

**POLICIES ON BIOSECURITY, EMERGENCY ACTION PLANS
AND GENERAL MANAGEMENT GUIDELINES
NORTHERN AGRICULTURAL RESEARCH CENTER
Havre, Montana**

Care of the livestock at Northern Agricultural Research Center follows the “GUIDE For the Care and Use of Agricultural Animals in Agricultural Research and Teaching” published by Federation of Animal Science Societies, January 2010. Animal care and welfare is reviewed and administered by the Animal Care Committee of Northern Agricultural Research Center. Current NARC Animal Care Committee members are Darrin Boss, Superintendent; Julia Dafoe, professional faculty Animal Science Research Associate; Delyn Jensen, classified Animal Science Research Assistant; Andrew Matakis, Livestock Operations Manager; and Tom Allen, Farm Operations Manager. One additional tenure-track animal scientist position is currently vacant and would normally be a member of the NARC Animal Care Committee with associated specific duties and responsibilities assigned. See Animal Care Documents. Drs. Paul McCann, Lisa O’Leary and Casey Peterson (Bear Paw Vet) are NARC veterinarians of record and are a part of Emergency Action Plans (EAP) for veterinary care.

Animal Care and Welfare:

Animal care and welfare is of the most critical importance for the research animals at NARC. Employees will have opportunities to be taught or participate in low-stress training scenarios such as Bud Williams or Dr. Temple Grandin. All employees full or part time will accomplish an on-line Beef Quality Assurance (BQA) training prior to handling, working or administering treatment or vaccine to any animals at NARC. Any excessive use of force, neglect and/or abuse will not be tolerated, supervisor counseling will immediately take place, however **improper observance of animal care and welfare may be a terminable offense on the first observed occasion**. All animals will have free access to fresh water and will be provided NRC recommendations for adequate feed and supplementation when required. Animals turned out to grass and grazing will be provided free choice water and adequate mineral supplementation as again outlined by NRC. On occasions where cattle or other research animals are not meeting or exceeding NRC feed guidelines, they will be participating on a pre-approved AACUC protocol for research, for example a nutrition trial that may be using limited feeding scenario that requires a limited nutrient availability to the animals.

Biosecurity procedures:

General Management Guidelines following the calendar year for the cow herd, feedlot/drylot management protocols will be outlined separately below. Specific treatment protocols for vaccination, health or injury are on the medical treatment guideline document, annually reviewed by Bear Paw Vet.

- January** Complete inventory of all livestock associated with NARC. Document and record all cattle and livestock into the new physical year.
Vaccinate – Veterinary administered Brucellosis, to all replacement heifers prior to 12 months of age.
Usually supplemental feeding begins as the cattle enter the 3rd trimester.
Vaccinate –Herd Bull Annual vaccination booster, usually modified live given at this time.
- February** Prepare for calving, sort cattle at least into two feeding regimes
Group 1: 2 and 3 year-old cows and older cows with body condition score <5 (1-9 scale)
Group 2: Mature cows in adequate BCS
Vaccinate – Scour shots to novel heifers (they require two boosters roughly 4 weeks apart) use label¹ guidelines for proper dosing and time before calving.
Vaccinate – Mature cows pre-calving Scour shot, sort into early and late calving groups.
- March** Vaccinate – 2nd scour shot for novel heifers.
Calving protocols:
Cattle will be monitored 24 hours a day for calving activity and eventual parturition. Data to be recorded: at Calving and prior to the calf being 24 hours old, see table below. Specific protocols are outlined each year in the calving book however EAPs are included in critical procedures below.

Calving Difficulty Scores –

1. No Difficulty
2. Minor assistance, hands or hands with chains
3. Difficult birth, Puller needed
4. Extreme difficulty, including caesareans
5. Abnormal Presentation—Explain in comments

¹ Specific drug and vaccine products are prohibitive in the scope of this document, as vaccine and treatments may change from year to year however this document will be a backbone for management guidelines.

