



Cornell University
Cornell Center for Animal Resources and Education

CARE520.02 **Sheep Husbandry**

The intent of this Standard Operating Procedure (SOP) is to describe the routine husbandry procedures for sheep. This SOP is intended for use by sheep facility staff. This SOP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC) and the Cornell Center for Animal Resources and Education (CARE). The facility may have supplemental SOPs that further describe their specific manner of operation. Any exemption must be approved by the IACUC prior to its application.

TABLE OF CONTENTS

1. Introduction
2. Materials
3. Procedures
4. Safety
5. Contingencies
6. References

1. Introduction

This SOP provides general husbandry guidelines for Sheep housed in Cornell research &/or teaching facilities.

2. Materials

- Feed supplies (e.g. hay, silage, concentrate, feed bins, etc.)
- Bedding material for indoor pens(e.g. hay, straw, shavings, etc.)
- Water source
- Fenced or walled enclosures for containing animals

3. Procedures

A. Animal Care

i) Observations:

- Observe and care for animals daily, including weekends and holidays, to assess their health and well-being.
- Use ear tags and/or ear notches are for identifying the sheep.
- Records and documentation: refer to CARE SOP 542, Maintaining clinical records for animal research models.

ii) Feed

- Feed animals to meet current National Research Council recommendations for sheep nutrition or based upon the Cornell-developed FeedForm system.
- Store feed ingredients and finished feeds in a manner that minimizes their contamination or spoilage (e.g., covered containers, not in direct contact with moist surfaces).

iii) Water:

- Check water containers daily for cleanliness and adequate supply.
- Animals on pasture receive water from forage, snow (non-lactating adults on range), or from permanent or portable troughs.
- Refer to CARE SOP 543.01, Water quality monitoring in agricultural facilities.

iv) Cleaning and sanitation of equipment.

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

(2) Clean automatic waterers of gross material daily. Scrub waterers weekly.

(3) Clean and sanitize milk buckets and nipples (for lambs) after each use (1:10 dilution of bleach or chlorine powder diluted per manufacturer's instructions).

v) Housing:

(1) Pen sheep in groups of compatible animals to assure visual and physical contact with other sheep.

(2) Space requirements

- Agricultural research and teaching protocols: 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.
- Biomedical research protocols: house sheep based on body weight per recommendations set in Tabel 2.3 (p. 30) of The Guide for the Care and Use of Laboratory Animals, 1996.

(3) Indoor housing:

(a) Keep sheep in pens with either slatted floors or solid floors with bedding.

(b) Cleaning and sanitation of primary enclosures.

- Bedded packs:

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

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

- Non-bedded packs: clean flooring 3 x per week.

- Metabolism cages: clean waste from collection trays daily.

(4) On pasture:

- Provide windbreaks for all outdoor housing.

- Provide shade for sheep housed outdoors during hot summer months.

- B. Breeding program: manage ewes on the Cornell STAR reproductive management system.
- C. Procedures with potential for stress or discomfort
- (1) Dehorning – Dehorning is not conducted.
 - (2) Castration – Ram lambs are not routinely castrated. If experimental design or specialty markets require castration, use standard industry methods (elastrator band or surgical castration) prior to 2 months of age. If rams in need of castration are >2 months of age, refer to a veterinarian.
 - (3) Tail-docking:
 - (a) Dock lamb's tails with a rubber band or an emasculator prior to 2 weeks of age.
 - (b) Restrain lambs manually during tail docking.
 - (c) Apply a wound protector to the tail after docking with an emasculator.
 - (4) Foot care – Restrain sheep manually by tipping them up on their rumps and trim with hoof trimming shears.
 - (a) Check ewes' feet at the end of each lambing period and trim as needed.
 - (b) Check breeding rams' hooves prior to the start of each STAR breeding period (five times per year) and trim as needed.

Note: These procedures are performed by or under the guidance of trained professional staff. If a foot abscess is encountered clean the trimmer with a standard detergent and disinfect with a dilute (10%) bleach solution.

- D. Euthanasia and disposal of dead animals
- i) Euthanize sheep by one of the two methods cited below; refer to CARE SOP 307, Euthanasia of non-rodent mammals.
 - Penetrating Captive Bolt: Use a penetrating captive bolt pistol to stun the sheep followed by a mechanical method of euthanasia (e.g., exsanguination).
 - Barbiturate Overdose: Administer an overdose of barbiturates (I.V.) under the supervision of a veterinarian.
 - ii) Dispose of dead animals by one of three methods:
 - Incinerate at the College of Veterinary Medicine.
 - Compost on site.
 - Render via release of the carcass to a commercial rendering company.
- E. Pest control
- Refer to CARE SOP 538, Vermin Program for a description of the vermin control program in agricultural facilities.
 - Rodent and insect control is performed by Acme Pest Control, Inc.
 - Distress call recordings may be used for bird abatement where applicable.
- F. Transportation
- Clean truck beds after each use.
 - Sanitize truckbeds after hauling animals from a non-Cornell facility.

G. Waste management: spread collected manure on fields per standard agricultural practices.

4. Safety

- a. Sheep have the potential to transmit disease to humans, please refer to the CARE Zoonosis web page for details.
- A. Sheep have the potential to create allergies in humans, please refer to Cornell University's Environmental Health & Safety information regarding animal related allergens.

5. Contingencies

- A. Post contact information for emergency assistance at the entrance to the animal facility.
- B. Emergency veterinary care is available at all times including after working hours and on weekends and holidays through the Ambulatory & Production Medicine Clinic (607-253-3140) or CARE (1-800-349-2456).

6. Reference

- National Research Council recommendations for sheep nutrition (<http://books.nap.edu/catalog/614.html>)
- Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching. Federation of Animal Science Societies, Savoy, IL. 1999.
- CARE SOP 542, Maintaining clinical records for animal research models: <http://www.research.cornell.edu/care/documents/SOPs/CARE542.pdf>
- <http://www.research.cornell.edu/care/CARE543.pdf>
- CARE SOP 307, Euthanasia of non-rodent mammals: <http://www.research.cornell.edu/care/documents/SOPs/CARE307.pdf>
- CARE SOP 543.01, Water quality monitoring in agricultural facilities: <http://www.research.cornell.edu/care/documents/SOPs/CARE543.pdf>
- CARE SOP 538, Vermin Program: (<http://www.research.cornell.edu/care/CARE538.pdf>)
- Cornell STAR reproductive management system: <http://www.ansci.cornell.edu/sheep/management/breeding/star/index.html>
- Cornell Animal Related Allergen Information: <http://www.research.cornell.edu/Care/documents/OHS/AllergyPreventionFactSheet.pdf>
- CARE Zoonosis Web Page: <http://www.research.cornell.edu/care/zoonoses.html>

Written by/date :
Ray Corey, June 2004

Effective date :
Aug. 2004

Review date :
November 2008

Referee:
Bhupinder Singh

SOP :
CARE520.01