

**Minutes of the S-294 Business Meeting  
 Laurel A/B Room, Marriott Water Front Hotel  
 Baltimore, MD  
 Sunday, April 30, 2006**

**Project:** S-294, Postharvest Quality and Safety in Fresh-cut Vegetables and Fruits

**Officers (2005 – 2006)**

Chair: Yaguang Luo  
 Vice-Chair: Peter Toivonen  
 Secretary: Aubrey Mendonca

**Attendees:**

<b>Name</b>	<b>Institution</b>
Adel Kader	University of California
Anne Plotto	USDA - ARS Citrus Laboratory, Winter Haven
Aubrey Mendonca	Iowa State University
Ana Allende*	CEBAS-CSIC (Spain)
Ashley Bell	IFPA Europe, France
Bassam Annous	USDA, ARS - ERRC
Bob Saftner	USDA, ARS, Beltsville, MD
Bill Hurst	University of Georgia
David Gombas	IFPA
Elizabeth Baldwin	USDA, ARS Citrus Laboratory, Winter Haven
Gerald Sapers	USDA, ARS -ERRC
Giancarlo Colelli*	University of Foggia, Italy
Hao Feng	University of Illinois, Urbana Champaign, IL
Jan Narciso	USDA, ARS Citrus Laboratory, Winter Haven
Jeff Brecht	University of Florida
Jinhe Bai	Oregon State University
John Beaulieu	USDA, ARS - SRRC
Mabel Gil*	CEBAS-CSIC (Spain)
Mosbah Kushad	University of Illinois, Urbana Champaign, IL
Nithiya Rattanapanone*	Chiang Mai University, Thailand
Peter Toivonen	Agriculture and Agri-Food, Canada
Ram Rao	USDA, CSREES
Randy Beaudry	Michigan State University

Reuben Moore	Mississippi State University
Vlasta Pilizota*	University of Osijek, Croatia
Xuetong Fan	USDA, ARS -ERRC
Yaguang Luo	USDA, ARS, PQSL Beltsville, MD

\* International guest

Yaguang Luo called the meeting to order at 8:30 AM. She commended David Gombas for his support of S-294 then asked for comments on the minutes of the April 2005 meeting in Phoenix, AZ. Adel Kader made a motion to approve the minutes. This motion was seconded and the minutes were unanimously accepted.

Yaguang introduced Ram Rao (USDA, CSREES representative). Ram Rao presented information on USDA CSREES fiscal allocations and potential sources of funding for research on safety and quality of fresh produce. Rao emphasized the need for S-294 researchers to work with the fresh produce industry on integrated research projects. He also urged the S-294 group to prioritize food safety and quality issues related to fresh-cut produce and to explore at the impact of new or improved food processing technologies on produce safety.

#### **Remarks from Administrative Advisor (Reuben Moore)**

Reuben Moore stated the need to update the S-294 e-mail list and have the annual report and minutes posted on the website. Moore pointed out that someone needs to be assigned to maintain the website for the group. He emphasized the importance of including impact statements in S-294 annual reports.

Adel Kader stated that he will ask a technical person (webmaster) at UC Davis to assist in maintaining the S-294 website. He noted that the S-294 group would have to supply the webmaster with information to be posted and transfer the website from University of Florida to UC Davis.

#### **Remarks from David Gombas (VP Technology & Regulatory Affairs, IFPA)**

David Gombas expressed his enthusiasm on the potential of the S-294 project to meet the research needs of the fresh-cut industry. Gombas stressed the importance of S-294 to the IFPA and stated that the S-294 Symposium is the keystone technical session for IFPA. He also stated that the S-294 poster session was very important to IFPA.

Gombas said that IFPA needs innovative research and emphasized the importance of bringing the fresh-cut industry personnel in contact with S-294. He encouraged continuation of the S-294 Science Symposium for future meetings and emphasized that IFPA might be looking for ways to partner with S-294 for more than one time per year. Next year's IFPA meeting will held in Palm Springs California.

Gombas mentioned the merger between IFPA and the United Fresh Produce Association and stated that the fresh produce industry wants a global approach for its business. He noted that food safety is an important issue in the fresh produce industry and that the FDA sees that food safety of fresh produce will be a priority for the next ten years.

Gombas explained that while fresh-cut industry personnel are more focused on the day-to-day production operations in the industry they know what their problems are; however, there might be some reluctance to "open up" and share those problems. In this regard, he stressed

the importance of an integrated approach to problem solving that involves S-294 researchers working together with the produce industry to develop meaningful research proposals to help this industry. He stated that it is important to find different routes (other than scientific journals) to convey research information to IFPA. Also, the S-294 website should contain links to individual research reports and CRIS reports and should be kept current to maintain the interest of IFPA.

Elizabeth Baldwin suggested that Fresh-Cut magazine should feature the research of S-294 members.

Bill Hurst stated that if S-294 members were to submit articles to Fresh-Cut magazine, the articles should be written in a style and form that are easy for readers to understand.

Elizabeth Baldwin suggested that IFPA and the Fresh and Fresh-Cut produce industry should set up a mechanism to fund short term research on fresh produce just like other commodity groups.

Bill Hurst explained that the current fresh produce industry grew out of growers, packers and wholesalers who might not be willing to share information on produce quality and equipment due to the competitive nature of the produce business.

David Gombas encouraged the S-294 group to emphasize on research the fresh-cut industry can implement. In this regard, he stated that IFPA and S-294 should work together to agree on a research agenda.

Yaguang Luo asked David Gombas about the timing of the next IFPA meeting to be held in Palm Springs, California. The S-294 group discussed whether the S-294 business meeting should be scheduled on or before the start of the IFPA meeting.

