



Institutional Animal Care & Use Committee

Rodent Cage Density

Mice:

Guide for the Care and Use of Laboratory Animals, 8th edition

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

Animals	Weight (g)	Floor area/Animal ^a (sq. in)	Height ^b (in)
Mice in groups ^c	<10	6	5
	Up to 15	8	5
	Up to 25	12	5
	≥25	≥ 15	5
Female + litter		51	5

*The interpretation of this table should take into consideration the performance indices described in the text beginning on page 55.

^aSingly housed animals and small groups may require more than the applicable multiple of the indicated floor space per animal.

^bFrom cage floor to cage top.

^cConsideration 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.

^dOther 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.

Housing available at the MSU ARC for mice:

	Weight (g)	Max # mice Tecniplast IVC (82 in ²)	Max # mice Alt Design IVC (75 in ²)
Mice in groups	<10	13	12
	Up to 15	10	9
	Up to 25	6	6
	>25	5	5
Female + litter		1	1

IACUC Approval Date: 03/29/2018

Review Date: 03/29/2018

Issue Date: 05/7/2018

Breeding Schemes and Management:

Mice can be set up in trios, harems or pair breeding. Only 1 male is allowed per breeding cage. Multiple females may be bred to a single male; however, the total mice per cage may not exceed the cage capacity.

For trios and harem breeding the pregnant female should be separated and placed into her own cage (with appropriate nesting/enrichment materials) prior to giving birth. This is usually accomplished before E15 (15 days of gestation) when pregnancy is identified, or after mating when a plug is identified. If a female gives birth with in trio or harem cage, the male and remaining females should be removed to a separate cage leaving the female with her litter undisturbed. When pregnant females are separated, the male may remain with only one female or he can be moved to another breeding cage or housed separately based on the needs of the colony/protocol.

When breeding in pairs (one male to one female), the dam and sire may remain together throughout gestation and lactation. Breeding pairs often breed during post-partum estrus immediately following parturition) so pairs with litters near weaning age must be monitored closely for the arrival of a new litter. Ideally, the current litter should be weaned just prior to the birth of the new litter; however if the new litter arrives early, the older litter must be weaned; even if it is not yet 21 days old.

Weaning:

Mice are usually weaned between 19-23 days of age with 21 days of age being the most common. They may be weaned as early as 17 days of age when made necessary by the death of the dam or the birth of a post-partum estrus litter. Litters may also be left with the dam for an extended time when underweight or small of stature, as long as the dam doesn't give birth to another litter. Some transgenic, inbred, or specialty strains do not mature as quickly as normal wild type mice and require an extended nursing period. The weaning age is extended until they are mature enough to be weaned, and a notation is made on the cage label. When strains commonly require an older weaning age, this exception is noted in the animal use and care protocol. The weanling mice are separated by sex and housed in a density appropriate for the facility and caging. When genotyping, the IACUC policy Rodent Genotyping and Identification must be followed.