Proceedings

2024 Virtual Shepherd's Symposium

Wednesday & Thursday, February 7 & 8, 2024 7-9 PM Eastern



Virginia Cooperative Extension Virginia Tech. • Virginia State University

Virginia Cooperative Extension is a partnership of Virginia Tech, Virginia State University, the U.S. Department of Agriculture, and local governments. Its programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, military status, or any other basis protected by law.

TABLE OF CONTENTS

SCHEDULE	3
Sponsors	4
SPEAKER BIOGRAPHIES	5
FLOCK HEALTH MANAGEMENT TIPS Hollie Schramm, DVM, Virginia-Maryland College of Veterinary Medicine	9
PRODUCTION AND FINANCIAL RECORDS THAT MAKE SENSE CAMREN MAIERLE, PH.D., SUSTAINABILITY DIRECTOR, AMERICAN LAMB BOARD	27
Fall vs. Winter/Spring Lambing: Management and Marketing Considerations Scott Greiner, Ph.D., School of Animal Sciences, Virginia Tech	42
Building Better Sheep Grazing Systems Johnny Rogers, Extension Associate and Amazing Grazing Program Coordinator, North Carolina State University	62
Scrapie Identification and Antibiotic Regulations Chris Fletcher, DVM, Virginia Department of Agriculture and Consumer Services	80
Wool Marketing– What's In Store for 2024 Tom Stanley, Virginia Cooperative Extension	102
UPDATE FROM ASI LISA WEEKS, ASI EXECUTIVE BOARD- REGION II DIRECTOR	107

SYMPOSIUM PROGRAM

Wednesday, February 7th, 2024 7 - 9 PM

- Flock Health Management Tips Hollie Schramm, DVM, Virginia-Maryland College of Veterinary Medicine
- **Production and Financial Records that Make Sense –** *Camren Maierle, Ph.D., Sustainability Director- American Lamb Board*
- Fall vs. Winter/Spring Lambing: Management and Marketing Cosiderations -Scott Greiner, Ph.D., School of Animal Sciences, Virginia Tech

Thursday, Febuary 8th, 2024 7 - 9 PM

- **Building Better Sheep Grazing Systems** Johnny Rogers, Extension Associate and Amazing Grazing Program Coordinator, North Carolina State University
- Scrapie Identification and Antibiotic Regulations Chris Fletcher, DVM, Virginia Department of Agriculture and Consumer Services
- Wool Marketing– What's In Store for 2024 Tom Stanley, Virginia Cooperative Extension
- Update from ASI Lisa Weeks, ASI Executive Board- Region II Director, Virginia
- Virginia Sheep Industry Updates reports from Virginia Sheep Producers Association and Virginia Sheep Industry Board

2024 Sponsors



Augusta Cooperative Farm Bureau, Inc. Allison Bagley 1205B Richmond Road Staunton, VA 24401 540-885-1265 <u>ABagley@augustacoop.com</u> www.augustacoop.com



Farm Credit of the Virginias Matt Weston Marketing & Sales Specialist 4646 South Valley Pike Harrisonburg, VA 22801 Office: 540.248.0294 Ext.5024 <u>MWeston@FCVirginias.com</u> <u>www.farmcreditofvirginias.com</u>



First Bank and Trust Company Hayley Blevins Ward PO Box 1008 Abingdon, VA 24212 276-623-0128 hblevins@firstbank.com www.firstbank.com



Premier 1 Supplies 2031 300th St. Washington IA 52353 800-282-6631 info@premier1supplies.com www.premier1supplies.com



Virginia Farm Bureau Federation Wilmer Stoneman PO Box 27552 Richmond, VA 23261 804-290-1024 wilmer.stoneman@vafb.org www.vafb.com/



Virginia Sheep Producers Assoc. 366 Litton Reaves Hall Blacksburg, VA 24061 <u>virginiasheepproducers@gmail.com</u> <u>https://vasheepproducers.com/</u>



Hollie Schramm, DVM Clinical Associate Professor, Production Management Medicine Department of Large Animal Clinical Sciences VA-MD College of Veterinary Medicine, Virginia Tech hschramm@vt.edu

Dr. Schramm is a clinical assistant professor at Virginia-Maryland College of Veterinary Medicine, a role for which she is responsible for assuring the welfare and health of production animals, safety of the food supply, and teaching veterinary students in the field, classroom, and in hands-on laboratories. She does clinical and didactic teaching, research, and outreach.



