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| Shape  Description automatically generated  **University of Massachusetts Amherst**  **Animal Care Services** | |
| **IACUC GUIDELINES FOR ANIMAL RESEARCH** | *issued:* **9/26/22** |
| Hamster Breeding in ACS Vivaria | *number of pages:* **2** |

**OVERVIEW**

In order to remain in compliance with federal animal welfare regulations, UMass Animal Care follows the guidelines in the *Guide for the Care and Use of Laboratory Animals and the USDA Animal Welfare Regulations*. The current edition (8th ed.) of the Guide contains specific floor space recommendations for hamsters.

TABLE 3.2 Recommended Minimum Space for Commonly Used Laboratory Rodents Housed in Groups\*

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| **Animals** | **Weight (g)** | **Floor Area/Animal,*a* in.2 (cm2)** | **Height,*b* in. (cm)** | **Comments** |
| Hamstersʿ | <60  Up to 80  Up to 100  >100 | 10 (64.5)  13 (83.8)  16 (103.2)  ≥19 (≥122.5) | 6 (15.2)  6 (15.2)  6 (15.2)  6 (15.2) | Larger animals may require more space to meet the performance standards. |

*a* Singly housed animals and small groups may require more than the applicable multiple of the indicated floor space per animal.

*B* From cage floor to cage top.

*c* Consideration should be given to the growth characteristics of the stock or strain as well as the sex of the animal. Weight gain may be sufficiently rapid that it may be preferable to provide greater space in anticipation of the animal’s future size. In addition, juvenile rodents are highly active and show increased play behavior.

*d* Other considerations may include culling of litters or separation of litters from the breeding group, as well as other methods of more intensive management of available space to allow for the safety and well-being of the breeding group. Sufficient space should be allocated for mothers with litters to allow the pups to develop to weaning without detrimental effects for the mother or the litter.

**BREEDING**

To provide for appropriate welfare of hamster colonies, hamsters can be bred in monogamous pairs (of ONE (1) adult male and ONE (1) adult female***)*** set up soon after weaning, or by using the intermittent hand-mating method. Researchers willing to invest the resources required to manage different breeding schemes that may deviate from these guidelines may do so only if specific arrangements are made in advance with the Attending Veterinarian and approved by the IACUC. **This scheme is based on our standard static rat cage system. Extra-large static breeding cages are available for litters over 12 animals.**

* Offspring must be weaned between 21 days-28 days.
* For large litters (more than 12 pups):
  + All pups should be weighed at 21 days
  + Large pups (≥ 40gm) should be separated out into their own home cages according to current density guidelines
  + Smaller pups (< 40gms) should be kept with their mother and reassessed for size by Day 28.
    - Gel can be added to the cages for additional nutritional supplementation (Boost or Prenatal gels are recommended)
    - Cage will be marked with a “Monitor for size” sticker **with the date to be reassessed/reweighed noted on card**.
  + By Day 28, pups remaining with the dam should be reweighed and weaned into their own home cages
    - If pups still have not reached 40 gm, they should still be weaned into their own cage. Use of gel/nutritional supplement should be provided.
    - Veterinary authorization would be needed to extend weaning age past Day 28
  + **OVERCROWDING**

It is the researcher’s responsibility to ensure that overcrowding does not occur. Researchers will be notified if their cages are found to be overcrowded and will be asked to separate the affected animals accordingly. If the overcrowded situation is not corrected within 24 hours after notification, animal care staff will separate the affected animals at the direction of the veterinary staff. This service will be associated with additional husbandry charges.

\* <https://grants.nih.gov/grants/olaw/Guide-for-the-Care-and-use-of-laboratory-animals.pdf>