

	Flinders University Safe Work Method Statement Rabbit – Breeding 18/06/19			
				College of Medicine and Public Health Animal Facility
SWMS Number	RA Number		RA Score	
SWMS- 4.6	RA 4.6		Medium	
Contact Person	SWMS prepared by	AWC Approval Date	Review Date	
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Legislation

- *Australian Code for the Care and Use of Animals for Scientific Purposes 8th Ed.*
- *Animals Welfare Act 1985*
- *Animal Welfare Regulations 2012*
- [Gene Technology Act 2000](#) (the Act)
- [Gene Technology Regulations 2001](#)
- *Work Health and Safety Regulations 2012*

University Policy

- Work Health and Safety Policy 2013
- Responsible Conduct of Research Policy 2016
- NHMRC Guidelines

Local Policy

Use of the College of Medicine and Public Health Animal Facilities by all staff and researchers of the College of Medicine and Public Health, Flinders University, is subject to awareness of, and adherence to the following:

Research Involving Animals:

- The University holds a licence for the use of animals for teaching and research purposes. To satisfy the requirements of the licence, anyone wishing to undertake teaching and research using animals must submit a proposal to the Animal Welfare Committee (via the Animal Ethics Review Sub- Committee. No work with animals may commence until written approval has been received from the Animal Welfare Committee. Standardised application forms for Research and Teaching can be found on the Flinders University website listed below. It is your responsibility to regularly check this site for updates to guidelines, forms etc
http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm

- **All staff and students involved in animal research must complete Animal Ethics Online Training (AEOT) and must also regularly attend Animal Researcher Information Sessions (ARIS).**

Safe Work Method Statement

Refer to Risk assessments, Safe Work method Statements for chemicals, processes and plant equipment where appropriate. All projects must have an accompanying Risk Assessment signed by the Animal Facility Manager

- RA 4.0 Rabbit- Sexing, Handling and Restraint
- SWMS 4.0 Rabbit- Sexing, Handling and Restraint
- SWMS 4.1 Rabbit injection techniques
- RA 4.1 Rabbit injection techniques
- SWMS 4.4 Rabbit Anaesthesia and Analgesia
- RA 4.4 Rabbit Anaesthesia and Analgesia
- SWMS 4.7 Rabbit Humane Euthanasia
- RA 4.7 Rabbit Humane Euthanasia

Personal Protective Equipment Required

- **Gown/ coat**
- **Mask**
- **Hair Net**
- **Rubber Boots**
- **Shoe Covers**

Hazards and Controls

- **Animal bites- rubber boots to be worn, training, demonstrate competency, adhere to SWMS**
- **Animal Scratches- training, demonstrate competency, adhere to SWMS**
- **Animal Allergies- wear PPE when handling animals or cleaning pens**

Before Work Commences

Ensure that you are aware of the locations of the following:

- **Spill Kit**
- **Fire Extinguisher**
- **Eye Wash**
- **Exits**

Risk Assessment and SDS (Safety Data Sheet) - Ensure that you have read and understood for all the substances being used.

Equipment

- **Ensure that you have read and understood the Risk Assessment and Safe Work Method Statement**
- **Obtain training before using any equipment**

General Information

- **All procedures are to be performed by trained competent staff.**
- **Training is available from senior animal house staff or Animal Welfare Officer.**
- **Evidence of training is available in the “Training Needs Analysis”.**

Mating Rabbits

NOTE: Rabbits are territorial and develop a social hierarchy. DO NOT mix groups of rabbits post weaning, with the exception of bucks during mating.

1. Before mating, treat Doe for Coccidia orally with 0.4ml/kg Baycox Piglet Suspension. Record date and volume administered.
2. Scan and identify Doe for mating. If Doe does not have any kits, place buck into the Doe's pen.
3. Watch Doe and Buck to ensure successful mating occurs as indicated by the buck “falling” off the doe, and to ensure that either rabbit is not accidentally injured on introduction.
4. If time mating rabbits, only use a proven buck and observe at least 2 successful matings. These usually occur in rapid succession.
5. The buck can be left with the Doe and removed prior to kindling (giving birth).