Camren Maierle, Ph.D. Sustainability Director, American Lamb Board Thornville, OH <u>camren@americanlamb.com</u>

Maierle is an Ohio native, he has a bachelor's degree in animal science from Ohio State University, and both master's and doctoral degrees in animal and food science from West Virginia University. Maierle is the Sustainability Director for American Lamb Board and leads ALB's research and producer education initiatives in this area and contribute to advancing the sheep industry's commitment to sustainability, one of the top priorities for the checkoff-funded association. A primary focus will be to develop and maintain a nationally recognized solar grazing education program, cultivate other contract grazing opportunities, and work with industry partners to improve American lamb sustainability. Prior to joining ALB, Maierle was was a livestock extension educator with Penn State University Extension, leading schools for sheep producers.



Scott P. Greiner, Ph.D. Professor and Extension Animal Scientist School of Animal Sciences, Virginia Tech, Blacksburg, VA 540-231-9159, <u>sgreiner@vt.edu</u>

Scott Greiner is a Professor and Extension Animal Scientist in the School of Animal Sciences at Virginia Tech. Dr. Greiner was raised on a diversified livestock farm in Eastern Iowa, and attended Iowa State University where he earned a B.S. in Animal Science. His graduate studies included an M.S. from Michigan State University and a Ph.D. from Iowa State. He serves at Extension Department Leader for the department as well as chair of the interdisciplinary college Animal Production Program Team. As an Extension Animal Scientist, he designs and delivers educational programs in beef cattle and sheep to adults and youth, and conducts applied research. Greiner also teaches an Advanced Livestock Enterprise course, and provides numerous guest lectures in livestock production/management topics. He resides outside Christiansburg, VA. Along with his wife Lori and daughters Kaylee and Leah, the family is very involved in 4-H youth livestock activities.



Johnny R. Rogers, MS, PAS North Carolina State University Extension Associate, Amazing Grazing Program Coordinator (919) 515-4027, jrroger3@ncsu.edu

Johnny serve as the Amazing Grazing Program Coordinator for NCSU and works with pasture based livestock producers throughout North Carolina. Current focus of the program is emphasizing the benefits of adaptive grazing using temporary fence and managing pastures for improved soil health. As owner of Rogers Cattle Company LLC he is responsible for daily operations of a family farm that consists of beef cattle, hair sheep, free range poultry and pasture raised pigs. They offer Red Angus seedstock and commercial cattle, seedstock and market sheep and pasture raised meats both on the farm and at farmers markets.



Chris Fletcher, DVM Regional Veterinary Supervisor, Office of Veterinary Services Virginia Department of Agriculture and Consumer Services Wytheville, VA 276-228-5501, christopher.fletcher@vdacs.virginia.gov

Chris Fletcher, DVM is a Regional Field Veterinarian for the Virginia Department of Agriculture and is part of the team in the Scrapie Eradication Program for Virginia. He was in large animal practice in Southwest Virginia for 15+ years before joining the State Veterinarian's office. Dr. Fletcher and his wife Mandy operate Beyond Blessed Farm, a registered Katahdin operation located outside Abingdon, VA.



