College of Agriculture and Human Sciences

Bill and Vara Daniels University Farm,
2014

Approved by

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STANDARD OPERATING PROCEDURES

Revised APRIL 1, 2014

Bill and Vara Daniel Farm and Ranch
PRAIRIE VIEW A&M
UNIVERSITY

Approved by

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*(The International Goat Research Center's Standard Operating Procedures are in the Appendix Section)

Table of Contents

A. INTRODUCTION

A.1 History

Prairie View A&M University, the second oldest public institution of higher education in Texas, originated in the Texas Constitution of 1876. On August 14, 1876, the Texas Legislature established the "Agricultural and Mechanical College of Texas for Colored Youths" and placed responsibility for its management with the Board of Directors of the Agricultural and Mechanical College at Bryan. The University's original curriculum was designated by the Texas Legislature in 1879 to be that of a "Normal School" for the preparation and training of teachers. This curriculum was expanded to include the arts and sciences, home economics, agriculture, mechanical arts and nursing after the University was established as a branch of the Agricultural Experiment Station (Hatch Act, 1887) and as a Land Grant College (Morrill Act, 1890). Thus began the tradition of agricultural research and community service, which continues today. The four-year senior college program began in 1919 and in 1937, a division of graduate studies was added, offering master's degrees in agricultural economics, rural education, agricultural education, school administration and supervision, and rural sociology.

In 1945, the name of the institution was changed from Prairie View Normal and Industrial College to Prairie View University, and the school was authorized to offer, "as need arises," all courses offered at the University of Texas. In 1947, the Texas Legislature changed the name to Prairie View A&M College of Texas and provided that "courses be offered in agriculture, the mechanics arts, engineering, and the natural sciences connected therewith, together with any other courses authorized at Prairie View at the time of passage of this act, all of which shall be equivalent to those offered at the Agricultural and Mechanical College of Texas at Bryan." On August 27, 1973, the name of the institution was changed to Prairie View A&M University, and its status as an independent unit of the Texas A&M University System was confirmed Having been designated by the Texas constitution as one of the three "institutions of the first class" (1984), the University is committed to preparing undergraduates in a range of careers including but not limited to engineering, computer science, natural sciences, architecture, business, technology, criminal justice, the humanities, education, agricultural sciences, nursing, mathematics, and the social sciences.

The College of Agriculture and Human Sciences has had its roots firmly established at Prairie View A&M University since 1879 when the University's academic curriculum was expanded to include agriculture and home economics. The College of Agriculture and Human Sciences is composed of:

a) The Department of Agriculture, Nutrition and Human Ecology that is geared to prepare students for agricultural based careers and uses 785 acres of farm as a laboratory for our students.

b) Cooperative Extension Program that offer PVAMU's public service programs that target 8.4 million citizens in the State of Texas, in both rural and urban counties and;

c) Cooperative Agricultural Research Center (CARC) that plays an important role in agriculture, natural resources and life sciences and fulfills its land-grant mission of teaching, research and service; agricultural research in CARC is divided into the following areas: Animal Systems, Plant Systems, Food Systems, Natural Resources and Environmental Systems and Social Systems and Allied Research.

A. 2. Mission

CAHS is the primary advocate in the state of Texas for underserved student populations and limited resource clientele with a dedication to foster academic excellence, increase health and well-being of its citizens and enhance economic opportunities through research, education and service in agriculture and the human sciences. As CAHS plays such a significant role in the lives of our stakeholders, we have a deep sense of responsibility and are committed to using our talents to apply knowledge that will help advance our state in the global economy through teaching, research and outreach. We are operating on a "One College Concept" delivering Community Outreach.

The CAHS continues to reinforce the basic land-grant function of Prairie View A&M University by promoting programmatic activities among teaching, research and extension. The College primary mission strengthens the University position with individuals, families and interactive roles with the social, economic and environmental systems. Thus, the University Farm is a teaching, research and extension laboratory for PVAMU and specifically CAHS and all activities done on the farm will comply with the university, state and federal regulations. Under these regulations, we have established these standard operation procedures.

A.3. Background

Prairie View A&M University animal care and use program is based on national guidelines and Federal Regulations as these pertain to species on the PVAMU Farm including:

1) U.S. Public Health Service Policy Assurance for the Care and Use of Animals negotiated with the Office of Laboratory Animal Welfare (OLAW) – **Assurance # A3167-01 (**see Appendix**)**;
2) The *Guide for the Care and Use of Laboratory Animals* (*The Guide*);
3) The *Guide for the Care and Use of Agricultural Animals in Research and Teaching (Federation of Animal Science Societies); and*
4) USDA Animal Care Policies

Prairie View A&M University is committed to providing its research community with safe, clean, humane and efficient farm areas. These Standard Operating Plans (SOPs) are designed to promote and sustain a safe and high quality Farm Area that supports PVAMU's research mission

and ensures the humane care and use of agricultural animals in accordance with the Federal requirements and the standards of PVAMU's Institutional Animal Care and Use Committee (IACUC). While the SOPs focus primarily on the care of animals housed on the Bill and Vera University Farm (herein referred to as the Farm), these will incorporate practices in accordance with both The *Guide for the Care and Use of Laboratory Animals and* the *Guide for the Care and Use of Agricultural Animals in Research and Teaching.* All PIs approved for animal research at Prairie View A&M University will receive a paper or CD copy of the above mentioned guides.

These SOPs ensure the growth and success of a comprehensive animal care program at PVAMU. All personnel involved in animal research or animal care at PVAMU are expected to become familiar with and follow the procedures set forth in these SOPs. Failure to follow these SOPs may result in unsafe or unhealthy conditions for animals and/or personnel as well as the violation of Federal and PVAMU IACUC policies. Failure to comply with these procedures may result in appropriate corrective action (see Corrective Action section). PVAMU CAHS Farm Administration with the approval of the Dean of CAHS reserves the right to amend, modify or update these SOPs. The organizational chart is shown in Figure 1.

A.4. Appropriate Training for Animal Care Personnel

A.4.1. Training for Investigators, Research and Teaching Personnel: The use of animals in research, testing and education is subject to a multitude of laws, policies, regulations and standards. Two such laws/policies include the Animal Welfare Act (AWA) and the Public Health Service (PHS) policy, which require documentation that personnel are appropriately trained in animal care and use. This personnel includes PIs (PI), co-investigators (Co-PI), research assistants/technicians, graduate/undergraduate student research assistants/workers, course instructors, animal care staff, and veterinary technicians utilizing animals in teaching, research, extension or training protocols. To comply with these regulations, CAHS Office of Compliance and the Resident Farm Director will solicit assistance from PVAMU IACUC and the PVAMU Regulatory Research Compliance Office to develop an Education Program for the Use of Animals in Research and Teaching to assist PIs/Research Personnel in meeting federal regulations and PVAMU's educational requirements. The educational program will be designed to:

- Assist PIs/Research Personnel in understanding the special requirements associated with the use of animals in research and teaching;
- Clarify the responsibilities of those involved in animal research/teaching and the IACUC;
- Provide education on the protection of animals as mandated by the federal regulations including the Animal Welfare Act and the Federal Animal Welfare Regulations; and
- Provide education on the PVAMU Animal Care and Welfare Policies and Procedures.

In addition and in accordance with PHS Policy and USDA regulations, animal care personnel

will seek training through PVAMU Office of Regulatory Research Compliance that addresses the following areas:

- Humane methods of animal maintenance and experimentation, including the basic needs of each species of animal, proper handling and care for the various species used at PVAMU, and proper pre-procedural and post-procedural care of animals;
- Research and testing methods that minimize the number of animals required to obtain valid results and minimize animal distress;
- Proper use of anesthetics, analgesics, and tranquilizers for any species of animals housed on the Farm; and
- Methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of PVAMU.

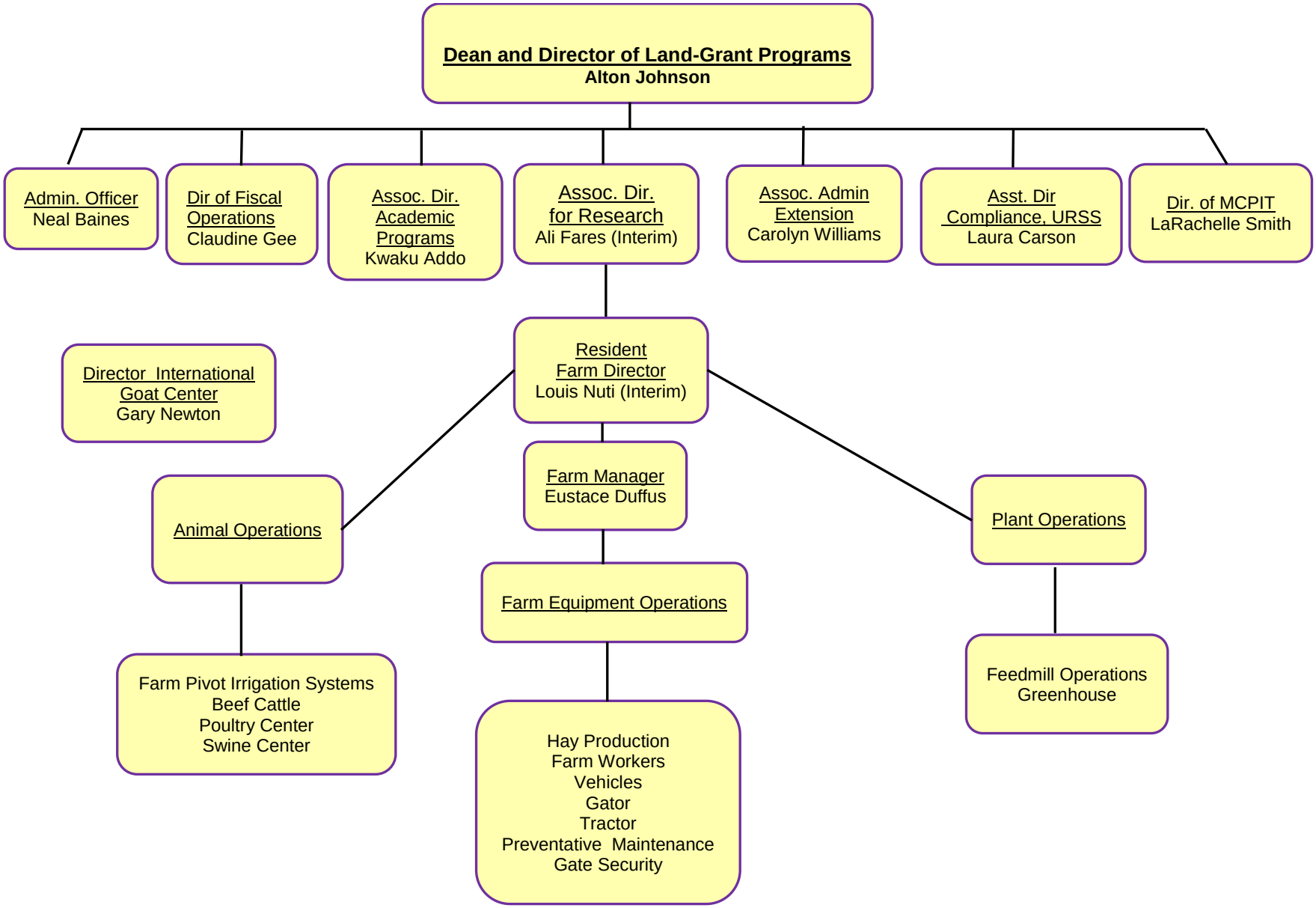
All PIs who use agricultural animals in research, teaching or extension activities are required to:

- complete and submit IACUC Research protocol application for IACUC review;
- receive approval from IACUC;
- attend IACUC education seminar;
- verify receipt of both guides as mentioned above; and
- do CITI Training – 'Working with the IACUC' and species modules as appropriate.

Additional training of individuals will be tailored to their level and type of involvement with animal research and will be coordinated through PIs with the approval of the Resident Farm Director. The information regarding PVAMU IACUC can be found at: http://www.pvamu.edu/research/office-of-research-compliance/institutional-animal-care-and-use-committee/.

In addition to the initial education, formal re-certification training is required every three years. PVAMU PIs are notified by PVAMU Office of Research Regulatory Compliance when they must be re-certified. The re-certification process will include seminars on specialized topics and periodic updates to inform PIs/Research Personnel of changes in federal regulations or PVAMU requirements.

Figure 1. Farm Operations Organizational Chart



A.4.2. Training for CAHS New Investigator Orientation Program: The new investigator program training will be coordinated by the CAHS Resident Farm Director, PVAMU IACUC and the CAHS Office of Compliance. The training will cover SOPs and will include:

- Farm and Gate Security
- Animal Management at PVAMU
- Livestock Transportation Procedures
- Livestock Inventory
- Incinerator Usage
- Employee Sign-in and Sign-out Sheet
- Farm Gate Security
- Student Volunteers
- Transporting Students to the Farm
- Record Keeping Requirements
- Animal Ordering
- Clean/Dirty Caging Procedures,
- Euthanasia and Carcass Disposal

A.4.3. Training for Student Workers: All student workers will receive species-specific training by the PIs or the PIs immediate staff. Training Materials are given in the Appendix.

A.4.4. Additional Training Materials: CAHS administrative unit with the assistance of PVAMU Office of Regulatory Research will seek training through Texas A&M University Division of Research (http://rcb.tamu.edu/animals/training). All animal care workers who desire additional regulatory training will be given an opportunity to check out modules that will be purchased from organizations such as the Laboratory Animal Training Association (LATA). These modules may include:

- Base Modules that include topics like laws, regulations, ethics, alternatives, IACUC, personnel responsibilities, and information sources. It may include "The Humane Care and Use of Laboratory Animals" which is important in handling all species.
- Species Module that includes topics like housing, social needs, nutrition, health considerations, handling, restraint, experimental techniques, environmental practices, and euthanasia. This module will be required as needed depending on the level of existing training and species of animal to be handled.
- Techniques Module that demonstrate current acceptable practices and techniques and are utilized where needed for specific technique training. This module includes titles like Aseptic Surgery, Anesthesia and Analgesia, Necropsy and Sanitation – Practices and Procedures.

B. ANIMAL HEALTH AND CARE

The Guide states, "Proper management of animal facilities is essential to the welfare of animals, validity of research data, and health and safety of the Animal Care Personnel. A good animal care program provides a system of housing and care that permits animals to grow, mature, reproduce (where appropriate under the protocol) and maintain good health. Good animal care minimizes variations that can modify an animal's response to experimentation." Animals shall only be housed in facilities or locations approved by IACUC. A location that is housing animals is defined as any area where live animals are kept for 12 or more hours.

B.1 Housing of Animals

B.1.1 Structure

The primary objective of the CAHS animal species specific units is to provide uniform, healthy and high-quality animals for teaching, research and extension activities. Thus, PIs will notify the Resident Farm Director of any unusual or special need for housing the CAHS Farm animals; otherwise, animals will be housed per the information below, in accordance with the *Guide for the Care and Use of Agricultural Animals in Research and Teaching*.

B.1.2. Husbandry

The CAHS Farm is composed of beef cattle, caprine, equine, poultry and swine species. Thus the husbandry of each species is discussed separately in this section. The SOPs for caprine is separated from the other Farm areas and is directly supervised Dr. Gary Newton, Director of International Goat Research Center (See Appendix). Dr. Newton reports directly to Dr. Alton Johnson, Dean, CAHS.

B.1.2.1. Beef Cattle Husbandry

These **S**tandard **O**perating **P**rocedure**s** describe routine beef cattle husbandry procedures:

- **Pasture Systems** – Provide shade to decrease the heat stress in pasture and range systems. These can be natural shelters (i.e., trees) or manufactured (i.e., sheds, shade tarps, etc.)
  - ✓ An acceptable supply of forage (fresh or hay) available to grazing cattle.
  - ✓ Supplements (minerals, liquid/block proteins, and hay) for nutrients that are deficient in pasture and range forage
  - ✓ Observe cattle at least two or three times weekly except during calving period where exposed cows are observed daily.
  - ✓ Animal should have available freshwater at all times. Check water hydrants daily.

- **Weaning** – Newly weaned cow/calf pairs increase walking and vocalization and decreased eating and resting. Cows and calves undergo more stress at this time and their behavioral activities change in an effort to be reunited. Separation should be by means of distance and secure fencing to avoid danger to animals and caretakers. Fresh forage or feed and plenty of clear water should be available to minimize stress.

- **Social Environment** - Proper animal care includes watching each animal within groups to ensure that each animal has satisfactory access to the resources necessary for optimal comfort, welfare, and performance. This includes appropriate feed access spacing.

- **Management** –Properly trained nonprofessional personnel staff may vaccinate, dehorn, castrate young cattle, do horn-tipping, ear-tagging, branding, weighing, implanting, use hydraulic and manual chutes for restraint, roping, do hoof trimming, routine calving support, and use ultrasound to check pregnancy.
  - ✓ Properly trained, nonprofessional personnel, with special technical training and advanced skill levels may perform artificial insemination, electro-ejaculation, pregnancy palpation, embryo flushing, transfer, dehorning, and castration of older cattle.
  - ✓ **Dystocia Management** - As a rule, examine females within 30 to 60 minutes following presentation of feet, nose, or fetal membranes if delivery of the calf does not appear imminent. Workers must immediately aid heifers or cows showing signs of a dystocia or other obvious complications, or contact qualified staff or veterinary professionals.
  - ✓ **Vaccinations and Drug Administration –** Care will be taken to ensure proper use, handling, dosage and storage of vaccines and approved or investigational drugs.
    - The preferred site of injection is the neck for either intramuscular or subcutaneous injections; however, for investigational drugs used in research, alternate sites of administration may be needed or preferred as dictated by the research protocol.
    - Investigators and animal care staff should utilize best management practices associated with the use of syringes and handling of needles.
    - Syringes and needles will be replaced and disposed of regularly to avoid excessive trauma and disease transmission.
  - ✓ **Castration** - Castration is a procedure to reduce aggressiveness, prevent physical danger to other animals in the herd and to handlers, improve reproductive control, manage genetic selection, and satisfy consumer preferences on taste and tenderness of meat.
    - Several methods of castrating cattle are acceptable, including surgical removal of the testicles using a knife or scalpel to open the scrotum and cutting or crushing the spermatic cords.
    - A qualified, experienced person should castrate or supervise castration. Castrations are performed only according to accepted management practices.
    - Castration is least stressful when performed at or shortly after birth - lower stress occurs before two or 3 months of age or before animals reach a body weight of 230 kg (506 pounds). Calves will be castrate as early as possible.

- Only skilled individuals should perform castration of older, heavier bulls. When it is necessary to castrate these heavier bulls, use appropriate techniques and procedures to control bleeding. Castration should only be done using equipment and facilities which ensure the safety of the workers and animals.

✓ **Dehorning** - Calves suffer less pain and stress, have less risk of infection, and have better growth rates when dehorning is done at a young age.

- Dehorning (removal of horns) should be performed under the supervision of experienced persons using proper techniques.
- Remove the horn buds at birth or within the first month after birth by several means, including hot cauterizing irons, cauterizing chemicals, a sharp knife, or commercially available mechanical devices.
- Only knowledgeable and experienced personnel using appropriate procedures should dehorn cattle or calves.
- Appropriate restraint and local anesthesia to control pain should be used when cattle older than 1 month of age (>50 kg, 110 pounds) are dehorned. Staff will monitor cattle for hemorrhage and infection following dehorning.
- Dehorn adult cattle behaving aggressively toward herd mates or humans.

✓ **Identification Methods** - Proper animal identification is essential to research, facilitates record keeping, and aids in the routine observation and repeat identification of cattle.

- Methods of identification include skin color markings, ear tagging, ear notching, tattooing, hot branding, freeze branding, and electronic identification.
- It is best to use ear tags in conjunction with a more permanent form of identification such as a tattoo or brand, as ear tags are sometimes lost.

✓ **Implanting** - Implanting of cattle with growth enhancers and investigational compounds used in research are often performed. Traditionally, we place implants beneath the skin on the backside of the middle third of the ear; however, alternate implantation sites may be required as designated by the research protocol. Proper disinfection of the implant site is required to prevent infection. Take care not to injure major blood vessels or the ear cartilage when implanting.

✓ **Euthanasia** - Trained individuals should only perform the humane method of euthanasia. All animal carcasses are to be disposed (incinerated or buried) of to insure prevention of human or animal consumption.

❖ **Individuals Responsible/Emergency Contacts**

Flavio Ribeiro - Work: (936)261-3311; Cell: 979-204-4736
Eustace Duffus - Work: (936)261-5013; Cell: (281)650-5763

❖ **Veterinary Care and Management**

Dr. Kellye Thompson: Work: (936) 261-5148; Cell: (334) 332-4144

- **Calving Management -** The calving season is a critical time of the year for any cow-calf operation. Management during this phase of production must be the best. We must strive to 1) Get calves here alive, 2) Keep them alive, and 3) Keep them healthy.

  The major causes of young calf death or illness are 1) Dystocia (calving difficulty), 2) Starvation, 3) Hypothermia (exposure), 4) Metabolic disorders, 5) Scours and pneumonia, and 6) Trauma. Most of these causes can be prevented or reduced with good calving management.

  Dystocia: Almost 50% of all young-calf deaths, birth to 24 hours old, are a result of calving difficulty. Producers often misdiagnose dystocia as "stillbirths." Calves that are delivered easily and in the normal amount of time are rarely "stillborn." Most calves that die during calving are a result of dystocia. Observing cattle often and assisting cows and heifers early can reduce problems with dystocia. Cows should be checked 3 to 4 times (or more) per day. Heifers should be observed at least every 4 hours, if possible.

  Cows that are in active labor should make good progress or deliver a calf in **1 hour**. If they are not making progress, the position and size of the calf should be checked. A cow in active labor should not be left alone for more than an hour. Cows in labor should be checked before leaving the farm. If at all possible, stay with cow in labor until calf is born and up and nursing. Good facilities are essential.

  Research from the USDA in Miles City, Mont., has determined that it is better to assist early as long as cervix is fully dilated than to allow cows to struggle. More calves survive from early assisted cows, and they are healthier. Early assisted cows bred back earlier and there were fewer open cows. Producers need to know the proper techniques to assist cows without injuring the cow or calf. If producers have not been able to deliver a calf or make significant progress after 30 minutes of good effort, they should call a veterinarian for assistance.

  Starvation and insufficient colostrum: Calves that die of starvation are often considered to have died of other problems or metabolic disorders. Calves that don't nurse quickly (within 2 to 4 hours) after birth often die of exposure or become weak and unable to nurse and starve. In addition, the ability of a calf to absorb antibodies from colostrum declines rapidly 12 hours after birth, and the calf cannot absorb antibodies after it is 24 hours old. Calves need to have their first drink of colostrum 2 to 4 hours after birth.

  All calves should be checked to see if they have nursed within 2 to 4 hours of birth. Calves that have not nursed should be assisted or tube fed colostrum with a special calf feeder. Calves need 1 to 2 quarts of colostrum. Research from Colorado indicates that beef colostrum contains twice the antibodies of dairy colostrum. Dry powdered colostrum

is better than no colostrum, but it is not as good as fresh or frozen colostrum from cows. Do not overheat frozen colostrum when thawing, overheating will destroy the antibodies.

Getting enough colostrum is not only important for calf survival, but for its future health and growth as well. Calves that have high antibody levels in their blood stream by 24 hours after birth are less likely to get scours and grow faster than calves with low antibody levels.

Cows (often first-calf heifers) that don't mother their calves very well often have calves that do poorly or starve to death early in life. One of the biggest mistakes producers make is not to tag calves at birth. It is a sad fact that in the US less than 50% of beef calves are tagged. A simple system is to give the calf a tag with the same number as its mother. Calves that look cold, hunched up, and droopy should be suspected of not getting enough milk. A quick check of his mom's udder (either tight and overfull or flat and milk-less) will often reveal the reason this calf looks hungry. He is! That cow and calf need to be put in a pen or barn and observed to see if the calf is nursing and if the cow is accepting the calf.

Exposure: Exposure to cold and precipitation can kill newborn calves rapidly. A study of 87,285 calves born at Clay Center, Nebraska, demonstrated that even without rain or snow the percentage of calves that die due to exposure increases rapidly below 50 degrees. A little rain or wet snow makes the problem even worse. As little as 0.10 inches of precipitation on the day the calf is born can mean trouble. Calves from 2-year-old heifers are at the greatest risk.

The effects of exposure can be minimized if care is taken to ensure calves nurse soon after birth. In addition, during extremely cold or wet conditions calves may need shelter for the first 24-48 hours of life. Chilled calves should be brought in for warming and assisted in nursing if necessary. The new "calf blankets" may provide some advantage in cold dry conditions. Extra attention to newborn calves during bad weather can pay big dividends.

Metabolic disorders: The most common metabolic disorders in newborn or young calves are white muscle disease and weak calf syndrome. White muscle disease is actually a selenium deficiency which results in failure of the heart and diaphragm muscles. Prevention includes proper selenium supplementation of the cow before calving and an injection of selenium solution at birth. Many veterinarians are now recommending injections of selenium to newborn calves.

Weak calf syndrome is a protein and energy deficiency in newborns. Calves are weak and have trouble maintaining body temperature. Calves born to thin cows are at greatest risk.

Weak calf syndrome can be prevented by proper cow nutrition during late pregnancy. Extra care and tube feeding of these calves may save some of them.

Scours: Calf scours can be decimating to a cow-calf operation, but proper management during the first days of a calf's life can reduce problems with scours. Making sure calves nurse or are tube fed colostrum within 4 hours of birth increases the calf's resistance to scours. Cows should calve in a clean environment. Pregnant cows should be kept out of the calving area until close to calving. Cow-calf pairs should be moved from the calving area to clean pastures by the time the calf is 3 to 5 days old, if both cow and calf are doing well. Calf shelters should be moved often, and calving pens cleaned and limed after each use.

In the last few years, several oral products have been marketed to "vaccinate" calves against scours. These products are expensive and should only be used if you have had a problem with scours, and you are doing all the above recommended management practices. Remember these products need to be administered before the calf is 12 hours old. Vaccinating cows (before calving) against *E. coli* appears to be worthwhile for prevention of scours.

Trauma: Trauma from being kicked, stepped on, run over or laid on kills a small percentage of calves every year. Trauma is usually a result of overcrowded conditions in bedding or feeding areas. Cow-calf pairs need to be in pastures with plenty of room, and crowding of cows into calving areas should be avoided.

The extra effort producers spend on good calving management and newborn calf care will result in more calves at weaning, higher weaning weights, and less stress for producers.

B.1.2.2. Horse Husbandry

These **S**tandard **O**perating **P**rocedures describe routine horse husbandry procedures:

- **PASTURES, PADDOCKS AND CORRALS**

  Horse pastures, paddocks, and corrals should provide a comfortable environment, including sunshade, windbreak, a firm surface on which to rest, sufficient area for normal postural adjustments, and an enclosure that confines the horses safely and is free of trash, holes, and other dangerous objects including avoiding unnecessary physical restraint. Horses on the CAHS Farm will be kept in pasture. Thus, attention will be paid to the following:

  - ✓ When feeding supplemental feeds, use fence line mangers, buckets, or boxes to allow feeding from the fence line.
  - ✓ Multiple sites (buckets or boxes) are preferable to a single site to decrease the risk of injury during aggressive competition for feed.

- ✓ Minerals should be available to horses on pasture, especially if the sodium content in the grasses and legumes of the pasture is insufficient to meet the horse's needs.
- ✓ If horses are expected to meet their nutrimental needs solely from pasture, the pasture should support their requirements. Pasture stocking density varies from 0.4 to 4/ ha (1 to 10 acres) or more per horse, depending on the type, concentration, and growth stage of the forage and the season.
- ✓ Good pasture management includes regular fertilization and clipping (mowing) of excess growth to increase the nutrient value and palatability and the control of parasites through manure removal or pasture dragging to break up the manure piles.
- ✓ Inspection of pasture routinely for growth of unusual or poisonous plants.

❖ **FEED AND WATER**

Horses should be fed so that they are not too obese or too lean. Typically, horses kept on the Farm, generally do well living in the pastures. Special attention will be paid:

- ✓ To maintain normal body condition and health, feed horses to meet the current nutrient requirements for their class using highly palatable, quality feeds.
- ✓ Feed hay at 1% or more of BW for mature horses. However, no minimum amount of forage intake is set for horses under various conditions.
- ✓ Clean water should be continuously available or made available *ad libitum* at least twice daily.

Feed Containers

- Use feed containers made of metal, plastic, rubber, concrete, wood, or any other material that is safe, sturdy, and cleanable.
- Feed hay from mangers, bags, nets, and racks or directly on the floor.
- Monitor feed containers daily to ensure that they are clean, free of moldy or wet feed, and not broken or damaged.
- Use freestanding hayracks to feed groups of horses. Place these racks away from the fence or adjacent and perpendicular to the fence, allowing filling from the other side of the fence.
- Use creep feeders for foals. These feeders may consist of an enclosure located in the pasture (usually near the hay manger) with openings too small for adult horses to enter, but large enough for foals to enter to allow feeding of rations formulated specifically for growing foals without competition from the adult horses.
- Keep creep feeders clean, free of sharp protrusions, in good repair, and with fresh feed.

Water Devices- Water sources may vary from simple buckets to troughs or automatic drinking devices.

- Water sources should be free of sharp edges.

- Automatic water sources must be functional, clean, designed so that the horses are able to use them.
- Water sources which operate by pressure plate pressed by the horse and may require several days of learning/training for most horses to operate them.
- Inspect automatic watering devices daily for proper operation and removal of foreign material.
- Staff should cleaned water troughs as needed to prevent algae or dirt from accumulating.

❖ **MANAGEMENT**

The management of horses will focus on the following:

- **Observation and Daily Schedule -** Observe horses carefully for health and well-being at least once daily. Do this observation during feeding - check and monitor water sources for adequacy. Make note of and report any problems to responsible individual(s).
- **Grooming** - Groom horses maintained in stalls daily. Horses outdoors or in groups that have an opportunity to mutually groom each other and roll in clean dirt or grass do not necessarily require additional grooming.
- **Hoof Care -** For horses maintained in stalls or tie stalls take care of hoof daily. Hooves should be inspected and cleaned using a hoof pick or hoof knife to remove fecal and bedding material to prevent the development of infections.
    - ✓ Monitor hoof growth and trim hooves when the hoof wall becomes excessively long, cracked, or broken. In general, this will occur in about 6 to 12 weeks.
    - ✓ Only trained staff should trim hooves, because improper trimming can result in lameness.
- **Teeth Floating-** The upper and lower arcade of the horse's pre-molars and molars do not match. Staff should examine the teeth by running the index finger along the top of the upper gum line and then carefully lowering to the outside of the upper molars. If sharp points exist, filed or "floated" teeth with appropriate instruments (floats). The frequency of tooth floating depends on age, diet, housing, and environment.
- **Foaling Management**
    - ✓ In multiparous mares, the process often occurs in less than 30 minutes. However, when problems occur, they require immediate attention and action.
    - ✓ Most mares foal after dark. Group mares by expected foaling date and observe them closely during evening feeding. If the foaling attendant(s) is (are) not experienced in handling emergency obstetric situations, a qualified veterinarian or his/her designee should be called immediately.
    - ✓ If the foal has not stood and nursed within 2 hours call for assistance. At 8 to 12 hours post-foaling, test the foal for antibodies absorbed from the colostrum.

- ✓ Mares should pass the placenta within the first couple of hours post-foaling. When the mare retains the placenta, more than 3 hours post-foaling call a qualified veterinarian to assist in resolving the situation.
- ✓ Breeding Procedures-- Pasture breeding, natural hand cover, and artificial insemination are all appropriate methods of breeding mares. All can result in acceptable conception rates.

- **Restraint**
  - ✓ As a rule, the handler should use the minimal amount of restraint necessary to perform the procedure. Regardless of the restraint, apply it correctly. Below is a list of acceptable restraint methods and a description of the proper application of each.
  - ✓ **Pens -** you should construct pens with material that is strong enough to contain the horses. Material should be smooth with no sharp points or edges. Pipe, smooth cable, PVC fencing, wooden planks, and woven wire are all appropriate materials.
  - ✓ **Halters**- you should construct halters from rope, nylon webbing, synthetic materials, or leather. The halters should fit tightly enough preventing the crown piece from sliding down the neck but loose enough allowing the horse to chew comfortably. Do not turn horses loose in a pasture or stall with a halter on unless the halter will break if it becomes tangled.
    - When tying a horse with a lead rope attached to the halter consider the following:
      - tie the horse at wither height or above;
      - use a slip knot that untie easily;
      - the horse should be tied to something that will not become detached or move;
      - there should be no objects in the immediate area that could injure or entangle the horse.

    - **Front Foot Hobbles**
      - Front foot hobbles are a traditional form of restraint used to allow horses to graze on the open range without running off. If used, construct hobbles of leather or soft cotton rope. Apply hobbles to the front feet only and used them only on horses trained to use them.
      - Do not apply front foot hobbles in confined spaces where the horse may be injured by running or falling into a fence, wall, or other object.

