

UNIVERSITY OF TENNESSEE  
AT MARTIN

Sheep and Goat Teaching and Research Farm

STANDARD OPERATING PROCEDURES

EFFECTIVE: 5-20-05

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The intent of this document is to describe the routine husbandry and standard operating procedures at University of Tennessee at Martin Teaching Farm Complex. This document is approved by the University of Tennessee at Martin Agricultural Animal Care and Use Committee. Any exemption must be submitted for approval to the Agricultural Animal Care and Use Committee. The rules and recommendations in this SOP follow those set forth by the Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching (referred to as Ag Guide).

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## 1. Animal Care

### A. Observations of Animals

- i. Animals are observed and cared for daily, including weekends and holidays, by qualified personnel to assess their health and well-being.

### B. Emergency Care

- i. Emergency veterinary care is available at all times including after working hours and on weekends and holidays through the University veterinarian or local veterinarians.
- ii. Contact information for emergency assistance is posted at the entrance to the animal facility and in Headquarters.

### C. Animal Identification Methods

- i. Ear tags are used for identifying sheep and goats.

### D. Records and Documentation

- i. Individual records may be kept for sick, injured, or breeding animals.
- ii. Records will be kept in Dr. Clay Bailey's office, shepherd's office, and veterinary records will be kept of treatment and treatment protocols.

### E. Feeding Routine

- i. Animals are fed to meet current National Research Council recommendations for sheep and meat goat nutrition. Feed ingredients and finished feeds are stored and delivered to the animals in a manner that minimizes their contamination or spoilage.
- ii. Water is available at all times and is checked daily for cleanliness. Animals receive water from either permanent or portable troughs. Automatic waterers are checked daily and cleaned as needed.

### F. Breeding Program

- i. Out of season breeding dates: May-June  
Since sheep are seasonal breeders (typically breed in the fall season as the day length shortens) we will utilize out of season estrus manipulation to bring ewes into estrus in

order to get fall lambs. Those procedures may include the use of Melengesterol acetate or vaginal implants (Progestons) in concurrence with an injection of PG 600 or Prostaglandin to bring ewes into estrus. Rams will be used in a 1:5 ram to ewe ratio since more ewes may come into estrus at the same time. The administration of these drugs will be overseen by farm personnel and University Veterinarian.

ii. Fall breeding dates: August 15-October 15

During the normal breeding season rams will be used in a 1:40 ram to ewe ratio. Ewes should come into estrus on their own during the breeding season therefore no estrus synchronization procedures will be administered.

G. Social Environmental Enrichment

- i. Animals are housed in groups of compatible animals. Visual and physical contact with other sheep and goats is maintained at all times.

2. Animal Health

A. UTM Sheep Health

- i. All lambs are given Vitamin E injection shortly after birth.
- ii. All lambs are vaccinated against Clostridial diseases and respiratory diseases and boosted in 4-6 weeks.
- iii. All ewes are vaccinated 4-6 weeks before breeding season for vibrio and enzootic abortion (EAE) with a booster in 6 to 8 weeks. Ewes are vaccinated against Clostridial diseases once yearly.
- iv. Sheep are dewormed as needed. Fecal Egg Counts are done periodically to assess herd parasite burden.

B. UTM Goat Health

- i. Weanling goats will be vaccinated against Clostridium perfringens types C&D and tetanus. These vaccinations will be boosted in 4-6 weeks unless prior vaccination is known.
- ii. There are no breeding goats at UTM Sheep and Goat Facility
- iii. Goats will be orally dewormed as needed

VACCINATIONS AND DEWORMING ARE ROUTINELY ADMINISTERED BY PROFESSIONAL CARETAKERS IN CONSULTATION WITH KYLE ROZEBOOM AND UNIVERSITY VETERINARIAN.

C. Quarantine Procedures

- i. All sheep brought in from outside farms are quarantined in isolated pens for at least two weeks.
- ii. All goats brought in from outside farms are quarantined away from sheep and goats presently at farm in isolated pens for at least two weeks.
- iii. Available health records of these animals are evaluated to assess the need to vaccinate or treat incoming animals as required before they are mixed with the UTM herd/flock.

