

## WISCONSIN NCR-101 REPORT

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**New Glass Houses:** UW-Madison is going through a major remodeling and construction of new glasshouses. This was, in large part, necessitated by the construction of a heating plant on the south side of the current glasshouses. This building is going to result in shading of the present glasshouses. The university has approved tearing down 50% of the current glasshouses and to build new, with equivalent space, on the north side of the existing facility. The new glasshouses will be constructed with four houses on each side of the corridor. A total of 32 houses (each house 500 sq feet) will be constructed. New houses will have larger glass area with less structural support beams to bring in more sunlight. They will have air conditioning (with chilled water) and 20 high pressure sodium lamps in each house (each lamp 1000 watts). Computer controlled electronics will turn on lights on demand. Each house will have a high powered fan for air intake equipped with a very fine screen to screen out insects. Construction will begin this summer and be completed in July 2005. About 50% of the glasshouses, which will not be torn down, will have partial shading November-January. The current support facility will be remodeled and redesigned with a new head house associated with the new houses. There is also a plan for acquiring a carbon dioxide enrichment facility in the near future.

**Biotron:** The University of Wisconsin Biotron has upgraded several aspects of operation. They are listed below:

- Phase 1 has been completed involving utilizing new computers and LABVIEW™ software for the environmental control system. We have started Phase 2 which involves replacing the bus and control cards that send commands to the valves, pumps, relays etc that control the temperature, relative humidity and lighting in the control environment rooms. We are replacing old custom made components with new off-the-shelf modules from National Instruments. The cost will be around \$2800 (hardware only) per suite of 4 control environment rooms and due to budget constraints will be implemented over several years.
- The major animal cage wash remodel is completed with the installation of a Steris Basil 6000 tunnel washer and a dirty/clean pass through system.
- The hyperbaric chamber has been upgraded to handle gas monitoring and mixing. Oxygen enrichment, CO<sub>2</sub> monitoring/scrubbing and better relative humidity and temperature control have been added plus data logging (pressure, time, temperature, relative humidity, gas concentrations etc).

Scheduled updates for next year include a new outside door security system. We plan on replacing the Toye keypad system with a yet to be selected vendor using what will become a universal campus wide proximity card system.