BEEF CATTLE HUSBANDRY

1. PURPOSE

1.1. The intent of this Animal Care and Use Procedure (ACUP) is to describe the routine beef cattle husbandry procedures at Cornell University. This ACUP is approved by the Cornell Institutional Animal Care and Use Committee (IACUC). The facility may have supplemental Standard Operating Procedures (SOPs) that further describe their specific manner of operation. Any deviation must be approved by the IACUC prior to its implementation.

2. SCOPE

2.1. This ACUP is intended for use by beef cattle animal care personnel.

3. INTRODUCTION

3.1. This ACUP describes general beef cattle husbandry guidelines for beef cattle housed in Cornell research and/or teaching facilities. Contact the Center for Animal Resources and Education (CARE) at Cornell University at care@cornell.edu for more information or for assistance.

4. MATERIALS AND EQUIPMENT

4.1. Animal identification devices (e.g., tattoo, ear tag, neck tag/collar, electronic transponder)
4.2. Feed, water, and bedding
4.3. Restraint device (e.g., squeeze chute system)
4.4. Elastrator band (e.g., Callicrate Bander)
4.5. Thermal dehorner
4.6. Disinfectant (e.g., Virkon, sodium hypochlorite, chlorhexidine, etc.)
4.7. Illness/treatment records
4.8. Needles, syringes, vaccines, and nutritional supplements
5. PROCEDURE

5.1. Animal Care

5.1.1. Observe animals daily for signs of illness, injury, or distress.
5.1.2. Provide food daily.
5.1.3. Provide a water source to assure cattle have the opportunity of ingestion every 12 hours.
5.1.4. If natural shelter is not available, provide shelter from weather extremes.

5.2. Quarantine Procedures

5.2.1. Follow facility SOPs and consult facility veterinarian.
5.2.2. Assess health information to determine necessary vaccinations and/or treatments.

5.3. Vaccination Program

5.3.1. Vaccinate as per facility veterinarian recommendations.

5.4. Internal and External Pest Management Program

5.4.1. Refer to the Cornell University / New York State Integrated Pest Management and implement as applicable.

5.5. Animal Identification Methods

5.5.1. Use at least one of the following methods for individual animal identification:

5.5.1.1. Ear tag
5.5.1.2. Neck tag
5.5.1.3. Electronic transponder

5.6. Records and Documentation

5.6.1. Refer to ACUP 542 Maintaining Health and Procedure Records for Research and Teaching Animals for record keeping requirements at Cornell animal facilities.

5.7. Feeding Routine

5.7.1. Feed animals to meet current National Research Council recommendations for beef cattle nutrition. Store feed ingredients and finished feeds in a manner that minimizes contamination or spoilage (e.g., clean and dry area). Remove unconsumed feed daily from feeders and mangers.
5.7.2. Check water containers daily for cleanliness.
5.8. Breeding Program

5.8.1. Artificial insemination (AI)

5.8.1.1. Trained technicians or veterinary staff must perform AI with semen from a commercial stud service.

5.8.2. Natural Service

5.8.2.1. Select bull for lease or purchase for each breeding season.

5.8.3. For newly born calves (within 24 hours of birth), administer selenium and vitamin E supplement (e.g., 3.0 cc of BO-SE®, SC or IM).

5.9. Social and Environmental Enrichment

5.9.1. Assure that all cattle are in sensory contact with other cattle.

5.10. Potentially Painful or Distressful Procedures

NOTE: These procedures are routinely conducted by trained professional staff unless otherwise indicated.

5.10.1. Animal Restraint

5.10.1.1. Some procedures (e.g., vaccinations, rectal palpations, AI) require that cattle are restrained to ensure the safety of animals and people. This is accomplished with the use of a manually operated restraining (squeeze) chute system. In many cases only the use of the head-lock is necessary. Keep restraint in the chute as brief as possible. Whenever possible, restrain young calves by hand.

5.10.2. Castration

5.10.2.1. Calves: Perform prior to one week of age via application of small elastrator bands.

5.10.2.2. Older Animals: Refer to the facility veterinarian.

5.10.3. Dehorning / disbudding (selection of polled cattle is practiced; however, occasional dehorning is needed)

5.10.3.1. Newborns: Perform dehorning/disbudding within the first month of life using a thermal dehorner according to the manufacturer’s recommendations.

5.10.3.2. Older Animals: Refer to the facility veterinarian.

5.11. Euthanasia and Disposal of Dead Animals

5.11.1. Euthanasia
5.11.1.1. Trained staff may utilize a penetrating captive bolt followed by either pithing or exsanguination.
5.11.1.2. A veterinarian may administer an overdose of sodium pentobarbital.

5.11.2. Dispose of the carcass by one of the following methods:

5.11.2.1. Compost on site.
5.11.2.2. Removal by a commercial rendering service.
5.11.2.3. Removal to Cornell’s veterinary waste management facility.

5.12. Pest Control

5.12.1. Refer to ACUP 538 Vermin Program for a description of the vermin control program in agricultural facilities.
5.12.2. Utilize approved vendor or other licensed professional for monthly site control updates.

5.13. Housing

5.13.1. House cattle in pastures with windbreaks or bedded pens with barn access.
5.13.2. House all cattle in an enclosure that meets or exceeds the recommendations in the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching, 3rd Ed. (FASS, 2010) for space requirements.

5.14. Cleaning and Sanitization of Pens

5.14.1. Remove manure 1-2 times per week and bedded pack completely weekly.

5.15. Cleaning and Sanitization of Equipment

5.15.1. Clean feed troughs daily.
5.15.2. Clean waterers of gross material daily and scrub weekly.
5.15.3. Clean feed and manure handling equipment between usages, do not use manure equipment for handling feed materials.
5.15.4. Utilize appropriate disinfectants and rinse after appropriate contact times.

5.16. Transportation

5.16.1. Clean trailer beds after each use and sanitize after hauling animals from outside sources.
5.16.2. Keep a log of each use and cleaning.

5.17. Waste Management

5.17.1. Spread collected manure on fields in compliance with state regulations or removal and disposal by farm services.
6. PERSONNEL SAFETY

6.1. Medical Emergencies: CALL 911.
6.2. When working with animals wear appropriate PPE, observe proper hygiene, and be aware of allergy, zoonosis, and injury risks. Refer to the CARE Occupational Health and Safety webpage for more information.

7. ANIMAL RELATED CONTINGENCIES

7.1. Post contact information for emergency assistance in a conspicuous location within the animal facility.
7.2. Non-emergency veterinary questions and requests for care, email CARE veterinary staff at care@cornell.edu.
7.3. Emergency veterinary care is available at all times including after working hours and on weekends and holidays.
   7.3.1. Biomedical settings: CARE pager (1-800-329-2456).
   7.3.2. Farm animal settings: Ambulatory and Production Medicine Service at (607) 253-3140.

8. REFERENCES

8.3. CARE Occupational Health and Safety webpage: http://ras.research.cornell.edu/care/OHS.html
8.5. ACUP 538 Vermin Program: http://ras.research.cornell.edu/care/documents/ACUPs/ACUP538.pdf
8.6. CARE Allergens Prevention Fact Sheet: https://ras.research.cornell.edu/care/documents/OHS/AllergyPreventionFactSheet.pdf

9. APPENDIX

9.1. None
10. HISTORY

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