Colorado State University
Institutional Animal Care and Use Committee
Rodent Breeding Policy

PURPOSE

This policy provides guidance to Colorado State University on Rodent Breeding Colony Management to ensure the best possible care and welfare of breeding animals and their offspring.

SCOPE

This policy applies to all breeding animals (adults and offspring) housed in Colorado State University animal facilities.

DEFINITIONS

Breeding colony

A group of breeding animals used for the production of research animals that are not available commercially or require local production. The colony includes parents, offspring and replacement breeders.

Breeding Schemes

Breeding schemes and mating systems should take into consideration the performance-based criteria of the species/strain. These schemes may vary according to the needs of the investigator and species. The scheme must be described in the animal care and use protocol. Typical rodent breeding schemes include: Paired/monogamous, Trio, and Harem.

Maternity cages must be closely observed for delivery of pups and the date of birth recorded on cage cards.

Practice

Paired/Monogamous = 1 Female (F) : 1 Male (M)

Default method at Colorado State University. The male and female can be:

1. Left together permanently. Previous older litter must be weaned before the next litter is born.
2. Separated: Before the female gives birth ("on/off" breeding).
3. Separated: After the female gives birth – this takes advantage of post-partum estrus.

Because a male may kill the pups: the male and female must not be recombined until after the litter has been weaned. Pairs are often used to maintain pedigree (backcrossing or intercrossing) and are useful with regards to limiting surplus animals by utilizing "on/off" breeding.

Trio = 2 F : 1 M or Harem = 3 to 5 F : 1 M

The use of this non-standard breeding scheme requires justification for its use and acknowledgement of this Policy in applicable IACUC Protocol(s).

If either of these methods is used then the females must be removed **prior to either female giving birth to avoid overcrowding. That is, no more than one female and one litter are occupying a cage.**

Trios and Harems do not maintain pedigree unless one female is removed, allowing identification of the dam for each pup. Two or more litters in a single cage is not permitted, unless justified and approved in the IACUC protocol. Justification must be provided for this increased density, including a description of management techniques that allow pups to develop to weaning age without detrimental effects for the mother or litters.

WEANING

Age at weaning will vary by study, species and strain. Most rodent species should be weaned between 18-25 days of age. Weanlings are separated by gender and housed at the appropriate density for the species, strain, body weight, cage type (static, vented), and cage size. Early and late weaning must be approved by the IACUC.

OVERCROWDED CAGES

Cages are considered overcrowded if:

1. A new litter is born before the older litter from the same female has been weaned.
2. Females from trio or harem cages are not separated prior to any one female giving birth and if still housed with the male unless justified and approved by the IACUC.
3. Females do not have sufficient space to be away from the litter.
4. A litter remaining with dam beyond 21-23 days of age unless approved by IACUC.
5. ***Overcrowded cages must be corrected within 48 hours of notification***. If not corrected, the LAR staff will separate animals to new cages.

Institutional Endorsement

The "Rodent Breeding Policy," approved by the IACUC on November 16, 2021 for recommendation to the Institutional Official, supports the research, teaching and service mission of Colorado State University, and ensures that the welfare of animal subjects used therein will be protected. Therefore, as the Institutional Official, I declare the IACUC-recommended policy to be the policy of the Colorado State University Animal Care and Use Program.

Alan S. Rudolph

December 27, 2021

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Institutional Official Date