Tom Stanley Extension Agent, Farm Business Management Virginia Cooperative Extension, Rockbridge County Lexington, VA 540-463-4734, stanleyt@vt.edu

Tom grew up in Southwest Virginia and was an active member of both 4-H and FFA. He worked in livestock production from his 4-H sheep project at an early age. He has degrees from Virginia Tech and Kansas State. Tom joined Virginia Cooperative Extension in 1996 as Extension Agent headquartered in Augusta County. In 2010, Tom assumed the role of Unit Coordinator for the Rockbridge Unit. Tom's area of specialization as an Extension Agent is Farm Business Management. Tom is part of a team of Agriculture Extension Agents that serve Augusta, Bath, Highland, Rockbridge, and Rockingham Counties. Their areas of specialization include Crop and Soil Science, Animal Science, Commercial Horticulture, and Farm Business Management. Tom and his family have a flock of sheep, and Tom has been a shearer for a number of years. Tom serves as Chair of VSPA's Wool Council where he provides leadership to state wool marketing programs and educational programs including shearing schools.



Lisa Weeks Triple L Farms, Waynesboro, VA Region II ASI Director Iweeks.lpw@gmail.com

Lisa along with husband, Larry, and daughters, Lexi and Laryn are first-generation shepherds raising Katahdins since 1990. Growing up on a crop farm in Dighton, KS., agriculture was something that simply could not be left behind. After graduating from Kansas State University in 1988 with a bachelor's degree in Textile Science, Lisa moved to Waynesboro, VA, to begin a career in quality assurance and eventually supply chain and data analyst at a company that manufactures polypropylene nonwoven roll goods. She and her husband purchased a 30-acre farm and manage a 50-ewe flock while continuing to work full time off the farm. The Weeks' have been members and supporters of ASI since 1994 and Lisa has served as the Virginia director at the ASI Annual Convention and as a producer member of the Production, Education and Research Council for numerous years. She and her husband have been long time members of the Virginia Sheep Producers Association and were awarded the Roy A. Meek Outstanding Sheep Producer Award in 2016. At the local level, their farm annually hosts students from the veterinary technician program of Blue Ridge Community College for some hands-on field trips for first- and second-year students. The family flock has been enrolled in the National Sheep Improvement Program since 2001 and Lisa is currently serving as NSIP secretary. She is also serving as a board member to the newly formed Eastern Alliance for Production Katahdins.

Flock Health Management Tips





Dr. Hollie Schramm Production Management Medicine, VMCVM Associate Clinical Professor





Other diseases of interest

Do have a Complete Health Management Program?

Why must you have one?



Starts with **PREVENTATIVE** Health Care!!

Biosecurity

- Vaccination program
- Good nutrition and feeding management
- Parasite control program
 - Internal and External Parasites
- Hoof care
- Predator management

How to Measure the Success of your Flock Health Program?



_	Landing Data				Montheoring Adulton			Wanning Data							
Date	See	ю	54	Birth Type	Weight	Looking Difficulty	Lotter	Good Mather	Date	E and (a Workplay	Adj Walght	386	Walate	latin	Constants
_															
-			-	-	-		-	-	-	-	-	-			
-				-			-	-		-	-				
_															
_															
-		-	-	-		_	-	-	-	-	-	-			
-				-											
_															
-			-	-		-	-	-	-	-	-	-			
-				-			-	-		-	-				
-		-	-	-	-	_	-	-	-	-	-	-			
-		-	-	-	-	-	-	-	-	-	-	-		++	
-			-	-	-	_	-	-	-		-	-			

Keep records



- Set goals for production parameters
 - Morbidity
 - Mortality
 - Culling
 - Growth rates







Why is the VCPR so Important?

- A better understanding of a flocks animal management practices
- Improved medical judgments
- Assist with withdrawal time determination
- Extra-label drug usage decisions
- DO NOT determine dosages of medications without guidance from your vet

EXTRA LABEL DRUG USE (ELDU)

Defined as

 Use of a drug in an animal in a manner that is not in accordance with the approved labeling.



Biosecurity

Practices that are put in place in order to protect the health of your animals!

