

## NCERA-101 Wisconsin Report

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The University of Wisconsin Biotron has upgraded several aspects of the operation which were outlined in the report last year. New for this year are the following:

- The environmental control system selection has been made; the upgrade will be Johnson Control Metasys software with Johnson Control (JCI) components. This will have the advantage of having one system for the entire building; Biotron greenhouse currently uses JCI software and hardware for environmental control. Biotron staff are converting the control environment rooms one suite at a time. No problems have been encountered.
- Our second energy audit has started with completion expected near the end of 2007. One component could be the replacement of 1500 T12VHO lamps with T5HO lamps. This change is estimated to save 47% in energy with an additional savings in the air conditioning load by removing roughly half of the heat from the space. The T5 lamps last 3.5 times longer and lose less light over their lifetime.
- We are in the planning stages of upgrading the CO<sub>2</sub> control system for the greenhouse. We hope to improve the control over a range from ambient to 2000 ppm and include up to eight 180 sq ft greenhouse rooms.
- Our use over the last year of the HOBO<sup>tm</sup> data loggers/sensors for checking/verifying temperature, relative humidity, lighting and CO<sub>2</sub> measurements has been very successful.

The departments of Horticulture and Agronomy have re-organized their growth chamber facilities. The Horticulture Department purchased and installed a number of walk-in chambers both in the Horticulture building and in the Biochemistry building, adjacent to Horticulture. Some of these chambers are being used for solely Arabidopsis Research. Several other chambers are being used for research in horticultural plants.