    - **Sideline or Breeding Hobbles**

- Use sidelines or breeding hobbles to prevent a horse from kicking with the hind legs. They protect a stallion when mounting a mare during breeding or during collection for artificial insemination.

o **Leg Straps**

- Leg straps hold one front leg off the ground by flexing a front leg and placing the strap around the forearm and cannon bone. Trained staffs apply straps to keep the horse from moving forward and encourage them to stand still. The strap should be made of leather or soft cotton rope to prevent abrasion injury.

o **Twitches**

- Twitches immobilize horses for procedures where movement of the horse prevents accomplishing the task. Apply twitches to the upper lip of the horse and then tightened. This usually results in the horse standing immobile despite moderately uncomfortable procedures such as rectal palpation. When used correctly, twitches are a safe and effective method of restraint. When used incorrectly, twitches are dangerous to both the horse and the handler. Horses often have a violent reaction to twitches when they are improperly Perform surgical and chemical restraint procedures only under the advice or supervision of a veterinarian. Improper chemical restraint procedures result in injury or death to the horse and safety hazard to the handler.

o **Identification**

- Staff should use hot or freeze branding, insertion of microchips, or lip tattoos to apply identification on horses.

o **Castration**

- Perform castration on horses at any age from a few weeks to many years of age. Anesthesia, provided by a licensed veterinarian, is essential at all ages. Horses should be carefully monitored post-surgery for infection or herniation of bowel through the castration site.

o **Exercise and Equipment**

- Properly fit harnesses, saddles, or other equipment necessary for research and teaching purposes for each individual horse, such that the equipment does not cause uneven pressure, injury, or rub sores.

- **Pain and Distress**
  - Chronic signs of pain or distress in horses include lameness, weight loss, hair loss or open sores, loss of appetite, repeated flight attempts or aggression, and depression. Acutely painful or stressed horses may show elevated heart and respiratory rates, inappropriate sweating (not heat or exercise induced), repetitive rolling on the ground, groaning, teeth grinding, pinned ears, clenched jaw, restlessness, tucked-up posture, and other signs of abdominal pain.

- **Euthanasia**
  - Staff who perform euthanasia of horses must be trained in the appropriate protocols, humane handling and restraint techniques, and must be knowledgeable about safety concerns associated with each euthanasia method.
  - Dispose animal carcasses promptly in accordance with all federal, state, and local regulations.

❖ **Individuals Responsible/Emergency Contacts**

Flavio Ribeiro- Work: (936)261-3311; Cell: 979-204-4736

Eustace Duffus- Work: (936)261-5013; Cell: 281-650-5763

❖ **Veterinary Care and Management**

Dr. Kellye Thompson- Work: (936) 261-5148; Cell: 334-332-4144

B.1.2.3. Poultry Management

❖ **HOUSING**

Type and best estimate the number of animals utilized per year:

Layers Operation Building 1

Purpose: 1) to produce marketable eggs. 2) For teaching models. 3) When necessary to use them as a research birds for egg quality.

This building houses 600 laying hens with 2 hens per cage with feeding toughs, nipple drinkers (1 nipple per 4 birds). Before the birds are caged, they are kept on the floor with clean wood shavings for 4 weeks for adjustment. They usually arrive at 18 weeks of age. All hens are fed a standard laying mash consisting of approximately 17% crude protein, 2800 Kcal/kg of feed, with 3.6% calcium. At the start of production, the cage house is cleaned, washed, and disinfected (chlorine). The hens are observed twice daily for dead birds. The dead birds are removed from the cages, recorded and incinerated. Eggs are collected twice daily at 10:00 AM and at 3:00 PM, washed, graded, and packaged, then placed in the cool

room at 58^0F and are thus available for sale. Duration of egg production is approximately 12 months, when the hens are approximately 18 months old. Economic scale of production is used as a guide to terminate operation. The old hens (spent-hens) are sold live. These hens as pullets arrive vaccinated against Mereks', IBD, Fowl-Pox and NewCastle.

- **Turkey Operation: Building 2**

Purpose: 1) to produce market size turkeys (fresh/smoked) for local consumption. 2) To use turkeys as teaching models.

All turkeys are housed in building in building one (1). The turkeys are kept separately from the layers and broilers. They are purchased as one day-old chicks, in early June each year, and sacrificed in October of the same year. Before the turkeys arrive, the house is cleaned, washed, sanitized and kept idle for at least 4 months. The aim is to control the spread of microorganisms. On arrival, they are given an electrolyte, a mixture of vitamins and trace minerals for one week. The building houses approximately 450 mature turkeys at maximum (males and females) at a density of 1 turkey per 3 sq. ft. They are provided with one automatic waterer and two 30 lb. feeder hoppers for every 20 turkeys. The sole purpose is meat production. No research function is attached to the turkey operation and no form of drugs or vaccinations are administered. The aim is to control the spread of microorganisms. Any animals that die are recorded, removed and incinerated daily. The sides of the building are opened for ventilation. The turkeys are fed with a corn-soybean mash ration containing 24 percent crude protein and 3800 Kcal/kg for the first 8 weeks and 18 percent crude protein and 3800 Kcal/kg for the remainder of the time. At 4 months of age, the turkeys are processed, packaged and the fresh turkeys are stored at -28 ^{o}F until sale. Some of the turkeys are smoked at 175^oF temperature for approximately 22 hours. Both fresh and smoked turkeys are bagged in FDA approved plastic bags and sold under Texas Department of Health inspection. The processing operation follows the procedure used in commercial operations.

- **Broiler Operation: Building 3**

Purpose: 1) to produce birds for research. 2) To use the birds as teaching models. This building is designated for broiler operations. The building houses 240 broiler mature meat chicks, allowing for a minimum of 0.75 sq. ft. per bird. The birds are reared in pens covered with wood shavings as litter. Broiler operation is designed specifically for experiments, as they are divided in pens of 7 X 5 ft., to hold a maximum of 35 birds. Each pen is provided a 30lb feeder and one plastic bell drinker. Before each experiment, the pens are cleaned, washed, sanitized with chlorine, and rested for at least 4 weeks to control the growth of microorganisms. Depending on the experiment, they are fed a combination of corn-soybean with alfalfa meal as a base diet, supplemented with vitamins and trace minerals to satisfy the requirements of the National Research Council (NRC, 1998). Each experiment is conducted for six weeks, and at the end, the birds are sacrificed by cutting the jugular vein. The birds are observed and monitored twice daily for mortality and discomfort. Dead birds are recorded and incinerated. Broilers that are on the control diet are processed, following the

procedure in the commercial industry, and sold. Total for layers utilized annually is 600 and for the turkeys and broilers, 450 and 600, respectively.

❖ **Individuals Responsible/Emergency Contacts**

Victor G. Stanley- Work: (936)261-2527; Home: (979)696-3724; Cell: (979)218-9266
Cassandra Gray - Work: (936)261-5012; Home: (281)373-3694
Dr. Selamawit Woldesenbet - Work: (936)261-2530; Home: (281)550-6495;
Cell: (817)528-8647

❖ **Veterinary Care and Management**

Dr. Selamawit Woldesenbet - Work: (936)261-2530; Home: (281)550-6495
Cell: (817)528-8647

❖ **Animal Care and Management**

All animals covered under this SOP will be fed and checked on a daily basis to ensure a sound environment and to satisfy that all birds will be exposed to sound poultry husbandry practices. Signs are posted in all animal areas listing contact information in the event of any animal neglect or abuse.

❖ **Animal Identification**

All birds will be identified by their specific location (house/pen) for flock age, bird source, and placement date. In addition, all birds will have a unique leg or wing band containing a unique ID number which can be used to record any event concerning vaccinations, past production and specific utilization will be maintained at the Poultry Center.

❖ **Personnel Training**

All current full time employees have a minimum of 10 years' experience working at the center and have attended several university workshops dealing with safety at the workplace. All part-time student employees as well as part-time employees receive basic training on poultry husbandry, proper handling procedures of birds, and safe operation of all equipment. All new part-time employees will assist a seasoned fellow employee for a minimum of two weeks before working independently. Any new employees, students etc. will be required to take the proper CITItraining as required by the University Compliance Office.

❖ **Euthanasia Procedures**

Besides cutting the jugular vein and in the event that euthanasia is necessary, the bird or birds will be placed in a chamber containing 100% CO_2 gas for a minimum of 15 minutes to insure termination through inhalation. Employees are qualified for the procedure after

receiving instruction and training from the facility manager involving both proper bird handling as well as employee safety.

❖ **Other Considerations**

All feeds are manufactured at our feed mill located across from the Poultry Center or are purchased as needed from an approved feed dealer. The rations are formulated using current NRC (Nutritional Requirements of Chickens) guidelines. Mixing amounts are adjusted to insure a rapid turnover therefore guaranteeing a fresh supply.

B.1.2.4 Swine Management

These **S**tandard **O**perating **P**rocedure**s** describe routine swine husbandry procedures:

❖ **FEED AND WATER**

- ✓ Staff observes pigs twice each day for their well-being.
- ✓ Check that feeders and watering devices are functional. Feed pigs from the floor as long as the surface is dry and clean and individual feed consumption is enough.
- ✓ Provide *ad libitum* access to water and ensure the watering devices are accessible for each size pig.

❖ **BREEDING MANAGEMENT**

Breeding will be performed using intact males or by artificial insemination.

❖ **Sow Management -** Before moving pre-parturient sows to indoor farrowing environment, the environment should be cleaned, disinfected, and dried. A caretaker during farrowing is not mandatory but an individual during farrowing may improve neonatal survival. During hot weather above 29°C (>85°F)], sows need to be cooled. Use misters, sprinklers and ventilation fans to cool sows.

❖ **Farrowing System** - Farrowing systems should lessen pre-weaning piglet mortality, providing thermal comfort for sow and piglets. Restricting sow movements in the well-designed farrowing stall will improve piglet survival.

❖ **Litter Management**

- Staff will provided piglets with warm, dry, draft-free area that will protect them from crushing or the sow injuring them.
- A few days after birth disinfect the navel, trim needle teeth with a disinfected sharp device;
- Trim tail no less than 2.5 cm (1 in) from the body with a disinfected.
- Give supplemental iron as needed
- Ear notch and ear tag each piglet between 15 and 30 days after birth.

❖ **Nursery Systems**

- Wean piglets at any age; the younger the piglets are at weaning, the greater the need for specialized care, a high degree of sanitation, and high-quality care. Early weaning reduces diseases and improves pig health and well-being in herds with severe disease.
- We should provide ad libitum access daily to a balance diet and clean water. Use one watering device per 10 to 20 pigs with at least two watering devices per pen located far apart that one pig could not dominate both.
- You should set the height of the watering device so that pigs can readily drink from them. When possible place pigs in pens based on body weight and age to promote effective feeding and water management.

❖ **Growing and Finishing Systems**

- The growing-finishing pig stage refers to pigs from 8 or 9 weeks of age to market age of about 20 to 25 weeks and finished body weights between 114 and 136 kg (250 to 300 lb.).

❖ **Castration**

- To minimize stress on the piglets, perform castration as early as possible and preferably between 1 and 14 days of age. After 14-day of age, give local anesthesia or a combination of local and general anesthesia before castration.
- Castrating boars of any age, trained staff should use disinfected instruments, and apply a pre-castration disinfectant to the incision site.

❖ **Euthanasia**

- Staff who perform euthanasia of horses must be trained in the appropriate protocols, humane handling and restraint techniques, and must be knowledgeable about safety concerns associated with each euthanasia method.
- Dispose animal carcasses promptly in accordance with all federal, state, and local regulations.

B.2 Records and Identification

While section B.1 focused on the specific animal species, animal identification is essential to research, facilitates record keeping, and aids in the routine observations. Methods of identification include skin color markings, ear tagging, ear notching, tattooing, hot branding, freeze branding, physical photos and electronic identification. In some cases, it is best to use ear tags in conjunction with a more permanent form of identification such as a tattoos or brands, as ear tags are sometimes lost.

B.2.1 Livestock Inventories

In accordance with the Texas A&M University System Asset Management Manual, the following livestock inventory systems will be maintained. It will allow for:

- A perpetual inventory system to be maintained for permanent breeder stock and for animals held for short-term purposes by those departments in possession of dairy and beef cattle, horses, poultry and swine. A physical inventory will be taken annually or as deemed necessary for proper asset control and the results will be reported to CAHS Fiscal Operations so the necessary reconciliation to the financial control accounts can be completed.

- Programmed changes in poultry breeder stock quantities (flock size and type). It will be recorded in a perpetual inventory system including departmental records and financial control accounts during the year. Production records will be maintained for each lot and kind of feeder birds showing the quantity started and finished and the mortality rate of each lot. A physical count of breeder stock will be made annually or as deemed necessary for proper asset control and reconciled to the financial control accounts.

- A perpetual inventory system, which will account for the live animals, carcasses and meat products. It will be maintained for livestock acquired for slaughter and processing.

- Each livestock component of the University Farm to be held responsible for maintenance of departmental inventory and individual livestock records which may provide any information desired for departmental use, but must include:

    - identification number or description
    - breed and gender
    - date and method of acquisition
    - date and method of disposal
    - production record for breeder stock

  Any number or descriptive system which permits the accurate individual identification of cattle, horses, poultry, and swine, and either the individual or group identification of these species may be used. Each species unit will be responsible for determining the method of marking (branding, tagging, etc.) livestock in its possession.

  The inventory system must be consistently applied among all livestock units to ensure that all units comply with the Texas A&M University System guidelines. Outlined below are the details, which must be provided on a monthly or quarterly basis:

- All livestock will be counted on a ***quarterly*** basis and will include the following information (where appropriate):
    - Name of livestock
    - Breed of livestock
    - ID number
    - Class
    - Electronic ID
    - Sex
    - Date of Birth
    - Inventory reconciliation (head and paper count must equal)

- Birth records and death certificates (see Appendix) as well as any new purchase will accompany all inventory reports.
- Property Officer will schedule an on-site physical inventory of all livestock on a semi-annual basis.

Physical inventory will be performed the last week of each quarter and monthly inventory count reconciliations must be submitted to the Property Officer on or before the 10th day of the following month. Reports will be prepared and submitted to the Dean of the CAHS on or before the 15th day of each month.

The Property Officer or his/her designated official must witness and account for all animals which are designated for sale and/or removal of all livestock moved to the stockyard, sold and picked up. Property Officer will be notified to witness transaction and all paperwork must be signed prior to completion of transaction. Ms *Gwynnetta J. Sneed, CAHS Property Officer, has been recently hired to handle all CAHS inventor.* See the Appendix for Forms that are submitted as part of the monthly and quarterly reports.

B.3. Animal Care Personnel

All Animal Care Personnel will be provided with copies of the USDA regulations, the National Institutes of Health (NIH) Policy, The *Guide for the Care and Use of Laboratory Animals* (*The Guide*) and The *Guide for the Care and Use of Agricultural Animals in Research and Teaching.* All key personnel are required to know and understand these guidelines.

B.3.1 Resident Farm Director

The Resident Farm Director has general responsibility for the overall administrative and fiscal operations of the Farm areas, including, but not limited to, the following:

- Overseeing the day-to-day activities (including holidays and weekends) to ensure a safe, clean, and efficient environment is provided and maintained for housed animals and users of the Farm;

- Supervise personnel, as appropriate;
- Interact with the AV, IACUC, PIs, and the CAHS Office of Research Compliance;
- Notify PIs in writing if any of their animals are sick, injured, or die;
- Make sure farm personnel make daily rounds in the following order;
- Coordinate care of any sick animals by informing the assigned veterinarian who will provide proper procedures to carry out the prescribed care;
- Ensure animal protocols are completed and submitted by PIs
- Ensure farm and animal orientations are completed by new personnel;
- Ensure all farm and animal personnel have successfully completed the necessary farm safety training;
- Work with the PI and contact the resident veterinarian to resolve any issues of noncompliance;
- Report all instances of non-compliance to the Dean of CAHS and CAHS Office of Compliance;
- Depending on the nature of the non-compliance and after repeated corrective actions, provide written documentation for submission to the IACUC Chair, and/or the PVAMU Research Compliance Officer as it relates to inhumane treatment of animals;
- Report any known lapses in animal care to the PI that may compromise the health of the PI's animal(s) or the research. These issues include, but are not limited to failure of or abnormal environmental controls (for example, temperature fluctuations);
- Ensure that appropriate animal care procedures are followed, including any special instructions for animal care required by a PI;
- Taking appropriate disciplinary action, in conjunction with the CAHS Dean, CAHS Compliance Office, the AV, and/or the Office of Research Compliance, when Farm Operations SOPs are not followed by farm and animal personnel;
- Communicate with the PIs to ensure that the needs of the research protocols are being met;
- Consult with the farm operation manager and AV as appropriate; and
- Leading the Farm areas toward higher standards of operation in support of PVAMU's animal research goals and maintaining compliance with IACUC policy and procedures.

B.3.2. Farm Manager

The Farm area has one Farm Manager who reports to the Resident Farm Director. The Farm Manager's duties include, but are not limited to, the following:

- Ensuring that daily rounds are made at random times on weekdays and that weekend and holiday coverage is prescheduled to ensure that all tasks are being performed properly.
- Make sure the daily observations of the following are performed bedding changes, evidence of proper feeding and watering, and evidence that personnel, technicians and PIs use protective clothing, randomly observed to ensure animals are handled properly, SOPs are followed, and farm personnel's time spent efficiently. The farm manager with the approval of the resident farm director may appoint a designee to assist in this process;

- With the approval of the resident farm director distribute the responsibility for care of animals and maintenance of animal stall to specific farm personnel during each weekday and on weekends and holidays;
- Will provide written notification to resident farm director if any animals are sick, injured, or die;
- Coordinate care of any sick animals by informing farm personnel of the proper procedures and checking to ensure that the prescribed care is carried out; and
- Ensure that adequate supplies of water bottles, food, and bedding are available for the care of the animals.

B.3.3 Animal Care Technicians

The farm will maintain an appropriate number of full-time animal care personnel necessary to care for the existing animals. Training for animal care personnel includes the following:

Species-Specific Training – Animal care personnel will be trained in handling the specific species housed on the Farm. There are research scientists who have extensive experience in handling specific farm animals either through coursework or years of experience. Either the research scientist or others who have experience with working specific species will provide training for other animal care personnel and newly hired personnel. In addition, species-specific educational videos will be made available to assist in training animal care personnel as needed. If a new species is brought to the farm that the resident farm director or AV has no prior training, then training will be sought through educational videos or workshop or conference attendance. If available, arrangement will be made for personnel training from external sources that may have someone experienced in handling the species. For instance, Texas A&M University Division of Research (http://rcb.tamu.edu/animals/training) offers training with specific animal species.

CITI Training – All animal care personnel will be required to complete the species-specific modules for all animals housed in the farm.

Animal Care Personnel Responsibilities – Animal care personnel has responsibilities that include, but are not limited to, the following:

- ✓ Observing all animals daily on weekdays and as scheduled on weekends and holidays.
- ✓ Reporting all concerns in writing to the farm manager, who will contact the PI and the Resident Farm Director
- ✓ Changing and cleaning animal bedding and stalls, cleaning barn areas, and performing other tasks related to the care of animals as requested by the resident farm manager and/or PI;
- ✓ Attending animal care meetings to communicate special care needs in individual animal care facilities;

- ✓ Reporting sick, injured or dead animals to the farm manager;
- ✓ Washing dirty PPEs as appropriate; and
- ✓ Reporting possible instances of noncompliance by the PI/Research Personnel or other farm personnel to the farm manager, AV, and/or resident farm director, in writing.
- ✓ All training events by personnel should be documented and copies sent to Farm Director and College Compliance Officer;

B.3.4. Student Workers or Volunteers

CAHS students can gain hand-on experiences by working on the farm as a student hourly worker or as a volunteer. Sometimes, students can earn volunteer credit to meet the requirement of an Agriculture course. If a student is a student hourly worker, they are typically assigned a supervisor who will be responsible for providing the proper training in advance of any SOP related activity. Training may be for animal care, a laboratory worker or a farm worker. Students may also volunteer for these positions but the training will be the same (See training material in the Appendix). In instances where the student serves as a volunteer, these steps must be followed:

- All Volunteers must complete the Volunteer Information Form and Confidential Release Form and submit both forms to the CAHS Office of Compliance, Undergraduate Research and Student Success, that will submit the forms to the Office of Human Resources 10 -15 working days before the schedule date services will begin. Scans or copies will not be accepted. The prospective volunteer begins working after successfully passing the background check which is mandatory before all personnel can began work.
- The Office of Human Resources will notify the department when volunteers are cleared to work.
- Students have varied interests. Therefore, each volunteer student must find his or her own volunteer supervisor, who will develop a job description and work schedule. The supervisor is responsible for helping the volunteer complete the application package and signing the application.
- It is recommended that all volunteer work take place during the normal work week, however, if the student volunteer and supervisor need to work on the weekend, a work supervisor ***must*** be physically present.

Once students are hired or accepted to volunteer, the supervisor must determine how their students will get to the work site on the farm, since no personal vehicles are allowed on the farm. There are several options of getting students to the site:

- ✓ The supervisor may pick up the volunteer from the university farm entrance
- ✓ The student may take the university shuttle, which runs from 7 am to 5 pm Monday through Friday. The buses circle the campus every 15 to 20 minutes.
- ✓ You may schedule with the bus driver to do a pick up from the worksite

For students who attend class on the farm, the instructor will be responsible for providing the required training and must have completed a required IACUC application (see Appendix) for teaching purposes. An approved IACUC application or letter must be submitted to the resident farm director and CAHS Office of Compliance before classes involving animals can be held on the farm. Students that may have their classroom laboratory on the farm have several ways to get to their class on the farm and includes:

- ✓ They may take the shuttle, but this method does not guarantee that they will arrive on time.
- ✓ The instructor and volunteer staff using several of CAHS vehicles may transport students to the farm. This requires advance planning, and scheduling.
- ✓ The instructor may arrange with the farm manager to use available personnel with correct training to transport students to the laboratory using the trailer at the beginning of the semester.
- ✓ Students working on projects outside of the lab time will make their own arrangement to get to the designated area.

B.3.5. Animal Care - General and Daily Procedures

Farm animals are located and maintained on the farm on the main campus of PVAMU. In those rare situations where IACUC must approve housing of animals off campus, IACUC and the attending veterinarian shall ensure, through the approved protocol that animals are provided appropriate shelter from the weather and are housed in a secure structure.

The PI is responsible for maintenance of environmental parameters outside the farm area, unless otherwise allowed under an IACUC-approved protocol, as follows:

- ✓ **Temperature** – The room where animals are housed must be maintained at a temperature appropriate for the species. Temperature must be recorded on a daily basis;
- ✓ **Noise** – Noise levels must be species-appropriate;
- ✓ **Lighting** – Species-appropriate light/dark cycles must be established (typically 12 hours light/12 hours dark), unless otherwise allowed under an IACUC-approved protocol; and
- ✓ **Pest Control** – Adequate pest control must be in place.

Failures in Environmental Control Systems – Any failures in environmental control systems must be remedied to ensure the animals have acceptable temperature levels and lighting schedules. Farm Administration will respond to any environmental control problems observed by farm personnel or reported by the PI. The AV, resident farm director, and designated farm manager will make random checks of any outside facility, at least once monthly, to ensure compliance with SOP protocols and guidelines. Twice each year, as required by OLAW, IACUC

will inspect all facilities where animals are housed as part of its semiannual program and facility inspection. The AV will make rounds at the farm at least once a week to ensure that all animals are in good health and to check for any possible deviations from the animal care protocol. The farm manager and designated farm personnel will perform rounds on all animal facilities on a daily basis, including weekends and holidays.

B.3.5.1 Care of Animals in IACUC-Approved Animal Facilities outside the Farm Facilities (typically rodeo shows, animals taken by staff for demonstrations, and animals that are borrowed)

PIs with animals housed in IACUC-approved animal facility outside
the farm are responsible for the following:

- ✓ Arranging for adequate health checks of animals housed outside the farm;
- ✓ Implementing adequate disease- and parasite-prevention plans for all animal housed outside the farm;
- ✓ Maintaining appropriate environmental parameters ; and
- ✓ Providing humane animal care in accordance with both the *Guide for the Care and Use of Laboratory Animals* (*The Guide*) and the *Guide for the Care and Use of Agricultural Animals in Research and Teaching Guides,* including the following:
    - Appropriate feeding and watering schedules,
    - Species-appropriate feed,
    - Appropriate checks of food and water during the weekdays, as well as appropriate weekend and holiday care,
    - Adequate storage and maintenance of animal feed and bedding,
    - Species-specific environmental enrichment,
    - Maintaining records documenting daily temperatures, and
    - Notifying the resident farm director or AV of any problems.

B.3.5.2 Feed and Bedding

General – Animals maintained by the animal care personnel are fed a complete nutritional diet and provided species-appropriate bedding. Some animals may be fed specialized diets provided by the PI, as approved in their IACUC protocol;

Storage – The primary storage area for regular large receipt of feed is in the Feedmill Building located on the farm. Unopened bags of feed are stored on raised wood pallets. Feedbags are not to be placed directly on the floor. Open bags of feed may be stored in appropriately marked containers either *inside* the barn areas or in designated barn preparation rooms and in a designated location *outside* the room for large animals. All containers with animal feed are clearly labeled, without abbreviations. Animal care personnel are trained to regularly check the mill date and calculate expiration dates of the feed. Animal feed may be used up to six months

after the mill date. Expired feed is discarded in the nearest waste container; if feed contains biohazardous materials, it is discarded in a red biohazard waste container.

Transportation – Feed is either transported to the farm in the departmental truck or delivered to the farm in a dedicated vendor-owned truck. The delivery truck Feed is typically sprayed with cold sterilizer and wiped dry with clean paper towels by an animal care personnel prior to transportation. The outer surface of all feed bags is disinfected with a sterilizer prior to entering the farm. The inner surface of the truck is disinfected after each use. The outside of the trucks is washed routinely.

Feed – Commercially available laboratory animal diets are obtained from approved vendors. Each diet is selected for its high palatability and consistent formulation to minimize nutritional variables. Special diets, as required to meet the scientific goals of the study, are purchased by the PI.

Hay – Hay will be grown on the farm at PVAMU. See Hay Production Section.

Water – The well on PVAMU main campus, provides water to the farm area. Autoclaved water is provided when requested by the PI. All animals except, swine and goats are watered with bottles.

B.3.6. Animal Care Daily Procedures

The following animal care procedures apply to the farm areas during regular weekdays. This schedule may vary for holidays and weekends. The PIs are responsible for instructing Farm Administration in the proper precautions that must be employed to care animals in their study. The Farm Administration is responsible for ensuring that these instructions are implemented. Farm animal care personnel will perform all animal care procedures, except in those cases where the PI and resident farm director and/or farm manager have agreed upon other arrangements.

B.3.6.1 Weekend and Holiday Care

Designated members of the farm personnel report each Saturday, Sunday and weekday holiday, as prescheduled. All animals are observed to ensure they are healthy and clean. Large-animal areas are cleaned, and animals are fed and watered; while small animals are given adequate water and food. Bedding is checked and replaced if bedding has been excessively wetted.

B.3.6.2 Daily Care of Farm Animals

Food and Water – Large animals are fed daily and provided with water via a species appropriate receptacle;
Socialization – Animals are placed in social groups as appropriate to the species to allow for physical and social contact;

Environmental Enrichment – Species specific toys such as basketballs and toys are provided as a means for animals, such as swine, to practice normal rooting behavior; and
Stall Cleaning – Stalls are sprayed with hot water, washed with disinfectant, and rinsed with clean water daily. Monthly, or as indicated, acidic foam is used to clean and disinfect the runs in use.

C. VETERINARY MEDICAL CARE

Veterinary medical care is an essential part of an animal care and use program and is comprised of effective programs for:

- Preventive medicine;
- Surveillance, diagnosis, treatment, and control of disease, including zoonoses control;
- Management of protocol-associated disease, disability, or other sequelae;
- Anesthesia and analgesia;
- Surgery and post-surgical care;
- Assessment of animal well-being; and
- Euthanasia.

The AV is primarily responsible for PVAMU's Veterinary Care Program. Some aspects of the Veterinary Care Program may be conducted by animal care personnel under the direction of the AV. Any problems identified in the Veterinary Care Program shall be directed to the AV. The AV provides guidance to PIs and all other personnel involved in the care and use of animals at PVAMU to ensure appropriate handling, immobilization, sedation, analgesia, anesthesia, and euthanasia.

C.1 Animal Procurement and Transportation

All animals authorized for use by IACUC must be ordered through the resident farm director, unless otherwise allowed under the IACUC approved protocol. PIs are responsible for ordering animals approved by IACUC from USDA-licensed either commercial or noncommercial vendors, using the procedures set forth below. Only animals ordered and purchased through the resident farm director may be used in IACUC-approved protocols. The purchase request must be entered into the CAHS accounting system by CAHS Fiscal Operations. No animals shall be purchased using a credit card. All animals must be used in the protocol for which their use was approved unless they are transferred to another approved protocol or another investigator. All animal transfers must be coordinated through the resident farm director.

C.1.1 Ordering Animals from Commercial Vendors

Prior to ordering animals, the PI should obtain current pricing information. Purchase of animals shall be from reputable vendors and meet the expectations of the PI. Pricing information may be obtained via the internet. Other commercial vendors, as approved under the protocol, may also be used. Shipping and crate costs can be obtained from PVAMU resident farm director office. Once pricing information for animals, shipping, and crates have been obtained, the PI is

responsible for making sure the order is placed through the CAHS Fiscal Operations. The IACUC-assigned protocol number must be included in the order. The resident farm director will contact the PI if the requested delivery date is not available. After the order has been placed the Office of Fiscal Operations and specifically property officer will enter the appropriate information into the inventory database. The request will be verified against the protocol number, species, and the animal numbers available. Once the order is approved against the database, the resident farm director or other appointed personnel on the farm will submit the order to the vendor. If the number of animals requested is not available under the protocol, the farm manager will promptly notify the PI. Upon arrival, animals will be placed in the appropriate receiving area for the required quarantine period. Unless the PI requests specific housing prior to arrival of the animals, the animals will be housed using the best judgment of the animal care personnel, who shall rely upon the *Guide for the Care and Use of Laboratory Animals* (*The Guide*) and the *Guide for the Care and Use of Agricultural Animals in Research and Teaching Guides* as well as these SOPs. Housing for species is as follows:

Livestock/farm animals – USDA-licensed facilities are utilized for PVAMU approved IACUC protocols requiring the use of farm animals. Swine will be procured from commercial sources.

C.1.2 Ordering Mammals from Noncommercial Vendors

The Farm Administration generally discourages ordering or housing any animals from noncommercial vendors, also referred to as extramural sources, because of the risks involved (for example, possible spread of disease or parasites, potential adverse affects on research protocols). When animals from noncommercial vendors are accepted in the farm areas, the procedures set forth in these SOPs must be strictly followed. The PI must certify that the animals being obtained from the noncommercial vendor are not available commercially. If the use of non-commercial animals was not originally approved in the IACUC protocol, the PI must submit a letter to both the IACUC chair and AV describing the need for obtaining the animals from the identified noncommercial vendor. The PI will then be provided a copy of the requirements, which they are then responsible to forward to the Veterinary office at the shipping institution. Prior to ordering animals from a noncommercial vendor, the PI must receive written approval from the AV. To obtain this written notification of approval, the PI must obtain the following information and submit to the AV for review:

- ✓ A health certificate from the shipping institution's AV including a description of the facility (barrier or conventional) and the animal housing , a description of the health surveillance program is required detailing the method of sentinel contact; frequency of testing; testing profiles performed and a summary of the health status of the facility over the past 12 months is required, identifying any animal health concerns/problems during that time period and the steps taken to treat or contain the pathogen (if applicable);

Responsibilities of AV and Resident Farm Director – The AV and the Resident Farm Director are responsible for reviewing all required health reports and making the following decision within five working days:

Approval – After all required documentation is received, the PI will be provided with a prompt written notice if the AV agrees to allow the farm management to accept the animals, providing a period within which the animals will be accepted. This period may be revised depending on weather conditions and/or availability of Quarantine areas. The resident farm director will:

- **Verify** that the number of animals requested by the PI corresponds to the number approved under the IACUC protocol number provided by the PI;
- **Determine** whether the species requested by the PI matches the animals requested on the approved protocol;
- Provide written confirmation to the PI verifying the number of animals requested by the PI;
- Upon receipt of the written notice of approval from the AV and resident farm director, the PI will provide the contact information for the noncommercial vendor to the farm administration who will contact the noncommercial vendor to arrange for shipment of the animals.

Disapproval – If the AV disapproves receipt of the animals requested by the PI, written notice will be provided explaining why the animals will not be allowed to enter the farm area. The PI has the option of accepting the decision or addressing and correcting as appropriate the areas identified in the written notice and resubmitting the request for the animals.

C.1.3. Transportation of Animals

One of the long-term goals of the farm is to provide a specific pathogen free (SPF) facility for the health of the animals and to support the integrity of research projects involving animals housed at the farm. Controlling the movement of animals to and from the farm provides critical support for attaining this goal. In general, animals removed from the facility are not allowed to re-enter. Re-entry of live animals is the exception and as a result, provisions (including training of the investigators and their staff) must be made prior to their re-entry. After animals have been received and placed on the farm or other IACUC approved facilities, PIs may need to transport their animals to another location, either internally or externally.

C.1.3.1. Internal Transportation of Animals – To control exposure to potential pathogens, the Resident farm director, the farm manager and AV will develop procedures regarding internal transportation of animals. PIs may transport animals from the outside on the farm to another internal location for euthanasia. PIs transporting animals from the farm to another internal location and planning to return the animals to the farm should discuss appropriate return procedures with the resident farm director, the farm manager and the AV. In this instance, the

AV may require that animals returning to the farm undergo a quarantine period. Due to Occupational Health and Safety considerations, PIs/research personnel moving animals out of the facility should use precautions to minimize allergen exposure to the general population and to minimize security concerns.

