

# IACUC PROCEDURE STATEMENT

Policy/Procedure: RODENT BREEDING COLONY GUIDELINES

Policy/Procedure ID: 15-7-001

Effective: July 16, 2015

## A. Background

Bowling Green State University is committed to observing Federal policies and regulations for the humane care and use of animals. This document provides guidelines for rodent breeding colonies. Additionally, this document also defines standards and responsibilities for rodent housing and rodent breeding cages, and assigns responsibility for action when breeding cages are overcrowded.

Rodents have short gestation times and large litters. Therefore, cages may quickly become overcrowded if the individual responsible for managing the breeding colony and separating animals at the proper times does not do so in a timely fashion. When this happens, the animals become uncomfortable and stressed. Pups can die from being trampled. Overcrowding of cages is an animal welfare concern, and can have a deleterious effect on research

## B. Designation of Responsibility for Rodent Breeding Colonies

1. Investigators are responsible for managing their own breeding colonies, unless prior arrangements for technical support have been made with the UAF Director. Investigators may delegate this work to their lab staff, but the Investigator maintains overall responsibility for management of the colony and assuredness of accurate recordkeeping.
2. Investigators and their lab staff must abide by procedures as outlined in this document, unless otherwise specified in an IACUC-approved protocol.
3. The lab is responsible for separating animals according to allowed cage space, as described within this document.
4. Any recurring problems with mouse breeding colony management may be brought to the attention of the IACUC.

Investigators should feel free to design their own breeding scheme that meets the needs of their research; however, the scenarios that are written in the IACUC-approved protocol must be followed. The Investigator and their lab staff are responsible for carefully monitoring pregnancies. Generally, pups must be weaned from their mothers at 21 days of age, unless otherwise approved by the IACUC. Small/runted pups should be reported to the UAF Director using the "Animal Health Concern Report Form", which is located on IRBNet. These runted animals may be left with their mothers up to 28 days of age with the approval of the Attending Veterinarian (AV). Pups that still appear small or sickly after 28 days of age should be reported to the UAF Director and AV using the "Animal Health Concern Report Form", for examination and further recommendations.

## C. Procedure for Weaning Pups

### 1. General Information on Weaning

As previously noted, weaning age for both mouse and rat pups is routinely 21 days of age, unless otherwise specified in the IACUC-approved protocol. In some the cases (such as runt or sickly animals), pups may be approved by the AV to remain with the mother for 28 days. Investigators are responsible for weaning and separating pups, unless other arrangements are made with the UAF Director.

Genotyping of transgenic animals (genotyping, etc) is the responsibility of the Investigator, and should be completed prior to weaning unless other procedures have been approved by the IACUC. For more information, see the BGSU IACUC *Policy on Tail Clips for Rodent Genotyping*.

## 2. Cage Cards

All cages of weaned animals are required to have a cage card issued by the UAF. The cage card is required to contain the following information:

- Protocol number
- Species
- Strain
- Sex
- Date of birth

### Sample UAF Cage Card

Protocol Number Here	←
Species:	←
Strain:	←
Sex:	←
DOB:	←
Vendor:	
Animal ID:	
Parental ID:	
Notes:	

Note that the arrow ( ← ) denotes required information on UAF cage cards

The Investigator/lab staff are responsible for providing any additional, non-standard cage card documentation (Parental ID, etc).

The Investigator is also responsible for providing individual animal identification if it will be necessary for the lab to be able to distinguish individual animals (for example, ear punches for group housed animals).

### 3. Procedure for weaning pups

a. Male and female pups are separated at weaning; mice of each sex will be placed in a separate cage of appropriate size (see table below, from *The Guide for the Care and Use of Laboratory Animals* (p.57)).

TABLE 3.2 Recommended Minimum Space for Commonly Used Laboratory Rodents Housed in Groups

Animals	Weight, g	Floor Area/Animal, <sup>a</sup> in. <sup>2</sup> (cm <sup>2</sup> )	Height, <sup>b</sup> in. (cm)	Comments
Mice in groups	<10	6 (38.7)	5 (12.7)	Larger animals may require more space to meet the performance standards.
	Up to 15	8 (51.6)	5 (12.7)	
	Up to 25	12 (77.4)	5 (12.7)	
	>25	≥15 (≥96.7)	5 (12.7)	
Female mouse + litter		51 (330) (recommended space for the housing group)	5 (12.7)	Other breeding configurations may require more space and will depend on considerations such as number of adults and litters, and size and age of litters.
Rats in groups <sup>c</sup>	<100	17 (109.6)	7 (17.8)	Larger animals may require more space to meet the performance standards.
	Up to 200	23 (148.35)	7 (17.8)	
	Up to 300	29 (187.05)	7 (17.8)	
	Up to 400	40 (258.0)	7 (17.8)	
	Up to 500	60 (387.0)	7 (17.8)	
	>500	≥70 (≥451.5)	7 (17.8)	
Female rat + litter		124 (800) (recommended space for the housing group)	7 (17.8)	Other breeding configurations may require more space and will depend on considerations such as number of adults and litters, and size and age of litters.

b. Housing density:

- i. Five (5) female mice or five (5) male mice are allowed per 11.5" x 7.5" x 5" "shoe box" mouse cage.
- ii. Two (2) female rats or two (2) male rats are allowed per 19" x 10.5" x 8" "shoe box" rat cage.

c. Males that are fighting or have fight wounds must be separated promptly.

d. UAF actions when cages become overcrowded:

- a. The UAF Staff checks for overcrowding and pregnancy when performing daily health checks and when changing cages. Any cages that are overcrowded according to standards defined in this document will be separated according to the weaning/separation guidelines above. The Investigator will not be notified, and per diem charges will apply to the newly

separated cages immediately. Please note that UAF reserves the right to charge a tech time fee to Investigators if UAF staff are routinely weaning and separating animals.

**D. REQUIRED DOCUMENTATION (BREEDING LOGS)**

The Investigator/lab staff has primary responsibility for checking for pregnancy and birth daily, and for recording these events in manner in which the “family tree” of the animal can be traced. This can be managed in a variety of ways: handwritten in lab notebooks, maintained in an Excel spreadsheet, or by using custom-written colony management software. Regardless of the fashion in which the breeding logs are kept, they must be accessible upon IACUC request at any time, and easily understood by parties that are responsible for post-approval monitoring of the protocol (UAF staff, Research Compliance Officer, IACUC members, etc).