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## ELS Manager's Telecon Januaury 2005

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# **ELS MANAGER'S TELECON**

## **JANUARY 2005**

### **2/2/06**

#### **Center Meetings through January**

- Throughout January, NSCORT Operations Manager, Dave Kotterman and I met with individual Co-I's regarding closeout of each of the research projects. We are gathering information regarding when graduate students are projected to finish degree requirements including theses and dissertations and publications (important deliverables for NASA) Each of the 16 research projects employs 1 or 2 trainees who are grad students or post docs. Only several students are in a position to complete degree requirements before September 30.

#### **Education and Outreach**

- Macon Beck, Education and Outreach Coordinator, conducted a one day workshop for sixteen local 4-H extension educators at Tippecanoe County Fairgrounds on the Mission to Mars on January 10<sup>th</sup>. That was the last formal E&O official activity sponsored by the NSCORT as the Center has been excused from further E&O responsibilities for the remaining run of the Center. Funds will be used to finish R&D projects. A co-cost extension has been requested.

#### **Executive Committee Met 1/31/06**

- Report of status concerning the completion of year three and its funding and the procurement activities of year 4 funding were discussed.
- A round table discussion of post NSCORT funding possibilities for some NSCORT projects with earth-benefit spin-off value was held with Purdue Administrators.

#### **Habitation 2006**

- The center will be sponsoring a total of 14 trainees and faculty (27%) at the conference next week.

#### **Featured Research Project**

##### **Edible Biomass and Crop Production Report**

- Transpiration experiments were conducted by Jim Russell in a collaboration to examine transpiration burdens under different lighting conditions. Cowpea canopies growing among intracanopy or under overhead LED arrays were measured for transpiration using a leaf porometer at several intervals over two days. The following day, 1/20/06, the crops were harvested and leaf area, fresh weight, dry weight, and plant height measurements were obtained. Data indicate that intracanopy lighting produced more biomass and retained a greater proportion of leaf biomass on the plants than did overhead LED lighting.
- Connie Li from the air-quality lab took air samples from the new and old lightsicle cooling air to determine if any harmful molecules are being off-gassed from the lights. Preliminary analysis of the FTIR data indicates only a small number of differences between background air and air that has cooled the lights. Yang Yang, Gioia Massa, and Cary Mitchell subsequently met with Jerry Shepard in the Purdue Central Machine

shop to finalize design to begin developing the crop-canopy gas-exchange cuvette system, Minitron III.

- Lettuce plants were harvested on January 23 to complete the first side-by-side comparison of manual versus automated hydroponic pH adjustment. This was a first test of novel automated pH control system developed by Moeed Muhktar in George Chiu's lab. Several difficulties, including the failure of an aerator pump in the automated system, were encountered. Nevertheless, similar results were obtained between the two systems, and this test will be repeated with better control in February.
- Ten carrot cultivars have been planted in the second carrot trial in the greenhouse. This time, potting medium consisted of 75% potting mix combined with 25% perlite, and then supplemental Profile (arsellite) and time-release fertilizer to promote healthy root growth (4-10-6 N-P-K) were added. Plants will be watered with tap water to prevent excessive shoot biomass production. Peanut plants have been transplanted and pegging has begun. The pegging zone has been divided from the root zone by a horticultural weed barrier, and perlite and vermiculite are being tested as potential pegging media. Strawberry and sweetpotato experiments are continuing.