

Guidelines for the Housing of Mice in Scientific Institutions



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The challenge

- Mice are not small rats
 - Differences in size, anatomy, physiology
 - Prey vs predator
 - Differences in psychology and behaviour



The challenge (continued)

- No such thing as “a mouse”
- Impact of inbreeding on phenotype
- Scope: ~460 *included* references in final guidelines



Guidelines: General recommendations

Recommendation 1.5.1:

...housing should allow mice the opportunity for social interaction, the opportunity to carry out normal behaviours and the opportunity to rest and withdraw from each other.

Normal behaviours of mice include eating, drinking, urinating, defecating, foraging, exploring, gnawing, hiding, climbing, playing, nesting, digging and engaging in a range of social activities.

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Guidelines: Topics covered

- Cage design: living area, floor area, height, lid, shape, materials, flooring, bedding, nesting material, in-cage shelters, dividers
- Mouse care and management: social environment, isolation/individual housing, metabolism cages, handling, husbandry, transport, environmental enrichment, food and water, monitoring

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Guidelines: Topics covered (cont'd)

- Environmental variables: light, temperature, humidity, air quality and ventilation, sound and vibration, cleaning, monitoring of environmental variables
- Identification and records: identification, cage labels, breeding records

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Guidelines: discussion points

- Living area and population density
- Isolation and individual housing
- Handling and husbandry procedures
- Environmental enrichment



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Living area and population density

- Prime concern of investigators and institutions
- No consensus



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NSW (2008)

- Minimum 60cm² per adult mouse
- Minimum enclosure size 500cm²
- Minimum total cage floor area 500cm² for breeding pair or female with pups
- Strain dependent
- Larger cages should be designed in such a way to avoid large open spaces

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Isolation and individual housing

- Not ideal, but acceptable in highly aggressive strains
- Requires AEC approval
- Environmental enrichment



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Handling and husbandry procedures

- Minimal restraint
- Avoid negative associations
- Conditioning period
- Total isolation for stressful procedures



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Environmental enrichment

- Nesting, bedding, in-cage shelters not included
- Every enrichment item is not for every strain
- Consistency
- Rotation of enrichment items
- Cage floor area



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Conclusion

- Under review
- Feedback welcome

www.animaethics.org.au/reader/animal-care
OR

Google “Guidelines for the housing of mice in scientific institutions”

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