

**MINUTES OF THE MEETING OF  
NORTHEAST MULTISTATE RESEARCH PROJECT NE-179  
2000-2001 Fiscal Year**

**PROJECT NUMBER:** NE-179

**TITLE:** Technology and Principles for Assessing and Retaining Postharvest  
Quality of Fruits and Vegetables

Location and Date of Meeting:

University of Hawaii, Manoa and various operations on the Islands of Hawaii and Oahu  
October 26-28th, 2000

1) Project Participants and Guests Attending

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<u>Name</u>	<u>Representing</u>	<u>Email Address</u>
Daniel Guyer	Michigan State Univ.	guyer@msu.edu
Gary Hyde	Washington State Univ.	gmhyde@wsu.edu
Yang Tao	Univ. of Maryland	ytao@wam.umd.edu
Mark Mount	Administrative Advisor	mount@fnr.umass.edu
Loren Gautz	Univ. of Hawaii	lgautz@hawaii.edu
Roger Rohrbach	North Carolina St. Univ.	rohrbach@eos.ncsu.edu
Yong Hang	Cornell Univ. - Geneva	ydh1@cornell.edu
Joseph Irudayraj	Penn. State Univ.	josephi@psu.edu
Renfu Lu	USDA/ARS at E. Lansing	lur@msu.edu
Stan Prussia	Univ. of Georgia	sprussia@bae.uga.edu
Darrell Donahue	Univ. of Maine	Darrell_Donahue@umit.maine.edu
David Slaughter	Univ. California - Davis	dcslaughter@ucdavis.edu

Guests:

Andre Baritelle	Motorola	aab030@email.mot.com
Arturo Correa	Univ. of Hawaii	

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2) Adopted Agenda: Attached

3) Notes/Summary of technical tours on Thursday Oct. 26. Island of Hawaii

Mr. Pepe Miranda, Farm Manager; UCC-Hawaii; P.O. Box 422, Holualoa, HI 96725.

The group was introduced to a coffee plantation near Kona. University of Hawaii is cooperating with UCC on a project to compare the common post-harvest processing of raw coffee cherries with a more physical and rapid process developed in South America. The Becolsub system is based on abrasion rather than the more conventional fermentation process. Dr. Gautz and his student Arturo Correa demonstrated the device, explained the advantages and disadvantages of each method, and presented results of their study.

Mr. John Sullivan; Farm Manager (via Mr. Mark Crawford); MacFarms, Hawaii, Box 25 Star Route, Captain Cook, HI 96704.

The group then traveled to a macadamia nut production and processing operation. The group was enlightened with a general explanation of the industry, which led to a tour of the processing and packing facility. An immense amount of electronic/automated sorting was involved in the processing and was in operation for the group to observe. Sorting technology included conventional color sorting to state-of-the-art imaging sensors.

Mr. John Clark and Mr. Eric Weinert; Hawaii Pride, P.O. Box 93, Keaau, HI 96749.

A fruit ebeam/irradiation facility near Hilo was toured by the group. The facility is a x-ray based irradiation facility for fruit fly treatment for export. Alternative treatment processes, which avoid the conventional heat based treatments, are of great interest. The group was treated to an engineering/technical tour of the facility as well as an excellent discussion on world trade and public policy.

Dr. John Armstrong, USDA-ARS, Waiakea Experiment Farm, Stainback Hwy, Hilo, Hawaii 96720.

The USDA-ARS facility near Hilo was visited. The group spent time visiting about the viability of many facets Hawaiian agriculture and some of the specific challenges. Dr. Armstrong additionally shared with the group several projects ongoing at the facility and plans and emphasis of a major new USDA research facility at that location.

4) Notes/Summary of technical tours on Friday Oct. 27. Island of Oahu

The group flew from the island of Hawaii to the island of Oahu early Friday morning.

Mr. Calvin Oda; Del Monte Fresh Produce Inc., 94-1000 Kunia, HI 96759/

The first stop for the group was at the Del Monte fresh pineapple packing plant. The group toured the packing facility and was presented with an overview of the pineapple industry as well as some of the specifics related to Del Monte.