C.1.3.2. External Transportation of Animals and Use of the CAHS Equipment – Unless otherwise allowed under an IACUC-approved protocol or by the AV, the farm trailers must be used to transport animals externally. Anyone who drives the CAHS vehicles must have completed PVAMU's drivers' safety training course. The CAHS trailers must be washed and disinfected by farm animal care personnel or farm personnel after each animal transport, and the farm manager will maintain a record of CAHS trailer usage. No animal shall be transported in a private vehicle without prior written authorization from IACUC or the AV. Animals transported from the farm to any external location will not be allowed back into the farm without the written approval of the AV.

C.1.3.3. Animal transportation: These are important things to consider when transporting animals (Information taken from the Texas A&M Compliance manual).

- Proper containment of animals in transit is essential. Transfer from or to the University Farm must be planned in advance with the advice and oversight of the farm veterinarian and inventory specialist so that transportation to or from the farm can be performed in safety for the animal and transport personnel.
- All methods of transporting PVAMU animals must provide for the health and welfare of the animals.
- Transportation of animals must be done in a direct and timely manner, avoiding public areas, areas primarily used by other Texas A&M employees and by as direct a route as possible.
- Animals should not be transported with any other animal, substance or device that may be expected to be injurious to their health or welfare.
- Care should be exercised in handling enclosures used to transport live animals. They should not be tossed, dropped, needlessly tilted, stacked in a manner which may reasonably be expected to result in their falling, or handled in any manner which may cause physical trauma or distress to the animals. They must not be transported in the trunk of a car but can be transported in a suitable cage which fits properly in the bed of a truck.
- Temperature extremes are to be avoided when animals are transported and special precautions or postponements are required if transport conditions will require exposure of animals to temperatures when temperatures that may jeopardize the welfare of the animals.
- The Animal Welfare Act (AWA) regulations (Part 3, Transportation Standards, in subparts A-F (depending on species)) should be followed in transporting regulated

animals. Transportation of animals must also comply with applicable state and local laws and regulations.

- It is essential that effective primary enclosures be used in the transportation of animals. These enclosures must be constructed of materials that can be sanitized, or disposed of, and prevent the spread of pathogenic microorganisms, chemicals or radioactive materials where indicated. The containers should be escape proof, properly labeled, and provide adequate ventilation.
- The enclosures should be opaque or shielded in such a way as to be non-stressful to the animals.
- Cargo areas used in the transportation of animals should be cleaned and decontaminated as necessary to prevent contamination of future animal deliveries.
- Any vehicles used to transport animals may be inspected by the IACUC to determine suitability.

The AVs and the IACUC are responsible for oversight of these animal transportation guidelines; exceptions can be granted when it is considered in the best interest of the animal(s).

C.2 Preventive Measures to Protect Animals

C.2.1 Quarantine Areas

The farm has established quarantine procedures to protect the health of incoming animals and animals housed on the farm. Failure to follow the Quarantine procedures can spread disease or parasites and can have potential adverse affects on research protocols. Noncompliance is a serious breach of farm procedures and will result in corrective action as described in section XXX. Commercial source animals are not normally quarantined upon arrival. These animals will be immediately included in the inventory database and included in health herd plan. If a question or problem arises regarding the health of a particular shipment, all orders will be blocked, until the issue is resolved. Investigators should contact the Farm Administration to understand clearly the charges they will incur due to the receipt of animals requiring quarantine.

Animals Received from Noncommercial Vendors – Animals entering the farm which are not obtained from any source other than an approved commercial vendor shall be quarantined as described next: The PI should contact the Resident farm director to determine the costs for a particular shipment. In some instances, the quarantine period can be waived. When animals are procured, the AV may allow an investigator to bypass the quarantine area if the animals are to be euthanized within 24 hours of arrival . In such cases, the PI/Research Personnel are not allowed to enter the farm for a period of time (usually two to three days) determined by the AV. This is designed to prevent any contamination of the farm with outside pathogens.

All New Arrivals – Farm Personnel shall evaluate the health and, if appropriate, the pathogen status of newly received animals and consult with the AV on whether or not to quarantine any

animals that exhibit unusual behavior or show signs of disease or parasites. The Resident farm director will notify the PI of any unusual behavior or signs of disease or parasites and of the possible need for quarantine.

C.2.2 Stabilization and Separation

Specified farm personnel shall provide an appropriate period for physiological, psychological, and nutritional stabilization of animals entering the farm before they are used in a protocol.
All animals will be received into the farm, general health assessed and a physical examination (minimum Temperature, Pulse and Respiration (TPR); and body weight) will be performed within 12 hours of receipt by farm staff and recorded on Animal Medical Record Progress Sheet. Any problems are reported to the Resident farm director and/or the AV. All vaccines are to be documented on Animal Health Record Form. Within 48 hours of receipt, it is the responsibility of the PI to perform a physical examination of all new arrivals. This physical examination must be documented by the PI on Physical Examination Form. Swine requires a seven day acclimation period following receipt into the facility before any procedures can be performed on the animal.

C.2.3 Availability of AV

The AV is an employee of PVAMU in CAHS and is available to research personnel and farm personnel to address animal care and/or use issues. The AV visits the farm at least one day each week (except during holidays/vacation) or more often as necessary for appropriate animal care. Animal care Personnel and Research Personnel may contact the Resident farm director or the AV directly if an animal is in need of veterinary attention. A message (e-mail or written) should also be left with the resident farm director and farm manager. The PI is notified of any veterinary care that is required. Veterinary care is performed either by the AV or under the direction of the AV. The treatment plan is recorded on the veterinary Animal Health Record Form. Emergency coverage is arranged when the AV is not available. The AV maintains a log of activities when physically away from the PVAMU main campus.

- PIs who want to meet personally with the attending veterinarian may notify the resident farm director, Dr. Louis Nuti, on the farm at lcnuti@pvamu.edu to arrange a meeting in a timely manner;
- PIs with technical problems (for example, animal treatment concerns, anesthesia uses, or others) may contact the AV by telephone. If the AV is not available, the PIs should either leave a detailed message or state that a message will be sent via e-mail. The farm manager and resident farm director should be copied on all correspondence. If the AV is not on site, the PI should contact the Resident farm director in person. The AV will also provide input on the development of laboratory specific SOPs; and
- Any animal health issues will be sent immediately to the AV for instructions and/or possible examination of the animal(s) affected. The resident farm director will notify the PI promptly of any such issues.

C.3 Surveillance, Diagnosis, Treatment and Control of Diseases

C.3.1 Surveillance

The animal care personnel who are trained to recognize signs of illness, injury, or abnormal behavior in animals observe each animal at least once per day (including weekends and holidays). Results of daily rounds are noted on Daily Health Report or Herd Record Form for all animals. If an animal is found in an unhealthy condition, the animal care personnel will contact the resident farm director and/or the AV. The animal care personnel can also contact the PI/research personnel on the project involving the affected animal(s). If the PI or other personnel assigned to the protocol involving the affected animal cannot be reached or fail to respond and the animal is in distress beyond the criteria stated in the IACUC-approved protocol, the AV will make an immediate decision as to the treatment of the animal. If the PI or associated project personnel are not immediately available or fail to respond, the resident farm director will notify the PI of the actions taken by the AV (or designee). The AV has the authority to make decisions based on health concerns with or without consultation with the IACUC Chair or PI. If severe breaches of IACUC protocols occur, the AV will consult with the resident farm director, the CAHS Compliance Office and the CAHS Dean. If further breaches of IACUC protocol continue, inhumane actions will be reported to IACUC Chair. If after further breaches to IACUC protocol, the PI will be referred to CAHS Dean.

C.3.2 Vaccine and Disease/Parasite-Control Program

C.3.2.1. Cattle Vaccinations/Parasite Control – Cattle are brought up for vaccinations twice a year, April & October. The schedule follows:

Table 1. Cattle Vaccinations/Parasite Control

Age	Time of Year	Vaccine	Anthelmintic/Fly Control
Cows	April – October	• Bovine Viral Diarrhea (BVD) Type 1 & 2 • Infectious Bovine Rhinotracheitis (IBR) • Bovine Respiratory Syncytial Virus (BRSV) • Parainfluenza Type 3 (PI_3) • Vibriosis • Leptospirosis • Blackleg	Choice of medication depends on time of year and parasite load. Ex of anthelmintics used: Ivermetin Moxidectin Albendazole
Bulls	April – October	• Same as adult cows	
Heifers	April – October	• Same as adult cows • Brucellosis Vaccinated between 12 & 24 months of age.	
Calves	April – October	❖ Bovine Viral Diarrhea (BVD) Type 1 & 2 ❖ Infectious Bovine Rhinotracheitis (IBR) ❖ Bovine Respiratory Syncytial Virus (BRSV) ❖ Parainfluenza Type 3 (PI_3) Given 2 weeks + Booster in 21 to 28 days. ❖ Blackleg Given 2 weeks and a booster in 21 to 28 days.	

Handling of Biologics and Drugs (Pharmaceutical Agents)

All pharmaceutical agents and supplies are inventoried and secured in the resident farm director's. They are maintained according to label instructions (room temperature, refrigeration, light sensitive). Vitamins and vaccines are kept on refrigeration in a secured area.

C.3.2.2. Horses Vaccinations/Parasite Control

Preventative Health Care - Certain equine diseases are endemic and of concern in protecting the health of horses. The major diseases to vaccinate horses against are Eastern equine encephalitis (EEE), Western equine encephalitis (WEE), and tetanus. In certain areas of the United States, Venezuelan equine encephalitis (VEE), West Nile virus, rabies, botulism, and influenza may be significant risks to consider in developing a vaccination program. The major internal parasites that severely affect horse health include large strongyles (*Strongulus vulgaris*), small strongyles (40 species), ascarids (*Parascaris equorum*), bots (*Gastrophilus intestinalis*), and pinworms (*Oxyuris equi*). Other external parasites include:

a. Ticks, lice, and mites - are common external parasites and are easily detected and controlled with an appropriate drug - consult with a veterinarian.
b. Flying Insect control - Houseflies in sufficient numbers negatively affect the comfort of horses.
c. Stable flies, deer flies, and mosquitoes present a significant risk of transmitting disease because they have biting mouthparts and feed on blood.

Parasite Control - Horses are brought up for vaccination once a year, during the spring and the AV has developed the following vaccination schedule.

Table 2. Parasite Control for Horses

Age	Time of Year	Vaccine	Anthelmintic/Fly Control
Stallions, mares, geldings (1+ yr)	Spring	West Nile Eastern encephalomyelitis Western encephalomyelitis Tetanus	Choice of medication depends on time of year and parasite load. Ex of anthelmintics used: Ivermetin Moxidectin Fenbendazole
Foals (6 mon)	Spring	Same as adult horses	
		*Some vaccinations will be given on an as needed basis: Rhinopneumonitis (EHV-1 & 4) Strangles	

***Coggin's Test** (for Equine Infectious Anemia) will be run on as needed basis (sale, transportation, introduction of new animals).

C.3.2.3. Swine Vaccinations/Parasite Control

Parasite Control Program for swine follows:

Table 3. Parasite Control for Swine

Age & Sex	Stage of Production	Time of Year	Anthelmintics
Adult Sows and Boars (1 year +)	Lactating or Dry	2 - 3 times per year depending on parasite load	Anthelmintics used: Ivermectin
Weanlings		6 weeks of age	

Swine Vaccination plans follows**:**

Table 4. Swine Vaccination Plans.

Age/gender	Stage of production	Time of year	Vaccine/Supplements
Sows	Dry/prebreeding	Before breeding	❖ Leptospirosis ❖ Parvovirus ❖ Erysipelas
Sows	Prefarrow	Before farrowing	❖ E. coli ❖ Atrophic rhinitis
Gilts	Prebreeding	Twice before breeding	❖ Leptospirosis ❖ Parvovirus ❖ Erysipelas
Gilts	Prefarrow	Twice before farrowing	❖ E. coli ❖ Atrophic rhinitis
Boars		Twice a year	❖ Leptospirosis ❖ Parvovirus ❖ Erysipelas
Baby pigs		Prior to weaning	❖ Atrophic rhinitis
Growers	40-120 lbs	At weight	❖ Erysipelas

Newborn Pigs (up to 1 week old) will be administered : Iron dextran, Vitamin B12.

B. 3.2.4 Poultry Vaccinations/Parasite Control

Vaccinations: The only vaccines administered are those given at the source hatcheries. They routinely are as follows: White Leghorns: Merek's, IBD, New Castle spray vaccine given at hatch.

- Internal and External Parasite Control:
  - ❖ No medication for internal and external parasites is applied.
  - ❖ If by chance external parasites such as northern foul mites, poultry lice, and insects are observed, they will be treated and controlled with a 10% permethyrin spray. The brand name of the product is Permasan and it is mixed at a ratio of 4 fluid ounces per gallon of water. The mixture is administered with a garden sprayer and applied to the pen and cage perimeter.
- Diagnostic Procedures: In rare cases of extreme morbidity and/or mortality, dead or failing animals will be submitted to the TAMU Poultry Diagnostic Laboratory in College Station for necropsy and histology. Response will follow guidelines set by the advice of the TAMU.

C.4 Other Areas of Veterinary Care

C.4.1 Management of Protocol-Associated Disease, Disability or Other Sequelae

The PI is responsible for management of protocol-associated diseases, disability, or other sequelae. The AV is available as a resource to the PI/Research Personnel for any questions related to protocol-associated diseases, disability or other sequelae.

C.4.2 Anesthesia and Analgesia, Surgery and Postsurgical Care

Individuals qualified and experienced in such procedures conduct anesthesia and analgesia, surgery, and post-surgical care according to the protocol approved by IACUC. The AV provides oversight to surgery programs and post- surgical care. The PI/Research Personnel are responsible for post- surgical care in accordance with their protocol. The Resident farm director will contact the AV if problems arise. In addition to an approved IACUC protocol, each laboratory must maintain species-specific SOPs, which provides detailed systematic practices for the specific procedure being proposed. Examples of these SOPs may be obtained from the resident farm director. The AV must approve these SOPs before the IACUC will approve an animal protocol.
Due to the wide variety of protocols and species used on the farm, anesthetics and pain management is quite variable. PVAMU's IACUC requires anesthetic choices, pain management choices, dosages, and frequency clearly documented in the protocol. The Resident farm director and AV are available for consultation. Contact the AV for more information if required.

Anesthetics:

- **Swine** – Injectable: Ketamine HCl/ Medetomidine; Telazol/Ketamine HCl; Inhalation: Isoflurane;
- **Horse** – Acepromazine ; Diazepam; Bradycardia; Xylazine-ketamine
- **Poultry** - Ketamine HCl; Diprivan-EDTA; Acepromazine

Analgesia:

- **Swine** – Buprenorphine, Butorphanol, Carprofen, Fentanyl patches;
- **Horse** – Detomidine HCl, Absorbine Liniment gel,
- **Poultry** – Heparin Lock IV, Tinzaparin

Non-pharmacologic means to moderate pain or distress may include decrease in the number of animals in each herd, adding more bedding materials, changing the bedding and providing food and/or available water sources for easy access by the animal. The major responsibility for animal protection and monitoring during and after procedures lies with the PI, as is true for all use of live animals. This means that:

- The PI is responsible for all actions taken by their research personnel. It is the responsibility of the PI to ensure that all research personnel are familiar with the IACUC-approved protocol, and their role(s);
- The PI is responsible for communicating with the resident farm manager regarding any special needs that an animal may have;

- The PI must provide an accurate list of individuals and their specific roles on the protocol to the resident farm director. The PI is responsible for providing a contact list so that a research personnel member is available at all times to deal with animal complications;
- A copy of the SOP should be in the room where the animal is housed;
- All Medical Record Forms must be completed to document interventions, monitoring, care, complications, and treatment throughout the protocol. Monitoring and treatment must be documented utilizing the appropriate forms, in accordance with the SOPs of the resident farm director, federal regulatory agencies, and the PI's IACUC-approved protocol;
- Any instances where a PI or Research Personnel member fails to follow IACUC approved procedures or IACUC policies, the action may result in suspension of a protocol, suspension or loss of all animal research privileges, or other action in accordance with IACUC or farm policies and procedures.
- The most serious cases of non-compliance may result in the loss of the PI's rights to use the data obtained from such experiments; and
- Failure to document completely all animal care/observations is considered an infraction by the USDA and the PVAMU IACUC. Failure to document completely animal care may result in suspension of a protocol and/or the privilege of a PI to perform animal research.

Pre-Surgery – Upon arrival of an animal, it is the responsibility of the PI to ensure that an individual listed on the protocol observes the animal within 48 hours of arrival. During this period, the PI (or their designee) should perform a complete physical examination of the animal. These observations should be recorded on Animal Health Record Form. At least two working days prior to the scheduled procedure, it is the responsibility of the PI to submit the names of all individuals who will be involved in the specific procedure to the IACUC Chair. The IACUC Chair or designee will verify that the individuals listed have received the appropriate training, are listed on the PI's protocol, and contact the Resident farm director. Once this list is verified, the animal will be released to the PI by the resident farm director. Inclusion of any individuals not trained or listed on the IACUC-approved protocol may result in a delay in the scheduled procedure. A physical exam must be performed on the animal within two hours of the start of the procedure by the PI or designated Research Personnel. This exam must be documented on Animal Health Record Form. This exam should include a minimum of temperature, pulse and respiration of the animal.

Surgery – Individuals performing survival procedures must be knowledgeable about aseptic surgical techniques and have adequate training and skill to conduct the procedure without causing undue intra- and post-operative distress to the animal. All survival procedures on large animals must be conducted in IACUC-approved surgical facilities. All individuals involved in the procedure (including the monitoring of vital signs) must be trained, competent, and be approved to perform their tasks by the IACUC and the AV. Anesthesia, surgery, and anesthesia

recovery must be documented on Animal Health Record Form. Any unexpected adverse effects are to be documented on the Animal Incident Form within 72 hours of the event .This form is to be returned to the Resident farm director, who will ensure that the PI; AV; ARF Director; Research Compliance Officer; Research Compliance Monitor; IACUC and IACUC Chair are notified immediately.

Post-surgery – After survival procedures, all animals should be closely observed for the following 24 to 48 hours. Animal health, complications, and treatment must be documented on Animal Health Record Form. for the 10 days following invasive procedures. All observations must be documented in accordance with the SOPs of the farm, federal regulatory agencies, and the relevant IACUC-approved protocol. Failure to document all care/observations is considered an infraction by both the USDA and the PVAMU's IACUC. Failure to provide or document appropriate animal care will result in suspension of the protocol and possible suspension of all privileges to use animals in research. Depending on the nature of the procedure performed, this window of time may be widened to ensure the well-being of the animal. Animals which do not exhibit normal behavior (for example, eating, drinking, activity) within 48 hours may be experiencing procedure-related infections/complications and require further evaluation. It is the responsibility of the PI to notify the Resident farm director and AV of these potential complications. All incision sites must be observed daily for 10 days following surgery or until healed, whichever comes first. Adequate levels of antibiotics should be present at the time of invasive procedures to help prevent infections. The choice of post-procedure antibiotic should be listed on the IACUC-approved protocol. It is the policy of PVAMU that all animals undergoing major invasive procedures must be given analgesic agents for at least the initial 24-48 hours post-procedure. Continuance or withdrawal of analgesics after this time should be based on the federal regulations and policies states that:

1. Procedures that may cause momentary or slight pain or distress to the animal will not include the use of paralytics without anesthesia.
2. Procedures with animals that may cause more than momentary or slight pain or distress should be performed with appropriate sedation, analgesia, or anesthesia. Surgical or other painful procedures should not be performed on un-anesthetized animals paralyzed by chemical agents.

The choice of analgesic depends on the species and severity of the manipulation. The dose, route of administration, and the frequency of administration of the analgesic must be listed on the IACUC-approved protocol and documented on Animal Health Record Form. If analgesics would interfere with the experimental design, the need to withhold analgesia must be justified in the protocol application and approved by the IACUC. It is the responsibility of the PI to make sure all animal care personnel are aware of the health condition of all animals under their care and whom to notify in case of an emergency.

Notification and Record Keeping –Unexpected or atypical complications (including but not limited to animal death under anesthesia) that were not anticipated or identified in the approved protocol are to be documented on the Animal Incident Form within 72 hours of the event .This form is to be returned to the resident farm director, who will ensure that the PI; AV; Research Compliance Officer; IACUC and IACUC Chair are notified immediately. Postmortem examinations may be performed at the discretion of the AV. It is the responsibility of the PI to maintain accurate records on all procedures and peri-operative care. Animal Health Record Form must be completed and include a pre-surgical physical within two hours of surgery. Animal Health Record Form must be filled out during pre-surgery and surgery to document animal health and complications. Animal Health Record Form is completed during the immediate recovery. Close postoperative monitoring is required and must be documented on Animal Health Record Form until the animal recovers from anesthesia. At a minimum, daily monitoring of each animal is required and must be recorded on Animal Health Record Form until the end of the post-operative period (defined as, when sutures are removed and the surgical wounds are properly healed), unless indicated by the condition of the animal or the IACUC-approved protocol. The originals of these forms are to become part of the animal's medical record. Examples of conditions that may require two or more daily observations include administration of pain medications or antibiotics and bandage changes. All records must be kept in the animal's housing area so that they are readily available to the personnel involved in post-surgical monitoring, the ARF Personnel, AV, the IACUC and federal regulatory officials.

Farm Monitoring and Oversight

Pre-surgery – Upon arrival in the facility, it is the responsibility of the animal care personnel to note the general condition of the animal on Animal Health Record Form. The PI and the Resident farm director should be notified immediately of any potential problems. This does not substitute for the complete physical examination that the PI is required to perform within 48 hours of receipt. It is the responsibility of the animal care personnel to prepare an animal for the procedure per the IACUC-approved protocol. It is the responsibility of the PI to provide the appropriate information (such as the time to remove food and water from the animal) to the resident farm director and AV. The AV will not release any animals for procedures until the IACUC Chair or designee has verified the individuals involved in the procedure have appropriate training, and has contacted the Resident farm director. No animals will be released to the PI prior to the approved acclimation period. The animal care personnel will move the animal to the surgical suite in a manner consistent with federal guidelines.

Post-surgery – Once an animal has been returned to the farm, animal care personnel will perform daily rounds on the animals. It is the responsibility of the animal care personnel to notify the PI and/or AV of any health concern. In the event of an emergency the PI or Research Personnel should be contacted immediately, as well as the A. The PI still maintains the responsibilities outlined above.

AV Monitoring and Oversight

The AV is initially responsible for approving the technical aspects of the submitted protocol. In addition, the AV will also review any changes or deviations from the general standard operating procedures (SOPs) for the identified species. These changes or deviations must be clearly identified and defined with the IACUC protocol. If the protocol requires major changes from the general SOP then the investigator must submit a Lab SOP. The AV will also be responsible for determining whether particular personnel listed on the protocol are qualified for the responsibilities that they are assigned. The AV may employ a number of means to determine whether an individual is qualified to perform the surgical or post-surgical duties assigned to them. If an individual does not the AV standards, the AV will use other means to determine their qualifications. These include (but are not limited to), meeting with the individual, observing the individual perform the technique, previous experience, or administering an examination. If an individual does not agree with the assessment of the AV, the individual may appeal the decision to the IACUC and the Institutional Official. The final decision rests with the Institutional Official. The degree of involvement of the AV pre- and post-surgery is determined by the individual project. The AV will consider a variety of factors including the experience of the surgeon, the proposed procedure, the species involved, and the potential post-operative care required by the animal. At a minimum, ongoing veterinary monitoring will consist of regular review of pre- intra- and post-surgical documentation Animal Health Record Form. Animals will be observed to ensure that they are receiving adequate post-surgical care. The AV (or designee) is available for consultation when planning for post-operative care of animals, as well as for post-surgical emergencies. It is the prerogative of the AV to suspend immediately any protocol if there are unanticipated complications and/or if said complications are not handled in what is deemed a humane, proper manner. Upon receiving an Animal Incident Report form, the AV determines whether the adverse event requires immediate suspension of the protocol or an emergency IACUC meeting.

IACUC Monitoring and Oversight

The IACUC evaluates proposed procedures and pre- and post-operative care during the review of the submitted protocol. On-going monitoring and oversight occurs during the semi-annual inspection process, when animal facilities (including surgical and recovery areas) are inspected. The IACUC also reviews information obtained from the AV and the resident farm director may act upon information obtained from the AV and the animal care personnel through adverse event reporting. The IACUC will review all Animal Incident Reports on a monthly basis. Any member of the IACUC may monitor procedures at any time. Any instances of non-compliance may result in suspension of a protocol, or suspension or loss of all animal research privileges or other action in accordance with the IACUC Policies and Procedures. The most serious cases of noncompliance may result in the loss of the investigators rights to use the data. Research

personnel are encouraged to consult with the AV or other experts regarding the proposed surgical procedures prior to submission of an IACUC Protocol Application for Animal Use Form. The IACUC Protocol Application for Animal Use Form requires information on various aspects of the surgical procedure and allows reviewers (including the AV) to address any outstanding questions regarding training, equipment, supplies, and care of animals. Surgeries are performed in procedure rooms/labs or in the surgical suite. The IACUC Protocol Application for Animal Use Form must specify who is performing the surgeries, what their training or experience is with regard to the surgery, and details on pre-, intra-, and post-operative monitoring and management of animals. It is the standard of animal care to administer analgesics following any surgical procedure, unless otherwise approved by the IACUC.

Survival Surgery – PVAMU has guidelines covering the use of aseptic technique for survival surgeries. Briefly, the guidelines state that instruments must be sterilized, the surgical site on the animal must be appropriately prepared (for example, removal of hair and disinfection of site), and the surgeon must be appropriately dressed (facemask, surgical gloves, bonnet at minimum). PIs are responsible for ensuring and providing sterilized instruments and protective clothing. An autoclave is available on the farm should the PI not have access to another means of sterilization. An autoclave is also available in the surgical suite. Details of post-operative monitoring and care are described in each approved IACUC Protocol Application for Animal Use Form. The Investigator must list the types and frequency of monitoring and care that will be provided, as well as the person who is responsible for providing this monitoring and care.

C.4.3 Assessment of Animal Well-Being

The AV establishes appropriate mechanisms to ensure adequate assessment and monitoring of animal well-being. The AV and animal care personnel routinely monitors animals on the farm. The AV may delegate that responsibility to qualified individuals for animals housed outside the farm.

C.4.4 Euthanasia

Animals must be properly euthanized using the techniques for the species as established by the American Veterinary Medical Association (AVMA), unless otherwise approved under the protocol. The AV is responsible for conducting or arranging for the euthanasia of animals under the protocol. If the AV determines that any animal must be euthanized outside the protocol to relieve humanely the animal of undue pain and suffering, the Resident farm director will immediately notify the PI. It is the responsibility of the PI to arrange for euthanasia of the animal(s) within the period required by the AV. If the PI fails to euthanize the animal(s) in a timely manner, the resident farm director will arrange to euthanize the animal(s).

D. FARM HOUSEKEEPING

D.1 Cleaning and Sanitation

Animal care personnel are responsible for all routine cleaning maintenance of the farm areas, which includes managing the storage areas and laundering uniforms. Janitorial services are available for cleaning and polishing floors, cleaning restrooms and offices, and any other tasks that do not require intervention by the Compliance Office.

Since cattle and horses are allowed to roam in the pasture, bedding is not necessary changed. However, swine pens are hosed daily including weekends and holidays.

- **Swine Pens –** Pens are hosed daily including weekends and holidays;
- **Poultry Pens -** All floor pens will be cleaned before each batch of birds arrive unless abnormally poor litter conditions require more frequent cleaning. All used litter will be removed from the pens and deposited on the PVAMU pasture. The manure will be collected into a wagon specially designed for that operation.

Dirty Soiled Bedding Locations – After the removal of soiled bedding and before soiled bedding is replaced and excreta is removed , the animal's stall are disinfected and dried. When potentially infectious agents are present (either as part of the experimental design or due to infection of the colony), the soiled materials are disinfected before disposal.

D.2 Cleaning and Disinfection of Secondary Enclosures:

- **Animal Room Cleaning Frequency, Procedures, Methods and Agents** – Animal room floors are swept and mopped on weekly cleaning days, or more often if necessary. All animal rooms are cleaned and sanitized at least every three months or as the rooms become empty. The rooms are washed with a high pressure sprayer including walls, ceilings, and floors. The floors of rooms containing large animals housed in pens or runs are cleaned of excreta, washed and disinfected daily;
- **Corridor and Support Area Cleaning** – The corridors and feeding areas are swept and mopped daily. Procedure rooms are swept and mopped after each use, or at a minimum, weekly. The feed and bedding storage room is mopped weekly. Other support areas are cleaned monthly or more often if needed. Corridors are stripped, mechanically scrubbed and sealed at least twice a year. Pens are hosed daily and cleaned with a disinfectant at least weekly;
- **Implements** – Mop heads are sanitized every two weeks or more frequently if needed. Mop buckets are rinsed after each use and placed in storage every two weeks or more frequently if needed; and
- **Separation of Cleaning Implements by Barns** – Cleaning implements are not shared between barns. Each animal barn has dedicated cleaning equipment including a broom, dustpan, mop and mop bucket.

- **Sanitation of Cage Equipment:**
  - **Procedures and Frequency for Feeders** – Feeders such as bowls and feed pans are washed daily and sanitized weekly;
  - **Procedures and Frequency for Watering Devices** – Water bottles are changed and sanitized weekly. Water bowls and troughs are washed daily and sanitized weekly; and
  - **Procedures and Frequency for Enrichment Devices** – Enrichment devices including balls, lids, and toys are changed and sanitized weekly or more often if the need arises.

- **Sanitation of Transport Equipment and Vehicles** – The farm equipment and vehicles that are designated for transporting feed and bedding to each barn will be sanitized after each use.
- Periodically, the resident farm director, the farm manager or designated farm personnel will perform microbiological monitoring to ensure appropriate sanitation and disinfection of the farm areas. Within twelve hours of sanitation, the surface of the plate will be pressed against the sample surface. The plate is marked with the source of the sample and the plate incubated at 37ºC for 24 hours. Colonies are counted and plates disposed of as biohazardous waste.

Interpretation of the results is as follows:

- 0-5 colonies: excellent;
- 6-15 colonies: good
- 16-30 colonies: borderline
- 31-50 colonies: poor
- 50 colonies: unacceptable

D. 3. Waste Disposal Methods

D.3.1. Soiled Bedding and Refuse – All excreta from swine are swept away from each stall area. All other trash is placed in a heavy duty plastic bag and filled to approximately 30-40 lbs then tied off and placed into the dumpster available to each barn area. A facility contractor transports the dumpster to a sanitary landfill.

D.3.2. Animal Carcasses – All animal carcasses are placed into a plastic bag and placed inside a lined biohazard container that is stored in dedicated carcass freezers on the farm . All containers must be labeled with the PI's name, room location, number where animals originated and number of animals placed in container, and date of euthanasia. Carcasses of dead animals are incinerated according to **Incinerator Usage Procedures (according to PRAIRIE VIEW A&M UNIVERSITY ADMINISTRATIVE PROCEDURE 24.01.01.P0.04).** The purpose of the Incinerator Usage Procedure is to help ensure that the University complies with all relevant local,

state, and federal occupational and environmental regulations, codes, and standards. The Director of the International Goat Research Center of PVAMU is responsible for the following:

- Ensure the incinerator is only used by trained personnel. This is accomplished by ensuring the incinerator gate is always secured and keys are kept in secured location and only issued to trained personnel;
- Ensure incinerator is used only for EHS approved incineration items, farm animals, and EHS approved Biological waste disposal;
- Maintain the incinerator usage logbook;
- Provide copies of monthly usage to Vice President for Business Affairs Office and EHS for TCEQ reporting;
- Environmental Health & Safety Department (936-261-1745) is responsible for the following:
    - Ensure incinerator logs are received from the Goat Center monthly for the TCEQ Air Permit report;
    - Ensure all users are properly trained in incinerator operations and limitations set forth by the PVAMU Air Permit;
    - Ensure ash from incinerator is properly handled and disposed of; and
    - Ensure operators do not exceed Air Permit limitations of 99.99 lb./hr.

As part of training, the PVAMU International Goat Center and EHSD will provide consultation and assistance to the incinerator users as necessary.

D.3.3. Hazardous Wastes

All potentially infectious waste is placed into a biohazard container lined with a red biohazard bag. When the container is filled, it is transported to a dedicated storage area within the farm prior to removal by the Environmental Health & Safety Department.

D.3.4. Pest Control Program – PVAMU has a pest and vermin control program maintained by a commercial pest control company, Right-Now-Pest Control. Bait gel is used throughout the farm for control of roaches. Farm personnel report any sightings of pests to the resident farm director who can report it to Facilities Management who, in turn, will contact Right-Now-Pest Control. Rodent monitoring is accomplished by the use of live mousetraps located throughout the facility. These traps are checked weekly by farm personnel.

D.3.5 Other Considerations for Animal Care - Critical and Weekly Duties

The care of livestock species with regard to land, nutrition and forage needs are clearly defined in the publication of the Federation of Animal Science Societies entitled ‘Guide for the Care and Use of Agricultural Animals in Research’. All livestock species housed and cared for on the University Farm will be maintained in accordance with these standards.

