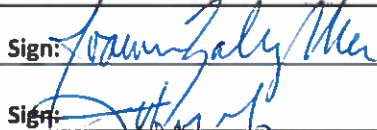
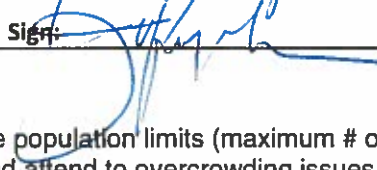


STANDARD OPERATING PROCEDURE

Division of Laboratory Animal Medicine
DLAM

SOP Number:	0249	DLAM SOP TITLE	Revision #:	02
Date Effective:	02/01/18	Rodent Cage Population Limits	Supersedes:	01

Functional Manager:	Joanne Zahorsky-Reeves	Sign:		Date: 12/7/17
DLAM Executive Director:	Jeffrey Goodwin	Sign:		Date: 07/20/17

1. PURPOSE

- 1.1. To define the parameters for rodent cage population limits (maximum # of rodents per cage) at UCLA and to specify the procedures used to define and attend to overcrowding issues.

2. SCOPE

- 2.1. This procedure applies to all non-USDA covered rodents under the care of DLAM.

3. RESPONSIBILITY

- 3.1. It is the responsibility of all DLAM and laboratory personnel working with non-USDA covered rodents to follow this SOP.
 - 3.1.1. Laboratory personnel are informed of procedures identified in this SOP through electronic communication services including but not limited to the ARC listserv, eSIRIUS Portal, the DLAM internal website, university email addresses or other established electronic university communication systems.
- 3.2. It is the responsibility of DLAM Operations staff to provide completed Rodent Separation Forms (see section 7) to the DLAM Billing Manager for documentation of billing charges for cage separation services performed by DLAM staff.
- 3.3. It is the responsibility of the DLAM Billing Manager to be familiar with these procedures and the documentation outlined in this SOP.

4. DEFINITIONS/ACRONYMS

- 4.1. **Rodent** – Non-USDA covered rodents, typically mice of the genus *Mus* and rats of the genus *Rattus*.
- 4.2. **Litter** - Offspring in one cage up to fourteen (14) individuals, all born within four (4) days of each other.
- 4.3. **Extended wean** – Either veterinary evaluated or ARC approved extension allowing mice or rats > 21 days to remain with the dam.
- 4.4. **Overcrowded (“OC”)** – The number of animals present in the cage exceeds the regulatory guidelines.
- 4.5. **Weanlings** – A group of animals of weaning age (defined as twenty-one [21] days of age for mice and rats) recently separated from a dam.
- 4.6. **Cage Population** - The number of animals contained in one cage.
- 4.7. **PI-Access Facility** – A DLAM managed facility where authorized principal investigator (PI) lab staff are able to access (by key card or key) from 6:00 AM until 6:00 PM.
- 4.8. **Non-PI Access Facility** - A DLAM managed facility where PI lab staff are generally not allowed access and DLAM staff perform breeding colony managed services according to PI instructions.
- 4.9. **Microisolator / Shoe Box Cage** – A caging system where individual cages rest on a rack with a filter-top on each cage; air passively circulates into and out of the cage through this filter.
- 4.10. **IVC/ Ventilated Cage** – Individually Ventilated Caging – An animal housing system whereby air is forcibly circulated into and out of each cage on a rack using a blower system; air from different cages does not mix. These cages may be reusable (polycarbonate) or disposable (polyethylene) plastic.
- 4.11. **ARC** –Animal Research Committee, which is UCLA’s local name for the IACUC, the Institutional Animal Care and Use Committee
- 4.12. **eSIRIUS** – A web-based electronic communication and animal ordering system for research animal users.

