

# **Coverdell Rodent Vivarium Handbook**

# Coverdell Rodent Vivarium Handbook

<b>Welcome .....</b>	<b>3</b>
<b>Life Sciences Unit Staff.....</b>	<b>4</b>
<b>Life Sciences Facility Staff .....</b>	<b>4</b>
Important Phone Numbers .....	4
<b>Key Cards and Facility Access .....</b>	<b>5</b>
<b>Entry and Exit Procedures .....</b>	<b>5</b>
Facility Entry .....	5
Facility Entry and Exit Procedures .....	5
<b>Rooms Requiring Special Procedures.....</b>	<b>7</b>
Entering a Barrier/Immunocompromised Room .....	7
Exiting a Barrier/Immunocompromised Room .....	7
Entering Infected/Quarantine Rooms .....	7
Exiting Infected/Quarantine Rooms .....	7
Exiting the Animal Facility .....	8
<b>Animal Environment.....</b>	<b>8</b>
Macro-environment .....	8
Housing .....	8
<b>Animal Use .....</b>	<b>9</b>
Handling and Animal Use .....	9
Anesthesia .....	9
Breeding .....	10
Weaning .....	10
Census Log .....	10
Reporting Sick or Dead Animals.....	10
<b>Acquiring Equipment.....</b>	<b>11</b>
<b>Animal Transportation .....</b>	<b>11</b>
Transportation within the Facility .....	11
Transportation outside the Facility, within the Building .....	11
Transportation out of the Building .....	11
<b>Animal Health and Veterinary Services.....</b>	<b>12</b>
<b>Euthanasia Station .....</b>	<b>12</b>
<b>Non-Animal Investigator Needs .....</b>	<b>13</b>
Locker Rooms .....	13
Cabinets and Drawers.....	13
Drugs .....	13

# **Coverdell Rodent Vivarium Handbook**

## **Welcome**

This handbook has been prepared to provide information and guidelines for anyone currently using or planning to use animals in the Coverdell Rodent Vivarium (CRV). It may not cover all of your questions, so please feel free to ask any of the people listed in the section below.

The Coverdell Rodent Vivarium provides animal care to over 20 of the University's Faculty Investigators. The facility is staffed from 8:00am to 4:30pm on weekdays and part-time on weekends. The staff is made up of both full-time and part-time staff members, many of which hold American Association for Laboratory Animal Science certifications. The staff is also available to assist researchers and instructors whenever possible, but please keep in mind their busy schedules and provide advanced warning when possible so that the staff can plan to be available to assist you.

Standard animal caging, feed, lighting, temperature and humidity are provided by the facility, exceptions made only with approval from both IACUC and Assistant Director. The majority of mouse caging provided is Tecniplast brand individually ventilated caging, with Edstrom automatic watering.

# Coverdell Rodent Vivarium Handbook

## *University Research Animal Resources*

### *Life Sciences Unit Staff*

#### Attending Veterinarian/Director:

Leanne Alworth

Phone: 706-542-6084

E-mail: alworth@uga.edu

#### Animal Resources Manager:

Robin Kavanaugh

Phone: 706-542-6083

E-mail: robink@uga.edu

### *CRV Facility Staff*

#### CRV Facility Supervisor:

Lisa Wilson

Phone: 706-543-5496

E-mail: lisakay@uga.edu

#### CRV Full- Time Facility Staff:

Nichole Head

E-mail: nsdawgs13@gmail.com

Robin Johnston

E-mail: ringer@uga.edu

Nick Hillsman

E-mail: nickrh@uga.edu

Christopher Lozo

E-mail: christopher.lozo@gmail.com

Lauren Lipcsei

E-mail: laurlipc@uga.edu

Lynette Rowe

E-mail: lrowe424@uga.edu

Hannah Whitehead

E-mail: chw1990@uga.edu

Trey Wills

E-mail: treyw@uga.edu

There are also part-time student workers available in the facility.

Several animal rooms have a lead technician. Feel free to contact them if you have a problem or concern about your room.

Emergency numbers are posted next to or above each facility phone. Phones are located in each wash room, necropsy (room 52) and the procedure room (room 41).

#### Important Phone Numbers

Office: 706-583-5496

Cage Wash: 706-583-5498

Procedure Room: 706-583-5497

# Coverdell Rodent Vivarium Handbook

## Key Cards and Facility Access

The Coverdell Rodent Vivarium is protected by a magnetic card reader system. All facility users seeking access to CRV must acquire a proximity card from the UGA Card Office in the Tate Center. Cards should be obtained at least 2 working days before expected use, to enable any unforeseen problems to be cleared before the card is needed.

