0788
Fax: (602) 529-0243

In this day of rigorous laboratory testing and vigorous regulatory activity, even a single adulterated sample can have devastating economic effect. Only an absolutely leakproof, airtight and sterile sample container with an attached cap can guarantee sample integrity. Only one company can fully guarantee that its vials are: Leak-proof, Airtight, Sterile.

Cargill Analytical Services

Cedar Rapids, IA 52401
(319) 366-3570
Fax: (319) 366-4018

Cargill Analytical Services offers microbiological and chemical testing, as well as a wide variety of technical services. Assistance in problem-solving, on-site training, nutrition labeling, quality control, HACCP programs, methods and product development, and more are all provided with a commitment to total quality.

Charles Felix Associates

Leesburg, VA 22075
(703) 777-7448
Fax: (703) 777-4453

Charles Felix Associates is a consulting firm specializing in public health promotion, specializing in the area of food safety. The CFA exhibit offers samples of CFA publications: *Food Protection Report* and *Food Talk*. Also materials from CFA clients relating to single service (The Foodservice & Packaging Institute) and ice sanitation (The Packaged Ice Association).

Charm Sciences, Inc.

Malden, MA 02148
(617) 322-1523
Fax: (617) 322-3141

HACCP compliance using rapid Charm tests for antibiotics, aflatoxins, alkaline phosphates and pesticides. New generation Charm tests for *E. coli*/coliforms, hygiene monitoring, keeping quality prediction, somatic cells and heat cooking efficiency for meat. Charm has the versatility to offer all of these tests on bench top or portable units.

ChemStation International

Dayton, OH 45439
(513) 294-8265
Fax: (513) 294-5360

Each of thirty Manufacturing Centers blend product to specification and deliver into refillable containers. Generates economies by eliminating costs related to ordering, receiving, storing, handling and disposing; is ecologically sound because products are environmentally friendly and delivery system produces no waste. Tested and proven effective in the food processing industry.

Compliance Control

Forestville, MD 20747
(800) 810-4000
(301) 735-2207
Fax: (301) 735-0028

Handwashing compliance systems with individual monitoring and wash due notification. Frequency reporting for HACCP and FDA Food Code monitoring/measurement compliance.

Decagon Devices, Inc.

Pullman, WA 99163
(509) 332-2756
Fax: (509) 332-5158

AquaLab from Decagon measures water activity. Water activity is important in predicting food quality and safety, and crucial in monitoring microbial growth and enzymatic synthesis. AquaLab is accurate, $\pm 0.003 a_w$, over a wide range, 0.030 to 1.000 a_w , with the fastest measurement time, less than 5 minutes per reading.

DFL Laboratories

San Ramon, CA 94583
(510) 830-0350
Fax: (510) 830-0379

DFL Laboratories, established in 1925, is a client driven service laboratory offering the highest quality microbiology testing, chemical analyses and nutrition labeling services. DFL can assist you in your HACCP, Quality Control, and Regulatory needs. Among the many services we provide are: shelf life studies, consultation, environmental programs, and on-site training programs.

Difco Laboratories

Detroit, MI 48232
(800) 521-0851
(313) 462-8505
Fax: (313) 462-8517

Difco Laboratories, celebrates a Centennial anniversary by presenting quality products for industrial microbiology. Products featured will include EZ Coli Rapid test system, 3-step Gram Stain, DrySlide, food testing culture media, Sterility bottles, Tripple bagged Sterile Contact Plates.

Diversey Corp.

Livonia, MI 48150
(313) 458-5000
Fax: (313) 458-2471

Our wide product line solves your toughest cleaning challenges for manual, foaming and CIP applications in the dairy farm and dairy plant industry. Diversey specialists help to minimize costs and maintain the highest standards of quality

through technological innovations. Our new products and programs featuring Enzyme Cleaning and Farm Sanitation Audit kits only offered by Diversey are just a few of those innovations.

DQCI Services, Inc.

Mounds View, MN 55112
(612) 785-0484
Fax: (612) 785-0584

DQCI Services provides standards for the calibration of milk testing infrared equipment. These standards are provided in a variety of ranges for fat, protein and total solids. Special calibration sets can also be tailor-made for individual plant purposes. Chemical, bacteriological, and antibiotic testing for dairy and dairy food products are also provided for clients across the USA.

DuPont Company

Wilmington, DE 19880
(302) 695-2356
Fax: (302) 695-9027

DuPont Food Quality Management Systems has developed novel, genetics-based technologies that provide definitive and timely microbial testing solutions. The RiboPrinter™ Microbial Characterization System uses RiboPrint™ patterns based on ribosomal RNA genes to identify bacteria by genus and species and to characterize bacteria below the species level.

Dynai, Inc.

Lake Success, NY 11042
(516) 326-3270
(800) 638-9416
Fax: (516) 326-3298

Dynabeads® Microbiology Selective Enrichment Products enable rapid detection of foodborne pathogens. Dynabeads® products utilize magnetic microspheres coated with highly specific antibodies to capture *Salmonella* species or *E. coli* O157 directly from pre-enrichment broth. The technique is simple, sensitive and cost effective. The use of Dynabeads® anti-*E. coli* O157 product will be

featured in the upcoming 8th edition of the BAM.

Ecolab Inc. Pest Elimination

St. Paul, MN 55102
(800) 325-1671
Fax: (612) 225-3088

ECOLAB, Pest Elimination provides pest management services for food and beverage processors, including initial facility inspections, initial clean-out and on-going service.

