

Institutional Animal Care and Use Committee		UNTHSC
Title: Enrichment for Laboratory Animals		
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A. PURPOSE

This Standard Operating Procedure (SOP) is to establish a program that ensures the psychological well-being of laboratory animals housed at UNTHSC.

B. RESPONSIBILITY

According to the Guide for the Care and Use of Laboratory Animals, Eighth Edition (pg. 53), “Enrichment programs should be reviewed by the IACUC, researchers, and veterinarian on a regular basis to ensure that they are beneficial to animal well-being and consistent with the goals of animal use.”

C. PROCEDURES

a. Special Considerations

- i. Protocols may have special considerations regarding environmental enrichment. In all species, enrichment is provided in accordance with the IACUC approved protocol, with consent from the Principal Investigator, and with approval from the veterinary staff.
- ii. Social enrichment is based on protocol requirements, species, veterinary concerns and compatibility of individuals. All animals will be housed with olfactory, visual, and auditory contact with conspecifics as well as postvive human interaction unless specifically exempted by the IACUC or veterinarian.

b. Social Enrichment:

- i. **Porcine:** Swine from the same source, of the same sex and size will be socially housed unless there are IACUC approved scientific exceptions or veterinary-related concerns about animal well-being. Singly housed animals will be provided visual, auditory, olfactory and tactile contact with compatible conspecifics. If animals must be isolated, then increased enrichment will be provided by the animal health and husbandry staff, including: increased human interaction, bedding for rooting, toys, and treats.
- ii. **Rabbits:** Animals will be socially housed if socially housed at the vendor, of the same sex and size, socially compatible and when performance standard dictate unless there are IACUC approved scientific exceptions or veterinary-related concerns about animal well-being. Rabbits are housed in cage banks which allow them to hear, see, and smell other rabbits within the room. When more than one bank of cages is in a room, they are placed opposite of each other when possible. Singly housed rabbits will have

- visual, auditory, olfactory and sometimes tactile contact with conspecifics unless specifically exempted for protocol or veterinary reasons.
- iii. **Rodents:** Mice, rats, hamsters, and guinea pigs will be group-housed in compatible groups when possible. All rodents are housed in clear polysulfone caging so that there is visual contact. Guinea Pigs are housed in groups of up to 4 per cage which allows for social and physical contact. Exceptions made for single-housing animals for scientific purposes, must be scientifically justified and stipulated in the corresponding IACUC approved protocol. Exceptions for singly housing animals due to social incompatibility, breeding purposes, or any other veterinary concerns made by the discretion of the veterinary, husbandry, or investigative staff, must be documented in the animal housing room .
 - iv. **Fish and Amphibians:** Shoaling and schooling fish and social amphibians will be group-housed according to species. Exceptions to group-housing may be made based on scientific or veterinary needs.
- c. Environmental Enrichment:
- i. **Porcine:** Swine may be given Kong toys, Apple toys, or hanging chains. Swine may be housed in bedding that will allow them to root, based on pen type.
 - ii. **Rabbits:** Toys are available for rabbits for expressing normal chewing behaviors. Examples of toys provided are: jingle bell balls, kongs, cat toys, plastic chains, and/or empty boxes for play.
 - iii. **Rodents:** Mice and Rats are housed on contact bedding. PVC tubes or igloos may be added to caging to provide a mechanism for less dominant animals to find sanctuary. Nestlets©, Shepard Shacks©, and cocoons may be added to breeder cages to provide nest building material and create a productive activity for the animals. Hamsters and guinea pigs may be given PVC tubes for hiding. Other exceptions to the administration of environmental enrichment may be made based on scientific or veterinary needs.
- d. Food Enrichment:
- i. **Porcine:** Swine may be given fruits, vegetables and treats such as cereal and apples daily.
 - ii. **Rabbits:** Rabbits may receive fruits and vegetables for gnawing as additional enrichment.
 - iii. **Rodents:** Rodents may receive sunflower seeds for additional enrichment.

D. REFERENCES

- a. Guide for the Care and Use of Laboratory Animals, Eighth Edition
“The primary aim of environmental enrichment is to enhance animal well-being by providing animals with sensory and motor stimulation, through structures and resources that facilitate the expression of species-typical behaviors and promote psychological well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics (NRC 1998a; Young 2003).” (Pg. 52-53)