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4.13. PI – Principal Investigator

5. GENERAL

- 5.1. Laboratory personnel in PI-Access facilities are expected to regularly monitor cage population of all cages within their colony and make adjustments accordingly to maintain compliance with this SOP at all times.
- 5.2. PI's shall provide documentation to DLAM indicating any ARC approved exemptions to this SOP for display in animal rooms or on door signs. An ARC exemption may include an extended wean permission, which allows pups to remain with their dam longer than twenty-one (21) days.
- 5.3. DLAM staff will perform cage separation service to maintain all cages in compliance with this SOP.
 - 5.3.1. In non-PI access facilities, DLAM staff will not complete Form # 0249(A) "DLAM Rodent Separation Form" upon separating rodents; no additional fees for this service will be charged to the PI / lab by the DLAM Billing Manager
- 5.4. Each time a cage is separated by DLAM staff, cage cards will be placed on all new cage set-ups with a notation identifying when and from which cage the animals have been separated.
- 5.5. Room census sheets will be adjusted to include new cages on the day of separation.
- 5.6. A DLAM Veterinarian may be notified to assess on-going noncompliance issues with the research laboratory.
- 5.7. Mice
 - 5.7.1. Mouse cages are considered overcrowded if the number of mice exceeds the guidelines stated in Table 1:

Table 1

CAGE TYPE (floor space)	Acceptable # of adult mice per cage	Acceptable # of breeding mice per cage	Acceptable # of adults + litters per cage
Standard Shoe Box Cage (60in ²)	4 adults ≤ 50grams 3 adults 51 to 100grams >100grams: consult veterinary staff	3 females + 1 male	2 adults + 1 litter* (*up to 14 pups, all born within 4 days of each other)
Ventilated Cage (75 - 81in ²)	5 adults ≤ 50grams 4 adults 51 to 100grams >100grams: consult veterinary staff	4 females + 1 male	2 adults + 1 litter* (*up to 14 pups, all born within 4 days of each other)

5.8. Rats

- 5.8.1. Rat cages are considered overcrowded if the number of rats exceeds the guidelines stated in Tables 2 & 3:

Table 2

Acceptable # of adult rats per Rat Microisolator and IVC cage (141 to 144 in ² floor space)	Rat weight	Space allocation per rat Non-Standard rat cage
8	<100 grams	17 in ² /rat
6	101-200 grams	23 in ² /rat
4	201-300 grams	29 in ² /rat
3	301-400 grams	40 in ² /rat
2	401-500 grams	60 in ² /rat
1	> 500 grams	> 70 in ² /rat

Table 3

CAGE TYPE	Acceptable # of breeding rats per cage	Acceptable # of adults + litters per cage
Microisolator and IVC cage (141 to 144 in ² floor space)	1 female + 1 male	1 dam + 1 litter

6. PROCEDURE

6.1. Cages Containing Litters Older than Twenty-One (21) Days of Age (PI-Access Facility):

- 6.1.1. Overcrowded cages as determined by Tables 1-3, are separated by DLAM staff if litters twenty-two (22) days or older are found still housed with their dam and without an extended wean permission in place. Cages may not be posted with OC tags or post-its prior to this separation.
- 6.1.2. If pups are found at day twenty-two (22) but determined by DLAM staff to be too small to be safely weaned, an "OC" tag will be placed on the cage and the pups will be reassessed for proper weaning size on the next business day.
- 6.1.3. Pups of an appropriate age will be weaned into separate cages by gender and will not exceed adult cage populations as identified above.
- 6.1.4. If pups are small, supportive care may be provided. Additional instruction from PI's may also be provided per section 5.2.
- 6.1.5. Form #0249 (A) will be completed by DLAM staff, and appropriate separation charges billed to the PI / lab by the DLAM Billing Manager.
- 6.1.6. DLAM veterinary staff may be consulted if pups are weak; refer to DLAM SOP # 0210 Animal Health Check.
- 6.1.7. ARC approval is needed if litters from the same breeding colony protocol repeatedly require extended wean times due to small size or other health issues.