Critical Farm Activities

1. Every livestock species shall have a visible, easily readable and unique form of identification. As a backup for potential identification loss, a more permanent form (tattoo, ear notch, microchips, branding, etc.) will be implemented if at all possible. Poultry species can be identified by leg or wing bands.
2. Every morning, wash pig stall and feed the pigs at the swine center. Properly wash and sterilized the stalls. Feed the pigs appropriate pounds of feed based on body size.
3. Work and manage the cattle, horses, and pigs on a schedule deemed necessary for the wellbeing of each agricultural livestock species on the Prairie View A&M which includes vaccinations, tagging, deworming and any other special management needs. Each month a paper head count will be made of all livestock species to account for all animals. On a quarterly basis, all livestock must individually identified for official inventory purposes in the presence of the official inventory personnel. Official copies of this quarterly inventory action shall be retained with the inventory personnel and a copy should be retained by the farm manager. A monthly paper count of all livestock shall be taken and stored by designated personnel.
4. Hay production is priority and we will plan and schedule all activities at least two months before starting the activities. The amount planted and harvested will be based on projected annual needs for all livestock species consuming hay. All hay making related equipment and supplies must be in working condition and available for planting and harvest times. Other nutritional needs for all livestock should be ordered and available so that the animal's needs are always met.
5. Maintain health, birth and death records (see Appendix) for the pigs, cattle, chickens and horses and all other agricultural livestock species on the farm. Death certificates (see appendix) shall be completed for each species as soon as possible after death listing date, animal ID, location, cause of death if known and whether additional steps have to be taken to identify cause of death such as necropsy or laboratory tissue analysis. Death certificates must be signed by person finding dead animal and by a second authorized witness. If more detailed investigation is required, the available veterinarian must order such procedures and sign off on the appropriate form (see appendix) as to any additional findings. Death certificates shall be maintained as permanent records by the veterinary and inventory person and the resident farm director and farm manager should maintain duplicates during a given calendar year.

E. Farm Areas

All farm personnel supervised directly by the farm manager will use the timesheet below that is design to track time worked and attendance.

Table 5. Timesheet for Farm Workers Supervised by the Farm Manager

	Employee Sign-in and Sign-out Sheet				
DATE	**NAME**	**Time-In**	**Initial**	**Time-Out**	**Initial**

E.1 Feed Mill – The primary objective of the CAHS Feed Mill is to store purchased feed for distributing to the poultry center, swine center, goat center, cattle and horses located in the farm areas. The feed mill will be used in the following ways:

- Receive feed from vendor;
- Store feed on pallets and at least two feet away from the wall;
- Daily – keep feed mill clean by cleanup feed from broken bags;
- Keep daily log of feed used;
- Distribute feed to animal units in first-in first-out order;
- Keep feed mill locked when not in use;
- Sanitize propriety areas in the feed mill;
- Have a regularly scheduled pest control program to maintain a pest free environment using Right-Now Pest Control;
- Store chemicals away from feed; and
- Feed mill access and inventory records will be maintained by the Farm Manager who will make them readily available to the resident farm director when requested.

E.2 Greenhouse

All first-time users of the greenhouse facility (faculty, staff, students, and volunteers) are to attend an orientation session. This session will introduce the user to the resources and policies of the greenhouse facility, good housekeeping rules, disease and pest avoidance, and worker and pesticide safety. Training of first time users will be coordinated through the Greenhouse Manager.

E.2.1. Visitors - Access to Greenhouse Complex is limited to authorized faculty, staff and students. The staff or scientist will accompany all visitors. Children must be under adult supervision. Visits are to be pre-scheduled and organized through the Green House Manager.

- The greenhouse is a laboratory and we must follow proper lab safety at all times. Do not wear open toe shoes and sandals in the greenhouse.
- No one is to change, reprogram or turn on and off any equipment, computer panels, or circuit breakers. Personal safety can be at risk and serious damage can occur to equipment and research projects
- Make sure that doors to greenhouse are closed at all times. Proper heating or cooling will not occur if they are open. Open door also allows insects to enter the greenhouse. Do not block or stack materials in front of intake vents in greenhouse. .
- Avoid clogging the drains and allowing dirt to build up in the greenhouse. Perform potting in the designated work area. Please clean up all remains from potting.
- Return carts promptly to the assigned area when not in use. Return other borrowed equipment and tool to the proper locations.
- For security and safety, lock doors of the greenhouses and head house after entering or exiting building.

E.2.2.General Sanitation Procedures to Minimize Pest and Pathogen Outbreaks

- Always notify the staff before moving plants material into the greenhouse.
- Report all insect and disease problems immediately to the greenhouse staff.
- All greenhouse and head house space are to be kept clean and orderly by the users.
- Greenhouse rooms are not storage areas for pots and other cultural supplies. No items are to be stored under the benches. Consult with the greenhouse staff for approved alternative storage.
- Do not bring personal plants into the greenhouse.
- Soil and plant material are to be disposed of at designated locations.
- It is the responsibility of the research group, faculty and staff to maintain appropriate greenhouse sanitation and keep the greenhouse clean

E.2.3 Equipment

- Do not attempt to operate any equipment before receiving training to use that equipment. Check with the greenhouse staff before using any greenhouse equipment.
- It is essential that you report breakage, loss or malfunction of any equipment to the greenhouse staff.
- Greenhouse tools and equipment are not for personal use and are to be checked out and checked back in so that they can be returned to their original storage location.

E.2.4. Greenhouse User Responsibilities

- Seeds and plant materials and other supplies are required for your greenhouse research, class or extension projects.
- Be responsible for planting and maintaining your plants, including staking, training, transplanting, weeding, potting/repotting, pruning, fertilizing, and insect /disease control (monitoring).
- Carry out all experimental treatments and make all experimental measurements. Harvest all plant materials required for experimental purposes. Maintain an active role in the progress of the greenhouse project.
- Dispose of unneeded plant material and remove equipment at the completion of the experiment.

E.2.5. Plant Material and Used Soil Disposal

- All greenhouse operators should discard all plants waste in the dumpster outside the greenhouse. Discard used soil in container outside the greenhouse.
- Please do not discard any non-biodegradable materials (pots, flats, labels, sticky tags) in the waste container, instead place these materials in the dumpster.
- Do not be use garbage cans for plant and soil disposal. Leaving plant materials in the greenhouse garbage cans may lead to the spread of insects and disease problems.

E.2.6. Pesticide Safety

It is important to safely mix, store and dispose of unwanted pesticides. Staff should follow safety procedures when handling pesticides and disposing empty containers, selecting the right pesticide and personal protective clothing and equipment (PPE). Some general precautions are considered as the staff will be trained to do the following:

- Read and follow the label information and directions on the pesticide;
- Remove contact lenses before handling pesticides;
- Wash before eating, drinking, smoking, or using the toilet;

- Not having food or smoking products on your body when handling pesticides;
- Never eating, drinking or smoking when handling pesticides;
- Immediately, washing any spilled pesticide off an affected person and removing contaminated clothing;
- Showering and washing hair and cleaning under the fingernails at the end of each day; and
- Wear clean personal protective equipment (PPE) -Use PPE that will block all routes of exposure to the pesticide you will be using. Use coveralls, unlined rubber gloves and boots, and certain types of hats will prevent absorption through the skin. Goggles or face shields will protect the eyes. A respirator designed to block pesticide vapors or particles will protect airways. Safety Data Sheets also provide information to help staff decide what personal protective equipment (PPE) to wear. Clean all PPE (coveralls, gloves, hats, boots, goggles and face shields, and respirators) after each job or at the end of the day.

E.2.6.1. Before Mixing a Pesticide

- Review safety precautions, first aid information, mixing directions and pesticide rates. This information is on the pesticide label;
- To protect applicators and the environment, the mixing should be done outside or in a well-lighted and a well-ventilated area, be close to the application site, and be away from other people, livestock, and pets;
- Application of Pesticides - Equipment applying pesticides should be inspected and calibrated
- Never work alone; and
- Never blow out a nozzle with your mouth. Never use sharp, metal objects or wire to remove a blockage. This can damage the nozzle.

E.2.6.2. Container Cleaning and Disposal

- Clean containers when empty. This removes pesticide residues before they dry. When emptying a pesticide container:
- For liquids, drain the pesticide into the spray tank or mixing tank until no drips are visible.
- For solids, gently shake the bag into the tank or hopper until no loose pesticide remains.
- Triple rinse or pressure rinse metal, plastic, or glass containers, unless otherwise indicated on the label.
- Gently single rinse bags if possible, unless otherwise indicated on the label.

E.2.6.3. Storage Areas

The storage facility should:

- Be used only for storing pesticides;
- Be locked to prevent entry by unauthorized persons;

- Be built to protect against adverse weather;
- Be made of fire resistant materials;
- Have a floor that does not allow seepage (with a curb to retain spills);
- Be well ventilated in all weather conditions;
- Have proper fire extinguishers outside the storage facility;
- Have easy access to emergency equipment and personal protective clothing outside the storage facility; and
- Have a warning sign on the entrance that indicates that pesticides are stored there, flammable materials are present and no smoking is allowed.

- A limited amount of storage is available in the headhouse. Do not use the greenhouse for storing large items. Store items used daily in watertight containers in the greenhouse.
- Pesticide and fertilizer storage are located in the headhouse in a limited access room. All pesticides and fertilizers should be stored in these areas. Please refer to Pesticide Safety Guidelines and Safety Data sheets for specific details regarding pesticide use.
- Pest Control - Pesticides are normally applied by the individual user group unless otherwise requested.

E. 3. The Farm Shop

The Farm Manger will be responsible for the following activities as it relates to the Farm Shop:

E.3.1. Used Motor Oil, Filter Management and Scrap Tires Disposal

The primary objective of the CAHS *Used Motor Oil and Filter Management Disposal procedure* is to properly manage and dispose of materials on campus. It will oversee the disposal of any used oil and filter(s) from the farm shop, greenhouse, feed mill, swine center and other areas of the farm.

Responsibilities:

- The farm manager will ensure that the staff is trained to properly handle used oil, rags, wipes and absorbents;
- Staff will handle used oil, rags, wipes and absorbents properly according to applicable federal, state and university regulations as supervised by the farm manager;
- Staff will ask the farm manager if they have any questions about handling waste; and
- Staff will minimize the volume of waste stored.

Procedure:

Used Oil

- Label all used oil container with the words “Used Oil, Hazardous waste” and date container.

- Label with name, building, telephone extension
- Label with the word Flammable
- Keep container securely closed.
- Do not co-mingle used oil with other solvent
- Staff will store container in a safe location away from drains.
- Use funnel to reduce spills when pouring used oil into container
- Use absorbent material to clean up spill
- The oil will be disposed of by legitimate means – Prairie View A&M EHS staffs collect and dispose oil

Used Oil and Fuel Filters

- Label container storing used oil filters
- Removed filter has from 12 to 16 ounces of oil.
- Drain filter for 24 hours.
- Store drained filter in sealed container - Prairie View A&M EHS staffs collect and dispose used oil filters
- Tag fuel filter for collection by EHS

Rags, Shop Wipes and Absorbents

- Label container "contaminated Rags, wipe and absorbent"
- Store contaminated rags, wipes and absorbent in a completely secure container for disposal
- Prairie View A&M EHS staffs collect and dispose "contaminated Rags, wipe and absorbent"

Scrap Tires

- The primary objective of the CAHS scrap tire procedure is to properly manage and dispose scrap tires appropriately. This includes any used tires from the University Farm including used tires from the farm shop, greenhouse, feed mill, swine center and greenhouse
- A quarterly inventory of all tires shall be taken which includes newly purchased and unused, number disposed of in previous quarter and number and kind of tires currently in used on farm.
- Proper storage – Tires will be stored in a dry location on the farm until there are enough to take to the transportation department to dispose according to applicable federal, state and university regulations.
- Supervisor will ensure that staff is properly trained to store and dispose of scrap tires.

E.3.2. Farm Vehicle and Equipment Management Plan

The University Farm operates under the PVAMU's Vehicle Fleet Management plan, which adheres to the System Regulation. The following are the University's procedures for complying with these regulations.

Vehicle Fleet Management Plan

The Prairie View A&M University Fleet Management Plan provides professional maintenance, fuel, and detail services to all University vehicles. They promote teaching, research, and service and implement policies necessary to ensure vehicle safety, superior automotive service, and reducing overall operating expenses.

The **Senior Mechanic** is responsible for:

1. Supervising daily repair and maintenance operations on gasoline or diesel engine vehicles and equipment;
2. Performing highly skilled repair and maintenance operations;
3. Setting up all appointments including repairs, PMs, car wash/detail, etc.; and
4. Notify departments of their PM schedule.

The ***Vehicle Coordinator*** is the individual appointed by the dean, department head or director to coordinate vehicle usage and provide a point of contact to the Vehicle Fleet Manager. Duties include:

1. Interacting with the two vehicle coordinators, Ms. Monica Brown and Ms. Caralita Solomon.
2. Receiving routed requests, requisitions or changes concerning vehicles;
3. Ensuring accident information is reported within 24 hours; Ensuring a Motor Vehicle Accident Report is faxed to Risk Management and Safety and the site coordinator within 48 hours;
4. Ensuring information entered into the State of Texas Vehicle Use Reports is accurate and correct;
5. Maintaining completed State of Texas Vehicle Use Reports within the department for auditing purposes;
6. Ensuring vehicles are used for business directly relating to the responsibility of the department or institution;
7. Ensuring State safety inspections are current;
8. Inspecting vehicles to ensure vehicle body damage has been reported to the site coordinator and repair is performed in a timely manner;
9. Scheduling and ensuring departmental compliance with the required preventive maintenance program; and
10. Providing training, guidance and information as needed for vehicle operators

The ***Vehicle Operator*** is an individual operating a PVAMU vehicle. Duties include:

1. Possessing and maintaining a valid driver license or commercial driver license when required;
2. Ensuring vehicles are not used for any purpose other than official business;
3. Reporting any mechanical problems to the vehicle coordinator;
4. Following all state laws associated with vehicle operation;
5. Keeping vehicles secured when not in operation;
6. Becoming familiar with the Regulation of PVAMU Fleet Management Plan; and
7. Understanding the procedures associated with state vehicle usage as required by state law. Fleet vehicles may only be used to conduct official University business and under no circumstances may a University owned/leased vehicle be used for personal convenience or to conduct private business.

Driver License Requirement

1. Departments are responsible for ensuring the drivers of their assigned vehicles are faculty, staff members, students or affiliates of their department. Drivers must be at least 18 years old, possess a valid driver's license and be approved by the department to drive University vehicles. Transportation Services personnel are required to obtain the driver's license number of any individual to whom a vehicle is being released.
2. No undergraduate students should drive a university vehicle.

Vehicle Use and Driver Authorization

1. To become an authorized driver, a vehicle operator must possess a valid Texas Vehicle Operator's License and be added to the approved drivers list maintained by the Transportation Office as well as the Department of Public Safety. Prior to being placed on the list, we will verify each employee's driving record through the Texas Department of Public Safety.
2. If the driver will be transporting students, he/she will be required to complete PVAMUs Defensive Driving course.
3. Together, the Transportation Department and DPS will be responsible for conducting an annual driving records check on all approved drivers and providing the Fleet Manager with a document confirming their drivers' status as authorized or unauthorized.
4. All traffic citations issued to the driver of a University vehicle must be reported to their supervisor. If an authorized driver is convicted of a traffic violation that results in the loss of their Texas Vehicle Operator's License, the driver must notify their supervisor that they have lost their license and are no longer eligible to drive a University vehicle.
5. Failure to comply with this requirement may result in disciplinary action up to and including termination. Additionally, if the employee's position requires a valid license, failure to maintain a good driving record may result in disciplinary action up to and including termination.

6. To legally operate some heavy duty University vehicles, state law requires the driver to possess a valid commercial driver's license. Vehicle operators, when driving heavy-duty vehicles, are subject to the provisions of the federally mandated program of Drug and Alcohol Testing for Safety Sensitive Positions Requiring a Commercial Driver's License. Failure to comply with the provisions of this program may result in the loss of authorized driver status and disciplinary action up to and including termination.

Vehicle Security

1. The security of University vehicles and contents is the responsibility of the driver**.** When the vehicle is not in use, the keys should be removed from the ignition, all windows up, and the vehicle locked. If there is an alarm system installed in the vehicle, it should be set upon leaving the vehicle. Failure to ensure that the vehicle is properly secured may result in theft of personal items and/or the vehicle. The University is not responsible for any personal items left with a University Vehicle.
2. Vehicles that become disabled on the road should be secured with all possible precautions taken to prevent theft or vandalism. In the event a vehicle cannot be secured in its present location, the driver should contact the Transportation Center to tow the vehicle to a facility where it can be secured. Vehicles should not be left along highways or in any area where it is more likely for theft or vandalism to occur.
3. Vehicle operators should be aware that employee safety is the first and foremost concern. Although ensuring vehicle security is important, the Operator's safety should **never** be sacrificed in order to do so.
4. To report vehicle break-ins on campus, you may call University Police at (936) 261-1375. Off campus reports may be called in to the local Police Station by dialing 911.

Vehicle Use Reports

1. State law requires each driver of a state-owned vehicle to complete a daily report of use on the Monthly Vehicle Use Report form.
2. The report must show the number of trips, purpose for which the vehicle was used, miles traveled, amount and type of fuel purchased, oil added, passengers carried, and other information as may be required to provide a record of vehicle use and maintenance performed. Receipts for any vehicle purchases made, by the driver, from private sector vendors must be itemized and attached to the Monthly Vehicle Use Report form. These reports should be submitted to the Fleet Manager in a timely manner.
3. If the vehicle is used by more than one operator during the day, each operator must enter his or her name into the report. If more than one page is required per month, a continuation page may be used.
4. After the close of the reporting period, the Fleet Manager will review all reports and sign off on them for approval.

Vehicle Mileage Logs

1. Each vehicle will have a mileage log. The form that is to be used will be the form prescribed by the General Services Commission.
2. Each time that vehicle is used, the driver will fill in the necessary information on the mileage log.
3. On the first business day of each month, the previous months' mileage long will be removed and a new mileage log will be placed in the vehicle. The previous month's original log will be forwarded to the Transportation so that it is received by the tenth day of the month.
4. The Vehicle Fleet Manager will ensure that the mileage log information is entered into Fleet Focus, a web-based database, by the tenth day of each month and will maintain the mileage logs for all university vehicles in a central file location.

Accidents and Accident Reporting

1. Accidents must be reported to the Office of Business Affairs within 24 hours of occurrence. The vehicle coordinator is responsible for completing the appropriate report forms and forwarding them according to instructions issued by the Office of Business Affairs (936-261-2150). Because these instructions are updated annually, the vehicle coordinator is responsible for following instructions that are in effect at the time of the accident. On an annual basis, the vehicle coordinator is responsible for making sure all vehicle operators receive training on the University's practices and procedures that relate to accidents, accident prevention, behavior at the scene of an accident, supervisory notification and required documentation.
2. Any vehicle involved in an accident should receive a safety inspection before being returned to service. If the vehicle appears safe to drive, it should be driven directly to the Transportation Center. If a wrecker is required to transport the vehicle, contact the Transportation Center (936-261-9715) and they will make the necessary arrangements. When a University vehicle is damaged by a third party, the Office of Business Affairs will act as the University's liaison between the owning department, the third party and/or their insurance company. The Fleet Manager will be responsible for filing and securing any vehicle damage repair settlement (not to be confused with a personal injury claim or settlement), and making sure all repairs are completed in accordance with accepted industry standards and to the satisfaction of the owning department.

Training

1. The University's Vehicle Fleet Manager will provide reporting compliance training, as required, for any vehicle coordinator.

Maintenance

1. All maintenance, parts, repairs, modifications, etc. for Prairie View A&M University Vehicles must be purchased from the Transportation Center located at 1850 Reda Bland

Evans Street. If the Transportation Center is not able to perform the work in a timely manner, the Transportation Center will be responsible for sub-letting the work.

2. All University vehicles will be maintained using a preventive maintenance schedule for that type vehicle. All university vehicles must display a current State Safety Inspection sticker and any other decals required by law or the University. Under no circumstances will a University vehicle be placed in active service unless it is in good operating condition. The University's Fleet Manager is responsible for overseeing a preventive maintenance program that provides written notice to vehicle custodians when preventive maintenance is due. Failure to comply with preventive maintenance notices could result in losing the privilege to maintain the vehicle on the department's inventory.
3. The State Fleet Management Plan requires that all state vehicles be on a Preventive Maintenance Program. The Transportation Center is responsible for maintaining the program and scheduling for all PVAMU vehicles for routine Preventive Maintenance (PM) appointments. PM appointments are scheduled at least twice a year. Vehicles routinely accruing high mileage between appointments may be scheduled more often.
4. The scheduling supervisor will work with vehicle coordinators to schedule PVAMUS vehicles with the vehicle coordinators to schedule PVAMUs vehicles for PM's throughout the year. Every effort will be made to provide a convenient date and flexible drop-off time. Appointments are available on a first- come, first-served basis. If it becomes necessary to re-schedule an appointment, departments should call (979) 845-7121. Cancellations should be made 48-hours in advance of the scheduled appointment. Mechanic workdays are planned according to the daily appointment schedules. Therefore, a charge may be assessed for missed appointments.
5. Under no circumstances should department ignore PM checkups. Ignoring PM check-ups is a safety issue that could result in a serious accident or loss of property.
6. Departments are responsible for adhering to all vehicle state inspections.
7. Departments will be notified when state inspections are due. Inspections are performed at the Transportation Center. Customers are welcome to bring vehicles in at any time during the inspection month. Inspections may be performed while you wait.
8. At a minimum, the following checks should be accomplished on a weekly basis: tire condition and pressure, leaks (any kind), engine oil level, all belts, all hoses, radiator coolant level, battery fluid level, hydraulic oil level, transmission oil level, lights/signals, fuel, windshield washer fluid level, valid state inspection certification, license plates front and rear, the complete University inscription on both sides of the vehicle and any other decals required by the University or owning department.
9. While the vehicle is at the Transportation Center for maintenance, departments may rent a vehicle. This can be done when you bring the vehicle in for repairs. Departments are responsible for the rental and fuel costs. Departments are also required to pay the monthly lease cost while vehicles are in the shop for repair and/or

Operator Maintenance Checks

1. Drivers are responsible for inspecting their vehicle before and after operation. Any defect discovered during these inspections or while driving should be noted and reported to the vehicle coordinator at the end of the day. Any deficiency that would cause further damage to the vehicle, render it unsafe, or present a hazard should be reported immediately. The vehicle should not be driven until necessary repairs are completed.
2. Prior to using the vehicle, with the engine started, the driver should check all gauges, brakes, headlights, signal lights, windshield wipers, and horn.
3. While completing the daily checks, the driver should make sure the interior and exterior of the vehicle is clean. Vehicles should be washed as necessary to maintain a professional appearance.
4. Proper completion of these operational checks will reduce unnecessary breakdowns and/or damage to the vehicle. Failure to comply with the provisions of this section may result is the loss of authorized driver status and disciplinary action up to and including termination.

E.3.3. Gator Operation on the Farm

- The purpose of this section is to establish practices for the safe use and operation of gator and other vehicles on the University farm. Golf cart/Utility vehicle include any low speed vehicle, which is owned, leased, or operated on university premises by University employees, volunteers, contractors, vendors, or agents, and student workers, regardless of size or energy source. All farm personnel are responsible for maintaining a safe and secure farm environment whereby, no vehicle, gator and bicycle should operate beyond the recommended university speed limits of *is 20 mph for vehicles and 10 for bicycle.*

- Anyone using a key to start the gator other than a legitimate gator key will be suspended from operating the gator for a determined time. Those suspended will attend a training course which is offered every second Wednesday of the month

- The Environmental Health and Safety Office will administer the golf cart/utility safety program and arrange or provide any necessary training.

- University Police/Traffic and Parking shall police the operation and parking of low speed vehicles, and shall impound, if necessary, vehicles violating the University Golf Cart/Utility Vehicles Safety Guidelines. The vehicle will remain impounded until the owner complies with all applicable requirements.

- The campus police will frequently monitor speeding activities on the farm.

- Those who keep their gator and vehicle at their work area – poultry and goat center – must ensure that each gator/utility vehicle owned, leased, or operated on the university farm is scheduled for and receives an annual preventative maintenance service at the Campus Transportation Center. Preventive Maintenance service shall include verification of the presence and proper operation of various safety features and adjustment of the setting for "speed governors" as appropriate.

- The supervisor of each individual who has been assigned to operate golf gators or vehicles or who would reasonably be expected to operate said vehicles within the course and scope of their employment or service to the University complies with the following:

a) Receives training from EHS before operating the gator or vehicle. The Environmental Health and Safety Office will provide vehicle and Gator safety training for all workers on the farm.

b) Receives periodic evaluation, counseling and training as appropriate to correct non-compliance. A student's supervisor is responsible for the student's driving performance on the gator

- Transportation Department shall:
    - Assist in the maintenance of all University owned golf cart/utility vehicles, schedule and notify owners of required maintenance;
    - All vehicle and gator left at the farm shop must be signed in and out. Those who keep a gator at their location must make sure the gator in properly service and maintained;
    - Perform at least annual maintenance of all golf cart/utility vehicles at the owner's expense.
    - Remove from service any vehicle deemed unsafe until user/owner arranges for repairs.
    - Must approve all new golf cart purchases and manage inventory caps.

E.3.4. Preventive Maintenance Checklist

The farm manager will make sure the following checklist is followed:

- **Before Each Use**
    - Check fuel tank, fill if necessary.
    - Check engine oil level.
    - Test safety systems.

- **After Each Use**
  - Clean debris from tractor.
  - Clean debris from engine, grille screens, and radiator cooling screen.
  - Check for loose, missing, or damaged parts.

- **As Needed**
  - Adjust alternator belt tension.
  - Check air cleaner filters.
  - Check fuel sediment bowl.
  - Adjust front wheel toe-in.
  - Adjust brakes.
  - Adjust throttle.
  - Replace light bulbs.
  - Check radiator hose clamps.
  - Check fuses.
  - Clean or replace battery.
  - Adjust clutch.
  - Check tire pressure.

- **Break-in - After First 10 and 30 Hours**
  - Check wheel bolt torque.

- **Break-in - After First 50 Hours**
  - Change engine oil and filter.
  - Check alternator belt tension.
  - Check hose clamps.
  - Check wheel bolt torque.

- **Every 10 Hours**
  - Check engine oil level.
  - Check rear wheel bolts.
  - Check gear transmission oil level.
  - Check air filter rubber dust unloading valve.
  - Check optional air restriction indicator.
  - Check radiator coolant level.
  - Check fuel filter sediment bowl.
  - Check and clean grille and radiator screen.
  - Check safety interlock system.
  - Lubricate tractor grease fittings (only when operating in extremely wet or muddy conditions).

- **Every 50 Hours**
  - Check optional MFWD oil level.
  - Lubricate tractor grease fittings.
  - Check wheel bolt torque.
  - Inspect tires and check air pressure.
  - Check battery electrolyte level.
  - Check for loose, missing, or damaged parts.

- **Every 200 Hours**
  - Change engine oil and filter.
  - Check fan belt tension.
  - Clean fuel filter sediment bowl.
  - Inspect alternator belt and check tension.
  - Clean radiator cooling fins.

- **Every 500 Hours**
  - Replace primary air filter.
  - Check secondary air filter. (Replace after every third primary filter is replaced if air restriction indicator is not installed on your machine.)
  - Check air cleaner hose clamps.
  - Replace fuel filter.
  - Check engine speeds.
  - Change optional MFWD oil.
  - Change gear transmission oil and filter. Clean transmission suction screen and vent tube.
  - Inspect fuel injectors. (See your John Deere dealer.)
  - Adjust engine valve clearance. (See your John Deere dealer.)
  - Check front axle pivot pin. (See your John Deere dealer.)
  - Pack front wheel bearings. (See your John Deere dealer.)

- **Every 2 Years**
  - Flush cooling system.
  - Change radiator coolant.
  - Replace thermostat. (See your John Deere dealer.)

E.3. 5. Tractor Daily Inspection Checklist

Checks are performed to ensure all items that are listed in operator's manual as recommended are operating properly.

- Before starting tractor:
  - Check all fluid levels
    - Engine oil
    - Coolant
    - Fuel
    - Hydraulic fluid
    - Other fluids

- Check underneath the tractor for any leaks or puddles of fluid that have accumulated
  - Tires and wheels
    - Properly inflated. Check the operator's manual
    - Check tires for cuts or breaks in the tread or sidewalls
    - Observe lug nuts and see if they appear tight
- Batteries
  - Securely held down
  - Connections are clean
  - Electrolyte level is good

- General Condition
  - Cracked or broken parts
  - Leaking or damaged hoses
  - All shields are in place
  - Loose parts, bolts, or nuts
  - SMV emblem is in place, clean, and unfaded
  - Steps are clean of any grease or mud

- Once in the operator seat:
  - Check the seatbelt to see if it is functioning.
  - After starting the tractor, observe the engine oil pressure gauge and make sure there is oil pressure in the engine.
  - Turn on the lights and flashers. Walk around the tractor and see if all the lights and flashers are functioning.

E.3.6 Farm Pivot Irrigation System

Before Operating the System

- Read the Center Pivot Operating Manual and Vision Pivot Operation Manual to learn the center pivot operation process
- Study the system plans to determine the locations of the center pivots and valves

- Receive training from an experience operator

Operating in Wet Mode – Irrigation System Startup

- Secure permission from the appropriate university department to use the water well for irrigation. Email Mr. Muse 48 hours in advance to turn on the water.
- Travel to each field and visually inspect the travel area of each center pivot for obstacles (hay bales, equipment etc.). Do not operate the system until clearing all obstacles.
- At the entrance of Field No. 1, turn off the valve in the box painted blue, this will shut off water flow to the ground storage tank. Turn on the valve in the box painted green. This will allow water to go to pivot No. 1
- In the field North of Field No. 2, turn on the valve in the box painted green. This will allow water to go to pivot 2, 3 and 4
- Start one of the center pivots in wet mode, either at the pivot point, using the main panel controls, or remotely using the Field Net application. This will start the irrigation pump after approximately five minutes delay.
- After starting the first pivot, start the other three pivots in wet mode within five minutes of starting the first pivot. The system will run all four pivots at the same time. It will take about 10 minutes for the water lines and pivots to pressure up after turning on the well. The pivot will begin running automatically when the pressure is above 20 psi
- The system will run until it is turned off

System Shutdown

- Turn off the well pump. Turn off the pivots
- If using the well for another use, close the two supply valves in the green boxes and open the valve in the blue box. This will allow water to flow to the ground storage tank.

System Startup

- Travel to each field and visually inspect the travel area of each center pivot for obstacles (hay bales, equipment etc.). Do not operate the system until all obstacles are cleared
- Start the pivot in dry mode, either at the pivot point, using the main panel controls.
- The pivot will run until turned off.

E.3.7. Tractor Training

An agricultural tractor is a two-, four-wheel drive, or track vehicle having an engine with more than 20 horsepower to supply the power to pull, carry, propel, or drive implements designed for agriculture. Employee operating any agricultural tractor manufactured after October 25, 1976 must have a Rollover Protective Structure (ROPS). There are three exceptions to this rule. These are:

- ✓ Low profile tractor used in orchards or vineyards when vertical clearance requirement of ROPS would interfere with normal operations,

- ✓ Low profile tractor while used inside a farm building or greenhouse where vertical clearance inhibits ROPS and the use of ROPS is incidental to the work performed, and
- ✓ Tractors while used with mounted equipment that is incompatible with ROPS.

All employees operating agricultural tractors must acquaint themselves with nine safe operating practices**.** We will instruct each employee fully on safe operating practices from the operator's manuals for the particular tractors he or she operates.

1. **Securely fasten your seat belt if the tractor has a ROPS.**
   The purpose of the safety seat belt is to keep the operator confined within the protective frame during an overturn. Failure to use the safety belt increases the chance throwing the operator against or under the ROPS. Use a safety seat belt for a tractor with either ROPS or a safety cab having ROPS built in. Never use seat belts with tractors not having ROPS - a seat belt eliminates the chances of throwing the operator clear of an overturning tractor.

2. **When it is possible, avoid operating the tractor near ditches, embankments, and holes.**
   When employees are operating an agricultural tractor near any of these hazards, they must be constantly looking for ditches and holes obscured by weeds or vegetation, drive at reduced speeds, and allow plenty of room for maneuvering. Banks of ditches will often give way if they drive the tractor too close to the edge. The weight of the tractor on the ground can cause the edge to fail. A judgment guideline is to stay at least as far from the edge of the bank as the ditch is deep. Because of varying conditions of moisture and ground, it is difficult to predict how much weight the edge can carry, so caution is always necessary.

3. **Reduce speed when turning, crossing slopes, and on rough, slick, or muddy surfaces.**
   Centrifugal force while turning decreases the stability of a tractor. The probability of a tractor side rollover by turning is greatest on a steep slope, but this should not lull anyone into a false sense of security just because one is operating on level ground. It is possible to tip any tractor on flat ground if the turn is short enough and the speed is high enough. Always lock the foot brake pedals together for highway or fast field operation.

   With four-wheel-drive tractors, be sure to check the operator's manual with your employees for instructions as to proper wheel spacing, ballasting, and use of dual tires to get the best steering response and operating stability. The instructions are most important with tractors that use articulated steering systems. Some four-wheel-drive tractors have unique steering characteristics. Be certain to advise your employees of these different handling conditions.

   Tricycle-type tractors are susceptible to tipping when the rear wheels are set too close together. Operate this type of tractor with the rear wheels set wide, 72 to 80 inches apart or as far as possible. Front-end ballast, such as suitcase weights, will help improve steering response when working on sloping fields.

Relatively high ground speed (8 to 20 mph) combined with slippery surface conditions can cause skids and loss of control. Ditches and obstructions are difficult to avoid when the tractor is out of control.

Take caution when operating a tractor on any slope - driving too fast on a slope increases the chance of overturning as well as reducing the operator's chance to keep the tractor under control. Instruct employees to slow down and turn as widely as operating conditions permit.