The Educational Foundation of the National Restaurant Association

Chicago, IL 60606
(800) 765-2122
Fax: (312) 715-0807

The Educational Foundation of the National Restaurant Association is recognized as the nation's leader in providing food safety education and training for the food service industry. Over 440,000 food service managers have been certified and a million employees trained through the SERVSAFE Serving Safe Food Program.

Electro-Steam Generator Corporation

Alexandria, VA 22314-1299
(703) 549-0664
Fax: (703) 836-2581

All-Electric Steam Generators, 98% efficiency. Point-of-use placement. No water treatment chemicals, Culinary grade steam. 316-316L Stainless steel available. No flame, flue or fumes. ASME National Board of PVI, UL, ETL, CSA.

Future Medical Technologies, International Inc.

Decatur, GA 30035
(404) 808-8888
Fax: (404) 808-4525

Future Medical Technologies designs, manufactures, markets and distributes worldwide, technologically advanced microbiological disposable products and ancillary equipment for the rapid detection of *Salmonella*, total count, *Listeria*, yeast and mold or bacteria in

liquids for use in industrial and clinical laboratories.

Foss Food Technology

Eden Prairie, MN 55344
(612) 941-8870
Fax: (612) 941-6533

Foss Food Technology, the leader in high quality analytical instruments, presents a new range of advanced, rapid milk analyzers for Milk and Dairy product analysis: **MilkoScan 50**, covers all routine milk testing needs. Inexpensive, robust, user friendly. Large/Small size plants. **MilkoScan FT120**, FTIR Technology, full spectrum product analysis, optimum results, for complex dairy products. Range of models, self-cleaning, no sample preheating, windows software, diagnostics, modem capability.

G & H Products Corp.

Kenosha, WI 53142
(414) 694-1010
Fax: (414) 694-2907

G & H Products Corp., part of the worldwide Alfa Laval Flow Group, is a full-line supplier of the most advanced stainless steel pumps, valves and measuring and control equipment. G & H will be featuring its new 3A authorized vacuum breaker that is mechanically cleanable, along with its comprehensive line of pumps and valves for dairy processing applications.

Gardex Chemicals, Ltd.

Etobicoke, ONTARIO
(416) 675-1638
Fax: (416) 675-6727

Gardex Chemicals Inc. is in the business of importing, manufacturing and distributing pest control supplies and equipment. Gardex responds to the industry's demand for greater access to technology and innovative products worldwide. Gardex not only offers a complete line of insecticides, baits glue boards, monitors, application equipment and light traps, but is able to offer ancillary services such as application training and consultation on pest management.

GigaROM Inc.

Littleton, CO 80127

(303) 932-0511

Fax: (303) 979-8934

GigaROM Inc. develops user friendly custom windows software; CD-ROM archiving; and windows barcode inventory and tracking programs used in laboratory settings.

Gist-brocades

Menomonee Falls, WI 53051

(800) 423-7906

(414) 255-7955

Fax: (414) 255-7732

Gist-brocades Dairy Ingredients Group will be demonstrating new printer equipment for the Delvo-X-PRESS 8 minute test for detection of antibiotics in bulk milk, as well as displaying Delvotest® P/SP standard diffusion tests for determining the presence of antibiotic residues in individual cow samples.

Idetek, Inc.

Sunnyvale, CA 94089

(408) 745-0544

Fax: (408) 745-0243

Idetek's two novel technologies complement its LacTek Quality Assurance tests. The Parallax™ Processor screens for up to six beta-lactam antibiotics in 3 minutes, with less hands-on time than any current test. The BIND® system enables screening for *Salmonella* in 22 hours (including pre-enrichment), while providing sensitivity and specificity unparalleled by other rapid methods.

IDEXX Laboratories

Westbrook, ME 04092

(800) 321-0207

(207) 856-0675

Fax: (207) 856-0630

LIGHTNING™, an ATP-bioluminescence assay, is the most portable and easy to use cleaning validation system available. LIGHTNING™ will prove your plant is ready for production and is an important component of HACCP. SNAP™ is a simple and portable antibiotic

residue test for milk. SNAP Beta-Lactam, an AOAC licensed product, will assure your milk meets Appendix N requirements.

Integrated Biosolutions, Inc.

Monmouth Junction, NJ 08852

(908) 274-1778

(800) 222-8260

Fax: (908) 274-1733

Developed based upon industry input, the new Inspector luminometer makes it possible to rapidly monitor the microbial quality of Critical Control Points. In addition to our Sanitation Control Test, a variety of procedures are available to meet the diverse needs of the quality control professional. An integrated system of instruments designed to automate traditional microbiological analysis will also be displayed.

International BioProducts, Inc.

Redmond, WA 98052

(206) 883-1349

Fax: (206) 881-6880

International BioProducts offers TECRA diagnostic products for rapid detection of *Salmonella*, *Listeria*, *E. coli* O157, Staphylococcal and Bacillus Diarrhoeal Enterotoxins. TECRA UNIQUE is a new 22 hour *Salmonella* test. TECRA OPUS is an automated ELISA system for *Salmonella* and *Listeria* detection. In addition, we sell over 1,000 laboratory supplies including BioPro Premium dehydrated culture media.

Klenzade, Ecolab Inc.

St. Paul, MN 55102

(612) 293-2233

Fax: (612) 293-2260

Klenzade provides sanitation products, systems and services for the dairy, food and beverage processing industries, including detergents, sanitizers, conveyor lubricants, water care and surface sanitation verification utilizing ATP technology.