First time or Inexperienced Doe's

1. The pre-weaning mortality can be high for inexperienced Does. Check the litter the day after kindling.
2. Record the number of kits born, and ensure that all kits are in the nest. If kits are scattered and cold, place them on a heat mat until they return to normal body temperature, then return to the nest. Doe's only feed Kits twice a day. If kits do not have a "pot belly", this may indicate that they have missed a feed. Kits can be bottle fed with "Wombaroo Rabbit Milk Replacer" until they are the same weight as its litter mates, and successfully feeding from the Doe.
3. Check litters daily. Kits may need to be fed once or twice daily.
4. Kits that refuse to be bottle fed, and are not feeding from the Doe, should be euthanized. All information must be recorded in the Rabbit breeding records.

Kindling

NOTE: Doe's may become aggressive after kindling. Leather gloves and rubber boots should be worn to prevent being scratched or bitten.

DO NOT clean the Doe's pen during kindling as this may disrupt the kindling causing distress to the Doe and Kits.

1. Ensure the Doe is provided with a nesting box. Doe's will start to prepare a nest a few days prior to kindling by pulling out fur.
2. Observe the Doe's behaviour for signs of unease or restlessness, as this may indicate that she is about to kindle.
3. Do not clean the Doe's pen 2 days pre and post kindling. Cleaning the pen during this time may impact on the Doe or Kits welfare.
4. Record the date of birth, and number born (including still born) on the front of the pen, and on the breeding record for the appropriate Doe.
5. All Rabbits are to be weighed at least weekly, and recorded on "Stock" or "Breeder" "Weight Record".
6. Kits are weighed daily from 7 days of age and recorded on the weight record. Any kits that fail to gain weight are bottle fed with "Wombaroo Rabbit Milk Replacer" until the kit is either weaned or able to feed naturally and gain weight. (See SWMS 4.6 Rabbit Breeding Colony Maintenance).
7. If any rabbit is found to lose weight (excluding weight loss due to Kindling), contact the AWO, Senior Animal Technician, Animal Facility Manager, and researcher, if applicable. Record all information on the Clinical Record Sheet (CRS), treat if appropriate, and monitor as advised by the AWO or euthanase. Record details and outcome in the "SOMAF Health Report".
8. Rabbits from weaning to 2 weeks post weaning are weighed 2 times per week, and weights recorded.

Microchipping Kits

1. Kits can be Microchipped from 2 weeks of age. Using a permanent texta, mark a spot where the microchip needle will be inserted at the nape of the neck.
2. Using a 1ml syringe and a 25g needle, draw up 0.1 ml Lignocaine20 injectable anaesthesia obtained from the safe in the office.
3. Tent the skin and inject subcutaneous as per SWMS 4.1 Rabbit injection techniques. Ensure the total volume of lignocaine used is recorded in the "Drug Use" folder located in the office. The needle should be inserted in the middle of the texta spot.
4. After each kit is injected with lignocaine, write a number on the kits ear so that the microchips can be injected in the same order. Otherwise, wait for approximately 10 mins before inserting the microchip.
5. Check that the microchip is able to be scanned and read prior to injecting the kit.
6. Tent the skin, and insert the needle into the texta spot subcutaneously towards the head. Depress the plunger to inject the microchip, and apply pressure to the injection site as the needle is withdrawn. Ensure the microchip is not protruding through the injection site.
7. Scan the microchip to ensure that it is still able to be scanned after inserting the microchip.

Weaning Kits

1. Wean Kits from 22 days of age. Record the microchip number and sex of the Kits according to "SWMS 4.0 Sexing, Handling and Restraint" on the Rabbit Stock Record sheet.
2. Record each Kits weight, treat for Coccidia with 0.4ml/kg Baycox Piglet Suspension orally, and record date and volume administered.
3. Male and female kits can be initially housed together. Do not mix litters after 2 weeks post weaning.
4. Scan and Weigh Kits Tuesday and Friday for 2 weeks post weaning, then weekly. Record weights on the Stock Rabbit Weight Record.

