



Cornell University
Cornell Center for Animal Resources and Education

CARE560.01 Environmental Enrichment Program for Rats

The intent of this standard operating procedure is to describe an appropriate environmental enrichment program for rats. This SOP is intended for investigators and anyone caring for rats. This procedure is approved by the Cornell Institutional Animal Care and Use Committee (IACUC) and the Cornell Center for Animal Resources and Education (CARE). Any exemption must be approved by the IACUC prior to its application.

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1. Introduction

The purpose of environmental enrichment is to provide rats opportunities to express basic behavior needs, promote species-typical, non-injurious behavior and promote physical and mental health thus enhancing animal welfare. The environmental enrichment should be biologically relevant (eg. hiding, socializing, searching) so that it does not lose its enriching value over time.

2. Materials

- Nesting Material
- Shelter
- Tubes
- Running wheels
- Dietary Supplements (with PI approval)
- Other types of enrichment as approved by the PI

3. Procedures

- a. Social Contact
 - i. Pair or group house rats.
 - ii. Rats may be singly housed in some cases:
 1. Incompatibility..
 2. Medical reasons.
 3. Pregnant females based on strain disposition (may cannibalize young if left with male or other females or males may kill young).
 4. Specific protocol approved by IACUC.

- b. Housing System
 - i. House rats in solid-bottom cages with contact bedding, unless specifically described in a protocol and approved by the IACUC.
 - ii. Provide the minimal space recommendations for a standard rat cage (~140 sq. inches):
 - 1 female and 1 male, with one litter until weaning
 - 3 rats if <300 g
 - 2 rats if >300 g

NOTE: See *Guide* (p.27) for further information.
- c. Dietary Enrichment
 - i. No dietary enrichment is routinely provided.
 - ii. Provide rats with dietary supplementation, as allowed by the PI.
- d. Objects
 - i. Nesting material
 - 1. Provide nesting material (e.g., NESTLET, envirodry,, shredded aspen) in every cage
 - 2. Transfer the nest to the clean cage with the animals, with additional nesting material, and provide a new shelter if necessary.
 - ii. Provide at least one of the following:
 - 1. Plastic tube (e.g., PVC pipe)
 - 2. Shelter
 - 3. Running wheel
 - 4. Aspen blocks
 - 5. Nylabones

4. Safety

When working with animals wear appropriate PPE and be aware of allergy, zoonosis and injury risks. Refer to appropriate references below.

5. Contingencies

- a. Post contact information for emergency assistance in a conspicuous location within the animal facility.
- b. Emergency Veterinary care is available at all times including after working hours, weekends and holidays by CARE (pager 1-800-349-2456).

6. References

- Guide for the Care and Use of Laboratory Animals. National Research Council; National Academy Press, Washington, DC, 1996.
- Enrichment Strategies for Laboratory Animals, ILAR Journal, Volume 46, Number 2, 2005. National Research Council.
- Making Lives Easier for Animals in Research Labs, Animal Welfare Institute, 2007.
- Comfortable Quarters for Laboratory Animals, Animal Welfare Institute, 2002
- Zoonosis : <http://www.research.cornell.edu/care/zoonoses.html>

- Allergens Prevention:
[http://www.research.cornell.edu/CARE/documents/OHS/AllergyPreventionFact Sheet.pdf](http://www.research.cornell.edu/CARE/documents/OHS/AllergyPreventionFactSheet.pdf)
- CARE 707 Animal Related Injury:
<http://www.research.cornell.edu/care/documents/SOPs/CARE707.pdf>
- CARE 715 Personal Protective Equipment:
<http://www.research.cornell.edu/care/documents/SOPs/CARE715.pdf>

Written by/date :
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July 2005

Effective date :
Aug. 2005

Review date :
November 2008

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SOP :
CARE560.01