- **Bio-exclusion**: Preventing disease entry
- **Bio-management:** Reducing the risk of animal infection and disease
- **Bio-containment:** Containing diseases that are on farm

Applies to everyone and everything used on the farm Encompasses disease management, excellent husbandry, and routine health care

ARM BIOSECURITY

What is your herds level of risk?

Lowest Risk	-Closed flock
	-Animal from known low-risk status flocks, single contact
	-Borrowing or lending animals with low-risk flocks, multiple contacts with other flock(s)
	-Animal from farm of unknown-health status
Highest Risk	-Animal from sales barns or in contact with accumulations of animals (<i>shows</i>) of
	unknown health status

Do Reduce Risks Don't be Slack on Biosecurity

What steps can be taken to reduce risks for disease/loss in your herd?







Do Vaccinate for Clostridial Diseases!!

- Clostridial (depends on risk of certain diseases)
 - CD&T
 - 8-Way

Timing depends on:

- Feeding regimen (at highest risk of CD during change in diet)
- If unvaccinated dams or orphan lamb





Vaccinations

Campylobacter (Vibrio)/Chlamydia

- What flocks should be vaccinated?
- When should they be vaccinated?





Pasteurella, CL, Soremouth, Foot Rot

- Only use if problem in flock
- Use to contain and decrease disease in the flock

DO BODY CONDITION SCORING

Best way to Make Nutritional Decisions.

A tool for producers to increase production efficiency in their flocks



Location for Palpation!



Don't Have Fat and Thin Ewes

- Why are ewes too thin? Consequences?
- Why are ewes too fat? Consequences?





Research and BCS

Oregon State University

- BCS 3 to 4 vs. <2.5 at lambing:
 - Lost fewer offspring
 - Weaned more pounds of lamb

Pre-lambing BCS 3.5 vs. 2.5

85 lbs lamb weaned vs. 64 lbs weaned (33% difference in total lbs of lamb weaned)

Body Condition Scoring Review Nutrition at Each Exam

Group	Timing	Ideal BCS	Other Herd Health Events
Breeding Ewes	Pre-Breeding	3	BSE, famacha, palpate udders
	Midpregnancy	2.5-3	US and sort, famacha
	Pre-Lambing Lambing	3 3+	CD-T, other vx, lambing management, famacha
	Weaning/Drying off	2+	Famacha
Rams	Pre-Breeding	3-3.5	BSE, 8-way, famacha
	Summer	2+	famacha

*Most cases of mastitis occur at weaning time





CLINICAL SIGNS

Diarrhea

- Blood and mucus in severe cases
- Rough hair coat (ill-thrift)
- Anorexia
- Dehydration
- Weakness
- Chronic wt loss (low BCS)
- Straining (can prolapse)
- Mild anemia/hypoprotememia









Γ

WHY DO THESE LAMBS HAVE TERRIBLE FEED EFFICIENCY?



Malabsorption due to large and small intestine damage



19

COCCIDIA DIAGNOSIS

- CLINICAL SIGNS (rule out other causes of diarrhea)
- Direct Smear , fecal float (useless)
- BEST: McMasters or Modified-McMasters
 - Quantifies the number of oocysts per gram
 - 5,000 + oocysts/gm
- **Number of oocysts/gm does not correlate with severity of clinical disease







COCCIDIA TREATMENT

Amprolium (Corid)

- Blocks metabolism of B1 in protozoa
- Not FDA approved for sheep/goats (extralabel)
- Separate and treat heavily parasitized animals seperately

Dosage (Liquid Corid)	Sheep	Goats
Individual: mg/kg	50 mg/kg PO SID x 5 days	100 mg/kg SID x 5days
Individiual: mL/10 lbs	2.25 mL PO SID x 5 days	4.5 mL PO SID x 5 days
Individiual: mL/10 lbs (diluted 1:1)	4.5 mL PO SID x 5 days	9 mL PO SID x 5 days
Herd: Ounces/10 gallons	2 ounces/10 gallons	4 ounces/10 gallons
Withdrawal Time Corid (Meat)	10 days	12 days



Γ

I<mark>rginia-maryiano</mark> _{Nege of} Veterinary Medicine REPEAT TREATMENT IN 3 WEEKS!!



