

**Subject: Enrichment of Animals**

Source: Office of Laboratory Animal Resources

Effective Date: November 9, 2020

Replaces: October 15, 2018

Applies to: All species housed in CU Denver facilities

Reference: Animal Welfare Act; PHS Policy on Humane Care & Use of Laboratory Animals; Guide for the Care & Use of Laboratory Animals



**Introduction**

The Animal Welfare Regulations and Guide for the Care and Use of Laboratory Animals state that species appropriate environmental enrichment should be provided to animals unless there is a scientific justification or an animal welfare concern evaluated by a veterinarian. Environmental enrichment can take many forms and includes social housing for social species, nesting materials for nesting species, toys, music, cage furniture, novel food, etc. It is the goal of the Animal Care and Use program at the University of Colorado Denver to provide an enriched environment to all animals that is beneficial to animal well-being and consistent with the goals of animal use.

**Policy Statement**

All animals housed in CU Denver AAALAC accredited housing sites will be provided with species appropriate environmental enrichment. Any additional enrichment that would be provided by the animal facility, beyond the minimum, will only be provided after approval by the Principal Investigator.

- **Cage Furniture or Toy Enrichment:**
  - Additional enrichment is available in the enrichment containers within the facility or the Principal Investigator may provide it following review and approval by the facility manager.
  - Mice and Rats: cage enrichment must be sterilized or irradiated prior to use, unless prior approval has been granted by the Director or Associate Director of OLAR.
  - Non-Mice and Rat Species: additional cage enrichment should be sanitizable or able to be disposed of after use.
- **Food Enrichment:**
  - Mice and Rats:
    - Stored in vermin proof container
    - Purchased sterilized (autoclaving/irradiated) prior to entering the facility
    - Labeled with the "best by" or expiration on any new container
    - Obtained through an enrichment vendor (i.e. Bio-serv) and certified sterile. If not available, grocery items can be purchased if stored and labeled as above.
    - Should not be prepared (i.e. mixed or cooked) outside of the facility
  - Non-Mice and Rats:
    - At minimum should be purchased as human food grade or acceptable for livestock
    - Fresh vegetables and fruits for herbivores and some omnivores must be rinsed prior to processing for distribution
  - Food enrichment disposal: Independent of source, discard any food enrichment after the expiration date, the "best by" date, or if the item becomes contaminated or is visibly spoiled.
- OLAR provided food enrichment may be available for use, depending on the room and species.
  - Any other food enrichment provided by researchers must be described in their IACUC protocol.

**Exemptions:** Scientific justification is required for exemption of any species from the minimum enrichment provided. If requesting an exemption from the minimum enrichment, within the IACUC protocol an investigator must address each aspect of the program and provide a scientific justification as to why this aspect is not able to be used. Requests must be reviewed and approved by the IACUC prior to receiving exemptions from the enrichment program. Investigators with exemptions from the enrichment program must work with the respective animal facility manager to ensure that the cages are appropriately labeled.

**Procedures**

The following is a list of minimum enrichment provided to animals, along with additional enrichment that may be used:

- Social Housing for social species is required per the IACUC policy – Social Housing for Social Species
  - Sheep - animals will not be housed in isolation (auditory or visual sight of another animal), animals in carts pushed together to foster herding behavior.
  - Hamsters and ground squirrels are not considered social species
- Rodents – (mice, rats, gerbils, hamsters, guinea pigs)
  - Required – nesting material (eg. Nestlet, brown shredded paper, papertowels, etc) and/or cage furniture
  - Additional enrichment includes but is not limited to: food treats not normally part of the diet, manipulanda, toilet paper rolls, running wheels, chew sticks, nylabones, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice).
  - Guinea Pigs may have access to a playpen
- Chinchillas
  - Required - cage furniture and dust baths.
  - Additional enrichment includes but is not limited to: food treats not normally part of the diet, manipulanda, human contact, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Rabbits
  - Required - cage furniture, manipulanda, and/or toys.
  - Additional enrichment includes but is not limited to: human contact, playpen access, food treats not normally part of the diet, nylabones, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Pigs
  - Required – toys and/or manipulanda
  - Additional enrichment includes but is not limited to: human contact, food treats not normally part of the diet, large balls, scratching mats, nylabones, chew sticks, Kongs, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Dogs
  - Required – exercise (per the Dog Enrichment and Exercise SOP), plus manipulanda, toys, and/or human contact.
  - Additional enrichment includes but is not limited to: food treats not normally part of the diet, nylabones, chew sticks, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Sheep
  - Additional enrichment includes but is not limited to: food treats not normally part of the diet, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Calves
  - Additional enrichment includes but is not limited to: human contact, food treats not normally part of the diet, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Cats
  - Required - toys, raised platforms, human contact.
  - Additional enrichment includes but is not limited to: food treats not normally part of the diet, scratching posts, hammocks, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice)
- Frogs
  - Required - cage furniture.
  - Additional enrichment includes but is not limited to plastic plants, gravel and rocks, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice).
- Fish
  - Additional enrichment includes but is not limited to plastic plants, gravel and rocks, and a radio/music (set to a low decibel level i.e. normal conversation can be conducted without raising your voice).