SUMMER 2021 VOL. 9

# THE BLEAT

A UGA Extension Newsletter for Middle Georgia Sheep and Goat Producers



# Summer Ends and Breeding Season Begins!!

By Caitlin Jackson County Extension Coordinator/ANR Agent Monroe County

The end of a long and hot summer is in sight. Or rather the end of summer is "sort of" in sight as the temperatures in middle Georgia stay pretty mild year round. While for many this time of year means fall décor and pumpkin spice everything, for sheep and goat producers this time of year is exciting for a different reason; breeding season.

Breeding season may look from flock to flock depending on management and production goals, but the end result is the same; a healthy lamb or kid crop. In this issue you will find many helpful articles on how to best prepare for the 2021 breeding season.





IN THIS ISSUE

PLANNING FOR
BREEDING SEASON
FLUSHING FOR HIGHER
OVULATION RATE
FERTILITY TESTING RAMS
INCREASES PROFITS
ELECTRONIC
IDENTIFICATION
USING GRAZING TO
MITIGATE INTERNAL
PARASITES
MASTER SMALL
RUMINANT
FOUR PART SERIES ON
HARVEST METHODS

TRANSPORTING MEAT

**SAFELY** 

# A Successful Breeding Season Starts With a Plan

### **SARAH DYER | DADE COUNTY**

It's that time of year...breeding season! If you haven't yet made definitive plans, you've hopefully at least thought about how to get your does/ewes bred this season.

Breeding season can be fun and exciting. The hardship usually comes over the course of the next 7-8 months as we find out our herd conception rate, struggle through the pains of getting kids/lambs born alive, and then hope they stay alive and well!

As there is 'more than one way to skin a cat,' there's certainly more than one way to breed does/ewes. You can simply turn a buck out for a period of time, you can estrus synchronize all or part of your herd and then turn the buck out, you can artificially inseminate, you can use an embryo transfer method....the options are endless. With each of these options, there are a few things you, as the herd owner, must consider. Ask yourself, "What are my end goals?," "What level of physical and financial input do I want to invest?," "What is my marketing plan for the resulting kids/lambs?" These questions must be asked before jumping into a breeding plan. Once you determine the best breeding plan from answering the aforementioned questions, you have to then ask yourself a few more. Ask yourself, "Do I have the facilities to implement this plan?," "Do I have the ability to market my crop appropriately to recoup the investment and remain profitable?," and one question that is often not asked "Are my does/ewes in the appropriate body condition and nutritional state to conceive through this breeding plan?"

Ask yourself,
"What are my end
goals?,"



Let's dive deeper into that last question. Many times, we have a great desire to jump into a grand breeding plan. It can be easy to only consider the pros, and not the cons or preparation needed, of plans such as embryo and AI options. There are many benefits to these plans, such as the ability to drastically improve the genetics of your herd within a few breeding seasons. But we must remember that the more "artificial" and unnatural we make the breeding, the lower the expected conception rate. It makes sense that if we artificially handle and maneuver the natural processes of breeding, we are likely to make a few things go wrong, so it is extremely important to minimize these risks. To minimize these risks and give our herd the best shot at a successful pregnancy despite this unnatural manipulation, we have to ensure our doe/ewe herd is in the best shape possible to conceive. Does/ewes should be in a good body condition score (not too fat, not too skinny). Females should also be free of worms, scours, and anemia. Both body condition score and healthfulness can be managed through nutrition and timely management. It is imperative to prepare females months before breeding season begins, to ensure they've got the best shot at successfully conceiving through whichever plan you choose.

# FLUSHING SMALL RUMINANTS FOR A HIGHER OVULATION RATE

Increasing the level of nutrition for does and ewes 2-3 weeks prior to and 3 weeks into the breeding season can improve kid/lamb crop in some instances.

When managing a goat/sheep herd farmers are always looking for ways to improve their herd, increase production and raise profitability. One way that a farmer can accomplish this is to implement flushing into their breeding practices. Flushing is a temporary but purposeful increase in the level of nutrition around breeding time. This is done to boost ovulation, conception and embryo implantation rates. Flushing may also increase the proportion of females that exhibit estrus. Flushing can increase lambing and kidding rates by 10-20 percent. This is important because a flock's lambing/kidding rate is one of the primary factors influencing profitability. Flushing works best in mature females, at the beginning and end of the breeding season and in out-of-season breeding programs. After the first month of gestation, the level of nutrition fed to bred ewes and does can then return to maintenance levels until late gestation, when fetal development begins to place significant demands on the dam.