COCCIDIOSIS TREATMENT



- Sulfadimethoxine
- Not FDA approved for sheep and goats
- 50 mg/kg dose orally once daily for 5 days (not sure this dose is effective for goats)
- Meat withdrawal recommendations for sulfadimethoxine is 28 days from the last administered dose of 50 mg/kg <u>www.farad.org</u>







Prevention

- Do not over-crowd pens
- Minimize moisture
 - Use gravel around feeders/waterers
 - Utilize the sunlight
- Keep maternity pens clean and dry
 - Clean jugs between litters
- Decrease ewe shedding
 - Feed coccidiostats to ewes to decrease oocyst shedding
 - Prior to time of risk for lambs (jugs, on pasture)

Prevention

Minimize Stress

- At weaning (keep lambs in familiar setting, fence-line)
- Adequate nutrition, colostrum, bunk space, minerals
- Don't change ration 2 weeks prior and 2 weeks after weaning

■ Minimize fecal-oral consumption

- Feed grain and hay off the ground
- Refrain from over-grazing pastures
- Clean waterers on a regular basis

Pneumonia

- Stress or immunodeficiency
 - Environmental (weather changes, wet conditions, hot, cold, dusty)
 - Management (ventilation issues, crowding, concurrent diseases)
- Viruses: PI-3 (Parainfluenza-3)*, Adenovirus, RSV (Respiratory Syncytial Virus)
- Bacteria: Mannhemia hemolytica, Bibersteinia trehalose, Pasteurella multocida, Mycoplasma ovipneumonia







Vaccination for Respiratory Disease

- Vaccination for viral components
- Intranasal modified live cattle vaccines available
 - Use for PI-3 and RSV viral components (efficacy variable per study)
 - Serotypes for cattle and sheep may not match up
 - Use in high risk herds (show animals, high incidence of pneumonia)
 - Vaccinate dams 4-6 wks before parturition (same time CD&T)
 - In lambs at 1-3 days of age, decreases morbidity
- Can use in the face of an outbreak



Bacterial Vaccine

- Serotype of *Mannhemia* in this vaccine may not match up to serotype causing disease
- Potentially may decrease severity of clinical signs and mortality
- Targeted vaccine for bacterial pathogens causing disease
 - Necropsy
 - Culture and determine cause of pneumonia





Pneumonia Control

- Appropriate management is the key to success!
 - Ventilation, ventilation, ventilation
 - Reduce dust
 - Avoid handling/transporting in weather conditions that induce pneumonia
 - Adequate nutrition and disease control
 - Biosecurity for new arrivals
 - Avoid mixing animals from different sources

Do Deworm with THREE Different Classes of Dewormers



Foot Rot and Foot Scald











QUESTIONS?

Production and Financial Records that Make Sense

2024 VA Shepherd Symposium Camren Maierle, PhD



- It's the right thing to do
- •
- Identify areas of improvement

"You can't change what you don't measure"

- Time consuming
- Enjoy spreadsheets or additional work Access or implementation of technology
- Better understanding of the operation Lack direction in how to use the data
 - Lack need or drive to improve

Record Keeping Essentials Where do we start?

- Only collect/keep useful records
 - Micron diameter in hair sheep
 - Birthweight if you don't plan on adjusting WWT*
- Organization
- Benchmarking
 - Establish what baseline production is
 - Set goals for **YOUR** operation attainable
- Follow through!
 - Utilize data to track improvement
- K.I.S.S. keep it simple silly



Types of Records

- Identification
 - Inventory
- Pedigree
- Production or Performance
 - Reproduction
 - Growth
 - Marketing
- Health
 - Vaccinations and medical treatment
 - Drug residue
 - FAMACHA
- Financial
 - Input cost





Identification

- Identification
 - Scrapie tag is mandatory
 - Can easily be used for flock ID
 - Premier 1
 - Allflex
 - Shearwell
- EID Electronic ID
 - Must have reader
 - Allows for improved data collection
 - Labor savings
 - Cost
 - Still have to use the data
- Inventory
 - Can you count sheep?



