

Environmental Enrichment - Rats

Purpose

The intent of this Standard Operating Procedure is to describe appropriate environmental enrichment for laboratory rats housed in Charles Sturt University designated animal holding facilities.

Responsibility

The Charles Sturt University Animal Care and Ethics Committee (ACEC), the Principal Investigators (PIs), animal care staff and facility managers.

Procedure

1. The purpose of environmental enrichment is to provide rats with opportunities to express basic behavioural needs, to promote species-typical, non-injurious, behaviour and to promote physical and mental health thus enhancing animal welfare. The environmental enrichment should be biologically relevant (i.e.: hiding, socialising, searching) so that it does not lose its enriching value over time.
2. Social Contact
 - a. Pair or group house rats.
 - b. Rats may be singly housed in some cases:
 - i. Incompatibility.
 - ii. Medical or research design reasons.
 - iii. Specific protocol approved by ACEC.
3. Housing System:
 - a. Animals should be housed with the goal of maximising species-specific behaviours and minimizing stress-induced behaviours.
 - b. House rats in solid-bottom cages with contact bedding, unless specifically described in a protocol such as timed mating and approved by the ACEC.
 - c. Housing system should ideally exceed the minimal space recommendations for a standard rat cage (700cm²):
 - i. 1 female, 1 male, and up to one litter until weaning.
 - ii. After weaning 3 rats if <300 g; 2 rats if >300g.
4. Dietary Enrichment:
 - a. No dietary enrichment is routinely provided.
 - b. Provide rats with dietary supplementation as allowed by the PI for positive reinforcement (e.g. sunflower seeds). Extra feed should be rodent-feed approved and from a reliable feed merchant. Feeding on non-rodent designated feedstuffs (e.g. horse diets) is not approved.
5. Objects:
 - a. Nesting material:
 - i. Provide nesting material (e.g., NESTLET®, corn husk, shredded aspen, paper towel) in every cage.
 - ii. Transfer the nest to the clean cage with the animals during cage change, add additional nesting material and provide a new shelter if necessary.
 - b. Shelter:
 - i. Provide a shelter (e.g. Plastic tube, cardboard container or tubes).
 - ii. Shelter should provide enough protected space for all cage occupants if possible.
6. Chewing device:
 - a. Provide a chewing device (e.g. nylon bone, hardwood block) to rats on powdered food, or preferably to all rats.
7. Exemption
 - a. Exemption from this environmental enrichment program must be justified and approved by the ACEC, or prescribed for medical / research reasons.