

**University of California, Merced  
Institutional Animal Care and Use Committee Policy**

**Version No. 2**

**Policy No. 115**

## **Mouse Breeding Colony Management**

### **I. Purpose:**

UC Merced's Assurance of Compliance with PHS Policy and AAALAC, International accreditation standards require compliance with federal animal welfare regulations and the *Guide for the Care and Use of Laboratory Animals*. The *Guide* specifies the minimal amount of cage floor space required for each species based on size and/or weight. According to the *Guide*, a female mouse with litter requires 51 square inches (or 330 square centimeters) floor space. Current UC Merced vivarium mouse caging provides 75 square inches (483 square centimeters) floor space. Adherence to the *Guide* would require separation of animals prior to weaning age for large litters or for cages housing two adult female mice with litters. The IACUC acknowledges that this level of adherence may not be in the best interests of researchers creating and expanding colonies of genetically engineered mice. It may also not be in the best physiological, psychological or behavioral welfare of the mice. The aim of this policy is to meet the intent of the *Guide* while keeping in mind the needs of researchers and the welfare of mice.

### **II. Definition:**

- **Deem:** Breeding structure of mice, composed of single dominant male, 2 to 5 breeding females and litters, and an assortment of sexually immature (juvenile) mice
- **Communal nesting:** normal reproductive behavior of mice whereby all adults in a deem care for pups in a single nest
- **Acceptable breeding schemes include:**
  - Paired – one male and one female
  - Trio – one male and two females
  - Harem – one male and three or more females

### **III. Policy:**

- When a litter of mice is born, there can be no more than 3 adult mice in the cage.
- If harem breeding scheme is used, one (preferably two) pregnant females should be removed from the cage prior to delivery. These two females can be housed together to assist in communal nesting.
- Litters should be weaned and separated at 21 days of age. Weaning at 28 days of age may be required for pups that look smaller or appear less thrifty at 21 days of age. In this case, consultation with attending veterinarian and/or vivarium staff is recommended.
- All mouse breeding, including recording birthdates and weaning of litters must be entered into the colony management database. This secure database is made available to all mouse users, and is the primary means by which vivarium staff document and communicate mouse colony issues with the researchers, their lab staff

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and the attending veterinarian. Training and assistance in use of the database is provided by vivarium staff.

**IV. Responsibility:**

- The Principal Investigator is responsible for adhering to this policy and must ensure that all research personnel responsible for colony maintenance are appropriately trained and experienced. This includes insuring mouse colony management, if performed by research staff, is properly documented and maintained in the database. Vivarium staff are trained and available to perform mouse colony management as part of routine vivarium services. They are available to train and assist researchers and staff in colony management and use of the database as needed

**V. Related Guidelines:**

- Maintenance of Mouse Breeding Colonies
- Efficient Mouse Colony Management

**VI. References:**

- Guide for the Care and Use of Laboratory Animals (Eight Edition)
- IACUC Guideline Efficient Mouse Colony Management Guidelines