LaMotte Company

Chestertown, MD 21620

(800) 344-3100

Fax: (410) 778-6394

Test kits, reagents and meters for analysis of sanitizers, cleaners and pH. Test papers for iodine, QAC and chlorine. Combination kits for warewash. We displayed our latest development, the Smart Colorimeter, a microprocessor based multiwavelength unit for complete water analysis.

Michelson Laboratories, Inc.

Commerce, CA 90040

(310) 928-0553

Fax: (310) 806-3580

Full service analytical laboratory specializing in food and environmental testing. We offer nutritional labeling programs, QA, QC programs, complete chemical and microbiological analysis. We are recognized by the FDA and certified by the USDA and the Japanese Ministry of Health and Welfare. We work closely with the dairy, produce, seafood, processed food and meat industries.

Microbac Labs

Pittsburgh, PA 15237

(412) 931-5851

Fax: (412) 931-0473

Microbac representatives were present to discuss our complete microbiological, chemical, and nutritional analytical services, sanitation inspection services, and consulting services to the food industry. Microbac has 19 laboratories located nationwide, and its' Pittsburgh headquarters laboratory is accredited for meeting ISO 25 laboratory quality standards.

NASCO

Fort Atkinson, WI 53538-0901

(414) 563-2446

Fax: (414) 563-8296

NASCO exhibited Whirl-Pak sample bags. These polyethylene sterile bags are the only ones to feature both "Puncture Proof Tabs" and sterility documentation. New bags

to see are (1) a Retain bag for long term sample retention, (2) larger size sponge bag for Stomacher use, (3) special Stomacher bag with rounded corners, and (4) a new size write-on bag.

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Nelson-Jameson offers a wide range of unique products to help food and dairy processors integrate QA/QC with plant operations. Over 8000 products are featured in their 424-page Buyers Guide. It is free to qualified buyers. Expert technical support, competitive prices, same-day shipping policy, and toll free fax and phone ordering are provided.

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Organon Teknika, a leader in laboratory technology and developer of ELISA, offers rapid screening tests for food pathogens; Salmonella-Tek™, Listeria-Tek™ and EHEC-Tek™, the only test specific for O157:H7. Introducing Bact/Alert™, automated microbial detection system for sterility testing of aseptically processed foods.

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PRISM Guaranteed Pest Elimination has provided a pest free environment to the Food Service - Hospital Industry for over 30 years. With

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Q C Inc.

Southampton, PA 18966
(215) 355-3900
Fax: (215) 355-7231

Q. C. Inc. is an analytical service laboratory serving the Food and Dairy Industry to include environmental capabilities (multiple state certifications). We are also a USDA recognized laboratory for meat speciation, *Salmonella* and *Listeria* analysis.

Q Laboratories, Inc.

Cincinnati, OH 45214
(513) 662-1300
Fax: (513) 662-1380

Q Laboratories, Inc. is an independent testing and consulting laboratory, providing microbiological and analytical chemistry support to the food, beverage, cosmetic, pharmaceutical, and dairy industries. Services include QC/release testing, antimicrobial efficacy testing, GMP testing, plant sanitation audits (HACCP approach), nutritional labeling, preservative analysis, shelf-life studies, and complete pathogen testing. Our Research and Development Division provides analyst training and education programs in compendial and rapid methods.

R-Tech

Minneapolis, MN 55440-0116
(612) 481-2207
Fax: (612) 486-0837

R·TECH is Results Technology, a full service food testing and research laboratory providing analytical services, microbiology, food research, sensory services, pilot plant, packaging and nutrition labeling consultation. R·TECH is a USDA accredited laboratory for composition, pesticides, sulfa drugs, *Salmonella*, and *Listeria*. Try our cost effective approach to your testing and research needs and experience the R·TECH difference.

Raven Biological Labs

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Fax: (402) 556-4722

Raven Biological Labs exhibited biological indicators for use in the validation of sterilization process.

REMEL

Lenexa, KS 66215
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(800) 255-6730
Fax: (800) 447-5750

REMEL manufactures and distributes products used in the microbiology laboratory. Featured products include a complete line of prepared, bottled media for sterility testing, microbial limit testing and environmental monitoring. Additionally, a "clean room" product line which includes contact plates (rodacs) and settling plates is available. Stop by or call 1-800-255-6730.

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Fax: (708) 957-8449

For over 27 years, Silliker Laboratories has been the nation's leading food testing and consulting organization. We have grown from a single microbiology laboratory to an international network of labs which specialize in assessing the safety, quality and nutritional value of foods. Our capabilities include complete microbiological and analytical chemistry analyses. In addition, Silliker also offers custom-

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Spiral Biotech, Inc.

Bethesda, MD 20814

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Fax: (301) 652-5036

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Steritech Environmental Services provides integrated pest elimination services, flying insect control programs and sanitation audits for the food processing industry. We have developed HACCP monitoring programs and integrated the principles of ISO 9000 to help prevent contamination from insects and rodents. Steritech provides services in 14 states in the Eastern United States.

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National manufacturer of specialty chemicals for all food industries for over fifty-eight years. Zep has approximately 1,300 sales/service full time representatives working out of forty-six branch office/distribution centers throughout North America. Zep is a major supplier of handsoaps, drain maintenance, restroom disinfectants, insecticides, cleaners, foaming, CIP acid sanitizers and a chemical dilution center with computer print-out.

