

## Guidelines for the Housing of Mice in Scientific Institutions



Dr Anne Fawcett  
Animal Welfare Branch

---

---

---

---

---

---

---

---

## 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.*

Dr Aenne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## 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

Dr Aenne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## 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

Dr Aenne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Guidelines: discussion points

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



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Living area and population density

- Prime concern of investigators and institutions
- No consensus



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## NSW (2008)

- Minimum 60cm<sup>2</sup> per adult mouse
- Minimum enclosure size 500cm<sup>2</sup>
- Minimum total cage floor area 500cm<sup>2</sup> for breeding pair or female with pups
- Strain dependent
- Larger cages should be designed in such a way to avoid large open spaces

Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Isolation and individual housing

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



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Handling and husbandry procedures

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



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## 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



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Conclusion

- Under review
- Feedback welcome

[www.animaethics.org.au/reader/animal-care](http://www.animaethics.org.au/reader/animal-care)  
OR

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

Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---

## Acknowledgements

Professor Margaret Rose, ARRP  
Dr Lynette Chave, NSW DPI  
Dr Peter Johnson, NSW DPI  
Dr Ross Burton, NSW DPI  
Dr Malcolm France, President, ANZLAA



Dr Anne Fawcett: Guidelines for the Housing of Mice in Scientific Institutions

---

---

---

---

---

---

---

---