

SDSU OLAC SOP  
Mouse Breeding Colony Assistance: Communications and Compliance

**BACKGROUND**

This SOP has been created to clarify the role OLAC personnel have in assisting PIs with colony management and helping to ensure compliance with SDSU's IACUC Policy on Mouse Breeding and Cage Density. As a core resource, OLAC is committed to providing a service that helps researchers with breeding colony management and ensures the health and welfare of breeding mice at SDSU. In all cases the lab should monitor breeders closely and must comply with SDSU IACUC policies. Unless there is an indication on the cage card that the IACUC has approved an exception to the SDSU Policy on Mouse Breeding and Cage Density, the procedures listed below must be followed. In the event of unresolved compliance issues, the IACUC has tasked OLAC with taking corrective actions. These corrective actions may incur Technician Time fees (see the current OLAC Service and Per Diem Rates for fees or contact the OLAC Manager). If there is persistent or repeated lack of action by the laboratory, and/or there is evidence that breeding schemes or lack of action on the lab's part has been associated with neonatal mortality, OLAC will report these circumstances to the IACUC.

**Abbreviations related to breeding communication and records:**

RTD – Ready to drop (indicates female appears visually pregnant)  
PB – Pups born  
FD – Found dead  
FM – Found missing (pups absent, no carcasses)  
FE – Found eaten (partial carcasses)  
DOB – Date of Birth  
EDOW – Estimated Date of Weaning (P21)  
TBW – To be Weaned (by P28)

**RESPONSIBLE INDIVIDUALS**

1. OLAC technicians
2. OLAC manager
3. Attending and Clinical Veterinarians
4. Principal investigator (PI)
5. PI laboratory personnel
  1. Designee - a manager or person to whom the PI has granted authority and responsibility over breeding colonies
  2. Contact person(s) – the list given to OLAC by PI or Designee of lab personnel that should receive health and husbandry emails

## **PROCEDURE**

### **Communication**

OLAC will communicate with the laboratories via email (contact list to be provided by PI or Designee) and use special cage cards to flag breeding cages that require closer observation or have actions that need completion. Examples may include the presence of a pregnant female, the occurrence of recently born pups, the presence of young mice of weaning age, or the need to separate mice due to overcrowding. The email will include any expected action the laboratory personnel must take to remain in compliance with IACUC policies and/or to resolve a health issue. The e-mail distribution list may include the veterinarians, OLAC staff, and other IACUC members or support staff if necessary. In order to ensure that OLAC is able to make relevant observations, lab personnel must label the cage with the breeding scheme being used: i.e. Continuous, Interrupted, or Polygamous.

### **For all breeding schemes:**

- OLAC will record the date pups are born, the number of pups born will be added when it is safe to count them without disturbing the dam.
- OLAC will send out breeding notices with action items that must be completed within two days, no later than 4:00p.m. the date the observation was made, otherwise observations are sent Monday – Friday. Most OLAC breeding observations made over the weekend will be sent on Monday.
- If a litter or any pups in a litter do not appear big enough or healthy enough to wean, a veterinary exception may be made to wean the litter, or any runt pups, late. This will be at the discretion of OLAC in consultation with the veterinarians.

### **Monogamous Continuous Breeding:**

- During daily observations OLAC staff will record PB and calculate the EDOW (P21) and place a yellow “Wean by” flag on the cage with the EDOW on it.
- OLAC will email the lab with the litter DOB and EDOW.
- The lab must wean the litter by P21, or earlier if a second litter is born.
- If the lab has not weaned by P21, and there is no second litter present, OLAC will send a reminder email on P22 and the lab will have until OLAC checks the room the next day to complete the weaning.
- If the litter has not been weaned by the time OLAC checks the room on P23, OLAC will wean and the PI will have the appropriate service fee added to the per diem billing.
- If a second litter is born before the first litter has been weaned, OLAC will send an “Urgent” email to the lab and they will have until the end of the day to wean.
- If the first litter has not been weaned by the next morning, OLAC will wean and the PI will have the appropriate service fee added to the per diem billing.

### **Monogamous Interrupted Breeding:**

- During daily observations OLAC will look for females that appear visibly pregnant.
- If found, OLAC places a pink “RTD” flag on the cage along with a blue “Separate Male” flag and puts today’s date on each card.
- OLAC emails the lab with the notice of a pregnant female and request for the lab to separate the male.
- The lab must perform the separation within 2 days of the email notification. They leave the “RTD” card on the female’s cage and remove the action item flag to be reused by OLAC staff. Example: email notification is sent 8/1, the male must be separated by end of day 8/3.
- If the lab has not done the separation by the third day after email notification, OLAC will complete the separation and the PI will have the appropriate service fee added to the per diem billing.
- During daily observations OLAC will record PB and look for litters that appear ready to wean.
- If found, OLAC places a yellow “Wean By” flag on the cage with the date when the pups will be P28.
- OLAC emails the lab that the litter(s) must be weaned by the date the animals are P28.
- The lab must wean the pups by P28 and remove the action item flag to be reused by OLAC staff.
- If the lab has not weaned by P29, OLAC will wean the pups and the PI will have the appropriate service fee added to the per diem billing.

### **Polygamous Breeding:**

- During daily observations OLAC will look for females that appear visibly pregnant.
- If found, OLAC places a pink “RTD” flag on the cage for EACH female that appears pregnant, along with an orange “Separate Pregnant Female” flag and puts today’s date on each card.
- OLAC emails the lab with the notice of a pregnant female(s) and request for the lab to separate each pregnant female into a cage of their own. One pregnant female may be left with the male to take advantage of the post-partum estrus cycle. If this is done, the lab must label the cage “Continuous”, and refer to the Continuous Monogamous Breeding section for the following steps.
- The lab must perform the separation within 2 days of the email notification. They leave the “RTD” card on the female’s cage and remove the action item flag to be reused by OLAC staff. Example: email notification is sent 8/1, they must be separated by end of day 8/3.

- If the lab has not done the separation by the third day after email notification, OLAC will complete the separation and the PI will have the appropriate service fee added to the per diem billing.
- During daily observations OLAC will record PB and look for litters that appear ready to wean.
- If found, OLAC places a yellow “Wean By” flag on the cage with the date when the pups will be P28.
- OLAC emails the lab that the litter(s) must be weaned by the date the animals are P28.
- The lab must wean the pups by P28 and remove the action item flag to be reused by OLAC staff.
- If the lab has not weaned by P29, OLAC will wean the pups and the PI will have the appropriate service fee added to the per diem billing.