



*Fruit & Vegetable Products Division  
Institute of Food Technologists  
Division Newsletter*



*Spring, 1998*

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**CHAIRPERSON'S CORNER  
ROBERT L. SHEWFELT**

**THE STATE OF THE DIVISION**

Since the beginning of the year, I have heard various State of the... addresses. It may be appropriate for me to do the same. I don't plan to cite a lot of numbers or brag on my administration or anything like that. I simply want to state that our Division is alive and well. The strength of the Division rests on the dedicated activity of many of you who believe that fruits, vegetables and their products represent an important part of the broader IFT picture.

For those of you who have been involved in an activity of the Division this year, I extend my gratitude. From the symposium and technical sessions that we are sponsoring at the meeting in Atlanta to the student poster competition to the compilation of this newsletter and all of our other activities, it is the efforts of volunteers that have made them a success. For those of you who haven't been involved this year but would like to become more active next year, let one of us on the Executive Committee know. We'll find a slot for you next year.

With regard to the meeting in Atlanta, I hope that many of you will be able to attend. We've put in a reservation for hot and steamy weather, hopefully without the thunder storms we arranged for you last time we met in the city. Make your plans now to attend our breakfast meeting and as many of the technical papers as you can. Note also, when you get your mailer, that there will be a tour of fresh-cut fruit and vegetable operations after the meeting is over.

The future of our Division depends on you. Bring your ideas and your willingness to work to Atlanta. See you then!

**FRUIT AND VEGETABLE PRODUCTS DIVISION FACULTY SURVEY  
MARY ELLEN CAMIRE, UNIVERSITY OF MAINE, AND STEVE NOJEIM, OCEAN SPRAY**

We are putting the finishing touches on a survey to identify and communicate to our industrial members the types of expertise available within the academic community. The survey will be administered electronically and each university's appropriate department chairs will be notified when it is available and how to access it. Once the information is compiled it will be made available in a database that will be accessible to those in industry as well as in academia or government. We hope it will foster more industry-academic cooperation and joint research.

## THE CANDIDATES FOR EXECUTIVE COMMITTEE

**Sheryl A. Barringer** is an Assistant Professor in Food Science and Technology at the Ohio State University, since 1994. She received a B. S. in Food Science from the University of Illinois and a Ph. D. in Food Science and Nutrition from the University of Minnesota and works with the Midwest food industry. Her research includes tomato peeling and processing, ketchup viscosity, color retention during storage and recycling of fruit and vegetable processing wastes. She has collaborated with MidAmerica Food Processors Association, U.S. Army Natick, and several Ohio tomato processing companies in order to prepare students for today's industry problems. Sheryl teaches courses on the principles of food processing, food analysis and fruit and vegetable processing. She is currently the FVPD newsletter editor.

IFT Fellow **Justin R Morris** is a Distinguished Professor with the Food Science Department of The University of Arkansas. A native Arkansan, born and raised in Nashville, AR, Dr Morris received his BS and MS from the University of Arkansas and his Ph.D. in post harvest physiology at Rutgers. He is a member of the ASHS (where he is also a Fellow), ASAE, American Society for Enology and Viticulture, the Guard Society and Executive Vice-President of The Ozark Food Processor's Association. He is the Director of the University's Institute of Food Science and Engineering (IFSE). His research interests have been in pre and post harvest conditions and their effect on final quality of fruits and fruit products. His major interest is now centered in enology and viticulture. He currently is commercializing a patent pending application that will provide a totally mechanized vineyard system that will produce high quality wine and juice products. Through his direction, the IFSE in 1996-97 has matched \$1.2 million food processing industry funds for 36 value-added research projects.

**Charles Sims.** Education: Ph.D. (Food Science) University of Arkansas 1986. Experience: Associate professor, University of Florida, Gainesville 1986-present. Teaches introductory food science, quality control in food systems, and psychophysical aspects of foods; research area is in quality and processing of fruits and vegetables and his extension activities involve the fruit and vegetable industry in Florida. Member: IFT (student 1980-86; professional 1986-present), Florida Section of IFT, Sensory Division; IFT-FVPD offices: chairperson, chairperson-elect, secretary.