1995 Marschall Rhône-Poulenc International Dairy Science Award Is Presented to Audrey Jarvis

The 1995 Marschall Rhône-Poulenc International Dairy Science Award was presented to Audrey Jarvis of the New Zealand Dairy Research Institute for her significant contribution to the understanding of the relationship between bacteriophage and lactic acid bacteria. Jarvis was honored during an awards program on June 27th held in conjunction with the 1995 Annual Meeting of the American Dairy Science Association. The convention was hosted by Cornell University, Ithaca, New York.

Jarvis has been a pioneer in the use of molecular biology to study the mechanisms of bacteriophage action and replication. Results from her research have been used to identify lactococcus strains and to identify new strains for use in the dairy industry. She has sequenced the genome of the prolate-headed bacteriophage and the gene for the phage lysin. This important research is now being exploited to develop methodology for producing bacteriophage-resistant starters with a longer commercial life in the cheese industry.

Rhône-Poulenc Dairy Ingredients, formerly Marschall Products, has sponsored the International Dairy Science Award of ADSA since 1981. They serve the dairy and food industries with starter cultures, coagulation and flavor enzymes, and natural colors. Rhône-Poulenc Dairy Ingredients is part of the Food Ingredients enterprise of Rhône-Poulenc Inc.,

the North American affiliate of Rhône-Poulenc S. A., based in France. Rhône-Poulenc S. A. is the world's largest manufacturer of chemicals and pharmaceuticals.

Foodmaker, Inc. Appoints New Controller

Foodmaker, Inc., which operates the Jack in the Box® restaurant chain, has appointed Darwin J. Weeks as vice president and controller. In his new position, he is responsible for the company's corporate accounting, corporate and public financial reporting, and Securities and Exchange Commission reports.

"With nearly 20 years of financial expertise with Foodmaker, Mr. Weeks has a thorough understanding and knowledge of the company's financial business," said Charles W. Duddles, Foodmaker's chief financial officer. "His contributions have been a significant asset to the company." Weeks succeeds Robert Suttic, who recently left the company to become the chief financial officer of Dobbs International Services, a division of Dial Corporation.

Wil Pergande Named New General Manager of Vaponics

Dean Spatz, President and CEO of Osmonics (NYSE/OSM), has announced the appointment of Wil Pergande as Chief Operating Officer and General Manager of Vaponics, Inc., Osmonic's business unit in Rockland, Massachusetts. Pergande will be responsible for all marketing management. In addition, he will provide sales and

marketing support to the brackish and sea water conversion equipment product line. Vaponics manufactures water and steam purification equipment for the pharmaceutical industry, as well as brackish and sea water reverse osmosis equipment.

Pergande has a degree in Mechanical Engineering from Marquette University and more than 30 years of management, sales and marketing experience in the water treatment industry. Initially, Pergande worked with Aqua Chem, Milwaukee for 14 years, and then with MECO, New Orleans for 15 years. Most recently he served as President and CEO of Licon, Inc., Pensacola where he added waste water treatment and chemical recovery to his experience. Currently, Pergande is a Director of the International Desalination Association (IDA), and serves as a Technical Committee Chairman as well as Poster Exhibit Coordinator for the 1995 IDA World Congress in Abu Dhabi.

Tucker Industries Inc. Joins Sponsors of Employee & Customer Safety Program

The Educational Foundation of the National Restaurant Association announces that Tucker Industries Inc., the manufacturer of BurnGuard® Protective Apparel, is a new sponsor of the *Employee and Customer Safety* training program.

The *Employee and Customer Safety* program, which is part of The Educational Foundation's Risk Management series, differs from other safety programs by focusing training to include both managers

and employees, thereby committing everyone in the operation to safety. The training targets specific safety concerns of the foodservice industry, including governmental regulations, fire safety, and accident and injury prevention.

"Tucker Industries Inc. is very proud to be part of such an important initiative," said Vincent A. Tucker, president of Tucker Industries Inc. "Our products are designed with the safety of the foodservice employee in mind. Sponsoring the *Employee and Customer Safety* program offers us

the opportunity to take a more active role in safety training."

The *Employee and Customer Safety* program offers a manager's coursebook, instructional training guides, an employee study guide and a four-part video series, including "Protecting Yourself and Your Customers"; Preventing Burns and Fires"; "Preventing Slips, Falls, and Lifting Injuries"; and "Preventing Cuts and Lacerations." The program covers matters such as the Occupational Safety and Health Administration (OSHA) guidelines, HAZ-COM training, safety committees, and

stress-related and repetitive-motion injuries. In addition, a manager certification exam is available.

Tucker Industries will join ECOLAB Inc. and Colgate-Palmolive, Institutional Products Division in sponsoring the training program.

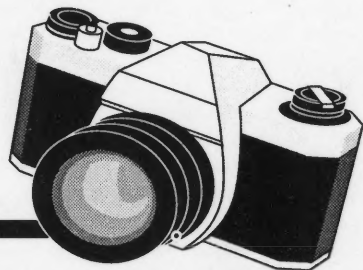
The Educational Foundation of the National Restaurant Association, a nonprofit organization founded in 1987, is dedicated to enhancing the professionalism of the foodservice industry through education and training.

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Send photographs, negatives and/or slides to:
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Yeast & Mold Test for Foods

Q A Life Sciences is very pleased to announce that the Association of Official Analytical Chemists ("AOAC") Official Methods Board, following almost two years of technical preparation and collaborative study evaluation, accorded "Official Method" status to the QA Life Sciences two day yeast and mold test for foods on September 16, 1995.

