### Purpose:

This ACUP provides general husbandry guidelines for bovine species housed in facilities at TAMUC and is to be used by beef cattle care personnel.

### Scope:

This guideline applies to all IACUC approved protocols subject to oversight by Texas A&M University-Commerce. The facility may have supplemental Standard Operating Procedures (SOP’s) that further describe the specific manner of operation. Any deviation must be approved by IACUC prior to its inception.

### Materials:

- Animal identification devices
- (e.g. tattoo, ear tag, neck tag/collar,
- electronic transponder)
- Feed, water, and bedding
- Water quality testing materials
- Restraint device (e.g.squeeze chute system)
- Elastrator band (e.g., Callicrate Bander)
- Thermal dehorner
- Disinfectant (e.g., Virkon, sodium hypochlorite, chlorhexidine, etc.)
- Illness/treatment records
- Needles, syringes, vaccines, and nutritional supplements

### Responsibilities:

 Appropriately trained staff members are expected to monitor cattle in accordance with this guideline. Animal care staff will conduct routine health surveillance and any concerns will be reported to the Attending Veterinarian immediately.

### Training:

All students, faculty, and staff working with laboratory animals are required to complete the following training prior to any and all animal hands-on training:
a. **Online training (CITI Program, www.citiprogram.org)**:
   i) Working with the IACUC, Basic Course
   ii) **Protocol specific training-complete all courses related to the species:** Working with Cattle in Research Setting, Basic Course

b. **Facility specific training**:
   i) Animal facility orientation-introduction to animal facilities and laboratories where animal use occurs, including introduction to Animal Care and Use Standard Operating Procedures

c. **Continuing Education**:
   i) Annual submission of Health Assessment update
   ii) Triennial Refresher training

**Occupational Health and Risk Assessment Program:**

All students, faculty, and staff will participate in the Occupational Health and Risk Assessment Program

**Procedures:**

1. **Animal Care**:
   a. Observe all cattle daily (including weekends and holidays) for illness, injury, distress, and general condition.
   b. Provide feed and water ad libitum daily.
   c. Feeding routine:
      Feed animals to meet current National Research Council/ Beef Quality Assurance recommendations for beef cattle nutrition
   d. Store feed ingredients and finished feeds in a manner that minimizes contamination or spoilage (e.g., clean and dry area).
   e. Remove unconsumed feed daily from feeders and mangers.

2. Check water containers daily for cleanliness and water volume.

3. If natural shelter is not available, provide shelter from weather extremes.

4. Space requirements: 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* (FASS, 2010).

5. Cleaning and sanitation of equipment:
   a. Clean feed troughs daily, and scrub water troughs weekly.
   b. Clean feed and manure handling equipment between usages, and do not use manure equipment for handling feed materials.
c. Utilize appropriate disinfectants and rinse after appropriate contact times.

6. Transportation: clean trailer beds after each use and sanitize after hauling animals from outside sources. Keep a log of each use and cleaning.

7. Report any injuries or illness to the farm manager, Principal Investigator (PI), and Attending Veterinarian. The Attending Veterinarian has to be notified prior to any action. Refer to ACUP 600 Reporting Sick Animals.

8. Animal Identification Methods:
Use at least one of the following methods for individual animal identification: Ear tag, neck tag, electronic transponder

9. Quarantine Procedures
   a. Segregate newly acquired cattle, and those returning to the herd, in separate lots or pens for 21-30 days.
   b. Assess health information to determine necessary vaccinations and/or treatments

10. Vaccination program: Vaccinate as per AV recommendations.

11. Breeding Program: Artificial insemination (AI): trained technicians or veterinarians must perform AI.
    Natural service: select bull for lease or purchase for each breeding season.

12. Newly born calves: administer selenium and Vit E supplement: 3 cc of BO-SE®, s.c. or i.m.

13. Social and environmental enrichment: Assure that all cows are in sensory contact with other cows.

14. Potentially painful or distressful procedures
These procedures are routinely conducted by trained professional staff unless otherwise indicated.
   a. Animal restraint: 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.
   b. Castration:
    Calves: perform prior to one week of age via application of small elastrator bands
    Older animals: refer to the facility veterinarian
   c. Dehorning: Selection of polled cattle is practiced; however, occasional dehorning is needed.
    Newborns: perform dehorning within the first month of life using a thermal dehorner according to the manufacturer’s recommendations
    Older animals: as per AV recommendation
15. Euthanasia and disposal of dead animals
   a. Euthanasia: Trained staff may utilize a penetrating captive bolt followed by either pithing or exsanguination.
   b. A veterinarian may administer an overdose of sodium pentobarbital.
   c. Dispose of the carcass by one of the following methods: Compost on site, commercial rendering service

16. Records and Documentation
   a. General: Identify each animal with a tattoo, tag on halter, or collar that individually identifies the animal by name or number.
   b. Maintain individual health records including: medical, vaccination, and transportation history. Refer to ACUP 513 Maintaining Health and Procedure Records at Texas A&M-Commerce animal facilities.
      Maintain daily husbandry records, including feeding, watering, cleaning, animal ID in pasture/pen/barn#

17. Pen/pasture information:
    Post a sheet identifying the animal(s), feeding instructions, plus the PI and protocol number (if not posted elsewhere for the facility or area), on each stall or holding pen where research is undertaken. Illness/injury and treatment sheets should also be posted at the pen/pasture/barn level. If pen design does not allow for direct posting, place documentation in a conveniently accessible location.

18. Non-AV veterinary care:
    In order to provide general veterinary care, veterinarians must be approved by the AV before treating any Texas A&M-Commerce owned animals.

19. Waste management: spread collected manure on fields in compliance with state regulations or removal and disposal by farm services.

20. Personnel Safety:
    Medical emergencies: call 911
    When working with animals, wear appropriate PPE, observe proper hygiene, and be aware of zoonoses, allergies, and injury risks. Refer to Texas A&M-Commerce Occupational Health and Safety for more information.

21. Internal and External Pest Management Program: as per AV recommendations

22. Waste Management
    a. Deposit non-regulated or non-infectious medical waste and soiled material in dumpsters or other designated area for removal from the facility.
23. Animal Related Contingencies
Post contact information for emergency assistance in a conspicuous location within the animal facility. Emergency veterinary care is available at all times including after working hours and on weekends and holidays.

24. References

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