Colony Re-Derivation by Caesarean

1. New colonies of high health status rabbits are established by timed mating of does of non-specified health status and does of a defined health status. Non-defined health status does at term are terminally anaesthetised, kits delivered by caesarean section and cross fostered to high health status does. All does subject to caesarean section are humanely killed without recovery from general anaesthesia.
2. Defined health status does are mated two days prior to non-defined health status does, and allowed to kindle.
3. Non-defined health status does are pre-medicated with acetylpromazine at a dose rate of 1 mg/kg by intramuscular injection 15 minutes prior to anaesthesia with ketamine hydrochloride by intramuscular injection at a dose rate of 25 to 50 mg/kg. On loss of righting reflex, the doe is transferred to masked maintained isoflurane anaesthesia at a concentration between 1.5 and 3% with a minimum oxygen flow of 500 mLs/kg on a non-rebreathing system.
4. The rabbit is placed in a supine position on a warm pad. Fur clipping and skin preparation is conducted on the ventral abdomen to prepare for aseptic surgery. A surgical depth of

anaesthesia is confirmed prior to the first incision. A ventral midline incision is performed with entry to the abdomen via the linea alba. The gravid uterus is resected from the abdomen after the cervix, oviducts, and associated vasculature are clamped with artery forceps.

5. The resected uterus is placed into a sterile stainless dish held by an assistant. The dish contains sufficient povidone iodine 10% w/v, at 37°C to allow full submersion of the organ. The assistant transport the dish containing the gravid uterus and warm povidone iodine across the quarantine barrier to the receiving kit revival team.
6. The anaesthetised doe is killed by the administration of pentobarbitone sodium (300 – 325 mg/mL) by intra-cardiac or intravenous injection at a dose rate of 180 mg/kg.
7. The uterus is removed from the iodine and placed onto a sterile heat mat which has been preheated to 38-39°C. Gently palpate the uterus to locate each foetus; carefully make an incision in the uterus and extract the foetus and the placenta. Make an incision through the membrane to expose the umbilicus and clamp, remove the remaining membrane and clear the fluid from the nasal and oral regions. Hand kits to a second technician and continue to excise the remaining foetuses.
8. As each kit has been cleaned and dried, gently massage them to stimulate respiration and place them on a pre heated heat mat on which is some of the foster doe's hair from her nest. Continue to stimulate each kit until they are breathing on their own and are pink in colour. Leave the kits on the heat mat and introduce half of the kits from foster doe, stimulate the introduced kits to urinate and wipe some of the urine on the new kits. Nail polish or texta can be used to identify kits.
9. Remaining kits are removed from the nest and are humanely killed by intra-peritoneal injection of sodium pentobarbitone (60 mg/mL) at 180 mg/kg. All Kits on the heat mat are placed in the nest. All kits are monitored as per the "First-time or inexperienced Doe" section.

SWMS Review

This SWMS currently applies to the animals housed in the College of Medicine and Public Health Animal Facility. This SWMS will be reviewed 3 yearly, but also updated more frequently as policies, techniques and animal care requirements change.

Position	Name	Contact Details
Manager Animal Facility	Roxanne Collingwood	8204 4380 roxanne.collingwood@flinders.edu.au
Animal Welfare Officer	Dr Lewis Vaughan	0450 424 143 awo@flinders.edu.au

Useful References

<http://www.nhmrc.gov.au>

<http://www.ogtr.gov.au/internet/ogtr/publishing.nsf/Content/home-1>

<http://www.adelaide.edu.au/ANZCCART/>

http://www.flinders.edu.au/research/researcher-support/ebi/animal-ethics/animal-ethics_home.cfm

http://www.criver.com/files/pdfs/rms/nzw/rm_rm_d_nzw_rabbit.aspx

<http://agriculture.vic.gov.au/agriculture/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>

Any questions regarding the above guidelines and any technical advice/ assistance required can be directed to Animal Facility Manager.