**Barry Swanson** is a Professor of Food Science and Human Nutrition at Washington State University in Pullman, WA. Born and raised in Wisconsin, Barry received his B.S. in Natural Sciences- Secondary Education, M.S. in Food Science, and Ph.D. in Food Science from the University of Wisconsin-Madison. Barry is author or co-author of over 100 peer-reviewed research manuscripts and book chapters. He is co-inventor of two patents and a member of the Canadian Institute of Food Science and Technology, the American Oil Chemists Society, the Institute of Food Technologists, the American Association of Cereal Chemists, and the American Chemical Society. Barry's research interests include the study of nonthermal food processing technologies such as high intensity pulsed electric fields, oscillating magnetic fields, high hydrostatic pressures, and combined methods; fat replacers and fat substitutes, with emphasis on the quality of reduced fat cheeses; improving the biological utilization and availability of legume proteins; scanning and transmission electron microscopic techniques to observe the microstructural changes accompanying postharvest preservation of fruit, vegetables, cheeses, and other foods; and analyses and risk assessment of natural constituents, potential toxicants, or pesticide residues in foods.

## **SUMMARY: RECENT EVENTS IN THE FRUIT AND VEGETABLE NEWS**

- **Fresh cut produce:** efforts to reduce total microbial counts in prepared salads may allow the production of toxin by *Clostridium botulinum* before obvious spoilage occurs, worry several food processors at a recent food safety conference. Fresh cut produce was responsible for only 8% of food born illness cases between 1988 and 1991, according to the CDC. Cross contamination in the field or by food handlers, and temperature abuse may cause much of the problem.
- **Good Agricultural Practices for growers:** the FDA expects to have final guidance before the end of the year. Discussions of the draft are currently underway at public meetings.
- **Methyl bromide use by developing countries:** as industrialized nations are forced to phase out methyl bromide by 2005, developing countries may become a dumping ground for this and other obsolete pesticides, warns a Moroccan agricultural researcher.
- **Warning labels on juice?** Arguments continue about whether or not warning labels should be required during the phase in of required HACCP of fresh juices, and whether or not pasteurization should be required. The FDA published in August their intention to require HACCP in the juice industry.
- **Minimally processed produce:** the safety of minimally processed produce may be increased by addition of lactic acid bacteria to inhibit the growth of pathogens, according to two researchers at North Carolina State.
- **Canned fruits and vegetables** provide as much nutrition and fiber as those that are fresh or frozen, report researchers at the University of Illinois.
- **Vegetable fiber:** a high total intake of vegetables was found to protect against colon cancer, while there was little or no protection from cereal and fruit fiber, report Hawaiian researchers.

IFT Continuing Education Committee and National Center for Food Safety and Technology  
are co-sponsoring the

*Fourth in a Series of Annual Symposia on Food Safety in the 21st Century*

### **FRESH FRUITS AND VEGETABLES: FOOD SAFETY CHALLENGES**

*May 12-14, 1998*

Holiday Inn O'Hare International in Rosemont, Illinois

Registration fee: \$500 IFT/NCFST, \$400 Government & \$600 Non-members

This symposium will be a forum for examining scientific issues related to foodborne illness associated with fresh produce and to explore ways to make such products safer. Topics discussed will cover: Background information and food microbiology on foodborne illnesses; How the domestic and international industries are relating; Good agricultural practices on crop fertilization, water quality, irrigation, harvest and sanitation concerns; Post harvest handling from receiving incoming product, to transporting and produce distribution systems, to handling at the supermarkets and restaurants levels; New intervention strategies of technology and chemical-based treatments; Identification of future research needs; The status of the Produce Food Safety Initiative.

For more information on program details and registration, contact Dean Duxbury or Luci Landberg (IFT) at 1-312-782-8424 or Marilyn Perna (NCFST) at 1-708-563-1576.

**IFT TECHNICAL PROGRAM:**

Sunday AM, June 21

**Fruit and Vegetable Products Division Breakfast**

Sunday PM, June 21

**20A Fruits & Vegetables poster session I**

Monday AM, June 22

**34B Fruits & Vegetables poster session II**

Tuesday AM, June 23

**48 Microbial contamination of fresh produce: Symposium**

This symposium will focus on the incidence, behavior, and modes of transmission of microbial pathogens from plant foods to man. Factors critical to the safety of produce during its production and distribution will be identified. Mechanisms for preventing or minimizing potential microbial hazards in fresh product will be suggested. Using a systems approach, monitoring technologies and control strategies will be detailed through out the production, postharvest handling, distribution, and preparation for sale of fresh produce.

**56 Fruits & Vegetables technical oral session**

Tuesday PM, June 23

**65 Washing and sanitizing treatments for fresh fruits and vegetables: Symposium**

This symposium addresses the problems of developing washing and sanitizing treatments for fresh and fresh-cut commodities to reduce their microbial load and the probability that they might be sources of human pathogens. Speakers will discuss food poisoning outbreaks associated with fresh produce; bacterial adhesion and biofilm formation; development and testing of washing and sanitizing products, as well as their appropriate use and expected performance; application and efficacy of the se products; the perspective of an equipment supplier; and use of gas phase treatments to reduce microbial populations on 'difficult' commodities like raspberries and sprouts.