To flush, producers supplement breeding animals with good quality hay, fresh pasture or grain for two weeks before and two to four weeks after breeding. Most literature pertaining to ewes recommends starting to flush two weeks before breeding; whereas literature pertaining to does recommends starting three to four weeks before breeding.



During flushing, producers should focus on increasing the amount of energy fed to ewes and does. Typically, producers feed one-half to one pound of grain per head per day, during the flushing process, grain should be added gradually to the diet. A key component in this practice is making sure that adequate bunk space is available for the herd. If this is not done there is a potential for some animals getting too much grain and others not getting enough, which will negate any effort that has been put into flushing.

As farmers are evaluating the practice of flushing they need to look at the make-up of their herd and resources available to them. Farmers can start by identifying animals that may be the most suitable for flushing by looking at the BSC. BCS at breeding should be between 3.0 and 3.5 on a scale from 1 to 5. It should be noted that it takes three weeks on an increased level of nutrition to increase a BCS by one half-score. When looking at the resources available, if farmers do not want to increase their feed costs by adding grain to the diets, pasture can be set aside in advance so that it can be used for flushing. It is best not to use legume pasture for flushing as fresh alfalfa, clovers, birdsfoot trefoil and other legumes contain estrogen-like compounds that can interfere with estrous cycles.

When used correctly flushing can help a producer increase the production of their herd and in-turn expand their profit margin. The expectation from implementing this practice is an increase the kid/lamb crop by 10-20 percent. When this happens, the first lamb or kid can help a producer break even and each additional lamb or kid can help the farmer turn a bigger profit. Utilizing the flushing practice when managing your herd can make a positive impact in the size of the kid/lamb crop and assist with growing the herd size.

Source: Michael Metzger Michigan State University Extension



# FERTILITY TESTING RAMS INCREASES PROFITS

# WHAT IS A BREEDING SOUNDNESS EXAMINATION?

With the problems that sheep producers face due to epididymitis and infertility in rams it is essential to have a Breeding Soundness Examination (BSE) done on every breeding ram in the flock.

A BSE should be completed prior to every breeding season and includes:

- $1. A \ complete \ physical \ examination.$
- 2. A thorough examination of the reproductive tract.
- 3. A semen evaluation including motility and morphology.

#### PHYSICAL EXAMINATION

A physical examination includes a complete observation of all conditions that might interfere with the ram's breeding ability.

Body condition should be examined closely. If a ram is extremely thin, his breeding stamina will be greatly affected. This may cause ewes to recycle several times, lengthening the lambing season. Overly fat rams tend to lack the vigor and enthusiasm required to breed a large number ewes.

Rams should be checked for structural correctness. Any structural problem that would affect the rams breeding ability should be examined closely.

All other defects and diseases should be examined closely. Those diseases include abscesses, internal and external parasites, pink eye, foot rot or progressive pneumonia. Physical problems include teeth problems, wool blindness or any other defects that could hamper breeding ability.

# EXAMINATION OF THE REPRODUCTIVE TRACT

The penis, prepuce or sheath should be checked thoroughly for any sores or scar tissue. Pizzle rot is an infection in the sheath area, which could affect breeding ability.

The testicles and epididymis should also be examined for tone and size. Differences in size and tone of the testicles could indicate fertility problems. Ram epididymitis is the fertility disease causing the majority of the ram fertility problems in the U.S. This disease causes a swelling and hardening of the epididymis.

A scrotal circumference should be taken on every ram. This is one of the most useful measurements to determine a ram's breeding ability. Scrotal circumference is highly correlated to a ram's semen producing ability. Rams with large scrotal circumferences will produce more semen than rams with smaller scrotal measurements. Research has shown that rams with large scrotal measurements will have progeny that will reach puberty earlier. Although no definite guidelines have been established for minimum scrotal circumference, recommendations have been made for a minimum of 33 cm in mature rams, and 30 cm for ram lambs during the peak of the breeding season (September through November). It should also be noted that a decrease of 2 cm to 3 cm has been seen during the off-season (March through June). This can be very important for fall lambing programs in Oklahoma.