4. **Stay off slopes too steep for safe operation.** This is the only sensible thing to do. If you must go **down** a very steep embankment, do it in a low forward gear. If you must go **up** a very steep slope, back up slowly. If you must work across a steep slope, set rear wheels at full width; with large tractors, dual rear wheels can be helpful, and avoid uphill turns. Doing otherwise is hazardous. Always check the operator's manual for any instructions for operating on sloping land. Remember that every model of agricultural tractor has different stability characteristics.

5. **Watch where you are going, especially at row ends, on roads, and around trees.** Looking backward at trailing or mounted implements is important and necessary for good operation, but unless there is plenty of open space or you are operating at reduced speeds, do it sparingly. Slow down at row ends to give yourself plenty of reaction time and to reduce the effect of centrifugal forces on the operator. Adding rear-view mirrors can reduce this problem considerably.

6. **Do not permit others to ride.** There is one simple rule with agricultural tractors—**no seat, no rider**. Make it a habit. This applies to children and teenagers as well as your employees. ROPS protects one person, not two or more. The operator must have non-restrictive access to controls and an unobstructed view to operate safely. Others can interfere with these operational requirements.

7. **Operate the tractor smoothly—no jerky turns, starts, or stops.** Start forward motion at low engine speeds. Engage the clutch slowly and increase speed only after forward motion has begun. Throttling up and engaging the clutch quickly is an easy way to flip a tractor over to the rear, particularly if you are heading up a slope.

8. **Hitch only to the drawbar and hitch points recommended by tractor manufacturers.** Never attach a load to the rear axle or on the three-point lift or draft arms. Hitching too high can result in backward tips. For each tractor, consult the operator's manual for acceptable hitch points. Do not vary from the manufacturer's recommendations.

9. **When you stop the tractor, set brakes securely and use park lock if available.** This is most important on grades and hillsides. Do not depend on a transmission gear to keep

a tractor from rolling out of control. Use wheel chocks at the drive wheels when the tractor must be left parked on steep slopes. Use chocks with 45-degree bevels to meet safety standards.

E.3.8. Facilities and Grounds Maintenance

- ✓ Mow grass inside and outside the perimeter of the farm fence from Owens, Flukinger, Cameron road and back to hay field beside CARC. This task is a weekly activity. It is important that we present a CARC farm difference.
- ✓ Round-up and weed-eat the fence perimeter of the farm.
- ✓ Mow and hedge grass at the International Goat Research Center. Weed-eat grass in areas where it is difficult to mow.
- ✓ Use roundup to burn weeds between cracks in the concrete and parking lot. In addition, burn grass around equipment stored outside and around pasture irrigation boxes with turn-on valves- goat center.
- ✓ Clean flower beds alongside front of Goat Center main building. Remove leaves and weeds and hedge if necessary.
- ✓ Check and repair all fence and post on the farm before moving the cattle and horses to a new pasture.
- ✓ Mow and hedge grass at the greenhouse. Weed-eat grass in areas where it is difficult to mow. I am expecting the lawn to look uniform cut and presentable.
- ✓ Mow and hedge grass along all farm roads. Weed-eat grass in areas where it is difficult to mow. Round-up grass in areas where it is difficult to mow.
- ✓ Mow the grass around research plots and roads to the plots.
- ✓ Mow the grass at the weather station, weed-eat and round-up the fences.
- ✓ Maintain the grass, fences and grounds at the swine center.
- ✓ Open gate to Dairy Goat Cent from Cameron road once a week to ensure that the gate remains in working condition.
- ✓ Start all machinery at the farm shop on a pre-scheduled basis to ensure that they are operating - run them for a while.
- ✓ Check that the machine has adequate oil, other necessary fluids and belts before using it.
- ✓ Keep a log of the machinery use and maintenance schedule.
- ✓ Flush eye-wash stations to insure they are functional and keep test log
- ✓ Clean feed mill regularly / Maintain feed inventory–purchasing/receiving and distributing

E.3.9. Farm Gate Security

To maintain a safe and secure university farm environment, CAHS will practice the following security measures. CAHS has implemented measures to protect the farm resources and the entry and spread of pests and diseases. Farm security is every person's responsibility, those visiting or working on the university farm.

1. Faculty, staff and students' personal vehicles are not allow on the farm

2. All faculty and staff driving to the farm in a university vehicle will use their electronic key to open the gate. They should ensure that unauthorized vehicle do not enter behind them or enter when leaving the farm
    a. If the gate is not working, it will be opened at 8:00 AM and closed at 5:00 PM
    b. Anyone who need to enter the farm should dial the access number from the call station outside the gate
3. All faculty and staff going through the small gate need an electronic card to gain entrance.
    a. Each scientist and staff working on the farm will get a key to the small gate which will open and close the small gate when the electronics malfunction
4. CAHS will issue no keys to students and temporary workers.

E. 3.10. Hay Production

The primary objective of the CAHS hay program is to provide high-quality hay to meet the animals' nutritional needs. Each year the farm will produce enough quality hay to feed the cattle, goats and horses during the winter and dry seasons. While the farm manager will be responsible for this activity, the resident farm director and others will assist in developing a plan and will be responsible for the implementation of the hay production plan.

Prerequisites:

- ✓ August, do soil analysis and determine soil requirements (i.e., fertilizer, lime, etc.) that may be needed in order to grow targeted crops
- ✓ During August to October, we will do a soil analysis, and apply P-K and other needed materials to field(s).

Responsibilities: Resident farm director, farm manager and farm foreman

Procedure:

First Cut

1. First week in May, cut and remove grass from field
2. Apply nitrogen recommended by soil test
3. Irrigate field during the growing season (21 and 35 days).
4. Harvest grass for hay when it is approximately 12 inches in height in order to capture the higher level of nutrients. Timing is critical. Studies show 21 days of growth yield the highest quality. By 35 days crude protein content decreases and fiber components becomes less degradable.
5. After cutting, the hay should remain in the field to dry. Most hay contains about 70 to 80 percent moisture. Drying hay quickly helps preserve nutritive value. Rains leach out nutrients and increase dry matter loss from respiration.
6. Rake the dried hay into wind rows that are the width of the take-up header of the baler.

7. Bale hay once the moisture content in the windrow reach less than 18 percent.
8. Store the hay outside on crushed rock. The bale stored outside on crushed rock retained 85 percent of its original weight. The greatest loss occurs where the bale touches the soil.

Second Cut.

1. Begin sometime in June after first cutting harvest
2. Apply nitrogen recommended by soil test
3. Irrigate field for the growing season between 21 and 35 days
4. Harvest grass for hay when the height is approximately 12 inches height in order to capture the higher level of nutrients. Timing is critical. Studies show that 21 days of growth yield the highest quality. By 35 days, crude protein content decreases and fiber components becomes less degradable.
5. After cutting, the hay should remain in the field to dry. Most hay contains about 70 to 80 percent moisture. Drying hay quickly helps preserve nutritive value. Rains leach out nutrients and increase dry matter loss from respiration.
6. Rake the dried hay into windrows that are the width of the take-up header of the baler.
7. Bale hay once the moisture content in the windrow reach less than 18 percent.
8. Store the hay outside on crushed rock. The bale stored outside on crushed rock retained 85 percent of its original weight. The greatest loss occurs where the bale touches the soil.

F. FISCAL OPERATIONS

F.1. Cash Handling Procedures

In order for the university to comply with collection of funds, it is the responsibility of all persons that collect funds for the university to follow all laws, policies, rules and regulations. The university's funds are to be safeguarded at all times. The following procedures will be followed by all in the CARC-Poultry Center.

- ***CAHS Cash Handling Procedures*- Description of Departmental Collection of Funds:**
  - CARC-Poultry Center collects sale of goods from poultry/poultry products from PVAMU faculty/staff/community residents who attend our approved or makes payments for our approved products**.**
  - All persons handling funds must have had the necessary cash handling training given by Treasury Services
  - All new events or events not previously approved for which funds will be collected will be submitted for approval to the Senior Vice President of Business Affairs through the Assistant Vice President of Financial Services prior to collecting funds for the event.

- ❖ No funds will be collected from students without the written approval from the Senior Vice President of Business Affairs.

- Employees authorized to collect funds for CAHS

The following employees are authorized to collect funds for CAHS (note: employees handling cash should be limited to two employees per department). Training was provided by Treasury Services on April 2, 2014.

Employees Name	**Title**
Vivian Vaughan	Poultry Lab Helper
Cassandra Gray	Research Technician
Ester Easley	Administrative Assistant III
Caralita Solomon	Staff Assistant II
Adela Jackson	Administrative Assistant II
Rita Jackson	Administrative Assistant I

- Type of Payments Received:

- ❖ Funds are defined as any monetary or cash equivalent item, which includes cash, checks (personal, money orders, cashier, scholarship, etc.), and credit card payments.
- ❖ Funds collected by CAHS are collected in the form of cash, personal checks, and money orders.
- ❖ If cash payments are collected, the authorized employees collecting the funds will use a counterfeit detection pen on all currency to detect counterfeit bills.
- ❖ If a Poultry Center customer wishes to pay by credit card, they will be instructed to contact the Cashiers Office at extension 1895.
- ❖ If credit card information is received by mail in our office, we will immediately deliver this information to the Cashiers office in a secure manner.
- ❖ This information will be delivered immediately in person by a <u>full time employee only</u> to the Cashiers Office (If the department is located offsite such as College of

Nursing, please list procedures for mailing this information to the attention of the Cashiers at P.O. Box 519, MS 1329)

- ❖ No copies of the customer's account number, expiration date, or CVV security code is kept by our department.

- ➢ **Collecting and Receiving Funds:**

  - ❖ Funds are received in our department via in-person payment. In addition, receipts will be recorded in a university issued cash receipt journal by an approved Research Technician.
  - ❖ In the absence of Research Technician, Staff Accountant I will collect funds and records it in a university issued cash receipt journal.
  - ❖ The university issued cash receipt journal will list the name of the customer making the payment, type of payment received, check # if check is received for payment, amount of payment received, date payment was received, dept. receipt number, authorized person who collected the funds, and name of authorized employee who verified the funds .
  - ❖ An official PVAMU departmental receipt received from Treasury Services will be completed by the employee receiving the funds for each customer's payment received.
  - ❖ CARC-Poultry Center departmental receipts will not be shared with any other department.
  - ❖ Each authorized employee is responsible for his/her own receipt books that were assigned by Treasury Services.
  - ❖ Before collecting funds for an event outside of our department's physical office, a moneybag and key to the night drop box will be requested from the Head Cashier in Treasury Services.
  - ❖ The university police will also be contacted by our department at least 2 weeks in advance of the event. (The department collecting the funds is responsible for contacting the police department in advance.)
  - ❖ In the event that CARC-Poultry Center hosts an event away from our department's physical office location, funds will be collected in a secure location with security at guard at all times.
  - ❖ The responsible person that will be collecting funds will be escorted to and from the event by security.
  - ❖ If the event ends after hours and funds collected are greater than $2,500.00, the responsible person will be escorted by security to Treasury Services' drop box to deposit funds for safety reasons.

- ❖ Counterfeit pens will be used for each event as mentioned in 3C above.
- ❖ If a counterfeit bill is detected, we will notify security immediately and report detection of fraudulent bills to the Office of Treasury Services.
- ❖ All checks received will be immediately endorsed with an official PVAMU "Deposit only" stamp received by Treasury Services.

- **Verification of funds received:**

  - ❖ All funds collected by an authorized employee will be verified by an authorized employee that did not collect the funds.
  - ❖ For example, if the Poultry Lab Helper 1 receives the funds, they will be verified and stored in the office safe for safekeeping by the Research Technician.
  - ❖ If the Poultry Lab Helper 2 receives the funds, they will be verified and stored inthe office safe for safekeeping by the Research Technician. (Note: employees receiving the funds must have completed cash handling training given by Treasury Services).

- **Depositing Funds:**

  - o According to Section 51.003 of the Texas Education Code and System Policy 21.01.02
    - Section 4.1, all funds received by this department will be delivered by the Research Technician to the Cashiers Office within three(3) business days of receipt of funds or when funds collected reaches $200.00 or more, whichever comes first.
  - o Any gift or donation received by our department will be immediately submitted to the Coordinator of Gift Processing in Office of Development by the Research Technician prior to submission to the Cashiers Office.
  - oIf funds collected in a day's time period reaches $200.00 or more, the funds will be deposited the day of collection if the Cashier's hours of operation permit or the next business day, whichever is earlier.
  - oNo funds will be delivered by anyone other than the employees authorized to handle cash.
  - oNo funds will be handled at any time by a student that is not a full-time university employee authorized to handle funds.
  - o If a deposit is greater than $2,500.00, our department will contact the University Police for an escort to the Cashier's Office.
  - o Funds will be deposited into FAMIS account **414953-00001-0269** for use as specified when the account was approved and established in FAMIS.

- When funds are delivered, they will be accompanied by the pink, yellow and gold copies of the official PVAMU departmental receipt. All copies with the exception of the white (customer's copy) should remain in the book when presented to the Cashiers for deposit.
    - The yellow copy will be given to the Cashier along with the payment and the pink & gold copy will be stamped and taken back to the department for filing and reconciliation purposes.

- **Use of funds collected:**
    - All funds collected will be deposited at the Cashiers window.
    - Funds collected will not be used for any purchases, including gifts and donations, at the time funds are collected. No change will be issued from any check.
    - All funds will be deposited in the FAMIS account stated above in #6f and any purchases that need to be made by our department will be submitted via the PVAMU purchase requisition process.

- **Safeguarding of Funds:**

    - All funds collected will be stored in a locked safe in the Poultry Center Room #118 by Research Technician (Note: this should be the employee that verifies the funds).
    - Funds will be stored by Staff Account I in absence of the Research Technician.
    - Only Research Technician will have access to these funds at all times.
    - Funds will be safely guarded at all times by designated persons listed above.
    - Keys or safe/lockbox combination will be kept on designated persons
    - Poultry Center Room 118; phone number 936-261-5012/5099 for Cassandra Gray in a locked safe

- **Reconciliation:**
    - At the end of the month, the Poultry Center Research Technician prepares a monthly Egg Production and Sales Summary Report. The CARC Reconciliation Specialist, directed by the CARC Staff Accountant I, reconciles this monthly report with the university receipts for the month. The CARC Reconciliation Specialist presents this reconciliation in a Spread sheet report format that is used for CARC management review and analysis.
    - Funds received must be reconciled with funds posted in FAMIS.
    - The person preparing and the person approving must sign and date cash receipt reconciliation.

- ❖ The reconciliation must be done by someone other than the person that collected the funds.
- ❖ Reconciliations will be completed by the 15th of each month for the previous month).

- **Issuing Official PVAMU Departmental Receipts:**
  - ❖ When the inventory of official PVAMU departmental receipts need to be replenished, the Research Technician will turn in the empty receipt books containing the gold copy of the receipt to Treasury Services.
  - ❖ The Staff Accountant in Treasury Services will issue additional receipt books as needed once the empty receipt books are returned.
  - ❖ The responsible person will provide an explanation in writing if the department receives an e-mail or letter from the Staff Accountant in Treasury Services if any discrepancies are found in the receipts returned.
  - ❖ Discrepancies can include a missing receipt, the amount on receipt does not match FAMIS posting from the cashier's copy of the receipt, etc.

- **Sales Tax:**
  - ❖ If the department should sell items that are taxable, the appropriate sales tax will be collected at a current rate of 8.25%.
  - ❖ Sales tax will be recorded separately on the official PVAMU departmental receipt for deposit in FAMIS account 030003 2110.
  - ❖ Cassandra Gray has received and reviewed the sales tax information for PVAMU during cash handling training. The information is also located on Treasury Services web page at http://www.pvamu.edu/pages/6577.asp

- **Updating and Reviewing Cash Handling Procedures:**
  CAHS will review and update cash handling procedures annually, when there is a change in the employees authorized to handle cash, or as needed, whichever comes first. All staff and authorized persons that handle cash will receive a copy of the revised procedures.

F.2. Safeguarding Farm Assets

Fixed Assets Inventory

It is essential that employees understand the importance of safeguarding university equipment by conducting physical inventories and maintaining accurate record. Each unit should verify that each item exists and is correct. The University Property Manager is responsible for conducting random inventory checks on a test basis

- Important Definitions

  University Property Manager - the individual assigned the responsibility for maintaining the official fixed asset inventory for the University. Currently this is the Manager of Accounting.

  Accountable Property Officer - the individual in each department assigned the responsibility for maintaining the department's inventory of fixed assets. This is the department head, unless they have formally designated a staff member.

  Annual Inventory - the physical verification of each item on the University's equipment inventory conducted once a year.

  Surplus Property - useful equipment no longer needed by the responsible department.

  Salvage - equipment that is no longer useful.

  Inventory Equipment - generally, equipment with a purchase price or donated value of $1,000 or more. Exceptions are those items classified as controlled assets by the State Comptroller's Office.

  Non-Inventoriable Equipment - generally, equipment with a purchase price or donated value of less than $1,000 and not classified as a controlled asset.

- During the year, the staff should:
  a. Physically verify all items listed on the inventory
  b. Update all information of the inventory items
  c. Identify items that need tags
  d. Identify items on the inventory, missing, stolen, transferred destroyed or surpluses.
  e. Verify and correct item serial number, building and room location, and missing or stolen

- Missing or Stolen Equipment - Report all missing or stolen equipment (inventoriable or non-inventoriable) to the University Police Department and the Fixed Assets Office using a Missing or Stolen Report.

- Permanent transfer

  - Identify transferred items
  - Attached a completed copy of the transferred form
    - Both signatures of the sender and the receiver are needed

- ❖ To complete the Property Transfer form,
  - Both signatures of the sender and the receiver are needed
  - Signature of the fixed Asset Staff
- ❖ List items on Certification Form and attach transfer form

- Temporary Transfer

  - ❖ Identify temporary transferred items
    - These are items are taken off campus for university business or
    - Items loaned to another department for a short period of time
  - ❖ To transfer items we need to complete a custody card
    - We need both signature of lender and receiver
    - Signature of university property manager
    - One copy goes to fixed assets office
    - One copy Department the equipment
    - One copy stays with the receiver and equipment

  - ❖ Custody card
    - A custody card must be filled out for every item not physically stored or maintained in your department
    - If you loaned equipment to anyone in or out of your department and it, results in your equipment leaving your department or physical location a custody card should accompany that equipment.
    - Custody card should have a due date not to exceed the end of any physical year
    - If equipment is loaned to Faculty or staff to complete assignments for a permitted time, a custody card should be completed
    - To loan equipment to other departments or groups for any period requires a custody card

- Surplus/Salvage Property - Departments are responsible for identifying surplus and salvage property. Proper disposal of surplus property requires the department to transfer the equipment to the Central stores/Central receiving operation, which administers the surplus disposal program for the University. Proper disposal of salvage requires written approval of the applicable department head using the Property Destruction Record Form. Upon approval, discard the salvage equipment in the appropriate trash receptacle, unless special disposal requirements exist due to size or nature of equipment. File a copy of the approved Property Destruction Record with the Fixed Assets Office.

- Procedures - The Fixed Assets Staff in the Fiscal Office tag and add items to the inventory within 10 days after delivery.

- Property Transfers
    - ❖ All Transfer must be approved by the Assets Property Officer prior to the physical transfer
        - o Transfer must be signed by both sending and receiving department before the physical transfer
        - o Use the PV Assets number and or serial number to describe the assets
        - o After both parties sign the Assets Property Officer sign and completes the transfer and update the record
    - ❖ Property Destruction
        - o Destruction must be approved by Assets Property Officer prior to physical destruction
        - o List each item for destruction by asset number, description, make/model, serial number, method of disposal and disposal date
        - o Print the name of the person performing the destruction and the witness. Both parties must sign the destruction form to complete the process
        - o Submit the destruction form to the Assets Property Officer for removal of record from inventory

    - ❖ Notice to Repair equipment
        - o List each asset by asset number, serial number, and description
        - o List the name, address and telephone of the vendor performing the repairs
        - o List expected date the equipment will be returned from the vendor
        - o List the reasons for the repairs and note the problem associate with the assets.
        - o The notice to repair form must be signed by the department head/APO
- Cancellation of missing and stolen items
    - ✓ List items that have been recovered, located or reported missing/stolen and later found
    - ✓ List asset number, description, and serial number and new/current location
    - ✓ Department Head must sign and print name on the cancellation of missing and stolen form
    - ✓ The record will be updated

- Non-Inventoriable Equipment - Although there is no requirement to keep an official inventory of these items, they should be marked "Property of PVAMU" with indelible ink and departments should properly secured them. Additionally, departments are should

maintain pertinent information (e.g., serial number) to aid in an investigation should an item turn up missing or stolen

- Trade-Ins- Departments desiring to trade older equipment in on a new piece of equipment must properly identify the equipment on the purchase requisition for the new item. Proper identification includes description, inventory number and/or serial number. File a copy of the requisition with the Fixed Assets Office.

- Leased Equipment - Depending on the lease arrangement the University may be required to include leased equipment on its inventory. To ensure proper accounting, the requesting department should contact the Manager of Accounting.

- Gift Equipment - Gift equipment is subject to the same inventory rules as purchased equipment, with the exception of using the fair market value when placing the assets on the inventory. Departments receiving gift equipment must notify the Fixed Assets office so that they can tag the equipment and update the inventory records.

Appendix

ITEM……..Page

Addendum 1 to Page 43

Anesthetics and analgesics are chosen depending on procedure and duration of action.

Local / regional anesthetic: 2% Lidocaine, mepivacaine for all species (except poultry)

Anesthetics:

- **Swine** – Injectable: Ketamine HCL/ Medetomidine; Telazol/Ketamine HCl; Inhalation: Isoflurane;
  Horse – Xylazine, Diazepam, Ketamine, Acepromazine, Butorphanol, Telazol
- **Poultry** – Ketamine, Diazepam, Midazolam; Inhalation: Isoflurane;

Analgesia:

- **Swine** – Buprenorphine, Butorphanol, Carprofen, Fentanyl patches;
- **Horse** – Flunixin meglumine, Phenylbutazone, Ketoprofen
- **Poultry** - Butorphanol, Carprofen, Meloxicam, Ketoprofen

Addendum 2
Prairie View A&M University Beef Cattle Herd Plan

Flavio Ribeiro, Ph.D., PAS
Research Scientist
Prairie View A&M University
Cooperative Agricultural Research Center

INTRODUCTION

Beef cattle production is one of the major industries in agriculture in the state Texas. The USA cattle population is 89,000,000 head of cattle and Texas has 11,300,000 head of cattle (NCBA, 2013). Texas is the number one cattle state in the country. Because of the importance cattle have in the state it is extremely important that students majoring in animal science, veterinary science and in agriculture in general be exposed to production methods and how to manage a cow herd, handling technics, animal welfare, vaccination, and also marketing animals.

OBJECTIVES

The objective of the Prairie View A&M University (PVAMU) cow herd is to maintain beef cattle that will be managed similarly to a commercial cow calf operation in order to teach undergraduate and graduate students hands on classes. Also it will be used for extension demonstration programs and research trials as needed.

Herd description and management

A 50 head cow herd will be maintained at the Bill and Vara Daniel Farm and Ranch at PVAMU. Forty cows comprised of crossbred commercial cows and 10 purebred Red Brangus cows will constitute the herd nucleus. The commercial cows will be the predominant line and the purebred herd will be used for students to have access to animals to show in livestock shows such as Fort Worth, Houston, San Antonio, State Fair of Texas and etc. Cows will be managed together and will be a spring calving herd.

Breeding:

Cows will be bred via artificial insemination (AI) from semen that will be donated from breeds association. Commercial cows will be bred using conventional semen, however, purebred cows will be bred with sexed semen for heifer production. A clean up bull may be used if needed and will be also provided by the breed association. Cows will be bred starting May 15 using a fixed time AI protocol and will be given 3 chances to be bred via AI and the breeding season will be 60 to 75 days long. If a cow is not bred by the end of the breeding season then she will be sold to a local sale barn. Pregnancy check will be made by PVAMU veterinarians.

Calves:

Calving season will start around February 15. The commercial calves will be all early weaned at around 3 to 4 months of age and managed on a pasture and fed grain for about 2 months and then will be back-grounded on pasture. The purebred calves will remain with the cows until 7 to 8 months of age. The reason we will early wean commercial calves is because we want to develop a program that will focus on carcass quality and also so the cows can recover and breed back on

time. These commercial calves will be back-grounded at the PVAMU farm until they reach 750 to 800 lbs and then will be sent to a feedlot to be finished.

The show heifers will be halter-broke by students and be managed for exhibition. Only the top 5 heifers will be used by the show team. The remaining 5 heifers will be managed and used as replacements for the commercial cow herd, unless they have any issues that will not qualify them as a replacement heifer. Such issues are bad structure, feet problems, bad udder, etc. These show heifers will be fed grain and roughage that will be balanced for show animals. The PVAMU livestock team will be the group in charge of managing these 5 heifers. After the heifers are retired from showing, they will be kept to replace some of their dams that will either be sold or shifted to the commercial herd. In case we have an outstanding female that wins a lot, we might use her as a donor cow in an embryo transfer program or sell here to raise funds for the livestock club.

Data collection

Cows

- Body weight (BW)
- Calving ease scores
- Body condition score (BCS) scale 1-9
- Temperament scores
- Udder scores
- Hair scores
- Hip height (HH)
- Real-time ultrasound (RTU) measurements of carcass traits

Cows BW and BCS will be collected every time the cow herd is brought to the chute. The BCS will be assessed prior to breeding, mid gestation, prior to calving, and at weaning time. Calving ease scores will be given at birth and will be determined by the breed association which scale will be used.

Temperament scores will be given to cows while working them and at calving. We will also try to use a flight speed measurement that measures how fast an animal leaves the chute when the gate is opened. Cows with bad temperament will be culled and replaced.

Udder scores will be given to ensure that teats are not too big and that will facilitate calves to nurse.

Hair scores will be giving using a system that Texas A&M University is developing to see if the hair coat of the animal can determine the nutritional status.

Hip height will be measured to help calculate frame scores. This herd will focus on selecting animals with a moderate frame.

Ultrasound measurements will be collected by a certified ultrasound technician and measurements will comprise of 12-13th rib fat thickness (uBF), rump fat thickness (uRUMP),

kidney fat depth (uKFD). Also 12-13th *longissimus dorsi* muscle area (uLMA) and percent intramuscular fat (uIMF) will be measured in replacement heifers.

Calves

- Birth BW
- Weaning Weight (WW)
- BW
- Temperament scores
- HH
- Hair scores
- RTU measurements of carcass traits

Calves will be weighted at birth, at weaning time and every 28 days until they are sent to feedlot.

Temperament scores, HH and hair scores will be collected at weaning time and every 28 days.

The RTU measurements will be collected after they reach 500 lbs and will consist of uLMA, uBF, uRUMP, uIMF and uKFD. Measurements will be taken every 28 d.

Vaccination

Vaccination protocols will be determined by the PVAMU veterinarians and will follow our SOP.

Feeding

Cow herd will be managed on pasture. During periods of low forage availability hay, protein supplements and pellets could be fed and will be determined based on cows BCS and nutritional status.

Calves that will be fed grain will receive a balanced ration that will be formulated by the nutritionist on staff and will be either purchased or mixed at the University feed mill.

SUMMARY

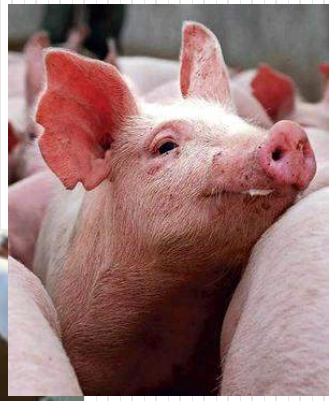
This cow herd will assist in providing students with educational and practical opportunity to have hands on experience and also teach them modern practices in cattle production in the US. Also our producers will benefit from programs that will be developed around our cowherd. Research projects will also be incorporated in order to provide data for undergraduate and graduate students so they can also be trained to present and write scientific material. A herd report publication will be generated every year summarizing our results and after we have multiple years we will have annual comparisons.

LITERATURE CITED

NCBA. 2013. Direction statistics. Accessed 5/16/2014
http://www.beefusa.org/CMDocs/BeefUSA/Producer%20Ed/2013%20Directions%20Stats.pdf

Training Materials for Students

Animal Welfare , Management & Handling



Terminology/Definitions

Animal Rights: a right is the power to claim what is due.

Animal Welfare: a human responsibility that encompasses all aspects of animal well being.

Anthropomorphism: the attribution of human traits to other beings.

What is Animal Well Being?

Animal Well Being refers to the state of the animal

*healthy

*well nourished

*comfortable, safe

*able to express innate behavior

*and is not suffering from unpleasant states such as pain, fear and distress

Animal Husbandry is the treatment that an animal receives to obtain these states.

Good Husbandry is the Norm

Five Freedoms

*Freedom from Hunger and Thirst

*Freedom from Discomfort

*Freedom from Pain, Injury, and Disease

Freedom to express Normal Behavior

*Freedom from Fear and Distress

Basic Requirements
Environment and Housing

Adequate Shelter: Artificial Shades, Housing

Natural Light and Ventilation: Reduces respiratory stressors, low light reduces milk yield

Space for Natural Movement & Exercise: Keeps Feet and Legs healthy, Better access to food & water

Comfortable & Appropriate Bedding:

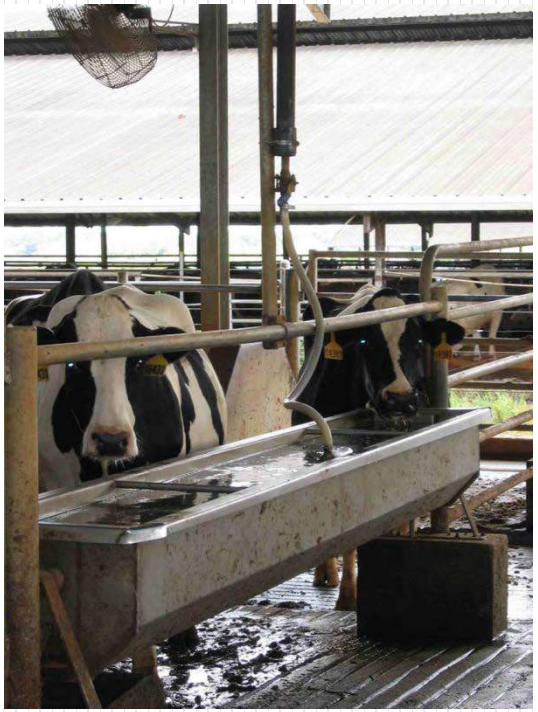
Stall sizing & comfort, regular stall cleaning

Basic Requirements
Feeding and Management

Adequate and Appropriate Feed: Nutritionist as key advisor

Access to Clean Water at all Times:

Housing designed to maximize access, volume designed for peak needs



Basic Requirements

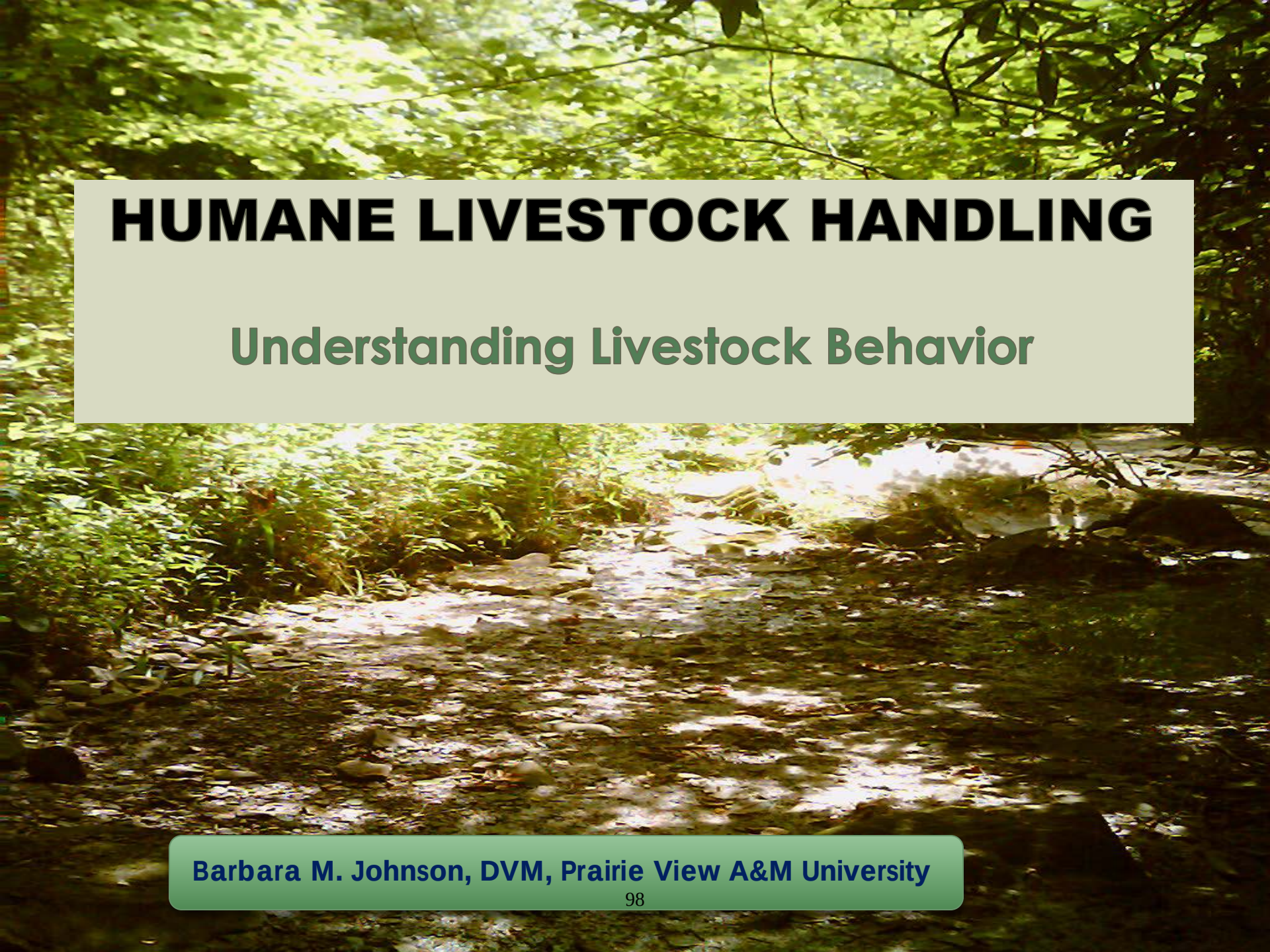
Respect for Social Behavior

Companionship of own kind

Stable and appropriate social groups

No isolation or overcrowding, natural weaning periods.