Pedigree

- Does this have value?
- Sire selection is critical
- Use records and performance data to find genetic "families"
- Can further hone selection for advantageous traits - CAN improve consistency



https://suffolks.org/wp/registration/

Production or Performance Records

What do we measure?

Reproduction

- Conception
 - Length of breeding season
 - Production system (accelerated vs annual)

How/When can we measure this?

- Lambing (5 Months)
- Ultrasound (1.5 3 Months)
- Blood test (1 Month)

What do we do with the information?

- Cull open ewes
- Identify ewes that breed early

Heritabilities of Various Traits

Reproduction	Percentage				
Ewe fertility	5				
Prolificacy	10				
Scrotal circumference	35				
Age at puberty	25				
Lamb survival	5				
Ewe productivity	20				
Sheep Production Handbook					

Benchmark Example

- 90% conception in the first 34 days (2 cycles)
- Only keep replacements from first 17 days
- Priority to ewe lambs lambing at 12-15 months old

Reproduction

Optimize vs. Maximize

Prolificacy

- Number born (NLB)
- Production system (accelerated vs annual) • Time of year

How/When can we measure this?

- Lambing? %
- Weaning %

What do we do with the information?

- Cull less productive ewes
- Cost of maintenance relatively the same
- Identify ewes that breed early

Heritabilities of Various Traits

Reproduction	Percentage
Ewe fertility	5
Prolificacy	10
Scrotal circumference	35
Age at puberty	25
Lamb survival	5
Ewe productivity	20
Shoop Product	tion Handbook

Benchmark Example

- 200% Drop , 190% Weaned
- Can't have single lambs in back-to-back lambing events
- Tolerance for lower NLW than NLB • If she has 3 she should raise 3

Reproduction

- Ewe Productivity
 - Lbs. of lambs weaned / ewe exposed
 - Combination of maternal traits

How/When can we measure this?

- Breeding Weaning
- Must adjust WWT

What do we do with the information?

- Cull less productive ewes
- Cost of maintenance relatively the same

Add in ewe weight at breeding

% of ewe weight produced/sold

Heritabilities of Various Traits

Reproduction	Percentage				
Ewe fertility	5				
Prolificacy	10				
Scrotal circumference	35				
Age at puberty	25				
Lamb survival	5				
Ewe productivity	20				
Sheep Production Handbook					

Benchmark Example

- Select ewes that produce ≥100% of their BW Set a time frame
- Expect ewes to do their "job"

Growth

What's required?

- Identify what time points make sense for your operation.
- Can help justify changes in management
- Help identify when to market lambs for improved profitability



Heritabilities of Various Traits

Growth	Percentage
Birth weight	15
60-day weight	10
90-day weight	15
120-day weight	20
240-day weight	40
Preweaning gain (0-60)	15
Postweaning gain (60-120)	25

Sheep Production Handbook



Marketing

Often overlooked

Long term data collection

• Multiple years

Opportunity to change management for increased revenue opportunity.

Direct sales

Seedstock: do input costs stay consistent across years

Meat: Demand for product

• Value added ?