September 2019 Page 4 Continued from page 4

#### SEMEN EVALUATION

A complete semen evaluation should be conducted to indicate rams of poor fertility. Semen is normally collected with the use of an electro-ejaculator. This procedure allows the veterinarian to easily collect a sample. The semen is then evaluated under the microscope for motility and morphology. This semen evaluation allows the veterinarian to estimate forward progressive motility. As motility is influenced by a number of factors, rams should not be disqualified on the basis of motility alone. White blood cells in the collection are an indication of infection. The majority of this infection in mature rams stem from Brucella ovis infection. B. ovis is the cause of epididymitis.

The second half of the semen evaluation is morphology. A veterinarian then checks the collection for sperm abnormalities. Those rams with questionable semen quality will have more than 30 percent abnormal sperm.

### INTERPRETATION

A ram with excellent fertility will have a scrotal circumference of 36+ cm (33+ for a ram lamb), forward motility of greater than 50 percent, normal sperm of 90+ percent and no white blood cells.

The poor or questionable ram will have poor motility, and more than 30 percent abnormal sperm. Any ram that has white blood cells present would be considered of questionable fertility.

The acceptable or satisfactory ram would fall between these two categories.

### **EPIDIDYMITIS**

Ram epididymitis is the number one ram fertility problem seen in the sheep industry today. This disease has caused the culling of up to 40 percent of the commercial rams in many flocks in Colorado, Wyoming, Montana and many other western states. The B. ovis organism causes epididymitis, and is transmitted during sexual activity:

- 1. homosexually, from ram to ram
- 2. through the ewe; with a ram becoming infected by breeding a ewe that had just been bred by an infected ram.

The ewe acts only as a mechanical carrier and does not become infected. However, ewes bred by infected rams can result in embryonic deaths, abortions, stillbirths or weak lambs. Removing epididymitis-infected rams is imperative to increase the profitability of sheep operations.

Source: Gerald Q Fitch, Extension Sheep Specialist Oklahoma State University Extension

# INCREASED PROFITABILITY?

Removing infertile rams or those with epididymitis can substantially increase NET profits. Several field trials have been completed in Colorado and Wyoming that have shown an increase in profitability of \$10 to \$12 per ewe with the use of a Breeding Soundness Examination program.

#### How?

- 1. Decreasing the ram:ewe ratio.
- 2. Decreasing the percent of open ewes.
- 3. Increasing the percent lamb crop.

The ram:ewe ratio has been decreased in many flocks from one ram per 30 ewes to one ram per 45 to 50 ewes. The percent lamb crop weaned has increased an average of 10 percent to 15 percent.

## DOLLARS AND CENTS

One trial completed in Wyoming consisted of two large groups of ewes of approximately 2,000 ewes each. The producer selected 73 rams to be bred to 2,040 ewes (group one). These rams were selected by body condition and testicle palpation. Group two consisted of 2,065 ewes bred to rams selected based upon high Breeding Soundness Examination scores and having no evidence of epididymitis.

Results have been compiled and show that group one ewes produced 17 percent fewer lambs at weaning. In this trial, eliminating epididymitis and conducting a Breeding Soundness Examination produced \$11.01 more profit per ewe. Other field trials indicate similar results.



Page 5

# THE FUTURE OF WHICH EWE IS WHO IMPLEMENTING ELECTRONIC IDENTIFICATION INTO YOUR FLOCK

Caitlin Jackson | Monroe County

"All sheep look the same" is a phrase that all shepherds have heard at least a time or two and there may be some truth to that as after years of managing a special set of genetics your flock might just start to look very similar. To help answer the "which ewe are you?" question, ear tags have been quite beneficial as a formal form of identification. Tagging systems will vary from flock to flock as every producer has their own methods for recordkeeping. For the most part, ear tags have essentially remained unchanged, however animal identification is getting a huge boost into the 21st century with Electronic Identification or EIDs.

