

POLICY REGARDING MICE CAGE SIZING AND DENSITY

PURPOSE:

Liberty University seeks to provide adequate, humane housing for research animals stored and used in its facilities. As such, this policy outlines the appropriate measures that need to be taken to ensure that sufficient space is allocated for animals used in research. This policy follows the guidelines set forth in the *Guide for the Care and Use of Laboratory Animals*, 8th edition.

POLICY:

The principle investigator, his or her research staff, and if arranged, the vivarium manager, shall monitor animal housing density on a regular basis to allow proper weaning and adherence to the standards of this policy. If any deviations are noted, the PI must be notified, and deficiencies shall be corrected immediately. Failure to correct observed deficiencies may result in non-compliance.

MINIMUM RECOMMENDED SPACE FOR MICE HOUSED IN GROUPS

The following table uses recommendations from *The Guide* for rodent cages of the standard size (75in²). For smaller sized cages, consult the IACUC for the current recommendations.

TABLE I. STANDARD CAGE SIZING

Animals	Weight (grams)	Floor Area of Cage per Animal (inches²)	# of Adult mice per 75in² cage
Mice in Groups	<10	6	12
	Up to 15	8	9
	Up to 25	12	6
	>25	≥15	5
Female + Litter		51	2 adults plus a single litter of any size

*Standard density is 5 post-weaned mice per cage.

HEAVY MICE

If any mouse (breeder or experimental) weighs more than 45 grams, then that cage is restricted to four mice per cage.

BREEDING MICE

No more than two adults in a cage when a litter is born. Pups must be weaned by 21 days of age unless delayed weaning has been approved by the IACUC or university veterinarian for health reasons. No more than one litter can be present in a cage, though exemptions can be made on a case-by-case basis by the IACUC for justifiable reasons (poor breeding, failure to thrive).

POST-PARTUM BREEDING

Removing the male from the harem post-breeding is highly recommended to avoid cage overcrowding. Advantages of this practice include:

- The male may be used in multiple harems (decreasing the total number of animals and sharing the genetics to a larger population)

- Decreased chance of cannibalism after birth
- Increase the number of pups that can be maintained in the same cage without exceeding density guidelines
- Prevent post-partum breeding of the females, which can result in the birth of a second litter before the first litter is weaned. *The Guide* prohibits multiple litters from the same female in the same cage at the same time.

SINGLE HOUSING

Group housing is the standard established by Liberty University. For instances in which single housing is acceptable, see the policy regarding social housing.

OVERCROWDING

To ensure that the institution remains within the confines of the established policy, the IACUC requires the following:

- Vivarium managers must track incidences of overcrowding, and report high frequency observations to the IACUC for consideration and reporting.
- The PI must meet with IACUC designees when 5 or more instances of overcrowding have occurred. A report of the meeting will be documented to ensure oversight and establish corrective action.