This two day test becomes the AOAC's first and only "Official Method" for the detection and enumeration of yeast and mold in foods. The QA Life Sciences test saves three days off the conventional five days normally required for this common food safety test. The method derives its superior performance from a combination of the unique properties of QA Life Sciences' ISO-GRID Membrane Filter together with a newly developed selective culture medium, known as YM-11.

For further details, please contact Michael Entis at QA Life Sciences, Inc., San Diego, CA; telephone (619) 622-0560; fax (619) 622-0564; E-Mail bugsy@qalife.com.

Nominations for Minnesota Dairy Farm Tour Guide Encouraged

One of the best ways for new or expanding dairy producers to learn successful management strategies is to tour successful dairy operations. The University of Minnesota's Dairy Initiatives program is putting together a list of dairy producers willing to host farm tours. This list will be published in the form of a Minnesota Dairy Farm Tour Guide.

The university is currently soliciting nominations of successful operations for listing in the tour guide. The operators need to have a positive attitude toward dairying and something special about their



NEWS

operation that could be an asset to other farms. Those nominated will be contacted and encouraged to be part of the tour guide project.

"The guide should be a valuable resource for producers interested in expansion, rotational grazing, transfer of the farm to the next generation, or some other change," says Dave Weinand, Dairy Initiatives coordinator.

To obtain a nomination form, contact Weinand at (612) 625-9757.

Symposia, Keynoters at International Congress Zero in on Major Meat Science Issues

Topics that captured the attention of an international meat science community were the focus of symposia and keynote speakers at the 41st International Congress of Meat Science and Technology in San Antonio, Texas, Aug. 20-25. Coordinators and discussion leaders at the Congress included leaders and authorities in fields from irradiation to value-based marketing systems and international trade.

A keynote speech by David Lister, Ph.D., of the United King-

dom, explored the global demand for nutritional value and quality of meat on Tuesday, Aug. 22. Lister, who is the head of the division of animal products and health for CAB International, is the 1995 International Award Lecture winner from the American Meat Science Association (AMSA). He was followed by Brad Morgan, assistant professor at Oklahoma State University, who gave a keynote address on an international meat quality audit.

Other topics of interest to the more than 900 Congress attendees were value-based meat marketing systems, irradiation preservation of fresh meat, the application of automation and robotics to pig slaughtering and postmortem tenderization of meat.

The 1995 ICMST, hosted by the American Meat Science Association in cooperation with the National Live Stock and Meat Board and Texas A&M University, attracted meat scientists and others involved with meat science from 50 countries around the world. Only the second ICMST to be held in the U.S., the event was the largest of its kind ever conducted.

Microwave Cooking Less Efficient at Killing Harmful Bacteria

Food is cooked not only to make it taste good, but also to destroy harmful bacteria that can cause foodborne illness. By structuring a series of research projects around how consumers cook with microwave ovens, scientists in Penn State's College of Agricultural Sciences have established that microwave cooking often does not completely eliminate bacteria.

"Most consumers use microwaves to cook to a certain time, rather than to a certain temperature," says Stephanie Doores, associate professor of food science. "Because microwaves heat unevenly, there is a good chance that not all parts of the food will reach a uniform temperature, and

microorganisms will survive the cooking process."

Doores and Roger C. Montemayor, graduate student in food science from Conshohocken, PA., just complete a project focusing on *B. cereus*, a pathogen commonly found in dried food products.

The *B. cereus* pathogen was chosen because it forms spores, a protective covering that allows the bacteria to survive in a dormant state. In its spore form, *B. cereus* is much more heat-resistant than other foodborne bacteria, Doores explains.

"Some spore-forming bacteria can survive the drying process used to preserve some foods," Montemayor explains. "Once you mix dry ingredients with water and subject the mixture to heat again, these spores may germinate and cause foodborne illness."

Montemayor prepared three food products—infant formula, instant mashed potato flakes and nonfat dried milk—following the directions as a consumer would. He then placed each product in a microwave oven. Using a fluorotopic probe to measure temperatures in several different locations within the food product, Montemayor established that microwave cooking did not deliver a uniform temperature throughout the food within the recommended cooking time.

Microwaving also did not destroy any of the *B. cereus* spores. Montemayor then subjected the food to temperature abuse, a food science term that means leaving food out at room temperature for a period of time. Then, he refrigerated the products for four days. In most of the experiments, foodborne disease toxins had formed after temperature abuse.

"What made this project unique is that we used naturally occurring *B. cereus* spores, rather than microorganisms grown in the laboratory," Montemayor says. "Naturally occurring bacteria can be unreliable because you might get none in one sample and pro-

duce toxin in the other sample. But we used *B. cereus* because bacteria that has been raised in a lab may not behave as naturally occurring bacteria would."

Doores and another researcher, Ronald Heddleson, now at North Carolina State University, performed similar research on such bacteria as *Listeria monocytogenes*, *Staphylococcus aureus* and *Salmonella*. Using laboratory-grown bacteria, the team found that microwaving greatly decreased bacterial numbers, but did not eliminate them entirely—except in the case of minimally contaminated foods.

"Most people use microwave ovens for reheating leftovers or rewarming take-out food," Doores says. "Because microwave cooking does not kill bacteria to the extent that conventional cooking does, good safety becomes a real concern. If these food products are left out on the counter too long and then are not reheated to a consistent temperature for a safe period of time, bacteria might not be killed."

Doores warns that foodborne illnesses can be particularly acute for senior citizens, chemotherapy patients, pregnant women and people with immune systems compromised by disease. "These people also might be more likely to opt for takeout meals or leftovers," Doores says. "We are suggesting that people should rewarm their food to a specific temperature for longer periods of time."