An EID is still an ear tag, but it contains a microchip with an individual animal identification code that can be read electronically by a reader. With a simple wave of a not-so-magical wand, in an instant a producer can have a multitude of data points at their fingertips with the capabilities of adding more. The ability to record data points on animals digitally in an instant can save on labor costs and improve accuracy of information.

In order to effectively utilize EIDs, there are several pieces of equipment that will need to be purchased.



# **ELECTRONIC IDENTIFICATION TAGS**

Each EID tag is a single-use tamperproof tag that contains an embedded microchip that is activated when read by an EID Reader and will display a unique 15-digit number assigned to that animal. The tags are considered passive because they have no battery or power source as their own. EID tags can be purchased as an individual button or part of a matched set with a visual ID tags with the matching 15-digit EID number printed on the visual tag. Cost can vary depending on brand and customization but expect to pay more of a premium than an ordinary tag. EID tags are applied as a regular ear tag with an applicator. At this time the EID tags are not Scrapie approved.

# **EID READER**

The EID Reader is a device that scans and records the EID tag. EID Readers can be portable handheld devices or permanently attached to a chute. The first time an EID is scanned by an EID Reader a profile will be created in the device. At this time, the user can input the data points or traits they wish to record. Technology and software behind these devices can vary depending on the brand. Cost varies greatly on portability, recording capabilities and storage abilities.



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#### Continued from page 6



source: Te Pari

# **SCALES**

Growth data is one of the main points that can be recorded. EID Readers can be connected by Bluetooth or cables to the scale. When the sheep or goat goes through the chute to the scale the EID is scanned to weight is transmitted to the EID Reader and is then recorded by the user. If the animal has been scanned before the data point will be added to their profile. Depending on the software, and previous data entries; at that time the producer may have the ability to have instantaneous information about that animal's growth performance.

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# DATA MANAGEMENT

Once all the animals have been worked and the data has been recorded and stored on the EID Reader the producer may want to transfer the data to a PC or even a smartphone. Most EID readers now have WI-FI or Bluetooth capabilities but can also be connected with a USB cable. Each company has their own software compatible with their system and provide trainings for users to become comfortable using the system. There are many online livestock management systems compatible with these devices where the data can be uploaded, sorted, and provide custom reports.

# IT'S UP TO EWE!

There are many upfront equipment costs of implementing an Electronic Identification system into a flock in addition to a learning curve to understand the technology and software. However, the data that is produced by this technology is extremely beneficial and can provide producers with non-biased statistics to aid in making management decisions.



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# USE GOOD GRAZING STRATEGIES AS A TOOL TO FIGHT INTERNAL PARASITES

Carole Knight | Madison County

Internal parasites can cause significant production losses, particularly in small ruminant livestock. Often the effects are subclinical and may go unnoticed, but severe infestations can cause disease and death. Subclinical effects caused by internal parasites include reduced milk production, reduced weaning weights, delayed puberty, decreased fertility and pregnancy rates, as well as reduced feed intake, diarrhea, anemia, and immune suppression. Because of the potential health and production impacts of internal parasites on livestock, proper planning and management is important.

Producers will often use dewormers to control parasite populations, but many of these have lost their effectiveness. Aside from chemical control measures, other management strategies exist. One often overlooked tool is managed grazing. Let's explore how good pasture management can help reduce internal parasite pressure in livestock.

Good pasture management related to managing internal parasites requires an understanding of the lifecycle and preferences of the most problematic internal parasites. Most of the problematic parasites we deal with are roundworms (nematodes) which have a direct lifecycle – meaning they require only one host to complete their lifecycle.

Understanding
these concepts
helps provide
some important
strategies to
help manage
pastures to
reduce parasite
pressure.

H. contortus (Barberpole worm) is the most common parasite of concern in small ruminants. Most internal parasites are host-specific, meaning that different livestock species usually do not share the same parasite species. Cattle and goats or sheep do not share many of the same parasites, but sheep and goats will share the same parasites.

Mature parasites reproduce inside the host and eggs are released in the feces. These eggs hatch inside the feces. Warm, wet weather conditions are most favorable for egg hatching and larvae development. Once the larvae hatch, they travel up the blades of grass in order to be ingested by livestock while grazing where they will mature and begin reproducing, repeating the cycle.

