

**University of Prince Edward Island  
Animal Care Committee  
Standard Operating Procedure**

**SOP #:** ACC - H04

**SOP Title:** Mice Breeding Requirements

**SOP Section:** Husbandry

**Issued by:** Dr. Jonathan Spears

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## **1.0 Introduction**

- 1.1 The purpose of this SOP is to establish and implement guidelines for appropriate environmental conditions and methodology for in-house breeding of mice. These guidelines follow local and national standards in promoting animal health and well being.

## **2.0 Materials**

- Caging
- Extruded Feed
- Milk Replacer
- Water
- Pink Cage Card Flag
- Breeding Cage Cards
- Neslets
- Towels

## **3.0 Procedures**

### **3.1 Labeling**

- i. In a breeding program, the following information must be contained on a cage card:
  - Complete strain + gene information or shorthand
  - Date of birth
  - Date of mating
  - Number of breeders in cage (this can be placed in parentheses after the generation # on the same line if using LAS breeding card).
  - Investigator (with Contact Info)
  - UPEI ACC Protocol #
  - Species
- ii. See example cage card in **Appendix 1**.

### 3.2 Housing System

- i. House mice in solid-bottom cages with contact bedding, unless specifically described in a protocol and approved by the ACC.
- ii. Provide the minimal space recommendations for a standard mouse cage (~450 cm<sup>2</sup>):
  1. For breeding: a maximum of 2 females and 1 male.
  2. One litter per standard cage.
  3. If two litters are left in a cage they must accompany 2 dams and be born within 4 days of each other. Litters must be culled, separated or moved to larger cages with dams by 7 days of age.
  4. After weaning:
    - 10 mice if <10 g
    - 7 mice if 10–15 g
    - 5 mice if 15-25 g
    - 4 mice if >25g
- iii. Large Cages (~950 cm<sup>2</sup>) can be requested from Animal Resources Staff. These can accommodate double the numbers described in 3.2. ii. for breeding, these cages can still only house one male and 2 females in order to reduce sexual fatigue and competition/aggression.
- iv. A cage that contains more animals than outlined in this SOP will be considered overcrowded.
- v. Unless an arrangement is made with Animal Resources Staff, overcrowded cages will be reported to the University Veterinarian or designate. Repeated incidents of overcrowding will be reported to the UPEI Animal Care Committee.

### 3.3 Breeding Practices

- i. Records of all pairings of males and females must be maintained and a copy left in the room or on the breeding cage card.
- ii. When a litter is expected, this information must be communicated clearly to Animal Resources Staff via a red cage card flag with the expected due date or vaginal plug date.
- iii. One additional nestlet should be provided for each expecting dam at least 2 days prior to expected parturition.
- iv. Females must be kept in quiet conditions in the final few days prior to parturition. Place cages with pregnant animals on a rack that is removed from high activity areas and if necessary, wrap a towel or other barrier around the lower section of the cage.

- v. Post parturition, the dams and pups should not be disturbed for 4 days other than to check the health of the pups without specific UPEI ACC approval. When checking health of pups, efforts must be made to minimize disturbance of the dam or litter including examining pups from the cage bottom when possible.

### 3.4 Weaning Litters

- i. For inbred strains of mice - between 14 and 21 days of age, food should be introduced to the litter(s) in the form of extruded feed pellets mixed with water or milk replacer. This weaning diet must be placed directly inside the cage in a low jar.
- ii. Weaning is to take place at 21 days for all outbred strains of mice. For inbred strains with/without a transgenic component, up to 28 days may be appropriate before weaning.
- iii. Pups must be removed and allocated to new cages based on stocking density maximums outlined in 3.2 ii.
- iv. Observe weaned pups daily for signs of malnutrition or dehydration.
- v. Pups must be separated by sex by 4 weeks of age.

## 4.0 References

- 4.1 *Guide for the Care and Use of Laboratory Animals*. National Research Council; National Academy Press, Washington, DC, 1996.  
<http://oacu.od.nih.gov/regs/guide/guide.pdf>

## Appendix 1

**PI:**

**Species: MOUSE**

**DOB:**

**Prot #:****Parents/Source:**

**Strain/Breed:**

♀ \_\_\_\_\_

♂ \_\_\_\_\_

**Code:**

ID#

**Mated:**

[illegible]