

MEETING MINUTES
Onion Postharvest SCRI Project
2nd Annual PI and Cooperators Meeting
Saturday, 8 January 2011
Pulaski Board Room
Savannah International Trade and Convention Center
Savannah, GA

Participants:

- Gary Hawkins, Changying “Charlie” Li, Kim Morgan, Dan MacLean, Robert Shewfelt, Norman Schmidt, Chi Thai, and Bill Tollner.
- Howard Schwartz in Colorado, Christy Hoepting in New York through telephone.
- Graduate students: Anna Watson, Antoinette Manuel, and three graduate students with Rob Shewfelt.
- Ron Gitaitis, Joe Molnar, Krishna Mohan were not able to attend due to medical or family issues. Joe Molnar joined the meeting through teleconference for part of the meeting.

1. Meeting started at 8:30 AM (EST)
2. Overall update/project management of the Onion Postharvest SCRI Project—Li.
3. Gary Hawkins:
Progress in 2010: developed a lab scale AD system.

Feedback and questions:

- a. Effluent composition
- b. Can dairy waste be used for AD system?
- c. Difference between UGA AD system and Giles Farms'? Answer: two systems are based on different technologies. one is mixed bed digester and the other is fixed film system.
- d. Purity of methane
- e. He and Norman are working on ethanol production
- f. Christy: is this AD system feasible to NY farms?
- g. Howard: is it feasible to digest carrots, cabbage and other vegetables?

Plan for 2011:

- a. feed rate optimization;
- b. pilot testing at the end of 2011.

4. Kim Morgan:
Progress in 2010: Reported her survey results in 4 states (NY, CO, ID, AZ) in 2010.

Feedback/suggestions:

Howard:

1). CO: vegetable industry is \$50 B, 20% loss would be equivalent to \$10 billion, which is significant. Must take this into consideration when doing economic analysis.

2) Hail, flood damages: growers know which plot is in high risk: a priori knowledge;

3) Suggest establishing an economic threshold model: need to follow up

Li:

Suggested that Kim write up a report or publication for this survey, which is very useful to support our objectives and use it for future grant application;

Plan for 2011: write up the survey results; economic model development; quarterly meeting for subgroups.

5. Rob shewfelt:

Progress report: survey design, consumer test; sensory panel test; got onions from 4 stores, a study with Chi Thai.

Feedback/suggestions:

Bill Tollner:

- a. The questionnaire should include “would you accept onions that are scanned by the X-ray machine?”

Li:

- a. We need to follow up with X-ray scanned onions sensory evaluation. Rob’s response: survey perhaps is more meaningful than experiments which may not show any difference—we certainly need to add this in the survey.

Plan for 2011: collaborate with Norman to study chemical compositions and correlate with consumer perception.

6. Chi Thai:

Progress report: large aperture spectrometry to predict consumer perception: taste of onions. Develop genetic algorithms (GA) to optimize wavelength selection. Consumer data had large variations; identified some important bands: 1199, 1298.

Feedback and suggestions:

Li:

- a. need to collaborate in our similar efforts, such as sharing data, sharing equipment (InGaAs spectrometer) and software.

Plan for 2011:

- a. work with Norman on chemical data;
- b. with skin on; or use laser pulse to provide illumination.

7. Bill Tollner:

Progress report: Murat Sean McKeown’s MS thesis on microwave sensing of onion surface moisture. Showed principles of the technology and some good results.

Feedback/suggestions:

- a. Several questions were asked

Plan for 2011:

- a. Complete feasibility study
- b. Simulation for the stray field sensor
- c. Prototype
- d. FEM models

8. Dan MacLean:

Progress report: 4 efforts: 1) SO₂: excellent results; 2) Pre-harvest test; 3) drenching tests; 4) antioxidant;

Feedback/suggestions:

Christy and Howard's suggestion: apply chemicals to neck, no drenching --need to follow up

Plan for 2011: repeat the study.

9. Howard Schwartz:

Progress report: 1) field test in Colorado; 2) Outreach: project website.

Feedback/suggestions:

Li: excellent outreach work. Would like to get some outreach cards

Plan for 2011: continue to do field experiments in Colorado and supply onion samples to other collaborators; improve website to include videos;

10. Anna Watson:

Reported her work of using the zNose to different onion pathogens in 2010. Her poster won the First place in graduate student poster competition in NARC meeting in Dec 2010. Manish Bansal, a MS student directed by Dr. Dan MacLean also won the Third place in the same competition.

11. Changying Li:

Progress report: 1) development of LCTF based system for onion sour skin detection; 2) line scan HSI system for onion internal quality prediction—preliminary results; 3) indoor gas simulation model development by cooperators in Tsinghua University (Dr. Xianting Li group); 4) lost one student (Xuewei Qi) who was assigned to work on developing gas sensors arrays.

Feedback/suggestions:

Plan for 2011: 1). Continue line scan HSI system for onion internal quality prediction; 2). Image fusion of the X-ray image and hyperspectral images; 3). Advance the indoor gas simulation work, conduct experiment in small storage rooms.

12. Project management plan:

- a. Results-oriented and focus on deliverables; objectives should be independent to each other to minimize the risk of failure.
- b. Sub-group meeting: Four subgroups will continue to meeting at least quarterly in 2011.
- c. Whole group meeting: January (in conjunction with SERFVC) and July (wimba). Charlie will send email for appointment of July meeting.
- d. Reports: interim report due on July 31 and annual report due on Nov 1.
- e. Extension activities: schedule for workshops; popular press article in Onion World.

13. Follow up:

- a. Meeting summary;
- b. Upload PPTs online so that PIs or cooperators that were on the phone can see those slides;
- c. Schedule for online meeting in July.

14. The meeting was adjourned at 12:30 PM.

Prepared by Changying Li, 1-14-2011.