



STANDARD OPERATING PROCEDURE 807 ENVIRONMENTAL ENRICHMENT PROGRAM FOR RODENTS

1. PURPOSE

This Standard Operating Procedure (SOP) describes rodents' (mice and rats) appropriate environmental enrichment program.

2. RESPONSIBILITY

Principal investigator (PI), their research staff.

3. PROCEDURES

- 3.1. Environmental enrichment aims to provide rodents (mice and rats) opportunities to express species-specific behavior needs, prevent injurious and stereotypic behaviors, and promote physical and mental health, thus enhancing animal welfare.
- 3.2. The environmental enrichment should be biologically relevant (i.e., hiding, socializing, nesting, foraging) so that it does not lose its enriching value over time.
- 3.3. Social Contact:
 - 3.3.1. Pair or group house mice or rats.
 - 3.3.2. Rodent may be singly housed in some cases:
 - 3.3.2.1. Incompatibility (aggression).
 - 3.3.2.2. Medical reasons.
 - 3.3.2.3. Stud breeder.
 - 3.3.2.4. Last in the group.
 - 3.3.2.5. Experimental needs approved by Facility Animal Care Committees.
- 3.4. Housing System:
 - 3.4.1. Housing should allow maximal species-specific behaviors and minimal stress-induced behaviors.
 - 3.4.2. House rodents in solid-bottom cages with contact bedding unless specifically described in a protocol and approved by the BGU Animal Care and Use Committee.
 - 3.4.3. The housing system should exceed the minimal space recommendations for a standard mouse cage (500sq.cm) and a standard rat cage (900sq.cm):
 - 3.4.3.1. For mice, one Trio-breeding: 2 females, one male, and up to two litters until weaning. For rats, one female, one male, and one litter until weaning.
 - 3.4.3.2. After weaning: *For mice*, 7 mice if under 15 g; 5 mice if 15-30g. 4 mice if over 30 g. *For rats*, 6 were under 200g, 4 were 200-300 g, 3 rats if 300-400g. Use a duplex cage for rats over 400 g.

3.5. Dietary Enrichment:

3.5.1. No dietary enrichment is routinely provided.

3.5.2. Provide mice with dietary supplementation as the PI allows positive reinforcement (e.g., sunflower seeds and peanut treats).

3.6. Manipulanda:

3.6.1. Nesting material:

3.6.1.1. Provide nesting material, tissue paper, a brown envelope, and a paper cup in every cage.

3.6.1.2. Transfer the nest to the clean cage with the animals during cage change, add additional nesting material, and provide a new shelter if necessary.

3.6.1.3. Transfer animals in paper cups or plastic tubes, not by the tail

3.6.2. Shelter:

3.6.2.1. Provide a cellulose-based (preferable) or plastic shelter. The shelter is obligatory for single-animal housing).

3.6.2.2. The shelter should provide enough protected space for all cage occupants.

3.6.3. Cages with single animals must be marked with specific cage cards indicating the reason for solitary housing and the date of housing.

3.7. Exemption:

3.7.1. Exemption from this environmental enrichment program must be justified and approved by the IACUC or prescribed for medical reasons by the veterinarian.

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Approved by the BGU Animal Policy and Welfare Oversight Committee