Once a proximity card is obtained, a legible photocopy should be made of the front and back of the card with the name of the lab's head investigator written on the copy. The person requesting access must also be added to an Animal Use Protocol and all online courses must be completed. An appointment with the facility supervisor, Lisa Wilson must be made for orientation. At the orientation the copy of the proximity card and proof of online courses and AUP should then be given to the facility supervisor, Lisa Wilson. Access to the facility is usually granted in 24 hours. Building access requires meeting with someone from the OVPR office on the first floor of the Coverdell building.

Please keep in mind that children and pets are not permitted in the facility. A member of CRV staff must accompany all visitors.

## Entry and Exit Procedures

### Facility Entry

The entrance to the CRV facility is located in the basement of the Coverdell building. Both the elevator on the south end of the building and the south stairwell have basement access. To enter the facility one must pass their proximity card over the card reader. The double doors will audibly unlock. When entering the animal facility, be sure not to allow others to follow in behind you. This undermines the security of our facility and keeps us from identifying users. Do not let in people you do not recognize, even if they say they need to be let in. If you hear knocking, or someone follows you in, find the Facility Supervisor or a Full-time Technician and alert him or her.

Upon entering the facility, please enter via the locker-room entrances directly to the left. Personal protective equipment (PPE), such as scrubs and shoe covers, is available in the bathrooms, along with lockers assigned to our various labs. To enter the facility, you must wear scrubs and dedicated shoes or shoe covers and all shoes worn in the facility must have a closed toe. If you are entering the facility, but will not enter an animal room or handle equipment, no further PPE is required. To work in an animal room, or handle equipment, you **must** wear an isolation gown, gloves, and scrubs. There are PPE signs outside of each animal room, pay close attention to the specific PPE listed for the room you plan on entering.

### Facility Entry and Exit Procedures

1. All personnel will follow the required entry and exit procedures, and wear the required PPE when working in the animal facility.
2. Entry to animal facility

# Coverdell Rodent Vivarium Handbook

- a. All personnel entering the animal facility must remove street clothes and put on clean scrubs in the locker rooms. The only exception to removing street clothes before you put on scrubs is if your street clothes are completely covered by the scrubs (ie undergarments, shorts, tank top).
  - b. Clothing that the PPE will not cover, such as hats and scarves, must also be removed.
  - c. Personal listening devices must be worn such that the wires run under the scrub top and can be covered to the neck by PPE.
  - d. Visitors, PPD, and equipment maintenance personnel will also be required to change into scrubs in the locker rooms.
  - e. All personnel must either put on dedicated shoes (only worn in the facility) OR shoe covers to enter the facility. Dedicated shoes must be worn only in the facility, not in or beyond the locker room.
3. Corridor use
  - a. Personnel in the corridor should be wearing scrubs and dedicated shoes (or shoe covers)
4. Entry to animal rooms, procedure rooms, necropsy, and surgery room
  - a. All personnel entering the room must put on a disposable yellow gown (or autoclavable gown) and gloves. There should be no gap between the sleeve cuff and the gloves. Pulling the glove over the cuff or the cuff over the glove ensures this.
  - b. Some barrier rooms require additional PPE, such as masks. Refer to the door signage to determine the required PPE for the room
  - c. As personnel enter the room, they are to place both feet fully on the sticky mat and step on the mat 5-6 times per foot before stepping into the room.
5. Exit of animal rooms, procedure rooms, necropsy, and surgery room
  - a. Personnel remove the room specific PPE
  - b. Proper removal procedures:
    - i. Remove your gloves
    - ii. Remove the gown, being careful to not touch your scrubs or skin with the outside of the gown.
    - iii. Wash your hands or use hand sanitizer
  - c. Personnel carrying something out of the room which requires wearing gloves (cages/carcasses) put on a new pair of gloves after removing the gloves worn when working in the room and washing hands.
  - d. Re-use of gown. Generally, the disposable gowns are for 1 use. A gown may be re-used ONLY if you are NOT leaving the animal facility when you leave the room. For example, you are leaving an animal room to work in a procedure room then returning to the animal room. The gown MUST be hung up between uses. All gowns MUST be discarded when you are planning to leave the facility, and MUST NOT be kept overnight to use the next day.
6. Exit of the animal facility
  - a. Personnel change back into street clothes in the locker rooms. Place the scrubs in the laundry hamper
  - b. Dedicated shoes (or shoe covers) are removed before leaving the locker room. Dedicated shoes must be worn only in the facility and locker room.

# Coverdell Rodent Vivarium Handbook

7. Re-entering the facility
  - a. Personnel who leave the facility and then return, even to go to the break room or the office, must follow the entry procedures as before.

