

Laboratory Animal Environmental Enrichment

Summary/Purpose: Mandatory environmental enrichment materials / practices.

The *Guide for the Care and Use of Laboratory Animals** states “The primary aim of environmental enrichment (EE) 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 psychology well-being through physical exercise, manipulative activities, and cognitive challenges according to species-specific characteristics.”

In order to ensure animal use conforms to the Guide, EE adequacy will be reviewed by the IACUC in three ways: through proposed EE in animal protocol study applications, semiannual facility inspections, and semiannual program reviews. Animal study protocols **must** have scientific justification, approved by the IACUC, to provide anything less than standard enrichment materials or practices. Examples of species-specific EE are in the table below.

- * Guide for the Care and Use of Laboratory Animals (Guide), 8th Edition, National Research Council, 2011.

TABLE OF STANDARD AND SUPPLEMENTAL ENVIRONMENTAL ENRICHMENT

Species	Standard Housing	Standard Environmental Enrichment	Supplemental Enrichment (as requested/approved by investigator)
<i>Mice</i>	-Solid bottom plastic cage with wire bar lid -Water bottle -Corn cob bedding (1/8 or ¼ inch) -Commercially available laboratory rodent chow (Teklad)	-Group-housed -Nesting material (Nestlets)	-Alternative nesting material (ie aspen shavings)
<i>Mouse</i> (single housed) – by protocol approval or medical/behavioral necessity (ie. aggression)	-Solid bottom plastic cage with wire bar lid -Water bottle -Corn cob bedding (1/8 or ¼ inch) -Commercially available laboratory rodent chow (Teklad)	Nesting material (nestlets)	-Alternative nesting material (ie aspen shavings)
<i>Rats</i>	-Solid-bottom plastic cage with wire bar lid. -Water bottle -Corn cob bedding (combo – 1/8 and ¼ inch pellets) -Commercially available laboratory rodent chow (Teklad)	Pair housed	Sanitizable toys (nylabones)
<i>Rat</i> (single housed) by protocol approval or medical/behavioral necessity (ie. surgery, aggression)	-Solid-bottom plastic cage with perforated metal lid (OneCage) -Water bottle -Corn cob bedding (combo – 1/8 and ¼ inch pellets) -Commercially available laboratory rodent chow (Teklad)	Sanitizable toys (nylabones)	
<i>Rabbits</i>	-Suspended floor Caging. -Water bottle. -Commercially Available laboratory rabbit chow (Teklad)	-Single housed -conspecifics visible through cage sides. -whenever	Fresh vegetables (ie. carrots, sweet potato)

		possible, racks positioned so that other rabbits can be seen across the aisle. -Rabbit huts -Sanitizable toys such as diving rings, dumbbells, PVC pipe. -Loose Timothy hay or cubes	
<i>Guinea Pigs</i>	-Suspended floor caging -Water bottle -Commercially Available laboratory Guinea Pig chow (Teklad)	-Group-housed -Guinea Pig Huts	-Timothy hay cubes -Seasonal treats such as green pepper slices
<i>Amphibians</i>	-Sanitizable aquaria or tubs Pond water (wild caught) -Mineral supplemented Live feed (crickets/mealworms) or -Commercially available amphibian diet	Group housed as appropriate.	-Shelter structure such as over turned ceramic pots or sanitizable plastic containers. - leaf litter. woodland debris (tadpoles/)
<i>Zebra Finch</i>	-Breeding cages with solid bottom trays -Flight aviaries -Corrugated cardboard substrate -Water bottles and water baths -Cuttle bone -Perches -Commercially available Finch Feed (KayTee)	-Group Housed -Static, natural and swing perches -2x weekly treats (boiled egg, whole/grain bread) Misting	-Seasonal greens -Nest boxes -Natural wood perches

<i>Domestic Chick/Turkey Poults</i>	<ul style="list-style-type: none"> -Wire bottom hanging cages [or] - multi-level chick brooders -Poultry waterers -Poultry feeders -Commercially available chick starter (Purina, Ware Milling, Nutrena) 	Group housed	<ul style="list-style-type: none"> -Seasonal greens (ie. Kale)/fruits -Sanitizable toys
<i>Wild Turkeys</i>	<ul style="list-style-type: none"> -Outdoor pens with wood shaving or grass /dirt substrate -perches -Automatic waterers Commercially available poultry feed (Nutrena, Naturewise Gamebird Feed) 	Group housed as appropriate	-Seasonal leafy greens, corn, melon
<i>Fish</i>	<ul style="list-style-type: none"> -Sanitizable aquaria. -Static or flow through water system. -Water conditioned or filtered to remove chlorine -Nutritionally complete fish food appropriate to species (Tetramin, brine shrimp, frozen live caught fish) 	Group housed as appropriate	-PVC pipe or rocks for shelter/protection from dominant fish(wild caught fish)