Elizabeth Baldwin suggested a half-day meeting at the beginning of IFPA and if any additional issues need to be discussed, these could be addressed on the Saturday afternoon at the end of the IFPA meeting.

Peter Toivonen made a motion to approve Baldwin's suggestion. The motion was seconded by Yaguang Luo and unanimously approved by the group.

With regard to topics for the next science symposium, Gombas stated that there is a need for a mixture of new "cutting-edge" research as well as fundamental issues. Ram Rao suggested that the S-294 group should invite ARS personnel to talk on regulatory issues.

Bassam Annous made a motion to nominate Xuetong Fan as the next secretary for S-294. The motion was seconded by Yaguang Luo. Xuetong Fan accepted the nomination. The vote was unanimous and Fan was acknowledged as secretary.

Mosbah Kushad suggested that updated e-mail addresses would facilitate greater e-mail communication among S-294 members.

## **S-294 New Project Planning**

Yaguang Luo thanked Jeff Brecht for leading the planning of the new S-294 project

### **Discussion on research objectives related to quality of fresh produce**

Objective 1 (*Develop, evaluate, and standardize subjective and objective quality evaluation methods in intact and fresh-cut fruits and vegetables*).

Mosbah suggested that we should look at the information on the NIMMS project website then decide on appropriate areas of research that could be pursued on measurement of produce quality. He also asked Rao if S-294 could apply for a conference grant to fund a conference/symposium on quality of fresh and fresh-cut produce.

Rao stated that NRI and NIFSI programs offer grants for such conferences. Rao also mentioned that impact statements from funded activities are very important to the USDA.

Objective 2 (*Develop new strategies to maintain fresh-cut product quality: appearance, texture, flavor and nutritive value*).

Bassam Annous stated that it is important to look at quality effects of antimicrobial interventions such as chlorine dioxide and other treatments applied to fresh and fresh-cut products.

Elizabeth Baldwin noted that the organic products sector is growing substantially and is in need of appropriate antimicrobial interventions.

Randy Beaudry suggested that we focus on developing a proposal based chlorine dioxide application on fresh produce.

Yaguang Luo told the group that the food industry sometimes require two or more independent research groups to conduct research to validate the industry's results before making a major investment in a new technology.

Objective 3 (*Improve understanding of biochemical, physiological and molecular mechanisms that affect fresh-cut product quality*).

Adel Kader pointed out that greater emphasis should be placed on fundamental research. Such emphasis would better position the S-194 group to take advantage of NRI funding and generate results that will be of long term benefit to the fresh produce industry.

The following members volunteered to work together in planning research related to specific objectives: Objective 1 (Elizabeth Baldwin, Jeff Brecht, Mikal Salveit\*). \*Although Mikal was not in attendance it was suggested that he would be interested in participating in this activity; Objective 2 (Bob Saftner, Peter Toivonen); and Objective 3 (Adel Kader, John Beaulieu)

### **Discussion on research objectives related to microbiology and safety of fresh produce**

Objective 1 (*Standardize methods for recovering pathogenic and spoilage microorganisms from intact and fresh-cut produce including tree nuts*).

Bassam Annous stated that Larry Beuchat will be taking the lead in this effort. Linda Harris and Trevor Suslow were mentioned as potential participants. Aubrey Mendonca stated his interest in participating in research related to this objective. Bassam cited the example of a challenging scenario regarding the efficient recovery of microorganisms from the outer rind surface of citrus fruits.

Peter Toivonen suggested the summarization of sampling issues from Larry Beuchat's publications to prepare articles for Fresh-Cut magazine.

Objective 2 (*Evaluate and control unintentional and intentional microbial contamination of intact and fresh-cut produce*)

Bassam Annous and Aubrey Mendonca indicated their participation related to this objective.

Elizabeth Baldwin proposed looking at a multiple intervention approach (eg chlorine in wash water for control of cross-contamination, chlorine dioxide treatment of washed vegetables, followed by some other intervention for the fresh cut product) for controlling microbial contamination on fresh produce.

Yaguang Luo indicated her willingness to work on the quality issues associated with antimicrobial interventions.

### **Oral Reports from S-294 Participants**

The following participants presented reports on research at their respective institutions for the 2005/2006 reporting period

#### **S-294 Members**

Mosbah Kushad reported on food quality work at University of Illinois, Urbana Champaign

Peter Toivonen reported on food safety and quality work at AAFC, Summerland, Canada.

William Hurst reported on food safety work at the University of Georgia.

Jeff Brecht reported on food safety and quality work at University of Florida, Gainesville.

Xuetong Fan reported on the quality work at the ERRC, USDA.

Randolph Beaudry reported on food quality work at Michigan State University.

Jinhe Bai reported on the fresh produce quality work at Oregon State University.

Bob Saftner and Yaguang Luo reported on food safety and quality work at PQSL, USDA

Aubrey Mendonca reported on food safety and quality work at Iowa State University.

Elizabeth Baldwin reported on food quality work at USDA Citrus Laboratory, Winter Haven

Bassam Annous reported on food safety work for ERRC, USDA.

### **International Guests**

Anna Allende and Mabel Gil reported on quality and safety work at CEBAS-CSIC in Spain.

Vlasta Pilizota reported on quality work at the University of Osijek, Croatia.

Giancarlo Colelli reported on quality work at the University of Foggia, Italy.

Nithiya Rattanapanone reported on quality work at Chiang Mai University, Thailand.

Jeff Brecht informed the group that our new S-294 project was approved in February 2006.

John Beaulieu stated that the minutes of the S-294 meeting should be sent out in a timely manner

No new business was raised.

Yaguang Luo adjourned the meeting at 4:30 pm