FDA Position on Extra-Label Use of Ionophore Drugs

The Food and Drug Administration has received reports alleging the use of the veterinary ionophore drugs (monensin and lasalocid) in lactating dairy cattle rations. Reports indicate that these drugs are used for various unapproved purposes such as attempting to increase milk production and feed efficiency,

reduce the incidence of fatty livers, and prevent ketosis.

Under the Federal Food, Drug, and Cosmetic Act (the Act), sponsors who wish to obtain approval for new animal drugs must establish that these products are both effective and safe for the target animal (such as the cow) and safe for the environment. In addition, sponsors must prove that food products from animals treated with the drugs are safe for humans, and consistently manufacture drugs to specific potency and purity. FDA has not approved any ionophore product for use in the feed of lactating dairy cattle. The Agency currently does not have adequate data on which to base an approval for the use of ionophore drugs for milk production or other uses in lactating dairy cattle.

For several years, FDA has accepted some extra-label new animal drug use as necessary to treat certain disease conditions. FDA's policy on the extra-label use of drugs in food-producing animals is described in Compliance Policy Guide (CPG) 7125.06. Extra-label use refers to the actual or intended use of a new animal drug in an animal in a manner that is not in accordance with the drug's labeling. This includes, but is not limited to, use in species or for diseases or other conditions not listed in the labeling, and use at dosage levels other than those stated in the labeling.

This policy does not allow extra-label drug use in feeds, and it does not apply to non-veterinarians. Thus, only veterinarians are covered by the extra-label drug use policy, and they are not permitted to use drugs for an extra-label use in feed. Dairy farmers, veterinarians, and consultants should be aware that the use of ionophore drugs in lactating dairy cattle rations is illegal drug use. Also, they should be mindful that such illegal drug use practices reduce consumer confidence in the safety of the food supply.



Sigma-Aldrich Techware

Product Guide Simplifies Polaroid DS-34 Camera System and Instant Film Selection

A four page product guide, with complete performance and ordering information on the Polaroid DS-34 Camera System and accessories as well as Polaroid instant films, is now available from Sigma-Aldrich Techware. Designed to simplify the documentation of electrophoresis results, this versatile system can be used with almost any light-emitting source and includes virtually everything needed to quickly and accurately photograph Coomassie blue and ethidium bromide stained gels.

Extremely easy to operate, the hand-held DS-34 Camera System requires no focusing and features a four element f/4.5 lens, variable shutter speeds (1/125 to 1 second and bulb), and a pistol grip single stroke shutter release. The complete system comes equipped with flat face hood, filter holder, filters

for photographing Coomassie blue and ethidium bromide stained gels, and two packages of Polaroid Type 667 film. A wide selection of filter kits, interchangeable hoods, and Polaroid instant films are also available.

Sigma Aldrich Techware, St. Louis, MO

Reader Service No. 350

New Normal Pasteurization Control Introduced by Advanced Instruments

PhosphaCheck-N™ Normal Pasteurization Control is the latest addition to the Phospha-Check line of pasteurization controls from Advanced Instruments, Inc. Much more reliable than the controls a dairy processor can make using raw milk, PhosphaCheck pasteurization controls offer quantitative levels of alkaline phosphatase (ALP) for reliable results every time.

As a "normal" control, Phospha-Check-N will consistently give a reading equal to fully pasteurized milk products. This control allows users to monitor both the performance of pasteurizers as well as their alkaline phosphatase testing system. If the ALP value of tested product is significantly higher than baseline values and PhosphaCheck-N reads within specified values, a pasteurization problem is indicated. Early detection allows problem resolution before the processor is faced with an expensive recall or worse.

Advanced Instruments, Inc., Norwood, MA

Reader Service No. 351

Groen Introduces Line of Sanitary Ball Valves

Groen, a Dover Industries Company, has introduced a line of stainless steel sanitary ball valves. Available with 2" and 3" openings, these ball valves are ideal product outlet valves for Groen Premier Line and Elite Line hemispherical bottom steam jacketed kettles.

Groen Ball Valves are precision cast, machined and finished from all 316 stainless steel. They can be operated manually or ordered with automatic actuation systems. Groen Ball Valves are USDA approved and are easily disassembled without tools. They are ideal for many food, confectionery, drug, cosmetic and chemical processing applications.

Groen, Elk Grove Village, IL

Reader Service No. 352



YSI Incorporated

New Easy-to-Use Photometer-Based Water Analysis System

The new YSI photometer-based water analysis system gives the user a safe and easy way to measure more than 40 chemistries, including chlorine, ammonia, nitrate, nitrite, copper, iron, phosphate, magnesium and hardness.

Measurement procedures are easy because each test kit includes everything needed. Reagents are small tablets so the user will be sure to place the proper amount in the sample bottle—no powders to spill or blow away, no danger to the user or the environment.

Tests are easy to run; the user dissolves the tablets in the sample, then waits a few minutes, and reads the results on the photometer.

All tests have been designed with reference to *Standard Methods for the Examination of Water and Wastewater*.

YSI Incorporated, Yellow Springs, OH

Reader Service No. 353

New Ashcroft® Explosion-Proof Pressure Transmitter Offers Fully Interchangeable Capabilities

The new Ashcroft® explosion-proof pressure transmitter from Dresser Instrument Division is designed to meet FM/CSA/UL approvals in the following categories: intrinsically safe, non-incendive, Class I, Division II and III and explosion proof. It carries a NEMA 7/9 explosion-proof rating.