Health and Treatment Records

The essentials

Treatment records

Long-term commitment (2-5 years)

- •Date of treatment
- •Drug name
- Animal identification
- •Dosage
- •Route of administration
- •Expected treatment duration
- •Slaughter withdrawal
- •Individual who administered the drug
- •Actual treatment duration

Your responsibility in a VCPR



http://www.shagbarkridge.com/info/injections.html

Flock Health Record

	Animal ID		Treatment		
Date	or Group	Condition, symptoms	(medication, dose, route)	Withdrawl	Comments
https://www.a	<u>psc.vt.edu/content</u>	/dam/apsc_vt_edu/ex	ten		
sion/sheep/p	ograms/shepherds	s-symposium/2015/15	E Contraction of the second se		
greiner.pdf					
-					

Flock Health Records

- Vaccination records
 - Reminder to booster animals annually
 - Add vaccines to protocol as needed
- Hoof treatment
 - Cull chronic carriers
 - Change management

FAMACHA Scores

- Cull sheep with consistently high values
- Treatment records
 - Class of dewormer
- Body condition scores (BCS)



https://www.aces.edu/blog/topics/animalsurban/managing-foot-rot-and-scald-in-goats-and-sheep/

How to Collect

Time is money

Ewe Name/ID: BD:

Codon 171:

Sire:

BT:

Scrapie ID:

Reg. No.:

Dam:

Ewe ID	Lamb ID	Sex	Birth Date	Sire	Comments

Data collection

You may not have the resources to collect everything

- Start with what you can capture efficiently
- Invest in tools to improve your efficiency
- Capitalize on other operations extensive data collection
 NSIP
- Identify what you think will create the greatest impact in your flock Start there




Data collection improvements

When is it the right time to invest?

Justification? Labor/time savings Pay up front for labor







Sharvel

Financial Records

The Basics

Finance on the farm

"I want to run it <u>like</u> a business"

"I just don't want to lose money"

Record keeping is essential in developing a business plan and assisting with what to change to create a more sustainable business.

What tools are available?

Finance on the farm - tools

Identify where you need to start

- Size of the operation
 - Complexity of the operation
- Your organizational skills
- Time commitment



If you have an opportunity to work with an accountant who understands agricultural finance, take advantage of it









Summary – Why, What, When, How

Why

- Allows for the ability to make change/improvement
- Improve overall production of the ewe flock
- Helps show/document progress
 - Encouraging

What

<u>Animal ID & Inventory</u>

• <u>Treatment records</u>

Production records

• Financial records

When

- Should align with production goals
- Collect usable data

How

- Up to you
- Start collecting the basics





ALB Climate Smart Grant

USDA's Partnerships for Climate-Smart Commodities will provide grants for pilot projects that create market opportunities for U.S. agricultural and forest products produced using climate-smart practices and include innovative, cost-effective methods for quantification, monitoring and verification of greenhouse gas and carbon sequestration benefits.

What are climate smart practices?

Agricultural practices or combinations of practices, and/or practice enhancements that provide GHG benefits and/or carbon sequestration, including but not limited to:

- Cover crops
- Low-till or no-till
- Nutrient management
- Manure management
- Feed management to reduce enteric emissions
- Planting for high carbon sequestration rate
- Climate-smart pasture practices, such as prescribed grazing or legume interseeding

PARTNERSHIPS FOR CLIMATE-SMART COMMODITIES



Producer Enrollment

- Limited to 150 Producers
- Applications will be available Fall 2024
- Producers will be enrolled Jan 2025 implementation for the 2025 growing season
- Producers will be assigned a technical assistance provider
 - Up front visits and meetings to review grazing plans and management practices and make recommendations
 - Help organize data for emissions calculator and COMET Planner
 - Monitor progress
 - Back-end visit to verify program requirements



Fall vs. Winter/Spring Lambing: Management and Marketing Considerations

SCOTT P. GREINER, PH.D. PROFESSOR, EXTENSION ANIMAL SCIENTIST VIRGINIA TECH SGREINER@VT.EDU 540.231.9159



Virginia Cooperative Extension Virginia Tech · Virginia State University WWW.ext.vt.edu



Key Considerations

- When is our lambing season?
- What determines when we lamb?
 - Ewe productivity? (number born, number weaned)
 - Marketing program (age, weight of lambs)?
 - Breed?
 - Management ?
 - Facilities
 - Forages/nutrition
 - Health (parasites)
 - Convenience?
 - Habit?





