Reasons to Convert to a Ventilated Mouse Caging System

Approval is requested to delegate authority to the Chancellor to negotiate a contract to purchase through a Request for Proposal a ventilate mouse caging system. Currently, both ventilated and non-ventilated mouse caging systems are used in the Science and Research II building on the University of Houston campus. Increasing the number of ventilated mouse cages will allow for greater capacity of mouse boxes to be utilized in this renovated facility. UH currently needs to increase the capacity of the mouse facility in S&R II by 3,500 mouse boxes to meet the increasing needs of principal investigators.

A mouse’s living environment is a primary consideration in eliminating experimental variability in research involving mice. The control of temperature, humidity and ammonia are the three greatest concerns for the mouse environment. In non-ventilated cages, these variables are controlled with twice-a-week changing of the cages. In some situations, three times a week change out schedules may be needed. The ventilated mouse caging systems control the three variables very well and can extend change out intervals to once a week and with individual house mice this interval can be change to once every two weeks. This greatly saves the cost of labor and materials.

The number of standard size mouse boxes per square foot needs to be efficiently managed. Non-ventilated systems require more space. Ventilated systems standardize and reduce the overall footprint within the floor plan of the animal rooms. The limited floor space in the Science and Research II building demands a higher density system. Ventilated racks offer this solution without the need to build more rodent housing space in another building.

The ventilated caging system also provides protection to the mice and the workers in the animal rooms. The filtered air intake component of the ventilated system is very effective for preventing virus and bacteria from entering the mouse cages and creating a rodent barrier facility. The air filtration system in the exhaust system prevents animal antigens from leaving the caging systems. Allergic reactions to animals are among the most common conditions that adversely affect the health of the animal workers.

Improved protection for the mice, improved protection for the workers in the rodent rooms from rodent antigens, a reduction of cage change out frequencies and an increased number of mice that can be housed in the basement of Science and Research II are four benefits that the ventilated system will provide for the University of Houston. The ventilated caging system has become the standard mouse housing system in both the pharmaceutical industry and academic research facilities. The conversion of the University of Houston’s entire rodent housing system to ventilated caging systems will raise the standard of care for rodents in research and establish a rodent barrier system that is expected for a Tier One research facility.