EAP - Each calving event is unique however if intervention is required it is made prior to a first calf heifer working diligently at calving and have no progress made expelling the calf on her own within 20 minutes. The phases of parturition are reviewed each year with all employees so they may better monitor and care for the cattle. If a mature cow requires assistance it will again be made on each calving event and if the cow is not making adequate progress expelling the calf in 20 minutes. Mal-presentations in either class of cattle will be given immediate attention by a trained NARC employee for calving assistance. If extreme intervention is required Veterinarian assistance is immediately consulted – any employee has the authority to contact the veterinarian in animal care situations. However supervisors should be contacted as soon as possible after initial consultation.

Calf Workup

1. Weigh and Sex Calf, **double check sex.**
2. Tattoo right ear
3. Left ear, ear tag with calf's number, and EID tag enter all into digital scale head
4. Right ear, Ear tag with Dam's number
5. **Dehorn all cattle**, (Portasol gas dehorner)
6. Cow body condition score (BCS) and Cow docility(DOC)
7. Band all bulls except HL4 (**CHECK FOR 2 TESTICLES**)
8. DNA AND BVD TEST (BVD test may not occur every year)
9. Administer Alpha 7 (current¹ vaccine 2014) with 18 gauge needle using proper BQA procedures.

EAP - Antidote: Epinephrine. Have on hand at all times when working calves, anaphylactic shock can occur with Vaccine.

Cow care and Calf care after birth

1. Keep cow clean and yourself if any assistance is to be given, glove usage is recommended
 - a. Wash yourself to the shoulders and posterior of cow with disinfecting soap prior to assistance
2. On all births be sure and document each calf gets colostrums before 2 hours old –

EAP:

- a. Milk Cow provide to calf with bottle or tube if necessary
 - b. Milk another cow having calved within 2 hours of other cow (if she has a large supply)
 - c. Use frozen colostrums
 - d. Use powder colostrums mixed with warm water
3. If calf needs assistance get it dried off, towels or hair dryer
 4. Write down - Cow Number, Birth Date, Birth Time, Calving Difficulty, and any Vigor comments and Vigor Score
 5. If we pull a calf and can get some milk from dam give ½ to 1 pint of its dam's milk to the calf to get the calf going.

EAP – If milk let down does not occur administer Oxytocin - see Meds document

April

Turn cattle out to grass when sufficient to meet requirements of various classes of cattle

EAP – events that may initiate a grass tentany response – provided hi-Mag supplementation through spring when weather conditions dictate.

Perform a Breeding Soundness exam on potential clean-up bulls, this to include tric testing since some may be sold for breeding in other herds.

EAP – This test administered by Veterinarian and can be a single bull battery test, if a positive does occur then individuals will be tested and culled accordingly. Discuss with neighbors.

May

Prepare to brand calves – inspect calf chute and other handling facilities

Vaccinate – for Viral disease complexes (Inforce 3) no injection required administered through nostril.

Prepare for breeding and move to mountain pastures.

Vaccinate – All cows and heifers (Pregguard 10)

June

AI Breeding will usually be completed by June 15 – Breeding protocols for Artificial insemination (AI) and eventual cleanup bull will vary slightly each year but either established acceptable FDA approved protocols will be followed or on research trials AACUC approved protocols will be followed. Timing could occur April – June, depending upon which protocol is utilized.

July – Sept.

Monitor health and make pasture moves as required to maintain optimum Range condition.

Vaccinate – calves with a pre-conditioning shots while still on cow; Boosters (Viral and Clostridials , depending upon year bovine pneumonic pasteurellosis vaccine. Use proper BQA protocols at all times. Veterinary consultation is obtained each year, usually a Modified live protocol is followed.

