

1. PURPOSE

The intent of this Standard Operating Procedure (SOP) is to describe an appropriate environmental enrichment program for hamsters.

2. RESPONSIBILITY

Facility Animal Care Committees (FACC), veterinarian, principal investigators (PIs), animal care staff.

3. PROCEDURES

- 3.1. The purpose of environmental enrichment is to provide hamsters with opportunities to express basic behavior needs, to promote species-typical, non-injurious, behavior and to promote physical and mental health thus enhancing animal welfare. The environmental enrichment should be biologically relevant (i.e.: hiding, socializing, searching) so that it does not lose its enriching value over time.
- 3.2. Social Contact:
 - 3.2.1. Pair-house hamsters of the same gender.
 - 3.2.2. Exceptions for pair or group housing include:
 - 3.2.2.1. Pregnant females
 - 3.2.2.2. Incompatible animals
 - 3.2.2.3. Medical reasons
 - 3.2.2.4. Specific protocol approved by FACC
- 3.3. Housing System:
 - 3.3.1. Animals should be housed with the goal of maximizing species-specific behaviors, minimizing stress-induced behaviors, providing opportunity for social contact and locomotor and exploratory behaviors
 - 3.3.2. House hamsters in solid-bottom cages with contact bedding, unless specifically described in the animal use protocol and approved by the FACC.
 - 3.3.3. Housing system should meet or exceed the minimal space and height recommendations of the current Canadian Council on Animal Care (CCAC) Guidelines for a standard hamster cage.
- 3.4. Dietary Enrichment:
 - 3.4.1. Provide some food pellets inside the cage.
 - 3.4.2. Provide hamsters with dietary supplementation as allowed by the PI for positive reinforcement (e.g. sunflower seeds, rodent treats).
- 3.5. Shelters and nesting material:
 - 3.5.1. Shelters and nesting material address the behavioral needs of hamsters and provide comfort for the animals.
 - 3.5.1.1. Provide nesting material (e.g., looser paper strands such as Enviro-Dri®, NESTLET®, corn husk, shredded aspen) in every cage.
 - 3.5.1.2. Provide a cellulose-based (preferable) or plastic shelter in every cage.
 - 3.5.1.3. Transfer nesting material to the clean cage during cage change, add additional nesting material and provide a new shelter if necessary.
- 3.6. Other environmental enrichment items:
 - 3.6.1. Additional elements that may enrich the animals' environment may be provided as described in the animal use protocol and approved by the FACC.

3.6.2. Additional elements may include:

- 3.6.2.1. Features to promote activity such as structures to climb on or around, exercise wheels, etc.
- 3.6.2.2. Structures for hiding or avoidance such as shelters, tubes, or dividers
- 3.6.2.3. Substrates for burrowing
- 3.6.2.4. Objects to chew such as nylon bones or wooden blocks
- 3.6.2.5. Variety in food (e.g., fruits, vegetables, cereal, or treats)
- 3.6.2.6. Selected food items in the bedding to encourage foraging

3.7. Exemption:

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

SOP REVISION HISTORY

DATE	NEW VERSION
2023.03.06	2. Responsibility Facility Animal Care Committees (FACC), veterinarian , principal investigators (PIs), animal care staff.
2023.03.06	3.2.1. Pair or group house hamsters of the same gender. 3.2.2. Mice may be singly housed with strong scientific, welfare or medical justification in some cases: 3.2.2.1. Incompatibility (aggression)
2023.03.06	3.3.1. Animals should be housed with the goal of maximizing species-specific behaviors, minimizing stress-induced behaviors, providing opportunity for social contact and locomotor and exploratory behaviors.
2023.03.06	3.3.3. Housing system should meet or exceed the minimal space and height recommendations of the current Canadian Council on Animal Care (CCAC) Guidelines for a standard hamster cage (~143 sq. inches). 3.3.3.1. One female with one litter, until weaning. 3.3.3.2. Do not exceed 400g (total weight of all hamsters) per cage.
2023.03.06	3.6. Objects: 3.6.1. Nesting material: 3.5. Shelters and nesting material: 3.5.1. Shelters and nesting material address the behavioral needs of hamsters and provide comfort for the animals. 3.5.1.1. Provide nesting material (e.g., looser paper strands such as Enviro-Dri [®] , NESTLET [®] , corn husk, shredded aspen) in every cage. 3.5.1.2. Provide a cellulose-based (preferable) or plastic shelter in every cage. 3.5.1.3. Transfer the nest nesting material to the clean cage with the animals during cage change, add additional nesting material and provide a new shelter if necessary.
2023.03.06	3.6.1. Chewing device: 3.6.1.1. Provide a chewing device (e.g. nylon bone, hardwood block).
2023.03.06	3.6. Other environmental enrichment items: 3.6.1. Additional elements that may enrich the animals' environment may be provided as described in the animal use protocol and approved by the FACC. 3.6.2. Additional elements may include: 3.6.2.1. Features to promote activity such as structures to climb on or around, exercise wheels, etc. 3.6.2.2. Structures for hiding or avoidance such as shelters, tubes, or dividers 3.6.2.3. Substrates for burrowing 3.6.2.4. Objects to chew such as nylon bones or wooden blocks 3.6.2.5. Variety in food (e.g., fruits, vegetables, cereal, or treats) 3.6.2.6. Selected food items in the bedding to encourage foraging