



Office of Laboratory Animal Care Standard Operating Procedures

VENTILATED MOUSE RACK HUSBANDRY

Date Implemented: April 2012

Date(s) Revised: September 2013

IACUC Endorsed: January 27, 2014

BACKGROUND

To provide husbandry of mice in individually ventilated cages with 60 changes of air per hour [ACH] and automated water in most areas. Use of ventilated cages supplies better quality airflow and biosecurity at the micro-environment level and greatly reduces labor and feed and bedding costs.

RESPONSIBLE INDIVIDUALS

OLAC technicians, OLAC manager, Research lab personnel

DEFINITIONS

Ventilated rack-mouse housing system providing hepa-filtered air supply and exhaust to each cage.

Autoclaved caging- cages and all cage components are sterilized in autoclave after cagewashing and before used for cage changing.

Conventional caging-cages are sanitized in cagewasher but not autoclaved before cage changing.

Cage change station-laminar flow unit providing a clean work surface for cage changing and animal observation and handling.

MATERIALS:

Autoclaved or sanitized caging including cage bottom, wire bar lid, filter top, cage card holder, cage cards, water drinking valves or water bottle where applicable, bedding, feed, enrichment items, disinfectant, maximum/minimum thermometers, room log, health observation sheet.

Protective clothing including scrubs, lab coats, gloves, shoe covers and face masks, bonnets and disposable gowns where required.

DOCUMENTATION AND COMMUNICATION

Room log is completed each day and environmental parameters of maximum and minimum room temperatures, current humidity, husbandry activity and relevant comments are recorded.

Animal health, breeding management and compliance issues are recorded on the health observation sheet and the information is emailed to designated lab personnel and OLAC veterinarians.

PROCEDURE

Environment

Temperature: Optimum room temperature is 72F +/- 2 degrees. The *Guide* recommends a range and acceptable range of 68-79F for mice. Maximum and minimum temperatures are recorded each day in the room log. Room temperatures outside of the acceptable range are reported to SDSU Physical Plant by phone or email for correction by HVAC personnel.

Humidity: the relative humidity will be monitored, but not controlled. The acceptable range of relative humidity is 30% to 70%. The current relative humidity percent is recorded each day in the room log.

Illumination: Time-controlled lighting is used to provide a regular diurnal photoperiod (12 hours), unless otherwise noted in the protocol. Timer performance should be checked after each time change to ensure that photoperiod (6am on / 6pm off).

Housing:

Mice are housed in ventilated rack cages in compliance with recommended *Guide* space requirements.

Room will be maintained in an orderly manner, free of clutter or any other items not required for husbandry or maintenance of animals. Wiping down counters and tabletops to remove bedding, hair, feces, etc. on a daily basis will be performed. OLAC or research lab supplies are not to be stored in the cage change station or biosafety cabinets.

Husbandry:

Shoe covers must be worn when entering animal housing and procedure rooms. OLAC technicians wear scrubs and/or a lab coat when entering and working in animal housing rooms. A supply of cloth or disposable lab coats is dedicated to each room or suite and lab coats are changed when entering a different room or suite. Disposable latex, vinyl or nitrile gloves must be worn when handling cages and/or mice.

Daily:

Each cage will be observed for husbandry, animal health, breeding management, appropriate cage card identification and compliance issues and appropriate notations recorded. The supply and exhaust blower are checked to ensure proper operation and that the supply blower is reading 60 ACH. Automated water connections are checked to

ensure correct fit and random water valve stems on each rack are checked to verify presence and delivery of water.

Cages will be checked for cleanliness and changed/cleaned if required (wet/excessive fecal material/etc.). Filter covers will be inspected and replaced if soiled or damaged.

Food and water will be checked to insure there is sufficient quantity. Water bottles will be replaced if necessary.

Cage shelving and floors will be cleaned and soiled bedding and fecal material will be removed.

If placing a new cage onto a rack, ensure that a new clean water drinking valve is in place at the cage site and that the quick-disconnect is properly engaged. A supply of clean autoclaved water drinking valves is kept in all mouse housing rooms for both conventional and autoclaved caging use.

Weekly:

Cages in the room are full changed or spot changed depending on the number of mice in the cage and the state of soiled bedding in the cage. Presence of wet corners in the cages is indicative of a need for a cage change. Only one cage at a time should be removed and handled under the cage change station unless weaning, separating or other procedures requiring multiple cages are performed. Cages are changed individually in the cage change station where mice are placed into a fresh clean cage using gloved hands and forceps dipped in disinfectant when required. The wire bar lid, filter top and cage card holder containing the cage card are transferred to the fresh cage. The designated feed for the mice is replenished in the wire bar lid as necessary and water bottles [if in use] are changed. Cages are returned to the same position in the vent rack after changing after wiping down the cage location platform. The cage change station or biosafety cabinet working surface is wiped down with disinfectant after changing is completed. Some subsets of cages may need to be changed in a particular order depending upon caging type, immune status, project or health profile. Gloves are changed and the change station work surface is wiped down with the approved disinfectant between defined subsets.

Monthly:

Cages receive a full change including cage bottom, wire bar lid, filter top, cage card holder and water valves. The prefilters for the blowers are washed in the cagewasher also.

All animal rooms will be sanitized at least once a month. This includes, but is not limited to, cage racks, ceilings, walls, floors, all counters/cabinets, feed and trash containers.

Biannually:

Each vent rack is emptied of cages, blowers are removed and the rack unit is washed in the cagewasher. In the absence of a clean rack that has housed mice of the same health profile, vent rack cages are removed and placed on shelf racks with water bottles while

vent racks are being washed and allowed to dry. The rack is returned to the housing room after drying. Supply and exhaust blowers are reconnected to the designated hoses and water line connections are reattached. The water manifold is allowed to fill completely and water valves are checked to ensure delivery of water before vent rack cages are placed back into the rack.