## Rooms Requiring Special Procedures

### Entering a Barrier/Immunocompromised Room

Barrier housed mice are sterile housed and require special procedures to ensure their health. Autoclaved or disposable gowns, gloves, face masks and shoe covers are available **inside or immediately outside of** the rooms; do not use personal protective equipment (PPE) from other rooms in the facility. Tape on the floor marks the barrier “ante-room” area, where PPE is donned. You can only step into the area beyond the tape with shoe covers. Gowns should be donned before crossing the barrier tape, and shoe covers should be put on one at a time while stepping over the barrier tape one foot at a time. Gloves should be donned after shoe covers have been put on, to keep them from getting contaminated if they touch your shoes.

### Exiting a Barrier/Immunocompromised Room

When procedures are finished in the barrier room, you may walk directly over the tape and remove your PPE. Autoclaved gowns can be reused if placed back in their bags. Bags should be labeled with the name of the user, and after one week of use they should be placed in the gown bin to be laundered and re-autoclaved. Gloves, shoe covers and facemask should be thrown away in the trash receptacle provided.

### Entering Infected/Quarantine Rooms

Animals with questionable health status and or injected with a chemical agent are housed in cages with micro-isolator bonnets. The cages in these rooms are marked clearly as to what they are. Bio-containment is extremely important in these rooms and we require your full cooperation in these procedures. Disposable isolation gowns, facemasks, gloves and shoe covers are provided in the hallway out the door of each room that holds infected or quarantined animals. All of these items must be worn to protect both user and animals. There is no need for step over procedures for shoe covers when entering in these rooms.

### Exiting Infected/Quarantine Rooms

Specific exit procedures are required to contain infectious organisms within the quarantined room. Shoe covers should not be allowed to touch the floor beyond the quarantine room threshold, so remove shoe covers as you step over the threshold, placing them into the biohazard trash receptacle provided. Remove the isolation gown and mask and place them into the biohazard trash receptacle provided. Remove your gloves last.

If you have dirty biohazardous cages to remove from the room, they must also be bagged inside the animal room before you remove your PPE. The bag should be sprayed with the appropriate disinfectant. The appropriate disinfectant will be agreed upon by animal resources in consultation with your lab and provided by animal resources. Remember to

# Coverdell Rodent Vivarium Handbook

notify the Life Science staff that you have left dirty cages in the room, so they may be properly handled.

## Exiting the Animal Facility

Upon finishing your work, you should always exit through the locker rooms. Laundry baskets are provided for dirty lab coats and scrubs.

To exit the facility one must pass their proximity card over the card reader. The double doors will audibly unlock. When exiting the animal facility, be sure not to allow others to follow out behind you. This undermines the security of our facility and keeps us from identifying users

## **Animal Environment**

### Macro-environment

Light cycles in the animal rooms are controlled by a computerized system, Edstrom Watchdog. This program also monitors temperatures of the animal rooms and pressure in the water system. Watchdog notifies the appropriate personnel when any values vary wider than the accepted range.

The default light cycle is 12:12, 12 hours light and 12 hours of dark. Light cycles can be adjusted by the Facility Supervisor if an investigator's research warrants it. Coverdell dark cycle is a red light cycle, so work can still be performed after the dark cycle has started. If working in CRV after the dark cycle has started, be courteous and make every attempt not to disturb other investigator's animals.

### Housing

The Coverdell Rodent Vivarium houses mice. The facility follows all federal regulations and guidelines for the housing of animals in research. All animals on automatic watering receive reverse osmosis (RO) water.

For mice, Tecniplast GM500 individually ventilated cages are the standard housing provided by the facility. These cages provide automatic watering, with removable lixits and a slot for regular water bottles if they are needed. These cages are bedded with Bed-o-cob combination bedding, a nestlet, and a mouse hut. Based on federal regulations, the maximum number of adults which can be housed in one cage is 6 mice. Please adhere to this regulation. Standard shoebox caging is provided for rats. Regular water bottles are provided for drinking water.

Feed is provided in-room, in labeled containers. CRV provides Purina Lab Diets, including 5001- Rodent Diet, 5015 – Mouse Diet (breeder diet), 5010 – Autoclavable Diet and 5021 – Autoclavable Breeder Diet. Arrangements for special diets must be made with the Facility Supervisor.

# Coverdell Rodent Vivarium Handbook

## Animal Use

### Handling and Animal Use

Any investigator or researcher may request an animal handling training session from the Life Sciences Animal Resources Unit if they feel one would benefit their work. Please contact the Facility Supervisor or Attending Veterinarian regarding handling training. When working with or around the mice, work quietly to avoid disturbing or distressing the mice. Any excessively distressing procedures, such as blood collection, euthanasia, any surgeries or animal manipulations **must** be done outside of the animal housing room, in the PI Labs or in the facility procedure/surgery room. These procedures are to protect the animals and to avoid unnecessary stimulation of the animals.

