

Overcrowded Cages Policy/SOP

First Issue: 5/12/08, Revised: 5/21/08, 2/19/09, 5/29/09, 9/30/10, 10/22/10, 12/27/10(2), 8/26/11, 10/25/11, 12/14/11, 5/17/12, 12/21/12, 1/5/13, 1/1/14 (formatting), 7/15/15 MW, 8/6/15, 3/22/16
IACUC Approved: 6/18/09, 11/1/10, 1/20/11, 5/17/12, 1/17/13, 7/28/15



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Purpose

To maintain rodent colonies at cage densities within federally mandated guidelines stipulated in the Guide for the Care and Use of Laboratory Animals (Guide), 8th edition.

Background

Proper cage density depends, in part, on

- stock or strain growth characteristics
- gender
- age

Improper density can affect animal well-being and research results

Density should be decreased for mothers with litters. This will allow pre-weaned pups to make normal postural adjustments, avoid being trampled, and compete with other pups for food. The lower density also will help prevent excessive ammonia buildup in the cage.

Individually Ventilated Cage (Tecniplast)

Mouse: 84 sq. in. floor space

Rat: 124 sq. in. floor space

Static Shoebox Cage

Mouse: 65 sq. in. floor space

Rat: 141 sq. in. floor space

TOTAL NUMBER OF MICE PER CAGE

According to the Guide for the Care and Use of Laboratory Animals 8th Edition (pg 57, Table 3.2 Recommended Space for Commonly Used Group-Housed Laboratory Rodents)

IVC Mouse Cage (84 sq. in.)	
Weight, g	Maximum # Mice
Up to 25 (post weaning)	7
> 25 (post weaning)	5
Adults and litter	2 adults + litter

Static Mouse Cage (65 sq. in.)	
Weight, g	Maximum # Mice
Up to 25 (post weaning)	5
> 25 (post weaning)	4
Adults and litter	1 adult + litter

-A female and her litter require 51 sq. inches of floor space and a full size adult requires 15 sq. inches of floor space based on the *Guide*.

TOTAL NUMBER OF RATS PER CAGE

According to the Guide for the Care and Use of Laboratory Animals 8th Edition (pg 57, Table 3.2 Recommended Space for Commonly Used Group-Housed Laboratory Rodents)

IVC Rat Cage (124 sq. in.)	
Weight, g	Maximum # Rats
100-200 (post weaning)	5
200-300 (post weaning)	4
300-400 (post weaning)	3
<400 (post weaning)	2
Adults and litter	1 adult + litter

Static Shoebox Rat Cage (149 sq. in.)	
Weight, g	Maximum # Rats
100-200 (post weaning)	6
200-300 (post weaning)	5
300-400 (post weaning)	3
<400 (post weaning)	2
Adults and litter	1 adult + litter

Requirements

No harem breeding is allowed with rats.

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Procedures for Overcrowded Cages - Researchers

1. Researchers with breeding protocols MUST check their colonies at least three non-consecutive days each week. The onus is on researcher to monitor and separate overcrowded cages.
2. If a female mouse gives birth, the litter must be weaned at 21 days old. Researchers have until day 24 after birth to separate the weanlings. If mice in overcrowded cages are not separated within the required time frame, AVS personnel will separate these cages and charge a fee per cage.
3. If a specific strain of mouse is particularly small and requires more than 21 days with a nursing mother, the researcher must submit a protocol variance request to keep the litter with the mother up to 28 days to the IACUC for review and approval; then, the researcher must notify AVS. Cages approved to keep pups with the nursing mother for 28 days must be separated by day 28. If a second litter is born in the cage before the older pups reach 28 days of age, the cage will become a case of "extreme overcrowding" and the older litter will need to be separated out by noon the following day.

If a litter is born to a cage with more than 2 adults, adults other than the parents must be separated out by noon the following day for safety of the litter. **(EXTREME)**

5. If researchers plan to Trio-breed mice (2 females to 1 male), one of the females must be separated before birth (ideally 10-14 days post breeding) to avoid 2 litters being born in the same cage. Cages with more than 2 female mice to 1 male is not allowed.

Procedures for Overcrowded Cages - AVS

1. To help keep the facility in compliance, AVS will assist researchers by flagging overcrowded cages if/when they see them. Researchers have until day 24 after birth (or day 28 for IACUC approved cases) to separate a cage, regardless of whether or not the cage has been flagged with a notice. AVS will separate cages that have passed this window of time upon seeing them.
2. **When AVS personnel observe any extreme case of overcrowding, with 15 or more adult mice; or cages with 2 or more litters; or cages with 3 or more adults and 1 litter; or cages with more than 5 weanling rats, the cage will be tagged and PI will be notified by email that he/she has until noon the next day to separate the cage. If the mice are not separated by noon the next day, AVS personnel will separate these animals and a fee will be charged per cage separated.**
3. If the AVS technical staff observes a cage of extreme overcrowding, and waiting to separate will cause animals to suffer in any way, **regardless of whether or not the cage has been flagged with a notice**, they will bring this to the attention of the veterinarian to make the final decision of whether or not to separate the cage(s) immediately, and the investigator will be charged a fee for the separation.
4. **Adult rats**, other than the nursing mother, must be removed from the cage before parturition.
5. Whenever AVS personnel separate animals, they will not be responsible for sexing or identifying the animals. The animals will be separated into cages that have proper space allocation. The staff will fill out a blank cage card stating which Granite cage card number the animals were separated from, the strain and DOB of the pups, and also note on the original cage notice where the new cages are located. If the original cage does not have a Granite number, other information from the original card can be referenced.
6. AVS staff will submit a \$25 charge voucher per cage when it is necessary for them to intervene and separate cages. The white copy of the overcrowded notice will be attached to the charge voucher for office records. The yellow copy will be left for the investigator.
7. If a PI receives five billable forced separations within one month, access to the facility for the PI's entire staff will be suspended pending a meeting with the Animal and Veterinary Service Director and Manager to discuss the issue. A husbandry check sheet will be required for the research group to keep record of how often they are checking their colonies. The IACUC will also be made aware.
8. Investigators may request AVS personnel to provide breeding services to manage their colonies, on a fee for service basis.
9. This SOP supersedes all other AVS SOPs pertaining to overcrowded cages.