Page 8



#### Continued from page 8

Larvae are able to travel 2-3 inches up the plant but could travel further under ideal conditions. In areas where fecal matter accumulates (near water & feed sources or shade) or where pastures are overstocked, parasite density will be high. When conditions are moist and warm, larvae will be more prevalent. In dry conditions, larvae stay close to the soil surface where there may be enough moisture to survive.

Understanding these concepts helps provide some important strategies to help manage pastures to reduce parasite pressure.

- Do not overstock or overgraze Overstocking pastures results in a variety of issues. Related to parasite management, overstocking will ultimately lead to shorter forages to graze and increases the likelihood of animals ingesting parasites. Maintain a healthy grazing height of your forages and work with your Extension Agent to balance your animal stocking rate with available forages to reduce grazing pressure.
- Rotate Pastures Rotating livestock through different pastures helps to reduce parasite pressure by removing animals before parasite eggs hatch and larva are ingested. For example, the complete lifecycle of *H*. contortus can be about 3-6 weeks, with the time of egg drop to larvae hatching within 4-5 days. If livestock are allowed to graze in a paddock for 3-4 days, and then rotated to another paddock, this keeps the animals from continuing to ingest parasite larvae. If conditions allow, keeping the livestock off that original pasture for 4-6 weeks can allow the parasite larvae to die and the pasture to be "clean" of the parasite larvae that originally hatched. The length of time it takes for parasite eggs to hatch and larva can depend greatly on temperature and moisture conditions. Parasites eggs can sit idly for a long period of time until conditions are favorable.

- While a lifecycle of 3-6 weeks is realistic during a humid summer in Georgia, that time could be extended by months during drought or cooler times of the year. To ensure that a pasture is totally "clean" of parasites, it should not have been grazed by livestock for 12 months, or the ground has been prepared for planting of a crop or utilized as a hay field.
- Consider Mixed-Species Grazing As mentioned earlier, many common internal parasites are host-specific. This means that cattle can help "break" the cycle for sheep or goat parasites by ingesting them but not providing an environment where they will reproduce the same is true for cattle and horses by bringing in sheep or goats. You can graze mixed species simultaneously, or alternate livestock species to achieve the same purpose. Grazing different livestock species can also achieve the goal of better utilization of different forage types and improved "weed" control.
- Incorporate Improved or Alternative Forages Utilizing different forage crops such as legumes or summer annuals can provide higher quality forages that improve the nutritional status of animals which helps reduce stress of internal parasites and also can provide a situation where parasites populations aren't as prolific (prepared seed bed for annual crops, taller crops that larvae can't utilize, etc.). Other crops are considered "bioactive," meaning they can provide a medicinal effect against parasite infestation. These crops include chicory and sericea lespedeza, and are especially helpful for sheep and goat producers.

As much as any other tool, good pasture management can help be the difference in maintaining a healthy flock free of heavy parasite loads. Coordinating with your veterinarian and Extension Agent on ways you can strategically manage your flock and forages will quickly pay off.

# A FOUR PART SERIES ON HARVEST METHODS: MECHANICAL: GUNSHOT

## Hailey Partain | Upson & Lamar Counties

There are four ways approved by Georgia Department of Agriculture (GDA) and United States Department of Agriculture (USDA) to render an animal unconscious. Regulations for all of these ways can be found on the GDA website under; Code of Federal Regulations, 9 CFR, Chapter III, Part 313.

The third option is § 313.16 Mechanical; gunshot.

#### § 313.16 Mechanical; gunshot.

The slaughtering of cattle, calves, sheep, swine, goats, horses, mules, and other equines by shooting with firearms and the handling in connection therewith, in compliance with the provisions contained in this section, are hereby designated and approved as humane methods of slaughtering and handling of such animals under the Act.

# (a) Utilization of firearms, required effect; handling.

- (1) The firearms shall be employed in the delivery of a bullet or projectile into the animal in accordance with this section so as to produce immediate unconsciousness in the animal by a single shot before it is shackled, hoisted, thrown, cast, or cut. The animal shall be shot in such a manner that they will be rendered unconscious with a minimum of excitement and discomfort.
- (2) The driving of the animals to the shooting areas shall be done with a minimum of excitement and discomfort to the animals. Delivery of calm animals to the shooting area is essential since accurate placement of the bullet is difficult in case of nervous or injured animals. Among other things, this requires that, in driving animals to the shooting areas, electrical equipment be used as little as possible and with the lowest effective voltage.
- (3) Immediately after the firearm is discharged and the projectile is delivered, the animal shall be in a state of complete unconsciousness and remain in this condition throughout shackling, sticking and bleeding.