Fresh pineapple quality indices were discussed:

Physical Characteristics (fruit size, shape, crown appearance, freedom from external defects)

Maturation indices (shell color, internal ripeness, and translucence)

Freedom from diseases and physiological disorders (internal browning, core rot, Ceratocystis fruit rot.

Challenges for the operation were shared with the group.

Development of new postharvest fungicides will be critical to control of postharvest diseases in a wide range of crops.

Providing assistance to comply with the microbial safety guidelines will be necessary to address wholesale buyer requirements and increase the consumer confidence in the food supply.

Development of new packaging and handling systems can offer great business opportunities to increase package performance for the protection of the fresh commodity.

Technology transfer can be instrumental in assisting producers/packers in modifying handling practices to increase shelf life of fresh fruits and vegetables.

The only automation related to sorting within the plant was weight sorting.

The group had several ideas for Mr. Oda and offered to make appropriate future contacts.

Mr. Jerry Vriesenga; Dole Fresh Food; 1116 Whitmore Ave, Wahiawa, HI 96786.

Dole did not have a packing facility as their pineapples are field packed. The boxed pineapples are sealed and sorted in an automated facility when they are brought in from the field.

One primary concern for Dole is the internal ripeness and translucence evaluation. Translucence is a problem not necessarily correlated with shell (external) color. Having the capability to detect translucence would be significant.

The group visited a harvester and harvesting/packing crew in the field. A visit was also made to the Dole papaya heat treatment facility. Here the discussion focused on the sensory input as assurance and documentation of application of sufficient treatment.

5) Business Meeting: Saturday, Oct 28th, 2000; On University of Hawaii, Manoa Campus.

Chairperson Guyer opened the meeting by thanking Dr. Gautz for hosting the meeting and providing such an excellent educational tour opportunity. He additionally thanked David Slaughter for his help.

#### A. Minutes

Meeting minutes of October 1999 were distributed via email early in 2000. Minutes were approved unanimously with no changes.

#### B. Comments from Administrative Advisor, Dr. Mark Mount

Comments in general on the budget...

Hatch approved at level funding

NRI decreased

IFAFS continues to exist with emphasis across research, multi-state, and extension.

80 of 1000 proposals funded in previous cycle.

Annual reporting and documentation for this NE-179 project is to be completed in 60 days from date of meeting. Each participant is to prepare their reporting according to the format specified in the CSREES activity form and submit to Guyer by Nov. 15th, 2000. Guyer will send out reminder/solicitation. Each participant is to report on activity and accomplishments with primary emphasis on IMPACT. Participants are to give milestones with brief statements and not paragraphs. They are also to prioritize publications in case the list must be trimmed to meet reporting space requirements. Guyer will draft the report.

The majority of forms required for reporting, rewriting, and project administration are available on the web at [HYPERLINK http://www.umass.edu/maes/](http://www.umass.edu/maes/) then click NERA homepage or [HYPERLINK http://www.agnr.umd.edu/userforms/nera/index.html](http://www.agnr.umd.edu/userforms/nera/index.html) Hardcopies of the information pertinent to this group were distributed.

It was noted that the NE-179 project ends Sept. 30th, 2002.  
A request to rewrite must be completed by the first week of January, 2001.  
The project must be approved by Feb. 2002.

Key questions in consideration of the rewrite:  
Why do we need to keep this research going?  
Justification and need, importance, technical feasibility.  
Advantages of doing this work as a multi-state effort.

Who has to do this?—Identify good writers to do this. Rohrbach did this last time.  
The project will be a new proposal this time.  
Advisor Mount commented we should think about new objectives and ideas to include in the proposal such as fresh cut, packaging, food safety. We should broaden the scope – “Fruits and vegetables through the marketing chain”.  
Specific discussion on information to stress in the new proposal (actually the request for rewrite at this time) was deferred to later in the day.

#### C. Web:

NE-179 needs a website. Dr. Donahue indicated an attempt had been made following last year to link the group together through a website, however, he had received limited feedback from the group.  
The question arose as to where the site should reside. Advisor Mount will check further into this.  
Individuals were requested to send their website address/information to Darrell.  
Guyer questioned if the project should have a webmaster.