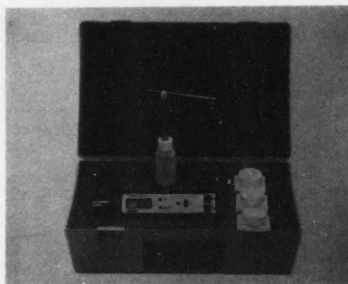
It's a simple process to interchange the casting, ribbon cable, sensor and circuitboard on-site, making this transmitter fully interchangeable and repairable by the user.

This new explosion-proof transmitter is ideal for applications in pipeline, production, petrochemical plants, refineries, pulp and paper mills, and hazardous locations. The epoxy-coated die-cast aluminum enclosure, rated NEMA 7/9, protects the transmitter in corrosive environments. These transmitters feature the Ashcroft polysilicon thin film pressure

transducer, standard Hastelloy C diaphragm, and standard halocarbon fill fluid.

Dresser Industries, Stratford, CT

Reader Service No. 354



Kernco Instruments Co., Inc.

Digital Stick pH Meter with LCD Readout and Hold Feature

Kernco Instruments Co., Inc. is pleased to announce its new battery operated Model K8514 digital stick pH meter with LCD readout. This new improved model has a hold feature to retain readings for easy observation and to obtain readings in places where it is difficult to read. Simply push the hold button to retain readings until released. The hand held instrument has a .375" LCD display, and its pH probe mounts directly into the LCD meter to form a single unit. This model is supplied complete with epoxy combination electrode for rugged use, and with a carrying case.

Kernco Instruments Co., Inc., El Paso, TX

Reader Service No. 355

Precision Thermometry

Science/Electronics introduces Tempmaster... a new entry in the market of precision thermom-

eters. The Tempmaster-100 is a portable electronic thermometer for metrology and other exacting applications.

Tempmaster, a 20-bit microprocessor based instrument, automatically recognizes 3 or 4-wire PT-100 sensors and self-calibrates for total stability. Inputs are provided for single, dual or differential indication. Range is -200 to +850°C, readout is selective in °F, Kelvin or ohms. Calibration points for sensors may be programmed into Tempmaster with the included software, thereby providing corrected temperature readout and optimum system accuracy.

This AC/DC unit can be panel mounted or transported in a leather case with shoulder strap. Indication is via 5-digit, 14mm LED; front panel uses (5) membrane keypads for function selection. Additionally, a 0 to 1-volt DC analog output and RS232 communications port are provided.

Science/Electronics, Dayton, OH

Reader Service No. 356

New Waterproof pH Meter

LaMotte Company is offering a new WATERPROOF pH Pocket Tester that also features replaceable electrodes. Two models are available to read either to a 0.2 or 0.1 pH unit accuracy. The new design permits the unit to be entirely exposed to water without damage. Units actually float if dropped in water. Push button controls offer immediate buffer recognition for rapid calibrations. Units are powered by three 1.4V watch batteries and a compact 6.5 inches in length. A protective probe cover is provided.

LaMotte Company, Chestertown, MA

Reader Service No. 357

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BusinessExchange

Employment Opportunities

The Genesee County Public Health Department, Flint, Michigan is recruiting for the position of
DIRECTOR OF ENVIRONMENTAL HEALTH

Applicants must submit an application or resume with a copy of college transcripts by NOVEMBER 30, 1995. Salary \$38,308 - 53, 314.

MINIMUM QUALIFICATIONS: Bachelor of Science Degree in Environmental Health, Engineering, Biological or Sanitary Science, AND a Masters Degree in Public Health, Public Administration, Biological or Sanitary Science or Urban Planning AND five (5) years of progressively responsible experience in the field of Environmental Health, including one (1) year of administrative experience in a supervisory capacity.

SPECIAL REQUIREMENTS: Current NEHA or Michigan Registration and valid driver's license.

INTERESTED APPLICANTS ARE TO APPLY TO:
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Please submit three copies of manuscripts along with a fourth copy on 3 1/2" computer disk.

Coming Events

DECEMBER

• **4, Understanding the Planning and Training Requirements of the Big Three: EPA, OSHA, and DOT**, course (#6021), will be held in Gainesville, FL. This course provides participants with an understanding of the agencies under which they may be regulated, especially the big three: EPA, OSHA, and DOT. Students learn more about each agency, their regulations and how to identify the appropriate planning and training requirements. Individuals wishing to register for this course should call (904) 392-9570, ext. 112.

• **5-8, Train-the-Trainer for Environmental Operations**, course (#6021-1) will be held at the TREEO Center in Gainesville, FL. This course provides instruction in both the design and delivery of environmental training required under AHERA, EPA, OSHA and DOT regulations. The course allows trainers to select the level of instruction appropriate to their students' needs and training experience. Individuals wishing to register for this course should call (904) 392-9570, ext. 112.

• **6-8, Institute of Food Technologists Introduction to Quality Management in the Food Industry Workshop**, Statler Hotel, Ithaca, NY. Short course co-sponsored by the IFT Continuing Education Committee, IFT Quality Assurance Division, Cornell University Institute of Food Science, and Cornell Cooperative Extension. For more information, contact Dean Duxbury, IFT's Director of Professional Development, 221 N. LaSalle St., Suite 300, Chicago, IL 60601; telephone (312) 782-8424; fax (312) 782-8348.