D. Procedures resulting in potential stress or discomfort

- i. Dehorning - not done at UTM
- ii. Castration - Ram lambs are castrated by standard industry methods (i.e. elastrator band). If lambs are castrated, the procedure is done before one month of age. If older rams need to be castrated, they are referred to a veterinarian. As of present, castration is not used on goats.
- iii. Tail-docking - Lamb's tails are docked with an emasculator, elastrator, and/or electric docker prior to two weeks of age. Lambs are restrained manually. Goat's tails are not docked.
- iv. Foot Care - Ewes are foot trimmed as needed. Breeding rams are checked and feet trimmed as needed. Sheep are restrained manually by tipping them up on their rumps and trimmed with hoof trimming shears. Goats feet are trimmed as needed. Foot baths with copper sulfate solution are available.
- v. Shearing - Shearing is performed under the recommendations and in accordance of the Ag Guide, p.70. Sheep are sheared twice yearly.

E. Euthanasia and Disposal of Dead Animals

- i. Animals are euthanized by an overdose of barbituates administered by a veterinarian.
- ii. Disposal of dead animals is covered in Implementation of Animal Welfare at UTM Teaching Farm.

#### F. Pest and Predator Control

- i. Rodent and insect control is performed by farm personnel.
- ii. Predators are guarded against by the llama and guard dogs. Care of guard dogs fall under oversight of IACUC committee.

### 3. Facilities

#### A. Housing

- i. Sheep and goats are housed both indoors and outdoors.
- ii. In barns, sheep and goats are kept in pens with solid floors with bedding.
- iii. On pasture, sheep and goats have windbreaks and shade available.

#### B. Space Requirements

- i. The size of pens and the pastures are appropriate for the size and the number of animals housed in them, exceeding recommendations set by the Ag Guide.

#### C. Cleaning and Sanitation

- i. Feed troughs are cleaned daily.
- ii. Waterers are cleaned of gross material daily and scrubbed weekly.
- iii. Milk buckets and nipples (for lambs) are cleaned and sanitized after each use.
- iv. Chlorhexidene is a common disinfectant used.

#### D. Cleaning and Sanitation of Pens

- i. Bedding is kept clean and removed after use.

#### E. Transportation

- i. Animals are very rarely hauled. Truck beds are cleaned after use and sanitized after hauling animals from another farm.

#### 4. References

- A. Guide for the Care and Use of Agricultural Animals in Agricultural Research and Teaching (FASS, 1999)
- B. Kyle Rozeboom, University of Tennessee at Martin Sheep and Goat Facility
- C. Cornell Center for Animal Resources and Education, Sheep Husbandry
- D. Handbook of Livestock Management, Battaglia
- E. Pugh, D.G. Sheep and Goat Medicine

#### 5. Supplemental SOPs

Ear Tagging
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##### Procedures:

1. Restrain animal
2. Select ear to be tagged
3. Load applicator
4. Select the tagging site on the ear. Most should be placed between the cartilage ribs.
5. Hold the ear with one hand while using the other hand to insert the ear tag.
6. Squeeze the handles of the applicator.
7. Release the animal.

Restraint of Sheep
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##### Procedure:

1. As soon as you are close enough, place one of your hands under the jaw or chin of the sheep and lift upwards immediately.
2. As soon as possible, place other hand behind the sheep's head.
3. An alternative to this position is one hand under the chin and the other behind the dock or rear legs.

## Setting the Sheep On its Rump

### Procedure:

1. Approach the sheep from whichever side is open to you and catch it with either the jaw hold or flank hold.
2. Position yourself onto the sheep's left side. Hold the jaw or chin in your left hand and the dock in your right. The sheep's side should be against your legs.
3. Place the thumb of your left hand either over the sheep's muzzle or into its mouth just behind the incisor teeth. At the same time, move your right hand onto the sheep's right hip, just above and behind the stifle.
4. While controlling the sheep's lower jaw, bend its head back sharply back over its right shoulder so that it is looking at its own rump. At the same time, press downward toward your legs with your right hand. This will cause the sheep to lose its footing and fall against your legs.
5. Step backward a half step or so, so that the rear of the sheep's body will slide off your legs and onto the ground. At this point, release the jaw and grasp the sheep's forelegs.
6. Pull upward on the front legs to straighten the sheep. At the same time, step in behind the sheep and allow it to lie back against your legs. If the sheep should struggle and maneuver enough to begin to regain its footing, hold on to its front legs and step back a half step, causing the sheep to be rocked off balance and onto its dock and rump.