Raising animals kindly and caring for them in a way that makes them content ensures good health, allows them to grow faster and is the right thing to do!



HUMANE LIVESTOCK HANDLING

Understanding Livestock Behavior

Barbara M. Johnson, DVM, Prairie View A&M University

WHY?

Grazing animals such as cattle, goats, and horses play an important role in societies worldwide.

Providing humane treatment throughout their lives is a responsibility producers should willingly embrace.

Raising animals kindly and caring for them in a way that makes them content ensures good health and allows them to grow faster. The bad effects of rough handling are becoming very clear.

Reducing stress and fear not only benefit welfare but also increase productivity and profit, improve meat quality, reduce illness, lower mortality rates, and prevent injuries to both animals and people

Restraining an animal is stressful for the handler but more stressful for the animal. Stress is hard on the body.

Livestock producers have observed that when rough, stressful handling practices are eliminated, cattle resume eating a full day earlier. Keeping all your animals on feed makes a profit

Calm animals are easier to handle than frighten, agitated animals.

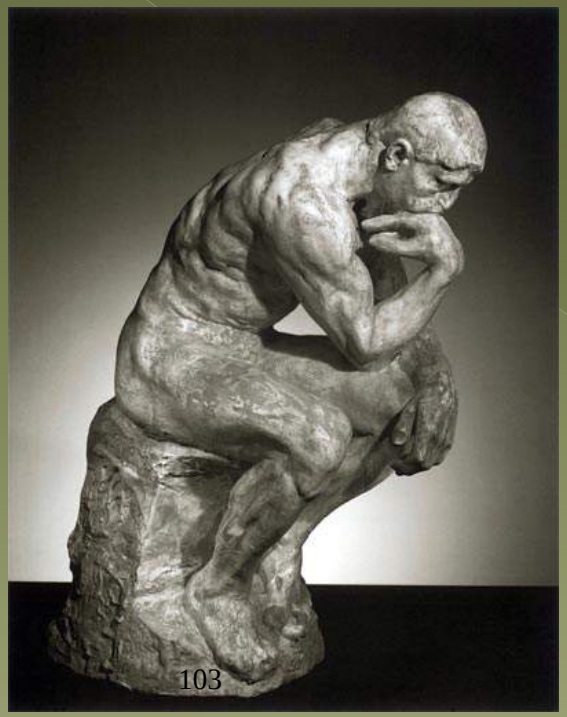
What Is Our Goal?

To handle animals in a calm, low stress manner

How do we do this?

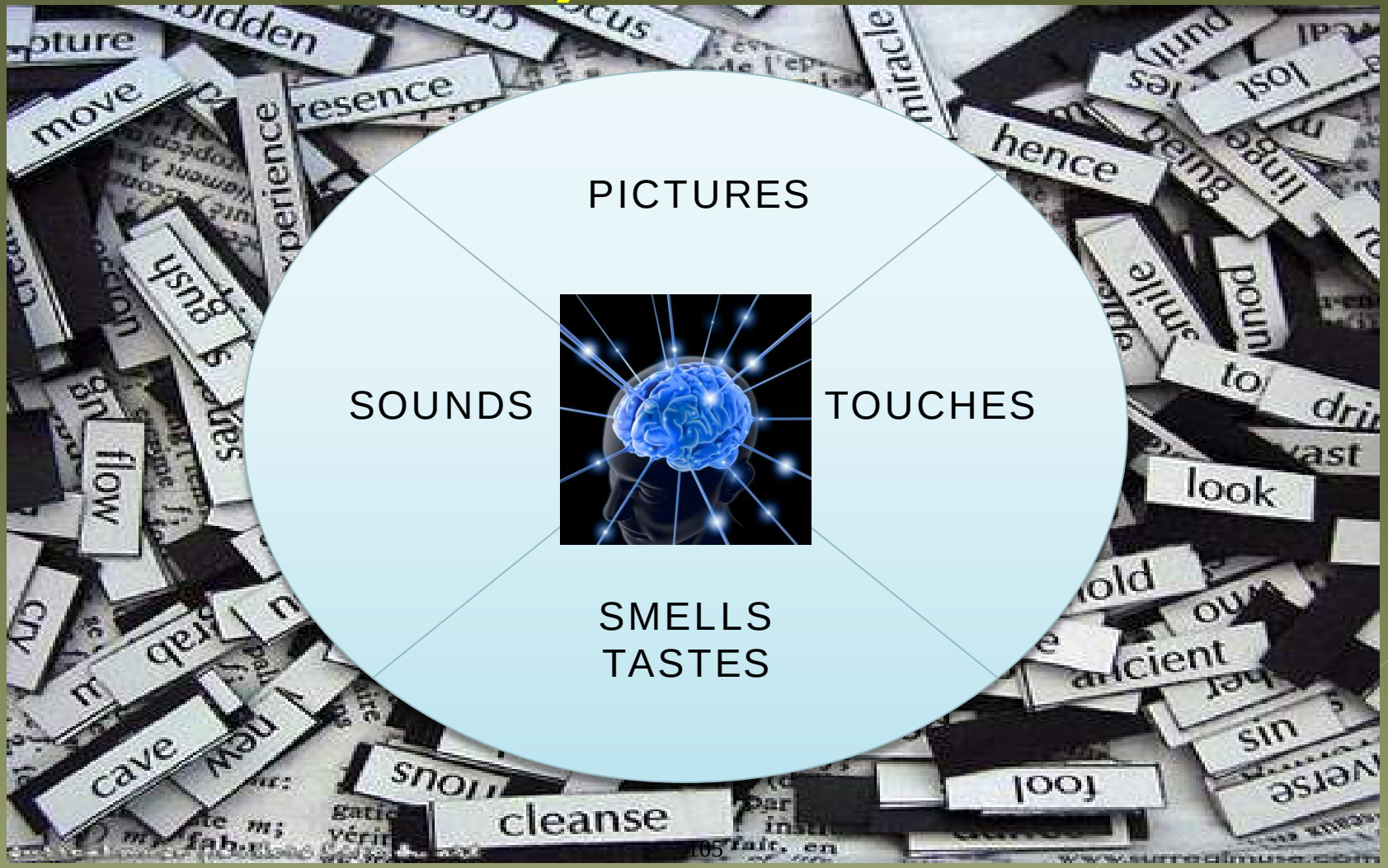
By understanding how animals think

Humans think in verbal and visual ways



How Do Livestock Perceive the World?

To understand animals, get away from words!



AWARE OF HOW

We must make ourselves aware of how animals react to the human spaces they're entering, the sights and sounds surrounding them, the handler movements and the emotional tones of the handlers' voice.

What they hear

gates

people

chutes

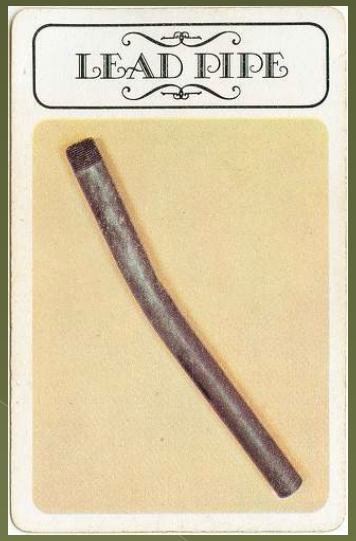
each other

doors slamming

What they see

What they feel:

Cattle Prod, Stick, Pipe, Foot



Animal Restraint

- Restraint is absolutely necessary for many animal husbandry and veterinary procedures.
- Some restraint procedures may be considered forms of animal abuse by misinformed individuals.

- Therefore, it is our responsibility to use appropriate procedures with the minimal amount of restraint necessary.

- A restraint procedure should be chosen based on what has to be done and should be humane and safe for both the animal and the handler

Animal Movement
How do we do this?

- *Make animals more willing to move down the lane or through the chute. Remove things that distract animals and stop them from moving along.*

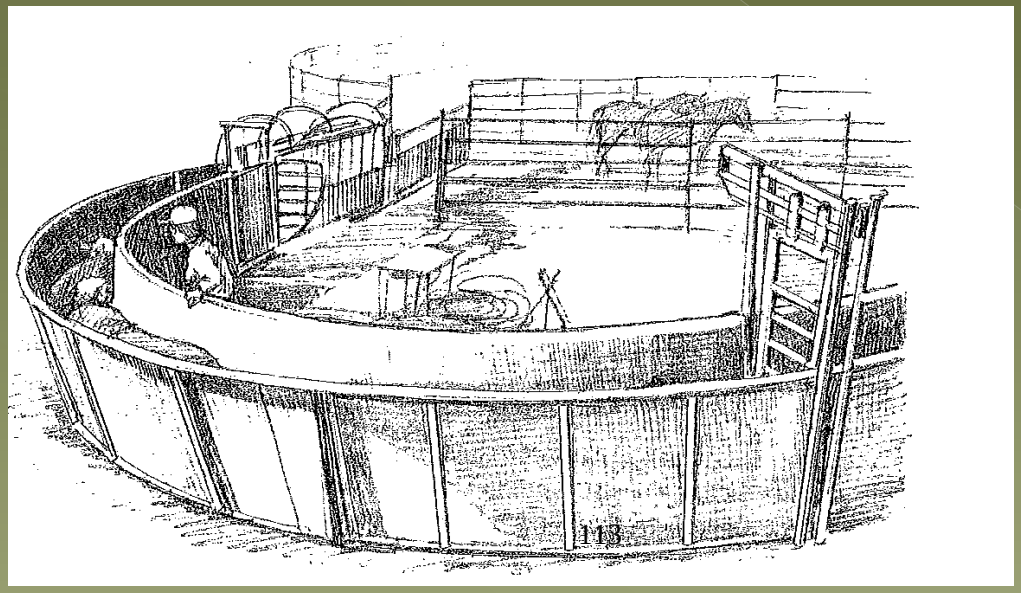
Shadows, coats on the fence, trash on ground and visible people ahead of animal.

Reduce noise. ***Yelling, slamming gates, etc.***

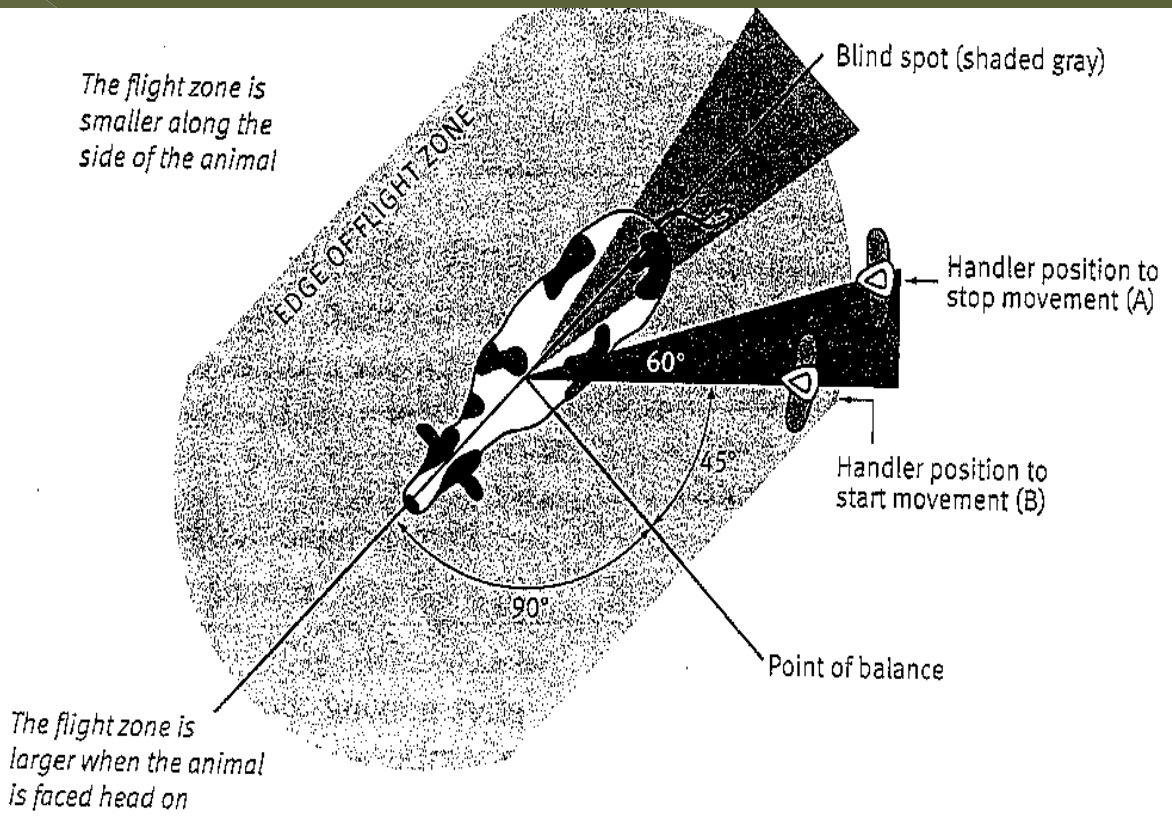
Avoid ***"cowboy"*** *behavior.* ***Use a calm approach***

- Animals can be trained to enter a squeeze chute.

- Well designed lanes and chutes will greatly diminish animal fear and stress.

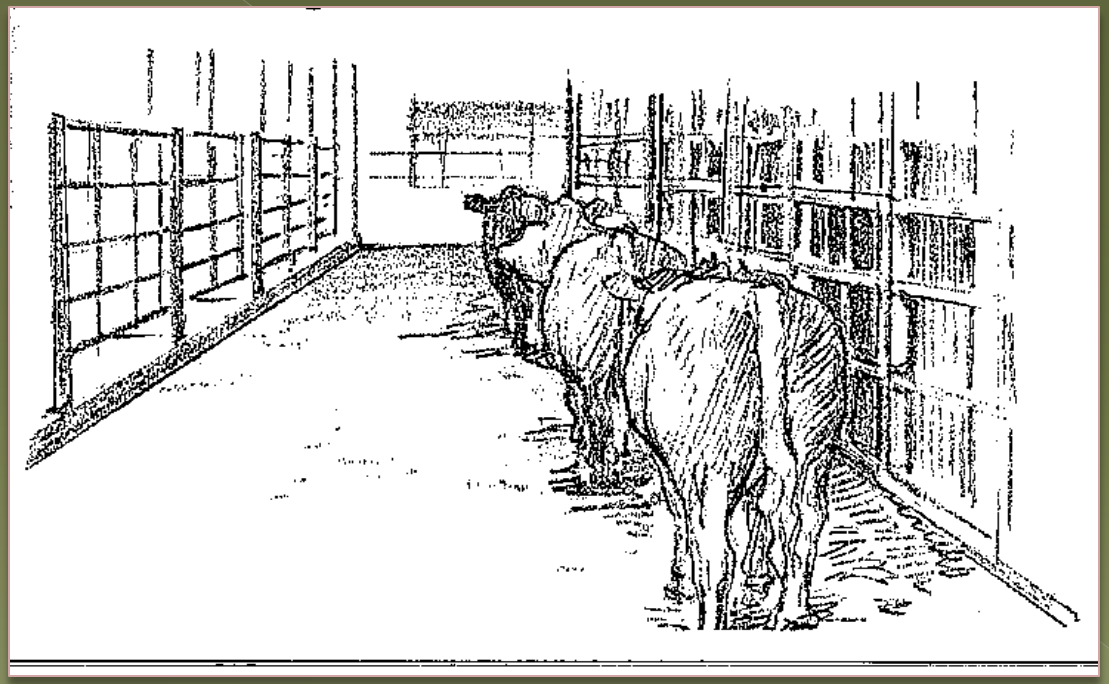


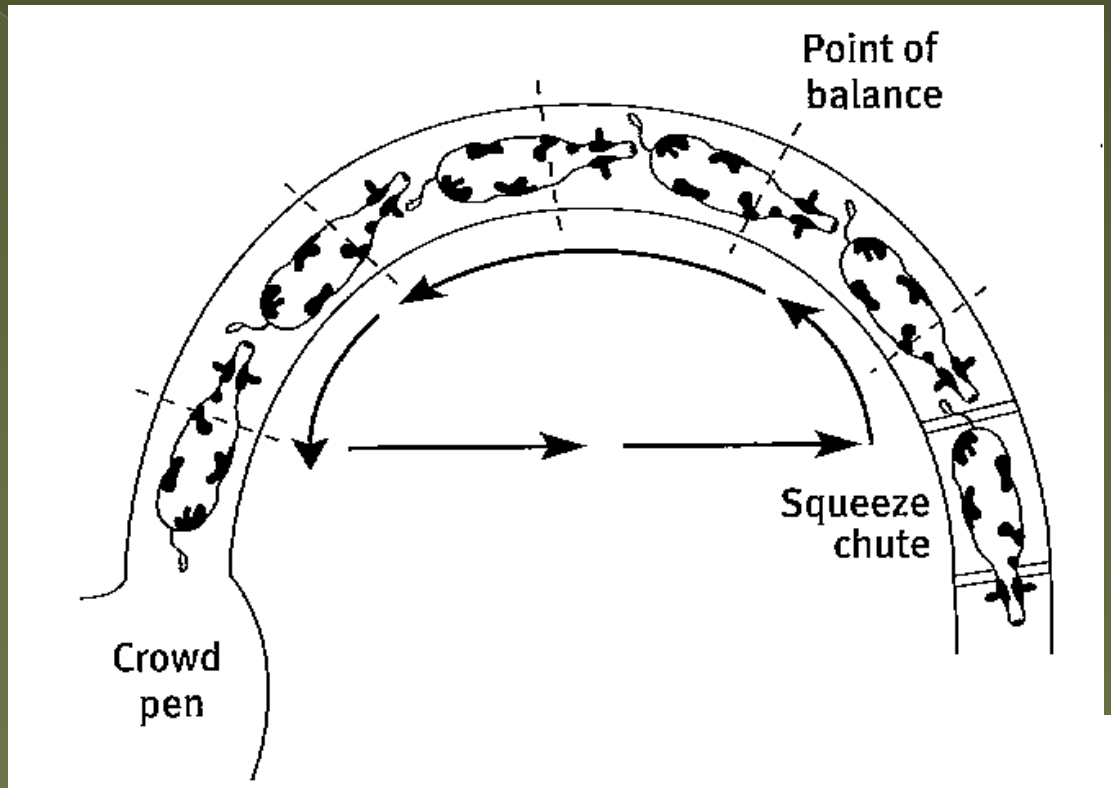
Be Aware of Animal Instinct

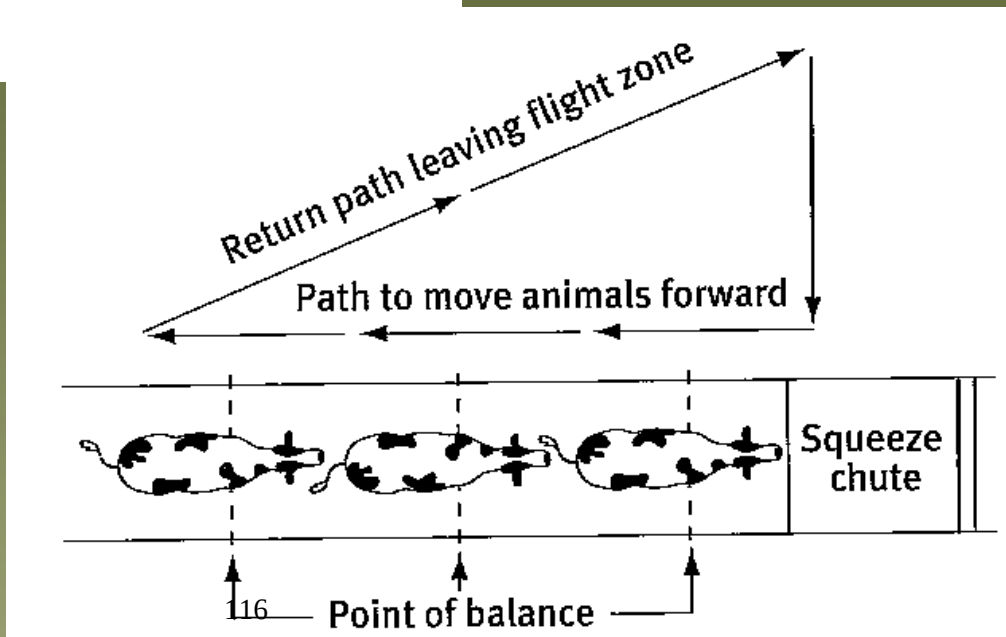


FLIGHT ZONE AND POINT OF BALANCE. A handler must be behind the point of balance and on the edge of the flight zone to move an animal forward. Take care to stay out of the animal's blind spot, which is directly behind him.

Calm livestock will naturally follow the leader. Make use of natural behavior to facilitate calm, quiet animal movement




Point of balance
Squeeze chute
Crowd pen


Return path leaving flight zone
Path to move animals forward
Squeeze chute
Point of balance

Today the treatment of animals has improved because more and more people realize that handling animals in a calm, low stress manner is the right thing to do.

GENERAL MANAGEMENT IN GOATS

Barbara M. Johnson, D.V.M.
Research Veterinarian
International Goat Research Center
Prairie View A&M University
Prairie View, Texas

NATIONAL GOAT CONFERENCE
TALLAHASSEE, FLORIDA
SEPTEMBER 12-15, 2010

INTRODUCTION

A planned animal health and production management program, is a combination of regularly scheduled veterinary activities and good herd management designed to achieve and maintain optimum animal health and production.

Sound management and preventative measures are the keys to maintaining a healthy herd.

It is less expensive to prevent a problem or disease than it is to correct a problem that has already occurred.

SEVERAL FACTORS TO CONSIDER

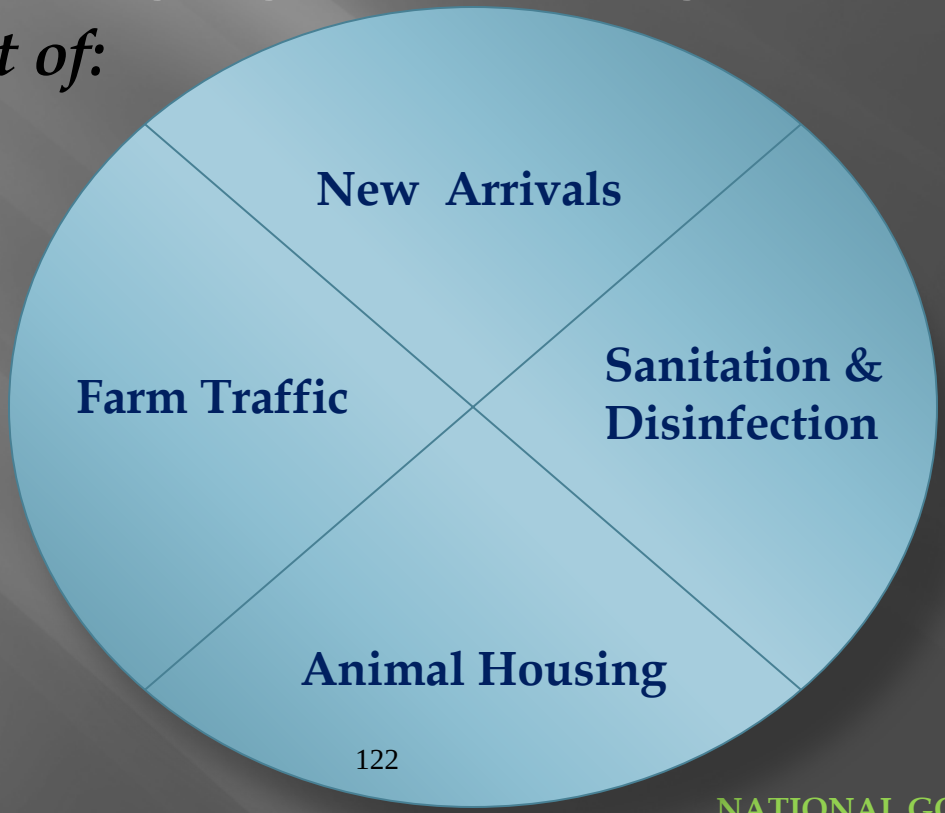
Intended use of your goat? Milk or milk products, showing goats, meat production , brush clearing.

What type of goats do you want? Breed, sex and age.

How will you select your animals? Sale barn, breeder.

GENERAL CONSIDERATIONS

- **Biosecurity:** is a herd management strategy designed to minimize the potential for introducing diseases onto the farm as well as diminish the spread of disease causing organisms throughout the farm.
- *Management of:*



In order for a biosecurity program to be effective all persons working with the herd must be educated, trained and understand the program.

GENERAL CONSIDERATIONS

- **Healthy Animals:** The producer must know and understand the appearance and behavior of a normal animal in order to recognize a health problem.


VALBAZEN
(albendazole)

GENERAL CONSIDERATIONS

- **Closed vs. Open**
  - **A CLOSED herd is a group of animals maintained with no association with other animals of the same species.**
  - **An OPEN herd has the disadvantage of the periodic introduction of outside animals into the herd.**

GENERAL CONSIDERATIONS

Physical and Climatic Environment is a major determinant of health or disease

VACCINATION PROGRAM

A vaccination program is an important component of control and prevention of diseases.

Livestock are vaccinated to reduce the economic losses associated with disease.

A vaccination program, however, is not a substitute for good nutrition, adequate ventilation, effective sanitation, and other health management procedures.

REMEMBER!

- **Effective vaccination is dependent upon having a healthy animal that is capable of responding to the vaccination.**
- **Not all vaccines are 100% effective.**
- **Not all animals respond to the vaccine.**
- Must follow directions.

Vaccines at IGRC

WITH WHAT?

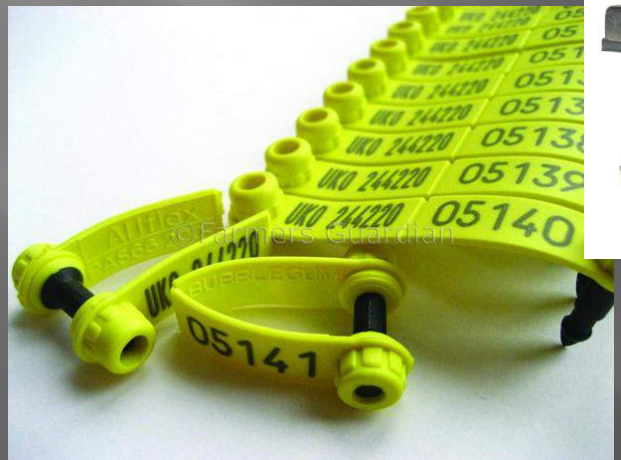
Individual herd circumstances, including disease history, management, housing, feeding practices, breeding, and other factors, affect the specific vaccination programs in any animal operation.

- **CD&T – Clostriduim perfringens C&D, Tetanus**
- **Case Bac- Caseous lymphadenitis**
- **Pneumonia – Mannheimia/Pasteurella**
- **BoSE -Selenium, Vit. E**
- **TAT- Tetanus antitoxin**

RECORD KEEPING

- Maintain and transmit information about individual animals.
- Monitor productivity of herd.
- Management decisions (feeding, breeding, culling).
- Veterinary records.

ANIMAL IDENTIFICATION



QUESTIONS FROM TRAINING COURSE: NAME_____

DATE_____

1. What's the difference between animal welfare, animal rights, and anthropmorhism?

2. What is animal husbandry and list the 5 freedoms.

3. Name the basic requirements for animal care?

4. Why is it important to reduce stress and fear in the animals?

5. What do animals understand?

6. What have people previously used when handling animals?

7. Want is Bio-security?

8. How would you understand abnormal/irregular behavior in an animal?

9. True/False: It is better to treat than prevent?

10. What is the difference between a closed herd and open herd?

11. What is a determinate of health of the animal?

12. What kind of housing is provided for the goats at the International Goat Research Center (IGRC)?

13. True/False: It is important to keep good record keeping.

14. True/False: Registered animals must be tattooed

15. True/False: Sanitation plays an important part in good management

SOPs for International Goat Research Center

Animal Observation: Animals are observed on a daily basis by IGRC employees (farm workers, veterinarian assistant, veterinarian and/or scientist) during feeding, watering or cleaning of pens. Veterinarian is called by IGRC employee when a problem is observed. Veterinarian also observes animals during routine management procedures: vaccinations, deworming etc.

Facilities: Goats are housed either in open side metal barns and /or pasture. Each barn consists of divided pens that can be changed in size depending on animal number. The flooring of the each barn consists of metal slatted floors and cement. Those on pasture have access to 3 sided metal hutches. All facilities and pastures are supplied with automatic water receptacles and feed troughs.

Ration (ration ingredients attached): All adult and kid goats (meat and dairy) are fed a purchased pelleted medicated (chlortetracycline and decoquinate) maintenance ration due to the presence of abortive organisms and coccidia parasites at the IGRC. However, lactating dairy does are fed a purchased complete non-medicated ration

Feeding Program
Meat Goat Herd: *Maintenance animals* (does and bucks) are fed 1-1 ½ pounds of grain per head per day and /or hay daily. Animals assigned to a research project are fed according to approved animal use protocol (AUP). *Newborn meat goats* are maintained (nourished) and raised by their dam until weaning (10-12 weeks of age). Ration for *pregnant animals* will increase towards the end of gestation. All animals have access to pasture.
Dairy Goat Herd: *Maintenance animals* (dry dairy does and dairy bucks) are fed 1-1 ½ pounds of grain per head per day and /or hay daily. *Lactating dairy does* will be fed a non-medicated ration ad lib. Newborns (see SOP for Newborn Goats).

Sanitation: Barn floors are cleaned with high pressure water 2-3 times per week depending on animal population. Flush ways are cleaned daily. Feces and wet feed are removed from feed troughs daily. Pens are disinfected when an infectious disease has been detected. Trash and debris will be removed from pastures and barn pens. Pens housing newborn kids are steam cleaned and disinfected prior to occupancy.

Identification: Animals born at IGRC are ear tagged sequentially at birth with an ID# indicating year of birth, birth number and breed (Boer/white, Spanish/blue, Dairy Kids/yellow, Adult Dairy/white). Before weaning they are implanted with a subcutaneous radio frequency microchip in the region of the tail fold. Dairy and Boer does and bucks that are retained are tattooed and registered with the American Dairy Goat Association/American Boer Goat Association. Animals purchased are retagged with their original ID# and receive a microchip.

Vaccination Schedule

Age & Sex	*Stage of Production*	*Time of Year*	*Vaccine/Supplements*
Adult Does (1year +)	Lactating or Dry	2 - 4 wks prior to breeding	Clostridium Type C&D/Tetanus (CD/T), Caseous Lymphadenitis, (Case-Bac), Mannheimia/Pastuerella Pnuemonia Bacterin, Bovine Selenium & Vitamin E (BO-SE)
Adult Bucks (1year +)	Breeding	4 wks prior to breeding	
Newborn Kids (<1yr)		4,6,8 wks of age again at 6 mos.of age	

Parasite Control Program

Age & Sex	*Stage of Production*	*Time of Year*	*Anthelmintic*
Adult Does (1year +)	Dairy Herd Lactating or Dry	4 wks prior to kidding, end of kidding season, prior to breeding season	Choice of medication depends on stage of production (pregnant, lactating or dry) and type of parasites present. Anthelmintics used: Ivomec (ivermectin) Valbazen (albendazole) Levamisole, Corid (amprolium), Albon (sulfadimethoxine)
	Meat Herd Nursing Kids	4 wks prior to kidding, at weaning, prior to breeding season	
Adult Bucks (1year +)	Breeding or Maintenance	4 wks prior to breeding, December & May	
Newborn Kids (<1yr)		at weaning, as needed	

Handling of Biologics and Pharmaceuticals

All pharmaceutical agents and supplies are inventoried and secured in the pharmacy. They are maintained according to label instructions (room temperature, refrigeration, light sensitive). Controlled substances and anesthetics, vitamins and hormones are kept in a combination locked cabinet within the pharmacy. Access to pharmacy is limited to Drs. Barbara Johnson, Kellye Thompson and Gary Newton. In case of emergency, Mrs. Rita Lovett has access to spare key in the absence of the above named.

Emergency /Holiday/Disaster Care

The IGRC Farm Workers rotate weekend duties or follow a planned holiday schedule and are responsible for any emergency (illness, mechanical failure) that might occur during their attendance. In the event of a disaster (dangerous weather conditions) an exit must be made available for animals housed in barns. Emergency contact numbers are listed in the barns (campus security, Barbara Johnson-veterinarian, Wendell Baker-relief veterinarian, Dwight Rhodes). Campus Police are instructed to contact Mr. Dwight Rhodes who is the designated

contact person for the outside facilities (animals, barns, pastures); Mrs. Rita Lovett is the designated contact person for the office facilities.