**IRRADIATION AS AN ALTERNATIVE TO METHYL BROMIDE FOR QUARANTINE TREATMENT OF STONE FRUITS**

Irradiation can be used with cherries, apricots, or peaches as a quarantine treatment at 300 Gys or less with little quality loss. Either irradiation or methyl bromide can be used as a quarantine treatment for 'Bing' and 'Rainier' sweet cherries with acceptable results and similar fruit quality. Differences in stem condition and bruising were more evident for irradiated 'Rainier' cherries than for methyl bromide treated 'Rainier' cherries, but differences were small. Use of irradiation results in some firmness loss, for 'Bing' cherries when compared to methyl bromide, but irradiation treatment of cherries does not result in loss of fruit and stem color, where the use of methyl bromide does result in both fruit and stem color loss. Apricots ('Perfection' and 'Rivial') and peaches ('Regina') are tolerant to irradiation at 300 Gy with little quality loss. Loss of firmness, color changes and increased internal breakdown are evident in both apricots and peaches at irradiation doses above 600 Gy. If irradiation doses above 600 Gy are required to meet quarantine requirements unacceptable quality loss with occur in cherries, apricots and peaches. Recently completed study to be published in the Journal of Food Quality, by Stephen R. Drake and Lisa Neven

## THE CANDIDATE FOR SECRETARY/TREASURER

**Christine Bartley**, a professional member of IFT, received her B.S. in Microbiology and M. S. in Food Science from Penn State University. She is currently R & D Section Leader for Salad Product Development at Fresh Express Farms in Salinas, CA. Her responsibilities include coordination of all technical aspects of salad product development for Fresh Express, the market share leader in the retail fresh-cut salad category. She joined Fresh Express in 1993 as Quality Assurance Manager for the Mid-Atlantic Division. Ms. Bartley previously was a research staff member of the Dept. of Food Science at Penn State University, focusing on postharvest quality of fresh mushrooms, enology, and sensory evaluation. She is a member of the International Fresh-Cut Produce Association, the American Association of University Women, and past member of the Executive Committee (1992-94) of the American Society for Enology & Viticulture, Eastern Section.

### SPONSOR A STUDENT

If you would like to **sponsor a student** to the Fruit and Vegetable Products Division Breakfast at IFT, send a check in the amount of \$13 per student to:

Robert Shewfelt  
Department of Food Science and Technology  
University of Georgia  
Athens GA 30602

### SUBMISSIONS WELCOME

Submissions of recent research, upcoming workshops, or any news of interest to the fruit and vegetable community are always welcome. Email to [barringer.11@osu.edu](mailto:barringer.11@osu.edu) or mail to Sheryl Barringer, 2121 Fyffe Road, Columbus OH 43210 by September 15 to make the fall newsletter.

### "PLANT PESTICIDES" GROUP MEETS WITH USDA OFFICIALS

Leaders of the 11 scientific society consortium critical of the Environmental Protection Agency's proposal to regulate "plant pesticides" met with U.S. Dept. of Agriculture officials last month to discuss the agency's views on "plant pesticides" and the international regulatory arena for products of agricultural biotechnology.

Terry L. Medley, director of USDA's Animal and Plant Health Inspection Service, acknowledged the impact of the work of the 11 societies, which issued a report in July 1996 expressing scientific concerns with the EPA's proposal of Nov. 23, 1994.

EPA has proposed to regulate the inherited traits of plants that confer resistance to pests under statutes developed for chemical pesticides. The report of the consortium, coordinated by IFT, questioned EPA's notion that genes are pesticides and raised the specter that the proposed regulation would pose barriers to entry for small biotechnology firms, deter publicly funded research, and would handicap the United States in competition for international markets.

IFT Fruit and Vegetable Products Division  
1998-1999 Division Ballot

SECRETARY/ TREASURER (Vote for ONE)

Christine Bartley\_\_\_\_\_

Write in candidate\_\_\_\_\_

EXECUTIVE COMMITTEE (Vote for TWO)

Sheryl Barringer\_\_\_\_\_

Justin Morris\_\_\_\_\_

Charles Sims\_\_\_\_\_

Barry Swanson\_\_\_\_\_

Write in candidate\_\_\_\_\_

Please return ballots by April 22, 1998

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**FOLD ALONG THIS LINE**

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Place stamp  
here

Robert Shewfelt  
Department of Food Science and Technology  
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**FOLD ALONG THIS LINE**

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**IFT/FVPD Newsletter**

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