



**Cornell University**  
Cornell Center for Animal Resources and Education

CARE539.01 **Equine Husbandry**

The intent of this standard operating procedure (SOP) is to describe the routine husbandry procedures at Cornell University's equine facilities. This SOP is intended for all staff members who perform routine horse care. This SOP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC) and the Cornell Center for Animal Resources and Education (CARE). Any exemption must be approved by the IACUC prior to its application.

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**1. Introduction**

This SOP provides general husbandry guidelines for equine species housed in research facilities at Cornell.

**2. Materials**

- Feed and water
- Hoof care supplies
- Bedding
- Bathing and grooming supplies
- Environmental Enrichment Devices

**3. Procedures**

**A. Observation of animals:**

- i) Observe all equine species daily for illness, injury, and general condition, including weekends and holidays. Report any injuries or illness to the facility manager, or contact CARE directly via the emergency pager.

**NOTE:** Emergency veterinary care is available at all times, including after work hours and on weekends and holidays, by paging CARE (1-800-349-2456).

- ii) **Hoof Care:** Observe the animal daily for signs of lameness, long hooves, or other abnormality. Report abnormalities to the facility manager.
- iii) **Grooming:** Brush and/or bathe the animal to remove excessive dirt and hair as needed.
- iii) **Teeth Care:** Observe the animal daily for abnormalities with mastication, such as dropping feed when eating. Report abnormalities to the facility manager.

## **B. Records and Documentation**

- i) Identify each animal with a tattoo or collar applied by the facility that individually identifies the animal by number.
- ii) Maintain individual health records, including medical, vaccination, and transportation history.
- iii) Maintain daily husbandry records, including feeding, watering, cleaning, and daily turn out.

NOTE: Refer to CARE SOP 542 for record keeping requirements at Cornell animal facilities.

## **C. Food and Water**

- i) Feed animals to meet the current National Research Council recommendations for equine nutrition.
- ii) Feed animals housed inside or where they cannot graze at least twice a day. Roughage in the form of hay or other fibrous feedstuff must be provided.
- iii) Supplement grain for animals that are not able to meet nutrient requirements on hay and/or pasture alone.
- iv) Provide access to selenium/salt supplementation on a daily basis.
- v) Food storage
  - (1) Store feed bags on pallets off of the floor and 4-6 inches away from the walls.
  - (2) Store bulk feed in leak-proof containers with tightly fitting lids. Label all feed storage containers with milling date.
  - (3) Use feed within 6 months of the milling date.
- vi) Provide access to clean water at least 2X per day; heaters may be needed to keep water from freezing in the winter

#### **D. Social and Environmental Enrichment**

- i) House equines in groups whenever possible.
- ii) Maintain visual contact between animals.
- iii) Provide enrichment devices, including pasture balls, flavored LIXIT treats, and thoroughly cleaned plastic jugs.
- iv) Provide foraging opportunities.

#### **E. Quarantine/Acclimation Procedures**

- i) Perform a pre-arrival physical exam, completed by a CARE veterinarian or an approved non-CARE veterinarian\*, on all incoming animals within 2 weeks before arriving at Cornell. Record all findings in the medical record.

\*NOTE: non-CARE veterinarians must sign a veterinary care agreement form, available from CARE, before treating any Cornell owned animals.

- ii) If a pre-arrival physical exam is not possible, perform a post-arrival physical exam, completed by a CARE veterinarian or an approved non-CARE veterinarian, on all incoming animals within 72 hours of arriving at Cornell. Record all findings in the medical record.
- iii) Quarantine and acclimate animals new to Cornell based on animal origin. Refer to CARE SOP 622 Veterinary Horse Care.
- iv) Acclimate animals being transferred between Cornell facilities for 72 hours prior to the start of experimental procedures.
- v) Acquire CARE veterinary approval to begin experimentation before the 72 hour acclimation period.

#### **F. Euthanasia and Disposal of Dead Animals**

- i) Euthanize equines by barbiturate overdose, performed by or under the supervision of a CARE veterinarian or approved non-CARE veterinarian.
- ii) Dispose of dead animals by incineration at the College of Veterinary Medicine.

**G. Pest Control:** Refer to CARE SOP 538 for a complete description of the vermin control program.

#### **H. Indoor Requirements**

##### **i) Temperature and Ventilation**

- (1) Maintain relative humidity between 50% and 80%.
- (2) Maintain ammonia levels below 10ppm by ensuring adequate ventilation and/or cleaning frequency.
- (3) Maintain ventilation at 25-100 cubic feet/minute/1000 lbs of animal.