• **7-8, Institute of Food Technologists Small Business Management Workshop**, Benton Convention Center, Winston-Salem, NC. 1-1/

2 day short course co-sponsored by IFT Continuing Education Committee and Carolina-Virginia Section IFT in conjunction with Carolina-Virginia Section IFT Suppliers Night. For more information, contact Dean Duxbury, IFT's Director of Professional Development, 221 N. LaSalle St., Suite 300, Chicago, IL 60601; telephone (312) 782-8424; fax (312) 782-8348.

• **7-8, Managing Dairy Farms Into the 21st Century**, a dairy management symposium sponsored by Penn State's College of Agricultural Sciences and Monsanto, Inc., will address topics vital to the dairy industry's future. For more information, contact Michael O'Connor at (814) 863-3913.

JANUARY 1996

• **3-5, American Association of Cereal Chemists**, will sponsor the following educational event, Milling for Cereal Chemists, in Manhattan, Kansas. For more information contact the AACC Short Course Dept., 3340 Pilot Knob Rd., St. Paul, MN 55121-2097; phone (612) 454-7250; fax (612) 454-0766; e-mail aacc@scisoc.org.

• **10-12, American Association of Cereal Chemists**, will sponsor the following educational event, Fundamentals of Food Engineering in Orlando, Florida. For more information contact the AACC Short Course Dept., 3340 Pilot Knob Rd., St. Paul, MN 55121-2097; phone (612) 454-7250; fax (612) 454-0766; e-mail aacc@scisoc.org.

• **10-12, Calves, Heifers and Dairy Profitability: Facilities, Nutrition, and Health** will be a multidisciplinary conference that covers alternatives for the planning and operation of profitable and efficient replacement programs. Programs that result in calving at 20-22

months will be highlighted. For further information, contact NRAES, 152 Riley-Robb Hall, Ithaca, NY 14853-5701; telephone (607) 255-7654; fax (607) 255-4080; e-mail: nraes@cornell.edu.

FEBRUARY 1996

• **2-29, University of Minnesota Plans Agricultural Tour**, to Australia and New Zealand. The agricultural emphasis of the tour is on dairying, and it will provide insight into the world's most efficient dairy operations. There will be visits to dairy farms, cattle and sheep ranches, agricultural colleges, and research facilities. For a brochure about the tour, contact Extension Special Programs, 405 Coffey Hall, University of Minnesota, St. Paul, MN 55108-6068; phone 1-800-367-5363 or (612) 625-1978.

• **13-15, Institute of Food Technologists Low-Calorie Food Product Development**, Grosvenor Resort, Orlando, FL. Course co-sponsored by the IFT Continuing Education Committee and American Association of Cereal Chemists. For more information, contact Dean Duxbury, IFT's Director of Professional Development, 221 N. LaSalle St., Suite 300, Chicago, IL 60601; telephone (312) 782-8424; fax (312) 782-8348.

• **13-15, American Association of Cereal Chemists**, will sponsor the following educational events: **Low Calorie Food Product Development**, in Orlando, Florida; (Cosponsored by IFT) **Food Extrusion** in Tampa, FL. For more information contact the AACC Short Course Dept., 3340 Pilot Knob Rd., St. Paul, MN 55121-2097; phone (612) 454-7250; fax (612) 454-0766; e-mail aacc@scisoc.org.

•21-23, American Association of Cereal Chemists, will sponsor the following educational event: Natural Flavors, in Orlando, FL. For more information contact the AACC Short Course Dept., 3340 Pilot Knob Rd., St. Paul, MN 55121-2097; phone (612) 454-7250; fax (612) 454-0766; e-mail aacc@scisoc.org.

MARCH 1996

•4-6, IBC's Second Annual International Symposium, Obesity-Advances in Understanding and Treatment, held at Washington Vista Hotel in Washington, DC. Commercial and academic scientists are encouraged to submit titles for posters prior to Oct. 10, 1995 to be eligible for discounted registration and listing in the final brochure. Additional

posters will be accepted up to Feb. 12, 1996. Call (508) 481-6400 or fax (508) 481-7911-IBC for immediate registration or write IBC, USA Conferences, 225 Turnpike Road, Southborough, MA 01772-1749.

•4-8, Mold Identification Workshop, sponsored by the Food Science Dept. at Purdue University. For more information contact, James V. Chambers, Food Science Dept., 1160 Smith Hall, Purdue University, West Lafayette, IN 47907; phone (317) 494-8279.

•20, Food Industry Conference, sponsored by the Food Science Dept. at Purdue University. For more information contact, James V. Chambers, Food Science Dept., 1160 Smith Hall, Purdue University, West Lafayette, IN 47907; phone (317) 494-8279.

APRIL 1996

•14-18, The Fourth Latin American Congress on Food Microbiology & Hygiene, will be held in Lima, Peru. The program of activities includes plenary speeches by worldwide known specialists, round tables, posters and oral presentations, courses and seminars. For more information, contact Dr. Fernando Quevedo, Honorary President, 11604 Deborah Dr., Potomac, MD 20854; telephone (301) 299-9291; fax (301) 299-9448, USA; or in Peru: Santa Luisa 155, Suite 204, San Isidro, Lima 27, fax (5114) 218 317 or (5114) 373 152. President of the Congress: Dr. Alina Ratto, Av. del Ejercito 467 Miraflores, Lima, Peru Tel/fax (5114) 413 939.



Would you like your organization events to appear in the *Dairy, Food and Environmental Sanitation*?

If yes, send a short announcement of the program 60-90 days prior to the event. Be sure to include dates, times, location, a contact person and phone number.

Send your Calendar of Events to:
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