

Biological Resources 	Standard Operating Procedure UQBR SOP 26 Setup Breeding Cages – Mice and Rats		Page 1 of 4
	Contact: UQBR Director	Location: UQBR Animal Facilities	Revision: 3

UQBR SOP 26 Setup Breeding Cages– Mice and Rats
AEC Reviewed: 2015

REQUIREMENT:

1. To ensure that the requirements and regulations as set out by the following are met as far as practicable:
 - AEU UQ
 - The Code
 - OGTR
 - Department of Agriculture and Fisheries (DAF)
 - QLD Workplace Health and Safety, and
 - UQ OH&S
2. To standardise practice for all UQBR staff and researchers within UQBR facilities.
3. Annual review is required to maintain best practice and usability of this SOP.

RESPONSIBILITY:

It is the responsibility of the individual performing animal handling procedures and techniques to ensure they have been assessed as competent.

Please Note:

This UQ Biological Resources (UQBR) SOP expands upon UQ Animal Ethics Unit SOPs. This document outlines the procedures followed by UQBR and should not be referenced in Animal Ethics Applications.

No changes or deviations from this SOP are to occur unless the Director of UQBR gives prior authorisation.

NB: The use of (*) indicates this statement is dependent on the facility procedures

NB: The use of () indicates this statement is dependent on AEC Approvals**

Originator: UQBR Training Committee	UQ AEC Reviewed: April 2015
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OBJECTIVE:

To describe how to setup timed matings and longer term breeding groups for mice and rats.

DEFINITIONS

Whitten Effect – Synchronising oestrus in the female before timed mating occurs by placing soiled bedding of the male in the female's cage.

I.EQUIPMENT

- Change Station or Bio-safety cabinet (*)
- Cage contents as per SOP 2 Contents of a Standard Rodent Cage
- PPE (*)
- Disinfectant (*)
- Blunt curved forceps (*)

II.PREPARATION OF EQUIPMENT

1. Disinfect work bench
2. Gather equipment items
3. Turn on Change station or Bio-safety cabinet *

III.PROCEDURES

Setup New Breeding Box Procedure

1. Identify and confirm animals most appropriate for the new breeding box taking into consideration the following factors
 - Gender
 - Physical abnormalities (e.g. deviated septum's should not be used)
 - Age
 - Health
 - Appropriate genotype
2. Place rodent/s into breeding cage – where possible place female/s into male cage
3. Create mating in Genotrack and provide a Genotrack Cage Card

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Setup Timed Mating Procedure

Technicians may wish to use the Whitten Effect to synchronise oestrus in the females before the timed mating occurs. Soiled bedding of the male should be placed in the females cage two days prior to mating.

Day -1

1. Check available females for signs of oestrus. Refer to UQBR SOP 31 Oestrus Detection in Rodents
2. Place females in oestrus with stud male
3. Write the date of mating on the stud male cage card

Day 0

1. Carefully check the females that were setup for mating, for seminal (copulatory) plugs
2. Place a tick or cross on the stud male's cage card to indicate the presence or absence of a plug
3. If a female is plugged remove from the male's cage.
4. House positive plugged females separately from non-plugged females. If a female is not plugged follow facility or researcher instruction (*).
5. Record the plug date (E0) on the female cage card

Timed Mating Considerations

Females are generally time-mated to provide embryos at a precise developmental time point. It is essential that all UQBR technicians follow the same protocol to provide this service.

- Setup of time-mates should occur late in the day
- Negative plugged females may only be mated again after 14 days post-mating (i.e. once pregnancy is confirmed as negative) (*)(**)
- Plug checking should occur as early as possible in the day and no later than 9am on the morning following mating to avoid missing dislodged or dissolved plugs
- The day the plug is found is referred to as E0
- The presence of a plug does not guarantee pregnancy as the female will need to be ovulating at this time for pregnancy to follow
- Females are most receptive to mating during Proestrus and Estrus stages
- Consider replacing male studs or the use of reproductive technology after several failed plugging attempts
- Use of females under 6 months of age is preferred

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Confirming Pregnancy

1. Visually assess female for pregnancy by assessing the flanks for bulging or roundness
2. When the female is not visibly pregnant the abdomen may be palpated when > E14 days by gently feel the abdomen for small 'lumps', at the researchers request
3. Animal weights can be an indication of pregnancy. This method requires tracking from time of mating

Confirming Pregnancy Considerations

- Females can be visually assessed for pregnancy from E12-E14
- Females should not be palpated to confirm pregnancy where this can be avoided due to concerns with resorption or abortion.
- Adverse events should be referred to UQBR SOP 22 UQBR Veterinary Care Protocol

IV.SAFETY

1. PPE use is essential when handling laboratory rodents
2. All accidents, injury or near misses are to be reported immediately to the Facility Manager and recorded on a UQ OHS Incident Report Form

V.REFERENCES

1. Australian code for the care and use of animals for scientific purposes (8th Edition, NHMRC 2013): <https://www.nhmrc.gov.au/guidelines/publications/ea28>
2. Code of Practice for the Housing and Care of Laboratory Mice, Rats, Guinea Pigs and Rabbits (DEPI, Vic 2004): <http://www.depi.vic.gov.au/agriculture-and-food/animal-health-and-welfare/animal-welfare/animal-welfare-legislation/victorian-codes-of-practice-for-animal-welfare/code-of-practice-for-the-housing-and-care-of-laboratory-mice,-rats,-guinea-pigs-and-rabbits>
3. Department of Agriculture and Fisheries (DAF): <http://www.daf.qld.gov.au/>
4. Guidelines to promote the wellbeing of animals used for scientific purposes (NHMRC, 2008): https://www.nhmrc.gov.au/files_nhmrc/publications/attachments/ea18.pdf
5. OGTR PC2 work requirements and regulations: <http://www.ogtr.gov.au>
6. QLD WH&S Act 2011: <https://www.worksafe.qld.gov.au/laws-and-compliance/workplace-health-and-safety-laws/laws-and-legislation/work-health-and-safety-act-2011>
7. UQ Animal Ethics Unit SOPs: <http://www.uq.edu.au/research/integrity-compliance/standard-operating-procedures-sops>
8. UQ OHS Unit: <http://www.uq.edu.au/ohs/>
9. UQ OHS Incident Report Form: <http://www.uq.edu.au/ohs/index.html?page=141331>
10. UQBR SOPs: [V:UQBR/SOPs/Common/UQBR SOPs](#) and <http://biological-resources.uq.edu.au/secure/uqbr-sops>

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