



**THE UNIVERSITY OF TOLEDO  
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE**

SUBJECT: Rodent Breeding and Breeding Cage Densities

DATE: March 20, 2024

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**Rodent Breeding and Breeding Cage Densities Guidelines**

The establishment of a rodent breeding colony should be scientifically justified and not based on convenience. Overcrowding, as a result of breeding can be a significant animal welfare issue and is in violation of federal and University guidelines on animal care, as well as the *Guide for the Care and Use of Laboratory Animals*. The purpose of this guideline is to address the health and well-being of rodents by ensuring safe breeding practices and breeding population densities. In all cases, cages should be regularly monitored to ensure the well-being of the neonates (e.g., size, age, and activity level), as well as characteristics of the cage environment and colony breeding performance. Exceptions to this guideline require IACUC approval.

Mice/Voles

When breeding, no more than 2 adults and 1 litter, regardless of the size of the litter, will be allowed in a 67 square inch standard static mouse cage, a 75 square inch standard ventilated mouse cage, or a 143 square inch standard vole cage.

1. The recommended breeding strategy for mice or voles is monogamous pairs in either a standard ventilated or static cage.
2. Breeding trios (1 male:2 females) or harem breeding (1 male:3 females) are allowable in a mouse cage only if all but one of the pregnant females are removed prior to parturition (birth) such that only one litter of pups and two adults remain in the cage after the pups are born.
3. If post-partum estrus is used to quickly generate an additional litter, the first litter must be weaned by 21 days of age to prevent the presence of two litters in a cage, i.e., no extended weaning is allowed if a post-partum estrus breeding strategy is used.

Rats

When breeding, no more than 1 adult and 1 litter, regardless of the size of the litter, will be allowed in a 143 square inch standard rat cage. No more than 2 adults and 1 litter, regardless of the size of the litter will be allowed in a 268 square inch rat cage.

1. The recommended breeding strategy for rats is monogamous pairs in a standard rat cage.

2. If post-partum estrus is used to quickly generate a second litter, the first litter must be weaned by 21 days of age to prevent the presence of two litters in a cage, i.e., no extended weaning is allowed if a post-partum estrus breeding strategy is used.

#### References

1. *Guide for the Care and Use of Laboratory Animals*, 8<sup>th</sup> Edition. 2011. National Research Council Committee for the Update of the Guide for the Care and Use of Laboratory Animals. Washington (DC): National Academies Press (US).
2. *Guidelines for the Establishment and Use of Mouse Breeding Groups*. National Institutes of Health ARAC Guidelines, February 2019.  
[https://oacu.oir.nih.gov/sites/default/files/uploads/arac-guidelines/b18\\_mouse\\_breeding\\_groups.pdf](https://oacu.oir.nih.gov/sites/default/files/uploads/arac-guidelines/b18_mouse_breeding_groups.pdf)