EAP - Antidote: Epinephrine. Have on hand at all times when working calves – (anaphylactic shock)

October

Wean all cattle, usually occurs October 1-4 depending upon schedules.
Preg check all cows at the same time weaning occurs with pregnant cows receiving Bovishield Gold FP10.
Open cows will be hauled to the Fort to be put up for sale.
Depending upon killing frost conditions de-worm/grub all cows/bulls.
Calves transported to Fort by Semi-truck using BQA standards on travel and space.
Calves are placed into drylot for 3-5 days (year dependent) provided a receiving TMR ration based on high quality grass hay and possibly a broad spectrum antibiotic. Free choice, high quality water is available out of individual water tanks for each pen of cattle to prevent cross pen contamination should an outbreak of sickness occur. Free choice chelated and organic mineral that is usually started 45 days pre-weaning to cow/calves on pasture is provided in the weaning pens for the freshly weaned calves. This allows the calves to be introduced to the mineral by their mothers on their visits to the mineral troughs. Calves are fed at 08:00 daily while in the lot and are monitored three times a day by walking the lots by trained NARC employees. After they have been in drylot for 3-5 days they are moved horseback to irrigated stockpiled hay residue fields till November. Daily water checks are also health evaluations and treatment is swift upon discovery of any abnormalities or maladies that are observed.

Oct-Dec

Cows are maintained on pasture and monitored as documented above. Monitor cow production cycle to ensure adequate BCS as she enters 3rd trimester of pregnancy.

Feedyard

Gather calves from hay fields, sort into lots by sex and treatments. Provide NRC feed requirements for each specific class of animal and for production goals established yearly. Cattle in feedlot/drylot for growing or finishing are fed a TMR daily, are provided adequate fresh water that is monitored daily and cleaned at appropriated times, and provided a supplement TM salt in addition to the TMR being fed. Health and wellbeing is monitored daily. Bedding is provided to ensure comfort and to prevent excessive amounts of tag to develop on the animals. These protocols are usually carried out from November to June when all the animals are out of the feedlot/drylot environment. Deaths are outlined in MT CAFO permit and are disposed of immediately upon discovery at the local sanitary landfill. Feedmill operations will address pest control to keep contamination of feedstuff to a minimum. Pests examples may include mice, rats, pigeons and blackbird that may aid in transmissible disease or feed contamination.

EAP – Usually occur around digestive disorders or sicknesses which are addressed in the Medical treatment document. Should a pandemic event happen appropriate veterinary and risk management professionals will be consulted.

Novel Animal Introduction:

Although NARC purchases only a few animals and occasionally will receive novel transient animals, protocols would be written for any receipt of any new animals. General guidelines, any novel animals other than neighbors fence line contact animals (determined by employee at the time of discovery if quarantine of the neighbors animal is warranted) will be quarantined for **14 days minimum** with isolated water source (this will be the only animal on the water tank to insure disinfection should it be warranted). During the quarantine period the animal will be provided appropriate feed and supplementation according to NRC guidelines, and it will be monitored for sickness or signs of transmittable disease (such as sores around the mouth, or general un-thriftiness). Upon purchase/receiving all current or previous vaccination records will be obtained from seller. If vaccination history is different than protocols established at NARC and they are not comparable or exceeding NARC standards then during quarantine period, boosters or vaccinations will occur to meet or exceed NARC standards, if appropriate titers take longer than 14 days the quarantine period will be extended. All breeding cattle will be tested for BVD prior to delivery to NARC, all replacement heifers of appropriate age will have identifiable Bangs tags in their ears. Without appropriate BVD, Bangs tags no animal will be allowed onto NARC. It is assumed neighbors fenceline contact animals will be replaced with the neighbors herd ASAP, however, if transmissible disease is suspected EAP will be to communicate with said owner and develop an action plan for both ranches. This could include reproductive diseases during the breeding season.

EAP – If any sickness or transmissible disease is observed or suspected Veterinary consultation will be immediate. Pens/water tank will be cleaned and disinfected. Disposal of contaminated soil/fecal material will be taken to the sanitary landfill or buried depending upon Veterinary recommendation.

Policy is reviewed by all permanent employees that are associated with the livestock operations and placed in their respective personnel file.

Name

Date