



CMR STANDARD OPERATING PROCEDURE

TITLE: Ferret Environmental Enrichment

SOP Category: Enrichment

CMR SOP #: 6.12

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Effective Date: 02/27/2023

Approval: *Bhupinder Singh*

Revisions:

SCOPE:

This document describes the procedures to be followed when providing environmental enrichment to ferrets. This SOP applies to all Animal Care Staff (ACS), ACS Supervisors (ACSS), Veterinary Staff (VS), and Research Staff members (RS) at the Rutgers University facilities.

OBJECTIVE:

The objective is to summarize ferret environmental enrichment. This SOP is concordant with the Rutgers Environmental Enrichment Program, which states that all laboratory animal species used at Rutgers **must** be provided with species-specific environmental enrichment unless scientifically justified.

Normal Behavior:

Ferrets (*Mustela putorius furo*) part of the family *Mustelidae* are terrestrial carnivores. Ferrets have many anatomical features in common with dogs and cats. Male ferrets are called hobs, and females jills. They are very inquisitive and exploratory and need the opportunity to forage and explore their environment. Ferrets are very agile and lively and need lots of space in which to explore, play and exercise to stay fit, happy, and healthy. Young ferrets will play constantly. Ferrets are most active at dusk. Ferrets are naturally gregarious and can be kept in compatible pairs or groups without aggression, particularly if there is ample environmental enrichment. If they have insufficient stimulation, they can become bored. Ferrets have relatively poor vision, although they can spot moving objects at close range. Ferrets spend up to 75% of their time asleep, and like to sleep in dark, enclosed areas.



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Abnormal Behavior:

1. Lethargy
2. Sensitivity to touch
3. Unusual vocalization
4. Pacing
5. Chewing on cage
6. Excessive digging
7. Excessive aggression
8. Decreased grooming

When these behaviors are observed, VS will evaluate the need for modification of environmental enrichment.

PROCEDURES:

1. Social Grouping
 - a. Group housing will be practiced as the default for all ferrets.
 - b. Single housing should be the exception and justified scientifically and, or if there are veterinary-related concerns about the animal's well-being or cage size restrictions due to animal's size.
 - c. In the absence of other animals, **an extra enrichment item must be offered**, and the animals will be housed in a manner that allows for as much tactile, auditory, visual, and olfactory contact, as possible.
 - d. Positive human interaction will be provided on a regular basis, at minimum once per week.
 - e. Social grouping may be suspended upon recommendation of a CMR (comparative medicine resources) veterinarian or Principal Investigator for study-purposes. In these cases, it should be limited to the minimum period necessary.
2. Physical Enrichment
 - a. The following strategies are recommended, depending on behavior and study needs or limitations. Unless otherwise indicated in the protocol, all ferrets must have, at minimum, **one play and one foraging opportunity** provided per cage. See Appendix 1.
 - i. Foraging opportunities: paper rolls, paper towels, cardboard boxes, or brown paper bags (no dyes).
 - ii. Play/gnawing enrichment may include tunnels, PVC pipes, balls, hard, durable toys, nylabones.
 - iii. A dry resting/sleeping box or hammock containing comfortable nesting material should be provided.
 - iv. Animals housed in high biocontainment (such as ABSL-3) may receive restricted types of play or gnawing enrichment i.e. those that are autoclavable.
 - b. Enrichment will be rotated weekly to encourage play behavior.
 - c. A shallow water bath should be provided weekly.

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3. Food Enrichment

- a. Food treats may be provided as part of the enrichment program. Suitable food treats for ferrets include yogurt drops, dog treats, Bacon Yummies (BioServ), Beefy Bites (BioServ), Beefy Block (BioServ).
- b. Food treats will not be given more than twice a week to avoid dietary problems.
- c. Food treats may be mixed with bedding to encourage foraging behavior.
- d. Food treats may be suspended upon recommendation of a CMR veterinarian or Principal Investigator for health or study-related purposes.

4. Exercise

- a. When group housed, ferrets have ample room to play and exercise within their environment.
- b. Reusable items must be sanitizable.
- c. Enrichment cage (playpen)
 - i. Ferrets may be placed in an enrichment cage (an exercise pen) once weekly for a minimum of 15 minutes. Ferrets in enrichment cages should be provided with food and physical enrichment items. Only compatible animals shall be placed together within the same enrichment cage (exercise pen). Otherwise, animals will be singly placed in the cage (pen).

Considerations:

- Cost, availability of materials, safety issues for the animals and the staff, study constraints and sanitation requirements must be evaluated for each enrichment plan.
- Exemptions to the environmental enrichment program must be justified and approved by the IACUC or prescribed for medical or behavioral reasons.
- For novel devices or strategies, a group of animals may be selected for a pilot study to evaluate behavioral changes, length time added to husbandry procedures, and sanitization of the device(s).
- ACS are responsible for removing and replacing damaged or soiled devices as well as sanitizing or disposing of devices as appropriate.

Records:

The ACS or VS will log provision of enrichment daily, according to their facility specific documentation records.

REFERENCES

- ALAT Manual (2019) American Association for Laboratory Animal Science (Ferrets)
- Longman Scientific & Technical. The UFAW Handbook on the Care and Management of Laboratory Animals: Sixth Edition.

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- American College of Laboratory Animal Medicine Series. Laboratory Animal Medicine: 2nd Edition.
- NC3Rs Resource Library, Housing and Husbandry: Ferret

Appendix 1: Enrichment Item examples



Ferret Ball



Dumbbells



Hammock



Fleece Cozy



Rat Tunnels



Rest Stops



Cardboard box



PVC Piping