- (b) Facilities and procedure -
- (1) General requirements for shooting facilities; operator.
- (i) On discharge, acceptable firearms dispatch free projectiles or bullets of varying sizes and diameters through the skull and into the brain. Unconsciousness is produced immediately by a combination of physical brain destruction and changes in intracranial pressure. Caliber of firearms shall be such that when properly aimed and discharged, the projectile produces immediate unconsciousness.
- (ii) To assure uniform unconsciousness of the animal with every discharge where small-bore firearms are employed, it is necessary to use one of the following type projectiles: Hollow pointed bullets; frangible iron plastic composition bullets; or powdered iron missiles. When powdered iron missiles are used, the firearms shall be in close proximity with the skull of the animal when fired. Firearms must be maintained in good repair. For purposes of protecting employees, inspectors and others, it is desirable that all firearms be equipped with safety devices to prevent injuries from accidental discharge. Aiming and discharging of firearms should be directed away from operating areas.
- (iii) The provisions contained in § 313.15(b)(1)(iii) with respect to the stunning area also apply to the shooting area.
- (iv) The shooting operation is an exacting procedure and requires a well-trained and experienced operator. He must be able to accurately direct the projectile to produce immediate unconsciousness. He must use the correct caliber firearm, powder charge and type of ammunition to produce the desired results.
- (2) Special requirements. Choice of firearms and ammunition with respect to caliber and choice of powder charge required to produce immediate unconsciousness of the animal may vary depending on age and sex of the animal. In the case of bulls, rams, and boars, small bore firearms may be used provided they are able to produce immediate unconsciousness of the animals. Small bore firearms are usually effective for stunning other cattle, sheep, swine, and goats, and calves, horses, and mules.

All federal and state inspected facilities must follow these regulations and get evaluated periodically.

















Classroom Courses will be held at Upson County Livestock (2626 Yatesville Hwy, Thomaston, GA 30286) from 6 to 8:30 PM

Hands-On Field Day will be held at Rocky Branch Branch (345 Tommys Trail Rd, Forsyth, GA 31029) from 10 AM to 2 PM

To Register Please complete form and send with \$75 payment to:
Upson County Extension
305 S. Hightower St. Ste. 170
Thomaston, GA 30286

Questions?
Please Contact MSR Coordinators
Caitlin Jackson (478-94-7014/crbenn@uga.edu)
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University of Georgia is an Equal Opportunity, Affirmative Action, Veteran, Disability Institution



# Master Small Ruminant Series october 12,14,19,21,26,28&30, 2021

# Registration Form

Name:	
Farm/Ranch Name:	
Address:	
City: State:	County:
Phone:	_ Alt. Phone:
Email:	
Please List Any Dietary Restrictions:	

# Please Include Registration Fee \$75

You may mail registration form and payment to
Upson County Extension
305 S. Hightower St. Ste. 170
Thomaston, GA 30286

Checks should be made payable to Upson County Extension/4-H

# LIVESTOCK INDEMNITY **PROGRAM**

The Livestock Indemnity Program (LIP) provides assistance for livestock deaths in excess of normal mortality caused by adverse weather, disease and attacks by animals reintroduced into the wild by the federal government or protected by federal law.

For disease losses, FSA county committees can accept veterinarian certifications that livestock deaths were directly related to adverse weather and unpreventable through good animal husbandry and management.

For 2021 livestock losses, you must file a notice within 30 calendar days of when the loss is first apparent. You then must provide the following supporting documentation to your local FSA office no later than 60 calendar days after the end of the calendar year in which the eligible loss condition occurred.

Proof of death documentation.

Copy of grower's contracts.

Proof of normal mortality documentation.

USDA has established normal mortality rates for each type and weight range of eligible livestock, i.e. Adult Beef Cow = 1.5% and Non-Adult Beef Cattle (less than 250 pounds) = 5%. These established percentages reflect losses that are considered expected or typical under "normal" conditions.

