

---

**1. PURPOSE**

---

This Standard Operating Procedure (SOP) describes routine husbandry procedures for sheep.

**2. RESPONSIBILITY**

---

Animal care staff, veterinary care staff, facility supervisors, Facilities Manager.

**3. MATERIALS**

---

- 3.1. Darwin Cage cards
- 3.2. Ruminant diet (within 6 months of the milling date)
- 3.3. Clean water containers
- 3.4. Clean pens
- 3.5. Bedding

**4. ANIMAL CARE**

---

- 4.1. Observation of animals:
  - 4.1.1. Observe all animals for illness, injury and general condition daily, including weekends and holidays.
- 4.2. Emergency and holiday care:
  - 4.2.1. Provide routine care and husbandry for all animals on weekends and holidays.
  - 4.2.2. Post contact information for emergency assistance at the entrance to the animal facility.
- 4.3. Animal identification methods:
  - 4.3.1. Use ear tags and/or ear notches are for identifying the sheep.
- 4.4. Records and documentation:
  - 4.4.1. Refer to SOP.
- 4.5. Feeding routine and water:
  - 4.5.1. Feed animals to meet current National Research Council recommendations for sheep nutrition (<http://books.nap.edu/catalog/614.html>)
  - 4.5.2. Store feed ingredients and finished feeds in a manner that minimizes their contamination or spoilage (e.g., covered containers).
  - 4.5.3. Water is available continuously for all confined sheep, for lactating ewes on pasture, and for other sheep when hot and dry weather limits the supply of water in forage or from snow.
  - 4.5.4. Check water containers daily for cleanliness. Where applicable (e.g., barns), check permanent watering devices daily.
  - 4.5.5. Animals on pasture receive water from forage, snow, or from permanent or portable troughs.
  - 4.5.6. Monitor water daily to ensure that it is free of contaminants (i.e., chemicals or potentially infectious materials); Refer to SOP for water quality monitoring requirements.
- 4.6. Breeding program
  - 4.6.1. Not applicable
- 4.7. Social and environmental enrichment
  - 4.7.1. Pen sheep in groups of compatible animals to assure visual and physical contact with other sheep.

## 5. ANIMAL HEALTH

---

### 5.1. Vaccination program:

#### 5.1.1. Lambs:

##### 5.1.1.1. Clostridium perfringens types C&D and tetanus:

- Initial: 70 to 110 days of age
- Booster: 30 to 40 days following initial vaccination

##### 5.1.1.2. Contagious ecthyma (a.k.a. Orf):

- Vaccinate lambs at the time of tail docking.

#### 5.1.2. Ewes:

##### 5.1.2.1. Booster Clostridium perfringens types C&D and tetanus prior to each lambing.

#### 5.1.3. Rams:

##### 5.1.3.1. Booster for Clostridium perfringens types C&D and tetanus annually.

### 5.2. Quarantine procedures:

#### 5.2.1. Quarantine (isolated pens) all sheep brought in from outside farms for at least one month.

#### 5.2.2. Evaluate available health records of incoming non-McGill originating sheep to assess the need to vaccinate or treat as required prior to contact with the McGill flock.

### 5.3. Procedures resulting in potential stress or discomfort:

#### 5.3.1. Dehorning:

##### 5.3.1.1. Dehorning is not conducted.

#### 5.3.2. Castration:

##### 5.3.2.1. Ram lambs are not routinely castrated.

##### 5.3.2.2. If experimental design or specialty markets require castration, use standard industry methods (elastrator band or surgical castration) prior to 2 months of age.

##### 5.3.2.3. Castrations performed at an age > 2 months are referred to a veterinarian.

#### 5.3.3. Tail-docking:

##### 5.3.3.1. Dock lamb's tails with a rubber band or an emasculator prior to 2 weeks of age.

##### 5.3.3.2. Restrain lambs manually during tail docking.

##### 5.3.3.3. Apply a wound protector to the tail after docking with an emasculator.

#### 5.3.4. Foot care:

##### 5.3.4.1. These procedures are performed by or under the guidance of trained professional staff.

##### 5.3.4.2. Restrain sheep manually by tipping them up on their rumps and trim with hoof trimming shears.

##### 5.3.4.3. Check ewes' feet at the end of each lambing period and trim as needed.

##### 5.3.4.4. Check breeding rams' hooves prior to the start of each STAR breeding period (five times per year) and trim as needed.

##### 5.3.4.5. If a foot abscess is encountered clean the trimmer with a standard detergent and disinfect with a dilute (10%) bleach solution.

### 5.4. Euthanasia and disposal of dead animals

#### 5.4.1. Euthanize sheep as per the Large Animal Euthanasia SOP.

#### 5.4.2. Dispose of dead animals by one of three methods:

##### 5.4.2.1. Incineration.

##### 5.4.2.2. Composting on site.

##### 5.4.2.3. Rendering via release of the carcass to a commercial rendering company.

5.5. Pest control:

5.5.1. Refer to SOP for a description of the vermin control program in agricultural facilities.

5.5.2. Distress call recordings may be used for bird abatement where applicable.

---

## 6. FACILITIES

6.1. Housing:

6.1.1. House sheep either indoors &/or outdoors.

6.1.1.1. Indoors: keep sheep in pens with either slatted floors or solid floors with sawdust, hay, and/or bedding.

6.1.1.2. On pasture: provide windbreaks and shade, when needed.

6.2. Space requirements:

6.2.1. Agricultural research and teaching protocols:

6.2.1.1. House sheep based on weight, sex, and age per recommendations set in Table 9-1 (pg. 68) of *The Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*, 1999.

6.2.2. Biomedical research protocols:

6.2.2.1. House sheep based on body weight per recommendations set in Table 2.3 (p. 30) of *The Guide for the Care and Use of Laboratory Animals*, 1996.

6.3. Cleaning and sanitation of primary enclosures:

6.3.1. Floor pens:

6.3.1.1. Bedded packs:

6.3.1.1.1. Remove bedded pack 2 to 3 times per year.

6.3.1.1.2. Remove manure from pits under slatted floors 1 to 2 times per year.

6.3.1.1. Non-bedded packs:

6.3.1.1.1. Clean flooring 3 times per week.

6.3.2. Metabolism cages:

6.3.2.1. Clean waste from collection trays daily.

6.4. Cleaning and sanitation of equipment:

6.4.1. Insect feed troughs daily, clean troughs found to be soiled with non-food material.

6.4.2. Clean automatic waterers of gross material daily. Scrub waterers weekly.

6.4.3. Clean and sanitize (10% bleach or chlorine powder diluted per manufacturer's instructions) milk buckets and nipples (for lambs) after each use.

6.5. Transportation:

6.5.1. Clean truck beds after each use.

6.5.2. Sanitize truck beds after hauling animals from a non-Cornell facility.

6.6. Waste management:

6.6.1. Spread collected manure on fields per standard agricultural practices.

---

## 7. REFERENCES

7.1. *Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching*. Federation of Animal Science Societies, Savoy, IL. 1999.