Purchasing Animals

Animals are purchased depending on the needs and requirements (breed, age, sex) of the International Goat Research Center. Reputable breeders/vendors are contacted via internet/email. Our decision on vendor is dependent on whether they meet our need, photos, genetics (records) and health status of the animals.

Quarantine Procedures

All purchased animals will be maintained in the meat goat barn for thirty days after arrival. Within that time frame they will be observed for disease conditions, receive routine vaccinations and medication for parasite control.

Inventory

Inventory is maintained monthly via birth and death certificates and sales records. Animals are physically counted quarterly. Inventory reports are submitted monthly to Mrs. G. Sneed of Cooperative Extension.

Animal Sales

Animals are sold to the auction barn when they are no longer suited for research, *eg. age, sex, quality of production, injury*. A request form is prepared and submitted for approval and signature from the IGRC Research Leader and CARC Research Director or CAHS Dean

Euthanasia Methods

All goats at the International Goat Research Center will be euthanized in accordance to approved methods documented by the 2010 Report of the American Veterinary Medicine Association Panel on Euthanasia. Currently, the only procedure used at this facility is an intravenous administration of a commercially purchased pentobarbital combination (Sleepaway). Other approved methods are used depending on an approved AUP.

Pest Control and Product Safety

Pest control is maintained on a monthly basis for the E."Kika" Dela Garza Building and for the offices of each barn. Pest control consist of USDA approved pesticide for insects and pellet bags for rodents. Safe specialized pest control methods are used for the removal of small mammals (skunks). Chemicals are not placed in the animal holding areas of barns or pastures.

Predator Control

Two (2) *Livestock guardian dogs (LGD)* have been donated to the IGRC to assist in deterring predator (coyote, feral dogs) attacks on the goat herd (see SOP for LGD). Perimeter fencing of the university farm is in place to assist with predator control. Snares are used at known sites of entry. The City of Prairie View Animal Control Officer is contacted for assistance. Live predator captures are reported to Campus Police for destruction.

Addendums: Castration, disbudding procedures
Houston Livestock Show and Rodeo

Procedure: Open/Closed Castration of the Male Goat
Age: Under 2 months of age

This surgical procedure is generally performed quickly without anesthesia. Although there is no preparation of the skin for surgery, attention is paid to preventing contaminated hands from coming into contact with exposed tissues that are to remain in the animal.

The scrotum is grasped and a horizontal incision made through skin and fascia at the widest part of the scrotum (middle and distal third). *Closed:* With the common vaginal tunic in tact , traction is placed on the testes and the skin is pushed proximal so that the fascia is separated from the spermatic cords. Each spermatic cord is emasculated using an emasculator. *Open*: An incision is made through the common vaginal tunic over each testicle. The testicle and spermatic cords are dissected from the tunic. Each spermatic cord is emasculated using an emasculator. Observe animal for hemorrhage. The portion of the tunic that surrounded the testicles and cords is also removed. The incision is sprayed with nitrofuricin, a topical antibacterial powder.

Age: 2 months of age and older

This surgical procedure described above is performed with the use of a local or general anesthetic. Local anesthesia :(2% Lidocaine) is applied subcutaneously at the skin incision site (1-2 ml) and into spermatic cord incision site (.5ml each). General anesthesia: Intravenous injection of Acepromazine/Ketamine cocktail (1mg /lb B.W.)

Postoperative Management for Castration

The kid will be watched for hemorrhage every 30 - 60 minutes for approximately 8 hours. Kids subjected to general anesthesia will be observed every 15 - 60 minutes for 8 hours also. Their recovery and respiration rate will be closely monitored every 15-30 minutes for 4 hours by veterinarian and trained staff. Each animal will be injected with a non steroidal anti-inflammatory drug (Banamine 1.1mg/kg) for pain and discomfort, a broad spectrum antibiotic and tetanus antitoxin. If hemorrhage occurs the animal will be attended to by the veterinarian.

Procedure: Surgical Dehorning
Dairy Animals Only

Horns on goats can cause bruises and other injury to humans and other animals. Hornless animals require less space and decreases the chances of getting caught or hung at the feed trough. This procedure is done if horns are not successful removed by hot iron disbudding. It can be done using local or general anesthesia (usually larger size animals).

Local anesthesia procedure: A cornual nerve block at two sites is performed using 2% Lidocaine (2ml/site). The area around the base of each horn is prepared for aseptic surgery. 2% Lidocaine is injected in several areas around the base of a horn (.5ml / site). After a 5 minute wait, a circular skin incision is made 1cm from the base of the horn. A Gigli wire saw is seated in the caudal aspect of the incision and the horn is removed. The procedure is repeated on the other horn. One the horns are removed the hemorrhage at the site must be controlled. An antibiotic

ointment or spray is applied and the head is lightly bandaged to avoid the entrance of foreign debris into the sinus cavities. The bandage is removed 48 hours after procedure and replaced with another bandage for approximately 4 days.

For general anesthesia, the animal will receive an intravenous injection of Acepromazine/Ketamine cocktail (1mg /lb B.W.) The procedure is the same as above.

Postoperative Management for Dehorning

The goat will be watched for hemorrhage every 30 - 60 minutes for approximately 8 hours. Goats subjected to general anesthesia will be observed every 15 - 60 minutes for 8 hours also. Their recovery and respiration rate will be closely monitored every 15-30 minutes for 4 hours by veterinarian and trained staff. Each animal will be injected with a non steroidal anti-inflammatory drug (Banamine 1.1mg/kg) for pain and discomfort, a broad spectrum antibiotic and tetanus antitoxin. If hemorrhage occurs the animal will be attended to by the veterinarian. The animal is observed daily for abnormal odor and discharged until surgical site is completely healed.

Procedure: Hot Iron Disbudding (performed only by Scott Horner)
Age: Kids under 1 month of age

Hair is shaved around horn bud. A hot disbudding iron after it has reached ready temperature is applied to the head covering the horn buds completely. With the correct pressure and time applied a copper ring will appear around the horn bud. This procedure is repeated on remaining horn bud. A cool topical antibiotic spray is applied along with an injectionof a non steroidal anti-inflammatory drug (Banamine 1.1mg/kg) for pain and discomfort, a broad spectrum antibiotic and tetanus antitoxin.

Livestock Inventory Form

PRAIRIE VIEW A&M UNIVERSITY
COOPERATIVE AGRICULTURAL RESEARCH CENTER
LIVESTOCK INVENTORY

_____
Part

_____ _____ _____
Class of Livestock Unit Dept. Code

_____ _____
Quantity Inventory No.

_____ BEGINNING INVENTORY $_____

ADDITIONS:

Expenditures (Purchase Order No. and Description)

_____ _____ $_____
_____ _____ _____
_____ _____ _____ $_____

Other Additions:

Adjustment in Previous Value $_____
_____ Produced by Department _____
Gains on Sales _____
Gifts _____
_____ 1. Other (see below) _____ $_____
Total Additions $_____
_____ Subtotal $_____

DEDUCTIONS:

Adjustment in Previous Value $_____
_____ Sales _____
Loss on Sales _____
_____ Died or Destroyed _____
_____ 2. Other (see below) _____
_____ Total Deductions $_____

========= PRESENT INVENTORY $=========

1. Other Additions

_____ $_____
_____ _____
==========

2. Other Deductions

_____ $_____
_____ _____
==========

_____ _____
Prepared By Approved – Head of Fiscal Operations

Submit original and 1 copy for each Class of Livestock. Due in Fiscal Office by 8:00 a.m. on the 4th working day of month following close of period

_____
Approved - Director

Animal Health Record Form

ANIMAL HEALTH RECORD

Animal #_____ **Color Description _____**

Breed _____ **Sex _____** **Age_____**

Barn_____ **Pen_____**

Date _____

SYMPTOMS _____

_____

_____

_____

_____

_____

TREATMENT:
Date _____

_____

Date _____

_____

Date _____

_____

Remarks:

Birth Records Form

2014

Birth Record for Goat Kids

Date:_____

Dam ID #_____ Breed:_____ Sire:_____

Time:_____ AM or PM # Kids Born___

Induced: Yes or No Time Induced:_____

Difficulty in birth: (1-no assistance, 5-C-Section)____

---

1. Ear Tag #_____ Sex_____ Weight_____

Color:_____ Chip #

Notes:_____

---

2. Ear Tag #_____ Sex_____ Weight_____

Color:_____ Chip #

Notes:_____

---

3. Ear Tag #_____ Sex_____ Weight_____

Color:_____ Chip #

Notes:_____

Remarks, Treatments and Project:

Signature_____

2014

Birth Record for Calves

Date:_____

Cow ID #_____ Breed:_____ Sire:_____

Time:_____ AM or PM

Difficulty in birth: (1-no assistance, 5-C-Section)____

---

1. Ear Tag #_____ Sex_____ Weight_____(Approx.)

Color/Descriiption:_____ Chip #_____

Notes:_____

Calf Status:_____

Remarks, Treatments and Project:

Signature_____

2014

Birth Record for Foals

Date:_____

Mare ID #_____ Breed:_____ Sire:_____

Time:_____ AM or PM

Difficulty in birth: (1-no assistance, 5-C-Section)____

---

1. Ear Tag #_____ Sex_____ Weight_____(Approx.)

Color/Descriiption:_____ Chip #_____

Notes:_____

Status:_____

Remarks, Treatments and Project:

Signature_____

Birth Record for Pigs

Date:_____ Number in Litter:_____ Sow ID #_____

Breed:_____ Sire:_____ Time:_____ AM or PM

Difficulty in birth: (1-no assistance, 5-C-Section)____

Piglett #	Tag ID	Sex	Comments
1			
2			
3			
4			
5			
6			
7			
8			
9			
10			

Status:_____

Remarks, Treatments and Project:

Signature_____

Necropsy Report

COLLEGE OF AGRICULTURE & HUMAN SCIENCES
PRAIRIE VIEW A&M UNIVERSITY
PRAIRIE VIEW, TEXAS
LIVESTOCK DEATH CERTIFICATE

1. ANIMAL IDENTIFICATION (i.e. Tattoos, Brands, Registration, Ear Tags, etc)

_____ SPECIES_____

2. BREED_____ 3. TAG COLOR_____

4. SEX_____ 5. AGE _____ 6. WEIGHT _____

7. DESCRIPTION OF ANIMAL (Color, Markings, etc)_____

8. DATE OF DEATH_____ 9. CAUSE OF DEATH_____

RESEARCH ANIMAL YES_____ NO_____

WITNESS SIGNATURE_____DATE

WITNESS SIGNATURE_____DATE

TO BE COMPLETED BY THE VETERINARIAN
Necropsy Performed: Yes ☐ No ☐ If no, explain and sign below.
Necropsy Findings:
DATE SIGNATURE (D.V.M.)

Animal Incident Report Form

GUIDANCE ON PROMPT REPORTING OF UNANTICIPATED PROBLEMS/PROTOCOL DEVIATIONS/ ADVERSE EVENTS

The IACUC Adverse Event or Unanticipated Outcome/Problem Form must be used for reporting any adverse or unanticipated event affecting animals used in research, testing or teaching.

It is appropriate to seek assistance from the attending veterinarian when adverse events or protocol deviations occur. They can assist in assessing the situation, seeking resolutions, and helping with the report. Consultation with the Attending Veterinarian or the assigned veterinarian **MUST occur when pain or distress is beyond the level anticipated in the protocol description or when interventional control (such as analgesics) is not possible. **

Definition of an unanticipated or adverse event: Any event not consistent with routine expected outcomes that results in unexpected animal welfare issues (death, disease, distress).

Examples of events that MUST be reported include, but are not limited to the following:

- Animal death or illness from spontaneous disease not related to activities approved on an AUP.
- Unexpected animal death or injuries related to approved animal activities (ie-allergic reactions, broken limbs, complications during or recovering from surgery, sudden death). Unexpected death includes an increased number of deaths over what was stated in the approved protocol.
- Death due to equipment failure or natural disaster.
- Conduct of animal-related activities without appropriate IACUC review and approval (i.e.- implementing protocol amendments prior to obtaining approval)

The Adverse Event Report should be completed and submitted to the IACUC within twenty-four (24) hours of observing the event.

Email a copy of the report to: research@pvamu.edu

Adverse events affecting USDA regulated species need a separate report per affected animal

Questions regarding the use of this form should be directed to the Office of Regulatory Research at 936-261-1553.

Prairie View A&M University
INSTITUTIONAL ANIMAL CARE AND USE COMMITTEE (IACUC)

UNANTICIPATED PROBLEMS/PROTOCOL DEVIATIONS/ADVERSE EVENTS FORM

For use in reporting unanticipated problems, protocol deviations, or adverse events associated with animals used in research, testing, or teaching

PROTOCOL # _____ **BUILDING & ROOM # _____**

PROTOCOL TITLE:

PRINCIPAL INVESTIGATOR:

Investigator's Name **Investigator's Signature** **Date**

Description of the Unanticipated Problem, Protocol Deviation, or Adverse Event			
Date of Event/ Problem:		**Date Identified:**	
Species of Animal		**Number of animals involved**	
Location of Event:			
Outcome	☐ Treated/Recovered ☐ Treated/Euthanized ☐ Fatal		
Was the Veterinarian consulted?			☐ Yes ☐ No
If yes above, name of veterinarian:			
Is this event related to the research?			☐ Related ☐ Possibly Related ☐ Not Related
Is the possibility of this event noted in the current approved protocol?			☐ Yes ☐ No
Does this event require a change to the protocol? If yes, please submit an amendment with this report.			☐ Yes ☐ No

1.	**Provide a description (include dates and details) of the adverse event or unanticipated outcome/problem:**
2.	**Provide a description of how this event or unanticipated outcome/problem was managed:**
3.	**Provide a description of the corrective actions taken to ensure that this type of event or unanticipated outcome/problem does not occur in the future:**

It is Prairie View A&M University policy that the procurement, housing, care and use of animals should conform to the Guide for the Care and Use of Laboratory Animals, the Guide for the Care and Use of Agricultural Animals in Research and Teaching and other relevant federal or state policies and procedures. The policy applies to all research and teaching involving the use of agricultural animals whether funded from external or internal sources.

Please email this form immediately to the IACUC: research@pvamu.edu

Animal Medical Record Progress Form

ANIMAL MEDICAL RECORD PROGRESS SHEET
(This is a sample template, and therefore, the format shown is not required)

Owning Institute: _____ Holding Institute: _____
PI: _____ Contact Investigator/PH#: _____
Animal ID #:_____ Animal Name: _____ Sex: _____
D.O.B.: _____ Rec'd Date: _____ Description: _____

Date & Time	Notes	Initials

Maintain 1 calendar year on-site, archive for 2 calendar years.

Daily Health Records

DAILY HEALTH REPORT

Date: _____ Animal #_____ Color Description _____
Breed _____ Sex _____ Age _____
Barn _____ Pen _____

Symptoms _____

_____

Treatment _____

_____

Date: _____ Animal #_____ Color Description _____
Breed _____ Sex _____ Age _____
Barn _____ Pen _____

Symptoms _____

_____

Treatment _____

_____

Date: _____ Animal #_____ Color Description _____
Breed _____ Sex _____ Age _____
Barn _____ Pen _____

Symptoms _____

_____

Treatment _____

_____

Date: _____ Animal #_____ Color Description _____
Breed _____ Sex _____ Age _____
Barn _____ Pen _____

Symptoms _____

_____

Treatment _____

_____

Student Worker Volunteer Form

Personal Data

Volunteer's Name: _____

Department: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Email: _____

Emergency Contact Info: In case of an emergency, please list an individual we can contact.

Name: _____ Relationship: _____

Address: _____

City: _____ State: _____ Zip Code: _____

Phone Number: _____

Dates volunteer services are to be performed:

From: _____ To: _____

Volunteer duties to be performed:

_____

_____

_____

_____

_____

_____

_____

APPROVALS

_____ _____

Volunteer's Supervisor (Print) Signature

_____ _____

Budget Head/Director (Print) Signature

_____ _____

Vice President (Print) Signature

HR Use Only

Form reviewed and approved by:

_____ _____ _____

HR Staff (Print) Signature Date

PRAIRIE VIEW A&M UNIVERSITY
COLLEGE OF AGRICULTURE AND HUMAN SCIENCES

Addressing the Human Dimension of Science

HR 206 (10/01)

Volunteer Waiver

With few exceptions, you have the right to request, receive, review and correct information about yourself collected using this form.

I certify that I am offering my services to The Texas A&M University System and/or one of its universities or agencies on a volunteer basis. I understand that I will receive no pay, benefits or other privileges of employment of any kind for my services. I further understand that I am not eligible for worker's compensation benefits if I am injured or become ill as a result of my volunteer work, and I am not eligible for unemployment compensation benefits when my volunteer assignment ends. I also certify that I have not been promised and have no expectation that I will receive a paid position as a result of my volunteer work.

I certify that I am (check one):

☐ Not employed by the State of Texas, The Texas A&M University System or any other public entity, and I am performing the proposed volunteer work for civic, charitable or humanitarian reasons.

☐ An employee of the State of Texas or The Texas A&M University System. The proposed volunteer work is in a different occupational capacity from that in which I am employed, and I am performing the volunteer work for civic, charitable or humanitarian reasons.

_____ _____

Signature of volunteer *Signature of witness*

_____ _____

Date *Date*

Confidential Release Form

Created: 11/20/2008

Print Form

Prairie View A&M University

Confidential Release Form (Background Check)

An equal Opportunity/Affirmative Action Employer

Prairie View A&M University does not discriminate on any basis prohibited by applicable law including race, color, religion, sex, national origin, disability, age, citizenship status, or veteran's status in recruitment, employment, promotion, compensation, benefits or training. The information on this form is the property of Prairie View A&M University.

Hiring Department

Department | Department Contact | Phone Number

Vacant Position Title

☐ Full-time Faculty ☐ Full-time Staff ☐ Adjunct Faculty

☐ Temporary Staff ☐ Graduate Assistant

Applicant

Last Name | First Name | Middle Name

Other Name(s) You Have Used (Including Maiden Name)

Present Physical Address | Apartment #

City | State | Zip | County

*Date of Birth | Social Security Number | *Gender | *Race | Contact Number

*Driver's License | *State issuing driver's license

☐ Commercial

* Information is solely being used for the purpose of conducting a background check.

In connection with my application for employment, my continued employment, or in connection with my desire to engage in volunteer activities, I have been advised and I hereby consent and authorize the Employer and its agent, at any time during or subsequent to my application process, to conduct an investigative consumer report that may include, but are not limited to, a criminal record check, employment and education verifications, personal references; personal interviews; my personal credit history; and driving record. I do hereby consent to Employer's use of any information provided on this form or during the application process in performing the investigative consumer report. Employer has informed me that I have the right to review and challenge any negative information that would adversely impact a decision to offer employment. I agree to release, indemnify and hold harmless Employer and any reporting agency Employer uses with regard to any information reported by the reporting agency. According to the Fair Credit Reporting Act, I am entitled to know if employment is denied because of information obtained from a consumer reporting agency. If so, I will be notified and given the name, address, and phone number of the agency which provided the information. In addition, I have been informed that I will have a reasonable opportunity to clear up any mistaken information reported within a reasonable time frame established within the sole discretion of Employer. Under the Fair Credit Reporting Act, I have been advised that upon request I will be provided the name, address and telephone number of the reporting agency as well as the nature, substance and source of all information. I acknowledge that facsimile, copy or email shall be as valid as the original.

This form should be completed by applicant and returned to the Hiring Department

The following are my responses to questions about my criminal history (if any).

Have you ever been convicted or plead guilty before a court for any federal, state or municipal criminal offense? (exclude minor traffic misdemeanors). ☐ Yes ☐ No If yes, please provide details below.

State:_____ County:_____ Date of Offense:_____

Details of conviction:

Have you ever-received deferred adjudication or similar disposition for any federal, state or municipal offense?

☐ Yes ☐ No If yes, please provide details below.

State:_____ County:_____ Date of Offense:_____

Details of conviction:

Have you ever-received probation or community supervision for any federal, state or municipal offense?

☐ Yes ☐ No If yes, please provide details below.

State:_____ County:_____ Date of Offense:_____

Details of conviction:

Have you ever been convicted of any criminal offense in a country outside the jurisdiction of the United States?

☐ Yes ☐ No If yes, please provide details below.

State:_____ County:_____ Date of Offense:_____

Details of conviction:

As of the date of this consent form, do you have any pending charges against you? ☐ Yes ☐ No If yes, please provide details below.

State:_____ County:_____ Date of Offense:_____

Details of conviction:

I hereby certify that all information provided in this consent form is true, correct and complete. If any information proves to be incorrect or incomplete, i understand that grounds for canceling of any and all offers of employment will exist and may be used at the discretion of the university.

Date _____

Applicant (Print Name)_____

Applicant's Signature _____

This form should be completed by applicant and returned to the Hiring Department

OLAW Checklist

Semiannual Program Review and Facility Inspection Checklist

About the checklist

The Semiannual Program Review and Facility Inspection Checklist is provided to assist institutions in conducting their semiannual reviews of programs and facilities for the care and use of animals. The Public Health Service (PHS) Policy on Humane Care and Use of Laboratory Animals (Policy), section IV.B.1.-2., requires the Institutional Animal Care and Use Committee (IACUC) to review the institution's program for humane care and use of animals and inspect all of the institution's animal facilities at least once every 6 months using the *Guide for the Care and Use of Laboratory Animals: Eighth Edition (Guide)* as a basis for evaluation.

How to use the checklist

This checklist is a tool to assist IACUCs in conducting thorough semiannual reviews. IACUCs are not required to use this checklist but are encouraged to amend it as necessary to reflect institutional programs and needs, or to develop their own checklist. If the checklist is modified, periodic review of the checklist is recommended to ensure relevant topics are considered as the animal care and use program changes.

The checklist covers the major topics of the *Guide* and the requirements of the PHS Policy. The checklist does not replace the *Guide*, but should be utilized in conjunction with the *Guide.* The *Guide* provides the standards, recommendations, and descriptions of desired outcomes necessary to evaluate and inspect an animal care and use program. Relevant references for the *Guide* and the PHS Policy are noted. Endnotes are included to reference specific U.S. Department of Agriculture (USDA) regulatory requirements that differ from the PHS Policy. Topics that are new to this version of the checklist or identified as a "must" in the *Guide* are highlighted. A column to identify changes that have occurred in the institution's program for animal care and use (PHS Policy IV.A.1.a.-i.) since the last review is also a new feature.

The checklist consists of the following sections:

I. Semiannual Program Review Checklist
   - Institutional Policies and Responsibilities
   - Veterinary Care

II. Semiannual Facility Inspection Checklist
   - Terrestrial Animal Housing and Support Areas
   - Aquatic Animal Housing and Support Areas
   - Cagewash
   - Special Facilities: Aseptic Surgery
   - Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies

III. Semiannual Program Review and Facility Inspection Report

IV. Endnotes

It is recommended that the Program Review section be completed during an IACUC meeting. Because physical aspects of a program require visual observation to evaluate, it is recommended that the Facility Inspection section be completed during an inspection of the facilities, including satellite facilities.

A table is provided, "Semiannual Program Review and Facility Inspection Report," as a format for the IACUC to organize and track information regarding deficiencies, and plans and schedules for correction. IACUCs may choose to attach the table to the Semiannual Report to the Institutional Official.

Questions or comments?

Suggestions or comments about this checklist should be e-mailed to: olawdpe@mail.nih.gov.

I. Semiannual Program Review Checklist [i]

Institutional Policies and Responsibilities

Date:

1. Animal Care and Use Program NEW	A*	M	S	C	NA
• Responsibility for animal well-being is assumed by all members of the program (*Guide*, p 1) [must]					
• IO has authority to allocate needed resources (*Guide*, p 13)					
• Resources necessary to manage program of veterinary care are provided (*Guide*, p 14) [must]					
• Sufficient resources are available to manage the program, including training of personnel in accord with regulations and the *Guide* (*Guide*, pp 11, 15)					
• Program needs are regularly communicated to IO by AV and/or IACUC (*Guide*, p 13)					
• Responsibilities for daily animal care and facility management are assigned to specific individual(s) when a full-time veterinarian is not available on site (*Guide*, p 14) [must]					
• Inter-institutional collaborations are described in formal written agreements (*Guide*, p 15)					
• Written agreements address responsibilities, animal ownership, and IACUC oversight (*Guide*, p 15)					

2. Disaster Planning and Emergency Preparedness NEW	A*	M	S	C	NA
• Disaster plans for each facility to include satellite locations are in place (*Guide*, p 35, p 75) [must]					
• Plans include provisions for euthanasia (*Guide*, p 35) [must]					
• Plans include triage plans to meet institutional and investigators' needs (*Guide*, p 35)					
• Plans define actions to prevent animal injury or death due to HVAC or other failures (*Guide*, p 35)					
• Plans describe preservation of critical or irreplaceable animals (*Guide*, p 35)					
• Plans include essential personnel and their training (*Guide*, p 35)					
• Animal facility plans are approved by the institution and incorporated into overall response plan (*Guide*, p 35)					
• Law enforcement and emergency personnel are provided a copy and integration with overall plan is in place (*Guide*, p 35)					

3. IACUC NEW	A*	M	S	C	NA
• Meets as necessary to fulfill responsibilities (*Guide*, p 25) [must]					
• IACUC Members named in protocols or with conflicts recuse themselves from protocol decisions (*Guide*, p 26) [must]					
• Continuing IACUC oversight after initial protocol approval is in place (*Guide*, p 33)					
• IACUC evaluates the effectiveness of training programs (*Guide*, p 15)					

4. IACUC Protocol Review - Special Considerations	A*	M	S	C	NA
• Humane endpoints are established for studies that involve tumor models, infectious diseases, vaccine challenge, pain modeling, trauma, production of monoclonal antibodies, assessment of toxicologic effects, organ or system failure, and models of cardiovascular shock (*Guide*, p 27)					
• For pilot studies, a system to communicate with the IACUC is in place (*Guide*, p 28)					
• For genetically modified animals, enhanced monitoring and reporting is in place (*Guide*, p 28)					
• Restraint devices are justified in the animal use protocols (*Guide*, p 29) [must]					
• Alternatives to physical restraint are considered (*Guide*, p 29)					
• Period of restraint is the minimum to meet scientific objectives (*Guide*, p 29)					
• Training of animals to adapt to restraint is provided (*Guide*, p 29)					
• Animals that fail to adapt are removed from study (*Guide*, p 29)					
• Appropriate observation intervals of restrained animals are provided (*Guide*, p 29)					
• Veterinary care is provided if lesions or illness result from restraint (*Guide*, p 30) [must]					

• Explanations of purpose and duration of restraint are provided to study personnel (*Guide*, p 30)						
• Multiple surgical procedures on a single animal are justified and outcomes evaluated (*Guide*, p 30)						
• Major versus minor surgical procedures are evaluated on a case-by-case basis (*Guide*, p 30)						
• Multiple survival procedure justifications in non-regulated species conform to regulated species standards (*Guide*, p 30)						
• Animals on food/fluid restriction are monitored to ensure nutritional needs are met (*Guide*, p 31)						
• Body weights for food/fluid restricted animals are recorded at least weekly (*Guide*, p 31)						
• Daily written records are maintained for food/fluid restricted animals (*Guide*, p 31)						
• Pharmaceutical grade chemicals are used , when available, for animal-related procedures (*Guide*, p 31)						
• Non-pharmaceutical grade chemicals are described, justified, and approved by IACUC (*Guide*, p 31)						
• Investigators conducting field studies know zoonotic diseases, safety issues, laws and regulations applicable in study area (*Guide*, p 32)						
• Disposition plans are considered for species removed from the wild (*Guide*, p 32)						
• Toe-clipping only used when no alternative, performed aseptically and with pain relief (*Guide*, p 75)						
5. IACUC Membership and Functions	**A***	**M**	**S**	**C**	**NA**	
• IACUC is comprised of at least 5 members, appointed by CEO (PHS Policy, IV.A.3.)						
• Members include a veterinarian, a scientist, a nonscientist, and a nonaffiliated non-lab animal user (*Guide*, p 24)[ii]						
• IACUC authority and resources for oversight and evaluation of institution's program are provided (*Guide*, p 14)						
• IACUC conducts semiannual evaluations of institutional animal care and use program (PHS Policy, IV.B.)						
• Conducts semiannual inspections of institutional animal facilities (PHS Policy, IV.B.)						
• IACUC organizationally reports to the Institutional Official (PHS Policy, IV.A.1.b.)						
• Methods for reporting and investigating animal welfare concerns are in place (*Guide*, p 23) [must]						
• Reviews and investigates concerns about animal care and use at institution[iii] (PHS Policy, IV.B.)						
• Procedures are in place for review, approval, and suspension of animal activities[iv] (PHS Policy, IV.B.)						
• Procedures are in place for review and approval of significant changes to approved activities (PHS Policy, IV.B.)						
• Policies are in place for special procedures (e.g., genetically modified animals, restraint, multiple survival surgery, food and fluid regulation, field investigations, agricultural animals) (*Guide*, p 27-32)						
• Requests for exemptions from major survival surgical procedure restrictions are made to USDA/APHIS[v] (*Guide*, p 30) [must]						
6. IACUC Training NEW	**A***	**M**	**S**	**C**	**NA**	
• All IACUC members should receive:						
o Formal orientation to institution's program (*Guide*, p 17)						
o Training on legislation, regulations, guidelines, and policies (*Guide*, p 17)						
o Training on how to inspect facilities and labs where animal use or housing occurs (*Guide*, p 17)						
o Training on how to review protocols as well as evaluate the program (*Guide*, p 17)						
o Ongoing training/education (*Guide*, p 17)						
7. IACUC Records and Reporting Requirements[vi]	**A***	**M**	**S**	**C**	**NA**	
• Semiannual report to the IO (PHS Policy, IV.B.)						
o Submitted to IO every 6 months						
o Compiles program review and facility inspection(s) results (includes all program						

	and facility deficiencies)					
o	Includes minority IACUC views					
o	Describes IACUC-approved departures from the *Guide* or PHS Policy and the reasons for each departure[vii]					
o	Distinguishes significant from minor deficiencies					
o	Includes a plan and schedule for correction for each deficiency identified[viii]					
•	Reports to OLAW (PHS Policy, IV.F.)					
o	Annual report to OLAW documents program changes, dates of the semiannual program reviews and facility inspections and includes any minority views					
o	Promptly advises OLAW of serious/ongoing *Guide* deviations or PHS Policy noncompliance (NOT-OD-05-034)					
o	Institute must promptly advise OLAW of any suspension of an animal activity by the IACUC (NOT-OD-05-034)					
•	Reports to U.S. Department of Agriculture (USDA) or Federal funding agency[ix]					
o	Annual report to USDA contains required information including all exceptions/exemptions					
o	Reporting mechanism to USDA is in place for IACUC-approved exceptions to the regulations and standards					
o	Reports are filed within 15 days for failures to adhere to timetable for correction of significant deficiencies					
o	Promptly reports suspensions of activities by the IACUC to USDA and any Federal funding agency					
•	Records (PHS Policy, IV.E.)					
o	IACUC meeting minutes and semiannual reports to the IO are maintained for 3 years					
o	Records of IACUC reviews of animal activities include all required information[x]					
o	Records of IACUC reviews are maintained for 3 years after the completion of the study					

8. Veterinary Care (See also next section - Veterinary Care)	**A***	**M**	**S**	**C**	**NA**
• An arrangement for veterinarian(s) with training or experience in lab animal medicine is in place including backup veterinary care[xi]					
• Veterinary access to all animals is provided (*Guide*, p 14) [must]					
• Direct or delegated authority is given to the veterinarian to oversee all aspects of animal care and use (*Guide*, p 14) [must]					
• Veterinarian provides consultation when pain and distress exceeds anticipated level in protocol (*Guide*, p 5) [must]					
• Veterinarian provides consultation when interventional control is not possible (*Guide*, p 5) [must]					
• If part time /consulting veterinarian, visits meet programmatic needs (*Guide*, p 14)					
• Regular communication occurs between veterinarian and IACUC (*Guide*, p 14)					
• Veterinarian(s) have experience and training in species used (*Guide*, p 15) [must]					
• Veterinarian(s) have experience in facility administration/management (*Guide*, p 15)					

9. Personnel Qualifications and Training	**A***	**M**	**S**	**C**	**NA**
• All personnel are adequately educated, trained, and/or qualified in basic principles of laboratory animal science. Personnel included: [must]					
o Veterinary/other professional staff (*Guide*, p 15-16)					
o IACUC members (*Guide*, p 17)					
o Animal care personnel (*Guide*, p 16)					
o Research investigators, instructors, technicians, trainees, and students (*Guide*, pp 16-17)					
• Continuing education for program and research staff provided to ensure high quality care and reinforce training (*Guide*, pp 16-17)					
• Training is available prior to starting animal activity (*Guide*, p 17)					
• Training is documented (*Guide*, p 15)					
• Training program content includes: (*Guide*, p 17)					
o Methods for reporting concerns (*Guide*, p 17)					
o Humane practices of animal care (e.g., housing, husbandry, handling) [xii]					
o Humane practices of animal use (e.g., research procedures, use of anesthesia,					

	pre- and post-operative care, aseptic surgical techniques and euthanasia (*Guide*, p 17)[xiii]					
o	Research/testing methods that minimize numbers necessary to obtain valid results (PHS Policy, IV.A.1.g.)					
o	Research/testing methods that minimize animal pain or distress (PHS Policy, IV.A.1.g.)					
o	Use of hazardous agents, including access to OSHA chemical hazard notices where applicable (*Guide*, p 20)					
o	Animal care and use legislation (*Guide*, p 17)					
o	IACUC function (*Guide*, p 17)					
o	Ethics of animal use and Three R's (*Guide*, p 17)					