6.2. Overcrowding Leading to a Health Concern (PI-Access and non-PI Access Facilities):

- 6.2.1. Rodents found to be experiencing health issues related to being overcrowded (such as fighting, newborn pups being trampled, or other health or behavioral problems) are immediately separated by DLAM staff.
- 6.2.2. DLAM staff tag the cage with a blue Health Check Post-It; investigators are notified as part of the health case assessment process identified in DLAM SOP # 0210 Animal Health Check.
- 6.2.3. In PI-Access facilities, the use of Form # 0249 (A) may be completed on a case-by-case basis as determined by a DLAM supervisor.

6.3. Adults or Adults Plus Young Pups (PI-Access Facility):

- 6.3.1. If rodent cage populations exceed the guidelines as stated in Tables 1 – 3 above, a completed Overcrowded (OC) 'Post-It' (also referred to as a "tag") is placed on the cage by DLAM staff. This tag serves as notification to the PI laboratory staff that the cage has been identified as exceeding the above stated guidelines.
- 6.3.2. Laboratory personnel are responsible to either reduce the population in the tagged cage before the next business day or to provide verification from the ARC to DLAM staff that the cage population has been approved.
- 6.3.3. If the condition is not addressed by lab personnel before the next business day, DLAM staff will separate the rodents into appropriate caging. Form #0249 (A) will be completed, and appropriate separation charges billed to the PI / lab by the DLAM Billing Manager.

7. DOCUMENTATION

7.1. The DLAM Rodent Separation Form is a 'half-sheet' form. Two complete Rodent Separation Forms fit onto one 8 ½ x 11" piece of paper.

7.2. DLAM staff complete the following sections of the form as follows when cage separation is performed:

7.2.1. Date (date of cage(s) separation)

7.2.2. Building

7.2.3. Room #

7.2.4. Cage ID

7.2.5. Species (Mouse or Rat)

7.2.6. Animal ID – if no ID is observed, enter N/A in box

7.2.7. P.I. – enter last name of P.I.

7.2.8. Lab Contact – enter name of lab staff who work with P.I., from "contact" section of cage card.

7.2.9. Protocol #

7.2.10. Recharge ID #

7.2.11. Additional Comments: Any other supportive comments for the separation – Optional. If no other comments, enter N/A in box. .

7.3. Cage separation reason(s) are provided by a DLAM technician. One or more reasons is checked.

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- 7.4. The DLAM technician enters the # of cages identified that need to be separated and also the # of cages that need to be set up to accommodate the separation.
- 7.5. The technician enters their name in the space provided.
- 7.6. Completed half sheets are collected in the DLAM Operations Office (1V-211 CHS) by DLAM area supervisors and then provided to the DLAM Billing Manager by DLAM administrative personnel. The DLAM Billing Manager enters the charges that apply for each half-sheet rodent cage separation procedure in the bolded box identified as DLAM Charges.

8. REFERENCES

- 8.1. Institute of Laboratory Animal Resources – *Guide for the Care and Use of Laboratory Animals*, current version
- 8.2. DLAM SOP#0210, Animal Health Check, current version.
- 8.3. ARC Policy “Breeding Colony Management,” available at <http://ora.research.ucla.edu/RSAWA/ARC/Pages/ARC-policies/breeding.aspx>.

9. ATTACHMENTS

- 9.1. Form 0249 (A) Rodent Separation Form

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REVISION HISTORY			
REVISION NUMBER	AUTHOR(s)	EFFECTIVE DATE	REVISION(S):
Rev. #00	J. Werk	2/4/05	New
Rev. #01	A.Ogden	11/30/10	Original document updated and edited
Rev. #02	J. Zahorsky-Reeves	2/1/18	The name of the SOP was changed from "overcrowding" to "Rodent Cage Population Limits"; Approval section updated; Definitions were added. The General section was expanded to emphasize PI lab staff responsibilities; Section 6 updated with notification changes; Sections 6.2 and 6.3 were added; References and Attachments were updated.