## Lamb/Kid Restraint

### Procedure:

There are several methods for lamb restraint. In the first method, the handler stands and holds the right front and rear legs in the right hand, the two left legs in the left hand. The lamb's head is upward. Second method, the lamb is held in the same manner except the handler sits and puts the back of the lamb between their thighs. Any other restraint methods are modifications of the above mentioned.



## Goat Restraint

### Procedure:

Goat restraint differs from sheep, but is also the same many times. A goat can be held by collar or identification chain, adjustable rope halter, jaw or chin hold mentioned above, or by horns.

## Injections

### Procedure:

#### Subcutaneous

1. Use a disposable syringe with sterile needle.
2. Needle size will be dependent on animal.
3. ALWAYS read and follow label directions.
4. Restrain animal.
5. With proper syringe and needle, draw correct dosage into the syringe.
6. Best injection site is the axilla or on the chest wall
7. Grasp some loose skin in one hand and pull out creating a tent effect with the skin.
8. Insert the needle into the center of the "tent" at a 45° angle to the animal.
9. Make sure the needle does not go into the muscle or through both layers of skin.
10. Push the plunger giving the drug and withdraw.

#### Intramuscular

1. Most injections should be given subcutaneously, if possible.
2. Use a disposable syringe with sterile needle.
3. Needle sizes will be dependent on animal.
4. ALWAYS read and follow label directions.
5. Restrain the animal.
6. With proper syringe and needle draw the correct dosage into the syringe.
7. The best injection site is in the area of the neck enclosed by the cervical vertebrae ventrally, nuchal ligament dorsally, and shoulder caudally. Other muscles used for injections

include the longissimus in the lumbar region as well as the gluteals, semitendinosus, semimembranosus, and triceps.

8. Insert the needle into the animal at a 90° angle.
9. Make sure the needle goes into the muscle.
10. Push the plunger giving the drug.

## Docking the Tail

Procedure:

**Banding:**

1. Restrain the animal.
2. Place the rubber ring on the prongs of the elastrator.
3. Spread the rubber ring so that it is large enough to slip over the tail.
4. Slide the rubber ring over the tail to a point 1 inch from the lamb's body. Keep the prong toward the lamb's body so that the elastrator can be removed.
5. Release the tension on the elastrator and leave the rubber ring on the tail.

**Hot Docking Irons:**

1. Restrain the animal.
2. Heat the docking irons to a red-hot condition.
3. Place a 1 inch thick notched board over the tail next to the body to protect the lamb from the hot irons.
4. Clamp the hot irons onto the tail, which is burned off at 1 inch in length.

**Emasculator:**

1. Place the emasculator around the tail, with the crushing surface toward the lamb.
2. Remove the tail by slowly compressing the handles of the emasculator.
3. Hold the emasculator on the dock for 5 to 10 seconds to allow the blood to coagulate.

**COMBINATION OF THE ABOVE THREE PROTOCOLS MAY BE USED.**

## Castration by Elastrator Method

### Procedure:

1. Restrain the animal.
2. Place the rubber ring on the prongs of the elastrator and stretch the ring so that it will slip over the scrotum and both testicles.
3. Be sure that the prongs of the elastrator are pointed toward the **lamb's body**.
4. Hold the scrotum and both testicles in one hand and slip them into the rubber ring.
5. Position the rubber ring between the testes and the body and release the tension on the ring. Remove the elastrator, leaving the ring on the scrotum.
6. If one testicle slides over the ring, cut the ring with a sharp knife and repeat the process so that both testicles are below the ring.
7. Set the lamb down gently when finished.