10.	**Occupational Health and Safety of Personnel**	**A***	**M**	**S**	**C**	**NA**
•	Program is in place and is consistent with federal, state, and local regulations (*Guide*, p 17) [must]					
•	Program covers *all* personnel who work in laboratory animal facilities (*Guide*, p 18)					
•	Changing, washing, and showering facilities are available as appropriate (*Guide*, p 19)					
•	Hazardous facilities are separated from other areas and identified as limited access (*Guide*, p 19)					
•	Personnel training is provided based on risk (e.g., zoonoses, hazards, personal hygiene, special precautions, animal allergies) (*Guide*, p 20)					
•	Personal hygiene procedures are in place (e.g., work clothing, eating/drinking/smoking policies) (*Guide*, p 20)					
•	Procedures for use, storage, and disposal of hazardous biologic, chemical, and physical agents are in place (*Guide*, p 21)					
•	Personal Protective Equipment for the work area is appropriate and available (*Guide*, p 21)					
•	Program for medical evaluation and preventive medicine for personnel includes:					
o	Pre-employment evaluation including health history (*Guide*, p 22)					
o	Immunizations as appropriate (e.g., rabies, tetanus) and tests as appropriate (*Guide*, p 22)					
o	Zoonosis surveillance as appropriate (e.g., Q-fever, tularemia, Hantavirus, plague) (*Guide*, p 23)					
o	Procedures for reporting and treating injuries, including accidents, bites, allergies, etc. (*Guide*, p 23)					
o	Promotes early diagnosis of allergies including preexisting conditions (*Guide*, p 22)					
o	Considers confidentiality and other legal factors as required by federal, state and local regulations (*Guide*, p 22) [must]					
o	If serum samples are collected, the purpose is consistent with federal and state laws (*Guide*, p 22) [must]					
•	Waste anesthetic gases are scavenged (*Guide*, p 21)					
•	Hearing protection is provided in high noise areas (*Guide*, p 22)					
•	Respiratory protection is available when performing airborne particulate work (*Guide*, p 22)					
•	Special precautions for personnel who work with nonhuman primates, their tissues or body fluids include:					
o	Tuberculosis screening provided for all exposed personnel (*Guide*, p 23)					
o	Training and implementation of procedures for bites, scratches, or injuries associated with macaques (*Guide*, p 23)					
o	PPE is provided including gloves, arm protection, face masks, face shields, or goggles (*Guide*, p 21)					
o	Injuries associated with macaques are carefully evaluated and treatment implemented (*Guide*, p 23)					
•	Occupational safety and health of field studies is reviewed by OSH committee or office (*Guide*, p 32)					

11.	**Personnel Security** NEW	**A***	**M**	**S**	**C**	**NA**
•	Preventive measures in place include pre-employment screening, and physical and IT security (*Guide*, p 23)					

12. Investigating & Reporting Animal Welfare Concerns NEW	A*	M	S	C	NA
• Methods for investigating and reporting animal welfare concerns are established (*Guide*, p 23) [must]					
• Reported concerns and corrective actions are documented (*Guide*, p 24)					
• Mechanisms for reporting concerns are posted in facility and at applicable website with instructions (*Guide*, p 24)					
o Includes multiple contacts (*Guide*, p 24)					
o Includes anonymity, whistle blower policy, nondiscrimination and reprisal protection (*Guide*, p 24)					

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S = significant deficiency (is or may be a threat to animal health or safety)
C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
NA = not applicable

NOTES:

Veterinary Care

Date:

1. Clinical Care and Management NEW	A*	M	S	C	NA
• Veterinary program offers high quality of care and ethical standards (*Guide*, p 105) [must]					
• Veterinarian provides guidance to all personnel to ensure appropriate husbandry, handling, treatment, anesthesia, analgesia, and euthanasia (*Guide*, p 106)					
• Veterinarian provides oversight to surgery and perioperative care (*Guide*, p 106)					
• Veterinary care program is appropriate for program requirements (*Guide*, pp 113-114)					
• Veterinarian(s) is familiar with species and use of animals and has access to medical and experimental treatment records (*Guide*, p 114)					
• Procedures to triage and prioritize incident reports are in place (*Guide*, p 114)					
• Procedures are in place to address:					
o Problems with experiments to determine course of treatment in consultation with investigator(*Guide*, p 114)					
o Recurrent or significant health problems with the IACUC and documentation of treatments and outcomes (*Guide*, p 114)					
o Veterinary review and oversight of medical and animal use records (*Guide*, p 115)					
• Procedures established for timely reporting of animal injury, illness, or disease (*Guide*, p 114) [must]					
• Procedures established for veterinary assessment, treatment, or euthanasia (*Guide*, p 114) [must]					
• Veterinarian is authorized to treat, relieve pain, and/or euthanize (*Guide*, p 114) [must]					

2. Animal Procurement and Transportation/Preventive Medicine	A*	M	S	C	NA
• Procedures for lawful animal procurement are in place (*Guide*, p 106) [must]					
• Sufficient facilities and expertise are confirmed prior to procurement (*Guide*, p 106)					
• Procurement is linked to IACUC review and approval (*Guide*, p 106)					
• Random source dogs and cats are inspected for identification (*Guide*, p 106)					
• Population status of wildlife species is considered prior to procurement (*Guide*, p 106)					
• Appropriate records are maintained on animal acquisition (*Guide*, p 106)					
• Animal vendors are evaluated to meet program needs and quality (*Guide*, p 106)					
• Breeding colonies are based on need and managed to minimize numbers (*Guide*, p 107)					
• Procedures for compliance with animal transportation regulations, including international requirements, are in place (*Guide*, p 107) [must]					
• Transportation is planned to ensure safety, security and minimize risk (*Guide*, p 107)					
• Movement of animals is planned to minimize transit time and deliveries are planned to ensure receiving personnel are available (*Guide*, pp 107- 108)					
• Appropriate loading and unloading facilities are available (*Guide*, p 109)					
• Environment at receiving site is appropriate (*Guide*, p 109)					
• Policies in place on separation by species, source, and health status (*Guide*, pp 109, 111-112)					
• Procedures in place for quarantine to include zoonoses prevention (*Guide*, p 110)					
• Quarantined animals from different shipments are handled separately or physically separated (*Guide*, p 110)					
• Procedures in place for stabilization/acclimation (*Guide*, pp 110-111)					
• Policies in place for isolation of sick animals (*Guide*, p 112)					
• Program is in place for surveillance, diagnosis, treatment and control of disease to include daily observation (*Guide*, p 112)					
• Diagnostic resources are available for preventive health program (*Guide*, p 112)					

3. Surgery	A*	M	S	C	NA
• Surgical outcomes are assessed and corrective changes instituted (*Guide*, p 115)					
• Researchers have appropriate training to ensure good technique (*Guide*, p 115) [must]					

• Pre-surgical plans are developed and include veterinary input (e.g., location, supplies, anesthetic and analgesic use, peri-operative care, recordkeeping) (*Guide*, p 116)						
• Aseptic surgery is conducted in dedicated facilities or spaces, unless exception justified and IACUC approved (*Guide*, p 116)						
• Surgical procedures including laparoscopic procedures are categorized as major or minor (*Guide*, pp 117-118)						
• For nonsurvival surgery, the site is clipped, gloves are worn and instruments and area are clean (*Guide*, p 118)						
• Aseptic technique is followed for survival surgical procedures (*Guide*, pp 118-119)						
• Effective procedures for sterilizing instruments and monitoring expiration dates on sterile packs are in place (*Guide*, p 119)						
• Procedures for monitoring surgical anesthesia and analgesia are in place (*Guide*, p 119)						
• For aquatic species, skin surfaces are kept moist during surgical procedures (*Guide*, p 119)						
• Post-operative monitoring and care are provided by trained personnel and documented (e.g., thermoregulation, physiologic function, analgesia, infection, removal of skin closures) (*Guide*, pp 119-120)						
4. Pain, Distress, Anesthesia and Analgesia	**A***	**M**	**S**	**C**	**NA**	
• Guidelines for assessment and categorization of pain, distress and animal wellbeing are provided during training (*Guide*, p 121)						
• Selection of analgesics and anesthetics is based on professional veterinary judgment (*Guide*, p 121)						
• Painful procedures are monitored to ensure appropriate analgesic management (*Guide*, p 122)						
• Nonpharmacologic control of pain is considered as an element of postprocedural care (*Guide*, p 122)						
• Procedures are in place to assure antinoception before surgery begins (*Guide*, p 122) [must]						
• Guidelines for selection and use of analgesics and anesthetics are in place and regularly reviewed and updated (*Guide*, p 122)						
• Special precautions for the use of paralytics are in place to ensure anesthesia[xiv] (*Guide*, p 123)						
5. Euthanasia	**A***	**M**	**S**	**C**	**NA**	
• Methods are consistent with AVMA Guidelines on Euthanasia unless approved by the IACUC (*Guide*, p 123)						
• Standardized methods are developed and approved by the veterinarian and IACUC that avoid distress and consider animal age and species (*Guide*, pp 123-124)						
• Training is provided on appropriate methods for each species and considers psychological stress to personnel (*Guide*, p 124)						
• Procedures and training are in place to ensure death is confirmed (*Guide*, p 124) [must]						
6. Drug Storage and Control NEW	**A***	**M**	**S**	**C**	**NA**	
• Program complies with federal regulations for human and veterinary drugs(*Guide*, p 115) [must]						
• Drug records and storage procedures are reviewed during facility inspections (*Guide*, p 115)						
• Procedures are in place to ensure analgesics and anesthetics are used within expiration date (*Guide*, p 122) [must]						
• Anesthetics and analgesics are acquired, stored, and their use and disposal are recorded legally and safely (*Guide*, p 122)						

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NA = not applicable

NOTES:

II. Semiannual Facility Inspection Checklist

Terrestrial Animal Housing and Support Areas

Date:
Location:

	A*	M	S	C	NA
• **Location:**					
o animal areas separate from personnel areas (*Guide*, p 134)					
o separation of species (*Guide*, p 111)					
o separation by disease status (*Guide*, p 111)					
o security and access control (*Guide*, p 151)					
• **Construction:**					
o corridors (*Guide*, p 136)					
o animal room doors (*Guide*, p 137)					
o exterior windows (*Guide*, p 137)					
o floors (*Guide*, p 137)					
o drainage (*Guide*, p 138)					
o walls and ceilings (*Guide*, p 138)					
o heating ventilation and air conditioning (*Guide*, p 139)					
o power and lighting (*Guide*, p 141)					
o noise control (*Guide*, p 142)					
o vibration control (*Guide*, p 142)					
o environmental monitoring (*Guide*, p 143)					
• **Room / Cage:**					
o temperature and humidity (*Guide*, p 43)					
o ventilation and air quality (*Guide*, p 45)					
o illumination (*Guide*, p 47)					
o noise and vibration (*Guide*, p 49)					
• **Primary Enclosure:**					
o space meets physiologic, behavioral [xv], and social[xvi] needs (*Guide*, pp 51, 55-63)					
o secure environment provided (*Guide*, p 51)					
o durable, nontoxic materials in good repair and no risk of injury (*Guide*, p 51)					
o flooring is safe and appropriate for species (*Guide*, p 51)					
o adequate bedding and structures for resting, sleeping, breeding (*Guide*, p 52)					
o objective assessments of housing and management are made (*Guide*, p 52)					
o procedures for routine husbandry are documented (*Guide*, p 52)					
o socially housed animals can escape or hide to avoid aggression (*Guide*, p 55)					
o cage height provides adequate clearance (*Guide*, p 56)					
o animals express natural postures, can turn around, access food and water, and rest away from urine and feces (*Guide*, p 56) [must]					
o rationale[xvii] for *Guide*/USDA space exceptions approved by IACUC and based on performance indices (*Guide*, p 56)					
o dogs and cats allowed to exercise and provided human interaction (*Guide*, p 58)					
o nonhuman primates are socially housed except for scientific, veterinary or behavior reasons (*Guide*, pp 58-59)					
o single housing of nonhuman primates is for shortest duration possible (*Guide*, p 60)					
o opportunities for release into larger enclosures is considered for single caged nonhuman primates (*Guide*, p 60)					
o agricultural animals are housed socially (*Guide*, p 60)					
o food troughs and water devices for agricultural animals allow access for all animals (*Guide*, p 60)					
• **Environmental Enrichment, Behavioral and Social Management:**					
o structures and resources promote species typical behavior (*Guide*, pp 52-54)					
o novelty of enrichment is considered (*Guide*, p 53)					
o species specific plans for housing including enrichment, behavior and activity are developed and reviewed regularly by IACUC, researchers and veterinarian					

	(*Guide*, pp 53, 58, 60, 63)					
	o animal care personnel receive training to identify abnormal animal behaviors (*Guide*, p 53)					
	o stability of pairs or groups is monitored for incompatibility (*Guide*, p 64)					
	o single housing is justified for social species (*Guide*, p 64)					
	o single housing is limited to the minimum period necessary (*Guide*, p 64)					
	o additional enrichment for single housed animals is provided (*Guide*, p 64)					
	o single housing is reviewed regularly by IACUC and veterinarian (*Guide*, p 64)					
	o habituation to routine procedures is part of enrichment program (*Guide*, p 64)					
	• **Sheltered or Outdoor Housing:** (e.g., barns, corrals, pastures, islands)					
	o weather protection and opportunity for retreat (*Guide*, p 54) [must]					
	o appropriate size (*Guide*, p 54)					
	o ventilation and sanitation of shelter (no waste/moisture build-up) (*Guide*, p 54)					
	o animal acclimation (*Guide*, p 55)					
	o social compatibility (*Guide*, p 55)					
	o roundup/restraint procedures (*Guide*, p 55)					
	o appropriate security (*Guide*, p 55)					
	• **Naturalistic Environments:**					
	o animals added /removed with consideration of effect on group (*Guide*, p 55)					
	o adequate food, fresh water, and shelter ensured (*Guide*, p 55)					
	• **Food:**					
	o feeding schedule and procedures including caloric intake management (*Guide*, pp 65-67)					
	o contamination prevention (*Guide*, p 65)					
	o vendor quality control (*Guide*, p 66)					
	o storage in sealed containers (*Guide*, p 66)					
	o expiration date labeling (*Guide*, p 66)					
	o vermin control (*Guide*, p 66)					
	o rotation of stocks (*Guide*, p 66)					
	• **Water:**					
	o ad libitum unless justified (*Guide*, pp 67-68)					
	o QC procedures (*Guide*, pp 67-68)					
	• **Bedding and Nesting Materials:**					
	o species appropriate (*Guide*, pp 68-69)					
	o keeps animals dry (*Guide*, pp 68-69)					
	o QC procedures (*Guide*, pp 68-69)					
	o minimizes scientific variables (*Guide*, pp 68-69)					
	• **Sanitation:**					
	o frequency of bedding/substrate change (*Guide*, p 70)					
	o cleaning and disinfection of microenvironment (*Guide*, pp 70-71)					
	o cleaning and disinfection of macroenvironment (*Guide*, p 72)					
	o assessing effectiveness (*Guide*, p 73)					
	• **Waste Disposal:**					
	o procedures for collection (*Guide*, pp 73-74)					
	o procedures for storage and disposal (*Guide*, pp 73-74)					
	o hazardous wastes are rendered safe before removal from facility (*Guide*, pp 73-74) [must]					
	o animal carcasses (*Guide*, pp 73-74)					
	• **Pest Control:**					
	o regularly scheduled (*Guide*, p 74)					
	o documented program including control of rodent pests and insecticide use (*Guide*, p 74)					
	• **Emergency, Weekend, and Holiday Animal Care:**					
	o care provided by qualified personnel every day (*Guide*, p 74)					
	o provision for accessible contact information (*Guide*, p 74)					
	o monitoring of backup systems (*Guide*, p 143)					
	o veterinary care available after hours, weekends, and holidays (*Guide*, pp 74, 114) [must]					
	o a disaster plan that takes into account both personnel and animals (*Guide*, p 75)					

• **Identification:**						
o cage/rack cards contain required information (*Guide*, p 75)						
o genotype information included and standardized nomenclature used when applicable (*Guide*, p 75)						
• **Recordkeeping:**						
o clinical records accessible and contain appropriate information (*Guide*, pp 75-76)						
o records are provided when animals are transferred between institutions (*Guide*, p 75)						
• **Breeding Genetics and Nomenclature:**						
o appropriate genetic records, management and monitoring procedures (*Guide*, p 76)						
o phenotypes that affect wellbeing are reported to IACUC and effectively managed (*Guide*, p 77)						
• **Storage:**						
o adequate space for equipment, supplies, food, bedding and refuse (*Guide*, p 141)						
o bedding in vermin-free area and protected from contamination(*Guide*, p 141)						
o food in vermin-free, temperature and humidity controlled area and protected from contamination (*Guide*, p 141)						
o refuse storage is separate (*Guide*, p 141)						
o carcass and animal tissue storage is separate, refrigerated below 7ºC and cleanable (*Guide*, p 141)						
• **Personnel:**						
o adequate space for locker rooms, administration and training (*Guide*, p 135)						

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NA = not applicable

NOTES:

Aquatic Animal Housing and Support Areas NEW

Date:
Location:

	A*	M	S	C	NA
• **Location:**					
o animal areas separate from personnel areas (*Guide*, p 134)					
o separation of species (*Guide*, p 111)					
o separation by disease status (*Guide*, p 111)					
o security and access control (*Guide*, p 151)					
• **Construction:**					
o corridors (*Guide*, p 136)					
o animal room doors (*Guide*, pp 137, 150)					
o exterior windows (*Guide*, p 137)					
o floors (*Guide*, pp 137, 150)					
o drainage (*Guide*, pp 138, 150)					
o walls and ceilings (*Guide*, pp 138, 150)					
o heating ventilation and air conditioning (*Guide*, pp 139, 150-151)					
o power and lighting (*Guide*, pp 141, 150)					
o noise control (*Guide*, p 142)					
o vibration control (*Guide*, p 142)					
o environmental monitoring (*Guide*, p 143)					
• **Water Quality:**					
o standards for acceptable quality are established (*Guide*, p 78)					
o chlorine, chloramines, chemical, and reactive bioproducts are removed or neutralized prior to use in aquatic systems (*Guide*, pp78, 86) [must]					
• **Life Support System:**					
o water source is based on appropriate controls and research requirements (*Guide*, p 79)					
o biofilter is of sufficient size to process bioload (*Guide*, p 80) [must]					
• **Temperature, Humidity and Ventilation / Illumination / Noise and Vibration:**					
o temperature and humidity (*Guide*, pp 43, 80-81)					
o ventilation and air quality (*Guide*, pp 45, 81)					
o illumination (*Guide*, pp 47, 81)					
o noise and vibration (*Guide*, pp 49, 81)					
• **Primary Enclosure:**					
o allows for normal physiological and behavioral needs (*Guide*, p 82)					
o allows social interaction for social species (*Guide*, p 82)					
o provides a balanced, stable environment (*Guide*, p 82)					
o provides appropriate water quality and monitoring (*Guide*, p 82)					
o allows access to food and waste removal (*Guide*, p 82)					
o restricts escape and entrapment (*Guide*, p 82)					
o allows undisturbed observation (*Guide*, p 82)					
o constructed of nontoxic materials (*Guide*, p 82)					
o prevents electrical hazards (*Guide*, p 82)					
o space needs of species are evaluated by IACUC during program evaluations and facility inspections (*Guide*, p 83)					
• **Environmental Enrichment, Social Housing, Behavioral and Social Management:**					
o enrichment elicits appropriate behaviors and is safe (*Guide*, p 83)					
o semi-aquatic reptiles are provided terrestrial areas (*Guide*, p 83)					
o handling is kept to a minimum and appropriate techniques are in place at facility or protocol level (*Guide*, p 84)					
o nets are cleaned, disinfected and managed to avoid contamination of systems (*Guide*, p 84)					
• **Food:**					
o storage to prevent contamination, preserve nutrients and prevent pests (*Guide*, p					

	84)					
o	delivery ensures access to all , minimizing aggression and nutrient loss (*Guide*, p 84)					
o	storage times are based on manufacturer recommendations or accepted practice (*Guide*, p 84)					
o	a nutritionally complete diet is provided (*Guide*, p 84)					
•	**Substrate:**					
o	amount, type and presentation of substrate is appropriate for the system and the species (*Guide*, p 85)					
•	**Sanitation, Cleaning and Disinfection**					
o	frequency of tank/cage cleaning and disinfection is determined by water quality, permits adequate viewing and health monitoring (*Guide*, p 86)					
o	cleaning and disinfection of macroenvironment (*Guide*, p 86)					
•	**Waste Disposal:**					
o	procedures for collection (*Guide*, pp 73-74)					
o	hazardous wastes are rendered safe before removal from facility (*Guide*, pp 73-74) [must]					
o	animal carcasses (*Guide*, pp 73-74)					
•	**Pest Control:**					
o	regularly scheduled (*Guide*, p 74)					
o	documented program including control of pests and insecticide use (*Guide*, p 74)					
•	**Emergency, Weekend, and Holiday Animal Care:**					
o	care provided by qualified personnel every day (*Guide*, pp 74, 87)					
o	provision for accessible contact information (*Guide*, pp 74, 87)					
o	emergency response plans in place to address major system failures (*Guide*, 87)					
o	veterinary care available after hours, weekends, and holidays (*Guide*, pp 74, 114) [must]					
•	**Identification:**					
o	cage/tank cards contain required information (*Guide*, pp 75, 87)					
o	genotype information included and standardized nomenclature used when applicable (*Guide*, pp 75, 87)					
•	**Recordkeeping:**					
o	water quality parameters and frequency of testing recorded (*Guide*, p 88)					
o	records kept on feeding, nonexpired food supplies, live cultures (*Guide*, p 88)					
•	**Storage:**					
o	adequate space for equipment, supplies, food, substrate and refuse (*Guide*, p 141)					
o	substrate protected from contamination (*Guide*, p 141)					
o	food in vermin-free, temperature and humidity controlled area and protected from contamination (*Guide*, p 141)					
o	refuse storage is separate (*Guide*, p 141)					
o	carcass and animal tissue storage is separate, refrigerated below 7ºC and cleanable (*Guide*, p 141)					
•	**Personnel:**					
o	adequate space for locker rooms, administration and training (*Guide*, p 135)					

* **A** = acceptable
M = minor deficiency
S = significant deficiency (is or may be a threat to animal health or safety)
C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
NA = not applicable

NOTES:

Cagewash

Date:
Location:

	A*	M	S	C	NA
• **Construction and Operation:**					
o dedicated central area for sanitizing cages and equipment is provided (*Guide*, p 143)					
o cage-washing equipment meets need (*Guide*, p 143)					
o doors, windows, floors, drainage, walls, ceilings (*Guide*, pp 136-138)					
o convenient to animal areas/waste disposal (*Guide*, p 143)					
o ease of access (including door size) facilitates use (*Guide*, p 143)					
o sufficient space for staging and maneuvering (*Guide*, p 143)					
o safety precautions/clothing/equipment used for waste disposal/prewash/acid wash ((*Guide*, p 143)					
o traffic flow clean to dirty with no contamination of clean equipment by dirty equipment and appropriate air pressurization (*Guide*, p 143)					
o insulation and/or sound attenuation present as needed (*Guide*, p 143)					
o utilities are appropriate (*Guide*, p 143)					
o ventilation meets heat and humidity load (*Guide*, p 143)					
o safety features (e.g., SOPs, warning signs, eyewash stations) are in use (*Guide*, p 143)					
o functioning safety devices to prevent entrapment in washer/sterilizers (*Guide*, p 143)					
o cage wash temperatures are monitored and records are available (*Guide*, p 73)					
o appropriate clean cage storage (*Guide*, p 141)					

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NA = not applicable

NOTES:

Special Facilities: Aseptic Surgery

Date:
Location:

	A*	M	S	C	NA
• **General Considerations:**					
o location minimizes traffic/contamination (*Guide*, p 144)					
o functional components (surgical support, animal preparation, surgeon scrub, operating room, postoperative recovery) are designed and separated (physically or otherwise) (*Guide*, p 144)					
o appropriate drug storage, control, expiration date monitoring (*Guide*, pp 115, 122)					
o safe sharps disposal system (*Guide*, p 74)					
o adequate records of anesthesia and perioperative care (*Guide*, p 122)					
o aseptic procedures in use for all survival surgery (*Guide*, pp 118-119)					
• **Operating Room:**					
o effective contamination control procedures (*Guide*, p 144)					
o effective cleaning procedures/dedicated tools (*Guide*, p 145)					
o interior surfaces smooth and impervious to moisture (*Guide*, p 145)					
o HVAC system meets *Guide* requirements (*Guide*, p 145)					
o lighting safe and appropriate (*Guide*, p 145)					
o outlets safe and appropriate (*Guide*, p 145)					
o scavenging of anesthetic gases implemented (*Guide*, p 145)					
• **Surgical Support:**					
o facility for washing, sterilizing, storing instruments and supplies (*Guide*, p 145)					
o autoclave monitoring procedures are implemented (*Guide*, pp 119, 145)					
o storage of autoclaved materials maintains sterility (*Guide*, p 145)					
o cold sterilization procedures are appropriate (*Guide*, p 119)					
• **Animal Preparation:** contains large sink to facilitate cleaning of animal and operative site (*Guide*, p 145)					
• **Surgeon Scrub:** outside operating room, non-hand-operated sink (*Guide*, p 145)					
• **Postoperative Recovery:** allows adequate observation, easily cleaned, supports physiologic functions, minimizes risk of injury (*Guide*, p 145)					
• **Dressing Area:** place for personnel to change (*Guide*, p 145)					

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NA = not applicable

NOTES:

Special Facilities: Procedure Areas, Non-survival Surgeries, Laboratories, Rodent Surgeries, Imaging, Whole Body Irradiation, Hazardous Agent Containment, Behavioral Studies

Date:
Location:

	A*	M	S	C	NA
• **General Considerations:**					
o labs used to house animals only when scientifically required and limited to minimum period necessary (*Guide*, p 134)					
o drug storage, control, and expiration dates (*Guide*, pp 115, 122)					
o sharps disposal (*Guide*, p 74)					
o anesthetic monitoring (*Guide*, p 120)					
o scavenging of anesthetic gases (*Guide*, p 21)					
o safety features (e.g., SOPs, safety signs, eyewash stations, secure gas cylinders) are in place (*Guide*, p 19)					
o carcass disposal (*Guide*, pp 73-74)					
• **Additional Concerns for Survival Surgery:** (rodent and minor procedures only)					
o rodent survival surgery clean and uncluttered, not used for anything else during surgery (*Guide*, p 144)					
o records of peri-operative care (*Guide*, p 120)					
o aseptic procedures (*Guide*, pp 118-119)					
o autoclave monitoring procedures (*Guide*, pp 119, 145)					
o storage of autoclaved materials (*Guide*, p 145)					
o cold sterilization procedures are appropriate (*Guide*, p 119)					
• **Imaging/Whole Body Irradiation:** NEW					
o location of resource limits contamination risk (*Guide*, p 147)					
o appropriate transportation methods are in place (*Guide*, p 147)					
o gas anesthesia provision, scavenging and monitoring are appropriate (*Guide*, p 147)					
o appropriate sensors and ventilation are provided for cryogen gases (*Guide*, p 147) [must]					
o imaging console is located away from radiation source (*Guide*, p 147)					
• **Hazardous Agent Containment:** NEW					
o facility adheres to APHIS, USDA and CDC Select Agent Regulations and other federal, state and local regulations including security measures (*Guide*, p 148) [must]					
• **Behavioral Studies:** NEW					
o facility minimizes airborne transmission of noise and ground-borne transmission of vibration (*Guide*, p 149)					
o floor coverings reduce sound transmission (*Guide*, p 149)					
o testing equipment allows for surface disinfection (*Guide*, p 150)					
o components that cannot be cleaned are not in ready contact with animals and kept covered when not in use (*Guide*, p 150)					
o housing areas are contiguous with testing areas when appropriate (*Guide*, p 150)					

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NA = not applicable

NOTES:

III. Semiannual Program Review and Facility Inspection Report

Date:
Members in Attendance:

Deficiency Category*	√	Location	Deficiency and Plan for Correction	Responsible Party	Correction Schedule and Interim Status	Date Complete

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C = change in program (PHS Policy IV.A.1.a.-i.) (include in semiannual report to IO and in annual report to OLAW)
NA = not applicable
√ Check if repeat deficiency

IV. Endnotes

[i] The PHS Policy requires that Assured institutions comply with the regulations (9 CFR, Subchapter A) issued by the U.S. Department of Agriculture (USDA) under the Animal Welfare Act, as applicable. The endnotes below are specific USDA regulatory requirements that differ from or are in addition to the PHS Policy. This list is not intended to be all inclusive. For additional information please refer to 9 CFR Subchapter A - Animal Welfare.

[ii] Part 2 Subpart C - Research Facilities
- 2.31(b)(2) - "The Committee shall be composed of a Chairman and at least two additional members;... at least one shall not be affiliated in any way with the facility...such person will provide representation for general community interests in the proper care and treatment of animals." [PHS policy requires 5 members]

[iii] 2.32(c)(4) - "...No facility employee, Committee member, or laboratory personnel shall be discriminated against or be subject to any reprisal for reporting violations of any regulation or standards under the Act." [USDA requirement additional to PHS Policy]

[iv] 2.31(d)(5) - "...shall conduct continuing reviews of activities...not less than annually." [PHS Policy requires a complete new review every 3 years utilizing all the criteria for initial review]

[v] 2.31(d)(1)(x) - "...no animal will be used in more than one major operative procedure from which it is allowed to recover unless...(it is) justified for scientific reasons...(or is) required as routine veterinary procedure...or other special circumstances as determined by the Administrator on an individual basis." [this last point is an additional USDA justification for multiple survival surgeries]

[vi] 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

[vii] 2.36(b)(3) - "...exceptions to the standards and regulations be specified and explained by the principal investigator and approved by the IACUC. A summary of all such exceptions must be attached to the facility's annual report." [Refers to USDA annual report]

[viii] 2.31(c)(3) - "...Any failure to adhere to the plan and schedule that results in a significant deficiency remaining uncorrected shall be reported in writing within 15 business days by the IACUC, through the institutional official, to APHIS and any Federal agency funding that activity." [PHS Policy requires prompt reporting to OPRR of serious or continuing noncompliance with the PHS Policy or serious deviations from the provisions of the *Guide*]

[ix] 2.36 - "...each reporting facility shall submit an annual report to the APHIS, AC sector supervisor for the State where the facility is located on or before December 1 of each calendar year." [The USDA annual report has a list of requirements which differ from PHS annual report]

[x] In addition to PHS requirements for IACUC review/application for funding, USDA regulations require:

2.31(d)(1)(ii) - "The principal investigator (PI) consider alternatives to procedures that cause more than momentary or slight pain or distress to the animals, and has provided a written narrative description of the methods and sources...used to determine that alternatives were not available."

2.31(d)(1)(iii) - "The PI has provided written assurance that the activities do not unnecessarily duplicate previous experiments."

2.31(d)(1)(iv) - "Procedures that may cause more than momentary or slight pain or distress to the animals will:
- involve in their planning, consultation with the attending veterinarian or his or her designee; [PHS Policy does not specify veterinary consultation]
- not include paralytics without the use of anesthesia;"

2.31(d)(1)(x) - "No animal will be used in more than one major operative procedure from which it is allowed to recover, unless justified for scientific reasons by the principal investigator, in writing..."

[xi] 2.33(a)(1) - "In the case of a part-time attending veterinarian or consultant arrangements, the formal arrangements shall include a written program of veterinary care and regularly scheduled visits to the research facility." [USDA requirement additional]

[xii] 2.32(c) - "Humane methods of animal maintenance and experimentation, including the basic needs of each species, proper handling and care for the various species of animals used by the facility, proper pre-procedural and post-procedural care of animals, and aseptic surgical methods and procedures."

[xiii] 2.32(c) - additional specifications include:
- "proper use of anesthetics, analgesics, and tranquilizers for any species of animals used by the facility"
- "methods whereby deficiencies in animal care and treatment are reported, including deficiencies in animal care and treatment reported by any employee of the facility..."
- "utilization of services (e.g., National Agricultural Library, National Library of Medicine) to provide information on appropriate animal care and use, alternatives to the use of live animals in research , that could prevent unintended and unnecessary duplication of research involving animals, and regarding the intent and requirements of the Act." [USDA training specifications are more detailed than PHS Policy].

[xiv] 2.31(d)(iv)(C) - "Procedures that may cause more than momentary or slight pain or distress to the animals will...not include the use of paralytics without anesthesia."

[xv] Part 3 Subpart A 3.8 - "...research facilities must develop, document, and follow an appropriate plan to provide dogs with the opportunity for exercise. In addition the plan must be approved by the attending veterinarian. The plan must provide written standard procedures..."

[xvi] Part 3 Subpart D 3.81 - "...research facilities must develop, document, and follow an appropriate plan for environment enhancement adequate to promote the psychological well-being of nonhuman primates."

[xvii] Part 3 Subpart A 3.6(c)(1) - "Each dog housed in a primary enclosure must be provided with a minimum amount of floor space, calculated as follows:
(length of dog in inches + 6)^2 /144 = required floor space in square feet)."

- Part 3 Subpart D 3.80 (b) - "Primary enclosures [for nonhuman primates] must meet the minimum space requirements provided in this subpart."

- In situations where the USDA regulations and the *Guide* differ with respect to space requirements, the larger of the two must be followed.