MOUSE CAGE DENSITY POLICY

Updated and adopted by UCAR 9/21/2021

Overcrowded mouse cages represent a significant animal welfare concern. Such cages are noncompliant with Public Health Service (PHS) Policy and our Assurance to PHS. *The Guide for the Care and Use of Laboratory Animals* states the PHS recommendations for housing densities. In order to standardize housing densities and prevent or eliminate the possibility of overcrowding within cages, the University's Animal Resource has adopted the following UCAR-approved policy. Ventilated cages accommodate up to five mice greater than 28 days of age. Static cages accommodate four mice greater than 28 days of age. Cage densities exceeding these numbers represent clear policy violation.

Breeding

- Standard Breeding: 1-3 females: 1 male; pregnant females housed individually before birth of pups

- Continuous Breeding: 1 male: 1 female; not separated before birth of pups. This strategy takes advantage of the post-partum estrus which occurs within 14 -28 hours after parturition.

  Note: Continuous trio breeding results in overcrowded cages (e.g. male and two females and litter(s)) which must be cleaned more frequently. For that reason, this strategy is discouraged. PIs must submit a special request describing the continuous trio breeding strategy and obtain cage cards/stickers that identifies cages as continuous trio breeders. These cages are subject to a higher per diem associated with more frequent cage changes which are required for these higher density cages.

Weaning

Investigators who choose to manage their own breeding colonies are responsible for timely weaning. The Animal Resource staff reports the date new pups are found on the cage card. Litters not weaned by their 29th day of age will be separated immediately upon discovery by Vivarium animal care staff. The investigator will receive an email which describes the separation and may contain instructions detailing an action that must be performed by the investigator. Delayed weaning protocols must be approved by UCAR with specification of actual weaning ages (up to 35 days of age) for extremely fragile mice. Additionally, a special request must be submitted to the Animal Resource office identifying the group of mice approved for delayed weaning. Continuous breeding with delayed weaning is not permitted.
If a breeding strategy results in two litters from the same dam, the older litter must be weaned when the new litter is born. This means that litters may require weaning between 17 and 20 days to prevent overcrowding and trauma to newborn pups. The investigator is expected to provide supportive care (moistened chow, Hydrogel®, Hydrogel® with 2 food pellets, DietGel 76A® and small house in vent racks) and daily observation until early weaned pups are self-sustaining. To address the immediate welfare risk posed by breeding cages containing two or more litters Vivarium animal care staff will separate all animals that are old/large enough to be weaned into a single cage upon identifying the overcrowded cage. The investigator will be notified of this action by e-mail and is responsible for sexing and separating the weanlings.

The DCM veterinary staff provides training in the management of rodent breeding colonies for investigators and their staff. DCM also offers colony management services to PIs for a fee.

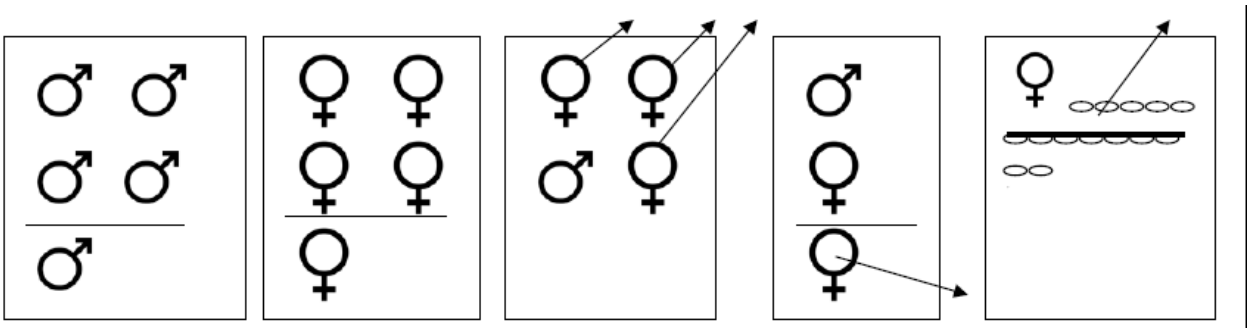
Overcrowded Cages

Overcrowded cages (housing densities exceeding those depicted in the chart below) will be separated immediately upon discovery by Vivarium animal care staff. The investigator will receive an email which describes the separation and may contain instructions detailing an action that must be performed by the investigator.

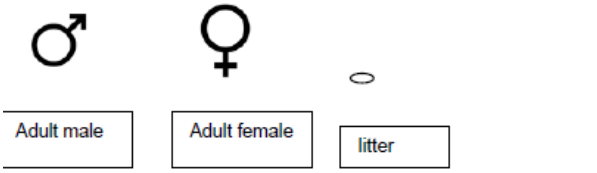
Identification

A completed cage card must be present on all mouse cages. Please refer to the Animal Resource website (http://www.urmc.rochester.edu/vivarium/Barcoding.cfm) for information on cage card activation. The information on the card should include: the investigator's name, the approved UCAR protocol number, an animal identification number (if applicable), the mouse strain/stock and the account number. Individual animal identification such as ear punches, ear tags, toe clips, tattoos and implantable transponders is encouraged, especially in cases where animals are group housed and/or appear identical. All methods of identification must be described in the animal protocol and approved by UCAR.

The DCM and Vivarium staff is available to discuss any questions you may have regarding this policy. Please do not hesitate to contact the Animal Resource Office.



Males only: Up to five in ventilated cage. Or up to four in static cage. Unfamiliar male mice will fight so do not co-house them	**Females only:** Up to five in ventilated cage. Or up to four in static cage	**Standard breeding scheme:** 1-3 females: 1 male; **pregnant** females must be housed individually before birth of pups.	**Continuous Breeding:** 1 male: 1 female, not separated before birth of pups or 1 male : 2 females, one female must be separated before birth of pups.	**One female with two litters:** the older litter must be weaned ~~within 24 hours of~~ before the birth of the second litter.



Pictures adapted from UPenn Mouse Breeding and Cage Density Guidelines