During the course of your research please keep in mind that cages **must** only be opened inside a laminar flow change station or biosafety cabinet. Any and all in-room animal manipulations **must** be done under a laminar flow change station or biosafety cabinet. These procedures are to protect the animals. Any work with volatile chemicals or anesthetic gases if not using the anesthesia machine **must** be performed in the procedure room's (room 41) biosafety cabinet, which is equipped with a fume absorbing carbon filter, or the fume hoods of the rodent surgery suite. Other biosafety cabinets in CRV are not appropriate for work with volatile chemicals or anesthetic gases. These requirements are to protect the health of personnel in the CRV.

### Anesthesia

URAR-LS requires researchers who use the animal facility provided anesthesia vaporizers to provide and use their own induction chamber and nose cone/face mask. URAR does not provide these items for general use.

This is to protect the health status of the colony rodents by preventing the spread of infection among colonies in the facility via anesthesia equipment.

In order to prevent contamination from your lab, please do not bring this equipment back and forth from your lab. You will be allowed to store your items in the animal facility, and your Supervisor will inform you of the location options for storage. We suggest you keep it in a locked container labeled with your lab name.

The systems are manufactured by VetEquip. Purchase information is listed below. Please ask your Supervisor if you have any questions.

List of Vet Equip options Induction

chambers: <http://www.vetequip.com/item.asp?cat=6&catalogID=941443-54>

Rodent nose cones/face masks:

<http://www.vetequip.com/item.asp?cat=2&catalogID=nosecone>

# Coverdell Rodent Vivarium Handbook

## Breeding

There are alternate methods for breeding rodents.

Pair breeding consists of 1 male and 1 female in the cage. With this method, only 1 female is reproducing with the male, but due to the post-partum estrus, they can have a litter approximately every 21 days.

Harem/group breeding consists of 1 male with multiple females (2-4 depending on the cage dimensions). We do not allow multiple litters in the same cage, because pups of different ages can out compete each other for milk, or trample each other, and by the time of weaning, the cage is too crowded. Therefore, with harem breeding, females must be separated before they give birth. With this method, more females are simultaneously reproducing with 1 male, but they do not mate at the post-partum estrus, and will not breed again until the litter is weaned and the female is placed back with the male.

Planned variations on these acceptable methods must be discussed with the Facility Supervisor or Attending Veterinarian before breeding is initiated.

## Weaning

Litters of mice over the age of 21 days are considered adults and should be weaned accordingly, unless specific exceptions are in the project's AUP to extend the age of weaning. Weanlings should be separated by sex into cages of 6 animals or less, independent of their weight at weaning. If training is needed on weaning procedures, please contact the Facility Supervisor.

## Census Log

Any permanent removal of animals, animals found dead, newly weaned animals and transfer of animals from another investigator's colony or vice versa must be recorded on the census sheet to ensure proper billing. Animals and cages are both counted. The personnel responsible for their weaning must add weaned litters to the census sheet. Columns on the left side of the sheet are designated to different categories such as, received/weaned, used by the lab, transferred or found dead. The two large columns are for animal count and cage count. Any entries should be initialed.

## Reporting Sick or Dead Animals

If a sick or dead animal is found in an animal room, the animal must be reported to the lead tech and/or facility supervisor, or the vet tech. If no one is available, or animals are found on the weekend or a holiday, there are numbers for on-call veterinary assistance listed next to the Facility Supervisor's office.

Sick animals should be reported to a member of the URAR staff immediately. Sick animals will be given an identifying tag or cage card. For mice, the pink identifying card is the medical record, and all treatments must be noted on the back of the card. For some species, a paper medical record maybe used. The Attending Veterinarian and/or Vet Tech will be contacted, will determine the appropriate veterinary care, and will contact, directly or via the

# Coverdell Rodent Vivarium Handbook

Animal Resources staff, the investigator's lab with the recommended treatment plan. The plan will be discussed, and with input from the lab, a plan will be decided. It is the responsibility of the lab to follow the treatment plan decided. Changes to the plan may only be made by the Attending Veterinarian or Vet Tech.

Dead animals should be removed from the home cage and placed in a bag labeled with the room number, investigator name, date and location of cage. Once placed in a properly labeled bag, the carcass should be put in the necropsy refrigerator (room 53) and logged in on the log sheet. The animal should also be recorded under the found dead column of the census sheet on the proper date. The lead tech or facility supervisor should be informed of the death.