(4) Increase circulation of air and ventilation in hot weather.

**ii) Lighting**

(1) Provide 200 lux of light, or one 100 watt bulb per 8m of floor space.

(2) Avoid complete darkness at all times.

(3) Ensure that windows, if present, are at least 5 feet from the ground.

(4) Cover electrical wires and light bulbs with a protective cover.

**iii) Space Requirements:**

(1) Box Stalls – 9 sq. ft./100 lbs body weight, or 12ft x 12ft

(2) Foaling Stalls: 16ft x 16ft

(3) Tie Stalls – 4 sq. ft./100 lbs. body weight

(4) Alleyways between rows – 8 ft wide

(5) Front of single row of stalls – 4 ft

(6) Ceiling Height – 1 ft higher than the animals ears when the head is at its highest level, or at least 9 feet high.

**iv) Bedding**

(1) Use straw, wood shavings, peat moss, shredded paper, or sawdust for bedding stalls. Do not use cedar or black walnut wood shavings or cocoa husks due to potential toxicity.

(2) Do not use rubber mats alone, except in cases when animal health or experimental design do not permit traditional bedding.

**v) Stall Maintenance**

(1) Clean stalls daily, or at a minimum of three times per week.

(2) Maintain clean, dry stalls that are free of dust and odor.

**I. Outdoor Requirements:**

**i)** Corral: 12ft x 12ft per animal. Larger areas are recommended.

**ii)** Pasture: 1 acre/horse.

**iii)** Shelters: minimum of 8 square feet per 100lbs of animals.

**iv)** Do not continuously house animals in the minimum space required since this does not allow for sufficient exercise.

**v)** Fencing height:

(1) Horses: minimum of 4.5-6 feet

(2) Ponies: 3.5-5 feet

**J. Transportation:** Refer to CARE SOP 547: Animals Transported and Used Outside Animal Facilities

**K. Waste Management**

- i) Deposit non-regulated or non-infectious medical waste and soiled material in dumpsters for removal from the facility.
- ii) Process regulated (infectious) medical waste through the incinerator at the Vet College, following EH&S policy.

**4. Safety**

- A. Refer to CARE SOP 715 regarding personal protective equipment.
- B. Refer to the CARE zoonosis webpage for zoonotic information specific to equine species.
- C. Refer to CARE SOP 707 regarding animal related injuries.
- D. Refer to CARE Allergen document for information on allergy prevention.

**5. Contingencies**

Emergency veterinary care is available at all times, including after hours and on weekends and holidays, by contacting large animal Ambulatory Service (607-253-3140) or CARE (pager 1-800-349-2456).

**6. References**

- **Allergens:**  
<http://www.research.cornell.edu/Care/documents/OHS/AllergyPreventionFactSheet.pdf>
- CARE SOP 538 Vermin Program  
<http://www.research.cornell.edu/care/CARE538.pdf>
- CARE SOP 542 Maintaining Clinical Records for Animal Research Models  
<http://www.research.cornell.edu/care/CARE542.pdf>
- CARE SOP 547 Animals Transported and Used Outside Animal Facilities  
<http://www.research.cornell.edu/care/CARE547.pdf>
- CARE SOP 622 Veterinary Horse Care  
<http://www.research.cornell.edu/care/CARE622.pdf>
- CARE SOP 707 Animal Related Injury  
<http://www.research.cornell.edu/care/CARE707.pdf>
- CARE SOP 715 Personal Protective Equipment  
<http://www.research.cornell.edu/care/CARE715.pdf>

- CARE Zoonosis webpage:  
<http://www.research.cornell.edu/care/zoonoses.html>
- Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching. Federation of Animal Science Societies, Savoy, IL. 1999.
- National Research Council 2007 Nutrient Requirements of Horses:  
<http://nrc88.nas.edu/nrh/>
- Regulated Waste Removal:  
[http://www.ehs.cornell.edu/docs/Bio\\_docs/PROCEDURES\\_FOR\\_DISPOSAL\\_OF\\_REGULATED\\_MEDICAL\\_WASTE\\_ver\\_1\\_07.16.08-1.pdf](http://www.ehs.cornell.edu/docs/Bio_docs/PROCEDURES_FOR_DISPOSAL_OF_REGULATED_MEDICAL_WASTE_ver_1_07.16.08-1.pdf)

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