In addition to filing a notice of loss, you must also submit an application for payment by March 1, 2022. For more information, contact your local USDA Service Center or visit fsa.usda.gov.





# THE AMERICAN SHEEP INDUSTRY ASSOCIATION IS PROUD TO OFFER THIS MONTH'S ASI RESEARCH UPDATE PODCAST:



COPPER BOLUSES FOR PARASITE TREATMENT WITH DR. JOAN BURKE

THE ASI RESEARCH UPDATE PODCAST FEATURES INDUSTRY EXPERTS SHARING RELEVANT SHEEP PRODUCTION PRACTICES AND RESEARCH PROVIDING AMERICAN SHEEP PRODUCERS ACCESS TO A WEALTH OF INFORMATION ON MANAGEMENT, PRODUCTION AND RESEARCH TOPICS TO BENEFIT THEIR OPERATION.

**CLICK HERE TO LISTEN TO THE PODCAST** 

# SAFELY TRANSPORTING MEAT

Tips for keeping your meat safe during transport





# **Helpful Links**

https://nchfp.uga.edu/how/freeze/meat.html

 $\frac{https://food.unl.edu/free-}{resources/newsletters/it-safe-refreeze-raw-}\\ \frac{meat-and-poultry-has-thawed}{}$ 

<u>https://www.foodsafety.gov/food-safety-charts/cold-food-storage-charts</u>



# By Nicole Walters, Family and Consumer Sciences Agent-Monroe County

Whether you are purchasing your meat from a butcher, grocery store or meat processing facility it is important to safely transport your meat from the place of purchase to your home. The following tips will help keep your meat cold and safe during transport and storage.

- Minimize the amount of time the meat is in your vehicle. Go straight home once the meat is loaded into your vehicle and unload promptly.
- Use ice, ice packs or dry ice in a cooler to keep the meat cold in the vehicle.
- Gently transfer the packages of meat to avoid rips or tears in the packaging materials. Holes in the packaging can cause freezer burn and decrease the quality and taste of the meat.
- When placing the meat in the freezer at home, check that the freezer's temperature is 0°F or below to keep the meat at the safest temperature. Installing a thermometer is helpful to know the freezer's internal temperature.
- Consider purchasing an alarm to add to your freezer. This alarm will make you aware of a power outage or surge. Knowing when your freezer is off will aid in keeping your meats safe, avoid spoilage and save you money if caught in time.
- Frozen meats can be kept in the freezer for various lengths of time. For best results, check the link above for a chart of freezer storage times.

  Page 14

# APPLE CIDER BRAISED LAMB SHANKS

Recipe from <u>www.americanlamb.com</u> (Running to the Kitchen)

# <u>Ingredients</u>

- 4 lamb shanks
- · salt and pepper
- 2 tablespoons chopped fresh rosemary
- 1 tablespoon fresh thyme leaves
- 2 tablespoons tomato paste
- 3 cloves garlic, minced
- 1/2 teaspoon cinnamon
- 1/4 teaspoon allspice
- 1 tablespoon olive oil
- 1 large Granny Smith apple, sliced
- 2 large shallots or 1 medium yellow onion, sliced
- 1 tablespoon peppercorns
- 1 bay leaf
- 2 cups apple cider
- 1 cup broth of choice (beef, chicken, vegetable)

# Directions

- 1. Season the lamb generously with salt and pepper.
- 2. Combine rosemary, thyme, tomato paste, garlic, cinnamon and allspice in a small bowl. Stir together until a well combined paste forms.
- 3. Rub the paste liberally over each lamb shank.
- 4. Place olive oil in a large pot or Dutch oven on the stove over medium-high heat.
- 5. Place lamb shanks in the pot and brown all sides.
- 6. Add apple slices, shallots (or onion), peppercorns and bay leaf to pot.
- 7. Pour apple cider and broth over top and gently stir.
- 8. Bring to a boil then cover the pot, reduce the heat to low and cook for 2.5 hours turning the shanks every 30 minutes or so while cooking.

\*\*Alternate cooking: Cook lamb shanks in oven at 325°F for 2.5 hours.







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