Guyer inquired about the status of the IMPACT statement, which was requested by Advisor Mount at the 1999 meeting. Stroshine proposed to do this and it appears Stroshine and Mount submitted this statement. Advisor Mount will follow-up on current form, need, and process for this statement. Guyer will request specific information if needed.

#### D. Election of Leadership:

Paul Heinemann to move from Secretary to Chair.  
Hyde to move from At Large member to Secretary  
Yang Tao as Industrial Rep will continue in year 2 of 3-year term.  
Member At Large Nominations: Yang Tao (motion by Donahue, second by Rohrbach)  
Yang Tao elected to Member At Large Position.

Guyer proposed the change of Industrial Representative to Industrial Liaison, seconded by Gautz. It is felt that the expectation, history and design of this position is to help bring industrial representatives in contact with the group, and visa versa, throughout the year and at meetings rather than be an industrial person serving as a project representative. Motion passed – unanimous.

Dr. Mount brought a question before the group as to whether we should broaden the membership to include microbiologists, entomologists, etc. It appeared the general sentiment was that the NE-179 participants do include and interact with such on their projects and broadening the group formally is not necessary.

#### E. Location of next meeting:

It was suggested to have a working session in conjunction with ASAE in Sacramento in August 2001. It was noted this could not serve as the annual meeting of NE-179 as it falls within the current fiscal year for the project (Oct 1 – Sept. 30)

Several options for meeting locations and dates were presented including Maine, Michigan, Geneva, and others.

Motion by Donahue to have next meeting in Aug. 2002 in Michigan with work session in conjunction with the ASAE Sacramento meeting. Motion seconded by Hyde.

Discussion : Too hard to work in at ASAE with too many things already on ASAE meeting agenda. We can not wait until 2002 to have next meeting with rewrite needing completion in Feb. 2002.

Motion defeated.

Motion: Have meeting in Geneva, NY in Oct. 2001 (1st week).

Discussion: Yong Hang agreed to host and help coordinate the meeting and various opportunities.

Motion approved unanimously.

#### E. Other business:

It was suggested that job opportunities and/or knowledge of individuals available for graduate or post-doc opportunities be sent to the group listserve or posted on web site (being developed).

Guyer questioned whether Yang Tao needs to verify/clarify his membership/paperwork considering this move to Maryland. Mount and Tao will take care of this.

Motion by Hyde: Develop new official leadership/officer position entitled, Web Coordinator, seconded by Rohrbach. Motion approved unanimously

Nominations for Web Coordinator: Darrell Donahue unanimously nominated and elected

#### F. Project rewrite:

Ideas of the group on topics, thrusts, and thoughts, which should be addressed in the rewrite, were gathered during a brainstorming session during the meeting. The following list was generated around five emphasis areas noted on the rewrite format document. Guyer agreed to generate a draft of the request to rewrite and forward to the group for comment by first week of January, 2001.

*Need as indicated by stakeholders*

Wholesome/pathogen free food supply

Consumers

Industry (liability)

Economics

Cost-effectiveness

Traceability

Global competitiveness

Quality expectations/consistency

Technological innovation/advantage

Opportunities created by convenience foods eg. Fresh cut and minimally processed foods

Extension of shelf-life

Maintain quality

Pathogen free

*Importance/consequence if not done*

Health/Nutritional consequences

Loss of market share

Increased liability

Lack of accountability

Credibility

Loss of particular market

Consumer dissatisfaction

*Technical feasibility of research*

Computer technology support

Application of developed component technology

Linkage with Medical, Defense industries

Biological sciences linkages

Systems integration using Advanced Technology

*Advantages of multistate effort*

More robust systems/solutions

Extension participation – dissemination of information

Expedited application/development

Access to broader pool of expertise/equipment

Methods validation/evaluation on different platforms

Industrial participation

Interstate commerce

Standards

*Impacts*

Lower healthcare cost

Consumer satisfaction

Increased market share/profitability  
Decreased liability costs  
Improved working environment  
Increased quality of life  
Consumer  
Producers/rural economy  
Sustainability

#### G. Station Reports.

Station reports were given by each attending participant. A report/presentation was also provided by guest Andre Baritelle of Motorola.

Minutes submitted by Joseph Irudayraj and Daniel Guyer