## Acquiring Equipment

Clean cages are provided for your use in Clean Cage Storage (room 17). You may take clean cages as needed, but please take only the number of cages you need, as cages cannot be used in other rooms once they have entered an animal room. If your animals are housed in a barrier room, or housed in sterile cages, cages are prepared by the animal care staff and provided in the animal rooms. Please notify the Lead Technician if you find you do not have enough prepared equipment available.

## Animal Transportation

Movement of animals from one animal room to another animal room within this facility or to another animal facility, must be arranged with your facility supervisor before you move the animals. Also, if you plan to take animals out of the facility and return them alive to be housed in the facility again, you must arrange the plan with your facility supervisor before you move the animals.

### Transportation within the Facility

Animals that are being transported within the facility must be transported in a closed container, preferably a rodent cage. This is to prevent escapes and protect the health of both animals and staff.

### Transportation outside the Facility, within the Building

Animals that are being transported to labs on the upper floors of Coverdell must be transported in cages with microisolator tops. Use of the home cage is preferred, if possible. If live animals are returned to the facility, the container must be sprayed thoroughly with disinfectant before it is placed into the laminar flow change station or biosafety cabinet. The animals should be transferred to a clean cage, and the dirty cage taken directly to the dirty cage wash room.

### Transportation out of the Building

Animals that are being transported out of the Coverdell building must be transported in closed opaque containers or containers that have been covered to conceal their contents.

# **Coverdell Rodent Vivarium Handbook**

Covering the cage with a trash bag is acceptable, along with using larger shopping bags that conceal their contents. Bags should not be closed tightly, and should be removed from the cages as soon as they arrive at their destination, to prevent smothering. For large numbers of mice, CRV staff can provide you with shipping boxes to use as temporary holding during transport to the lab.

If live animals are returned to the facility, the container must be sprayed thoroughly with disinfectant before it is placed into the laminar flow change station or biosafety cabinet. The animals should be transferred to a clean cage, and the dirty cage taken directly to the dirty cage wash room.

## **Animal Health and Veterinary Services**

The Attending Veterinarian for University Research Animal Resources- Life Sciences Unit provides veterinary services for the Coverdell Rodent Vivarium.

The animal care staff checks animals visually, on a daily basis. Any injuries or illness noted by the animal care staff will be reported to the Facility Supervisor and/or Attending Veterinarian and/or Vet Tech. A pink Sick animal card and placed on the cage. This card should only be removed when the animal is dead or the illness/injury has been determined to be resolved. Only the Attending Veterinarian or the Vet Tech, or their designee may resolve a case. The Facility Supervisor and/or Attending Veterinarian and/or Vet Tech will examine the animal. Investigators will then be contacted about the animal and the recommended treatment plan.

Concerns about animal welfare, illness or injuries can be taken to your lead technician, Facility Supervisor, or Attending Veterinarian.

## **Euthanasia Station**

Coverdell Rodent Vivarium has two euthanasia stations, one located in Necropsy (room 53), and the other in the Procedure Room (room 41). Both stations provide gaseous CO<sub>2</sub> for humane euthanasia. Standard Operating Procedures for the use of the CO<sub>2</sub> stations are posted and must be followed. Federal regulations stipulate that a secondary, physical method is required after CO<sub>2</sub> administration to ensure complete euthanasia. Appropriate secondary methods are listed at the stations. The method of euthanasia used must be on the approved research AUP.

If you need instruction on proper euthanasia techniques, please contact the Facility Supervisor.

# Coverdell Rodent Vivarium Handbook

## Non-Animal Investigator Needs

### Locker Rooms

The locker rooms house our bathrooms, laundry facilities and showers. Lockers are provided to each lab in both locker rooms for storing personal effects while using the animal facility. These lockers are labeled with the Investigator's name; combinations are available through the Facility Supervisor. A day use locker is also available in each locker room, if needed.

We ask that you do not bring lab coats or scrubs from your personal labs into the facility, as we provide clean, facility laundered scrubs for your use in the facility. Please let a member of the staff know if you are unable to locate a clean scrubs.

### Cabinets and Drawers

CRV does have a small number of locking cabinets and drawers found in the rodent surgery suite, procedure room and necropsy. If you would like to use one of these spaces for your lab's items, please speak with the Facility Supervisor, at least 48 hours in advance of when you will need the space.

### Drugs

Investigator drugs should be stored in the investigator's lab, not the animal facility. If an investigator feels that s/he must store drugs in the facility, the investigator will need to discuss the matter with the Facility Supervisor and Attending Veterinarian.