- Breed/genetics
 - Seasonality
- Management strategies
 - Ram effect
 - Flushing
 - Forage quality/quantity, nutrition
- Technology
 - CIDRs
 - Estrus synchronization







Managing seasonal breeding in sheep

- Sheep are seasonally polyestrus (seasonal anestrus period)
- Reproduction cued by photoperiod (day length); short day breeders
- Gestation = 5 mo → potential lambing intervals of 7-8 mo, yet we struggle to achieve >1 lambing/year
- Seasonality impacted by several factors
 - Breed
 - Genetics- variation within breeds
 - Lactational anestrus









- What is my market?
 - Marketing date
 - Market weight/type
- How will my lambing date impact my bottom line?
 - Number of lambs born/marketed
 - Cost of production (ewes and lambs)
- What are my resources?
 - Facilities
 - Labor
 - Forages







Ethnic Holiday Calendar

HOLIDAY	RELIGION	2021	2022	2023	2024	2025
Eid ul-Adha Festival of the Sacrifice	Muslim	July 20-23	July 9-10	Jun 28-29	Jun 16-17	Jun 6-7
Muharramm/Hajra Islamic New Year	Muslim	Aug 9-10	July 29-30	July 18-19	July 7-8	June 26-27
Mawlid al-Nabi Prophet's Birthday	Muslim	Oct 18-19	Oct 7-8	Sept 26-27	Sept 15-16	Sept 4-5
Ramadan (month of fasting)	Muslim	April 12-May 11	April 2-May 1	Mar 22-Apr 20	Mar 10-Apr 8	Feb 28-Mar 29
Eid ul-Fitr Festival of Fast Breaking	Muslim	May 12-13	May 2-3	Apr 21-22	Apr 9-10	Mar 30-31
Pesch (Passover)	Jewish	Mar 27-Apr 4	Apr 15-23	Apr 5-13	Apr 22-30	Apr 12-20
Rosh Hashanah	Jewish	Sept 6-8	Sept 25-27	Sept 15-27	Oct 2-4	Sept 22-24
Chanukkah	Jewish	Nov 29-Dec 6	Dec 18-26	Dec 7-15	Dec 25-Jan 2	Dec 14-22
Western (Roman) Easter	Christian	April 4	April 17	April 9	April 17	April 4
Eastern Orthodox (Greek) Easter	Christian	May 2	April 24	April 16	May 5	April 20
Christmas (Western)	Christian	Dec 25	Dec 25	Dec 25	Dec 25	Dec 25
Epiphany, Feast of the Nativity	Christian	Jan 7	Jan 7	Jan 7	Jan 7	Jan 7
Chinese New Year		Feb 12	Feb 1	Jan 22	Feb 10	Jan 29



- Holiday: begin Ramadan 3/22/23, 3/10/24, 2/28/25
- Holiday: Eid ul-Fitr 4/21/23, 4/9/24, 3/30/25
- Holiday: Eid ul-Adah 6/28/23, 6/16/24, 6/6/25
- Each holiday gets 10 days earlier every year!



VIRGINIA TECH. Projected Performance (Age x Growth Rate)

Growth Rate	<u>WW at</u> <u>60 days</u>	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108

*ADG dependent on diet, health, management



Breed mid-August, lamb mid-January

Growth Rate	<u>WW at</u> <u>60 days</u>	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
	March 15	April 15	May 15	June 15
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108



Breed mid-August, lamb mid-January

Major ethnic holidays- Feb, March, June

Growth Rate	<u>WW at</u> <u>60 days</u>	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
[March 15	April 15	May 15	June 15
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108



Breed mid-October, lamb mid-March

Growth Rate	<u>WW at</u> 60 days	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
	May 15	June 15	July 15	August 15
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108



Breed mid-October, lamb mid-March

Major ethnic holidays- Feb, March, June

<u>Growth Rate</u>	<u>WW at</u> <u>60 days</u>	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
				A
	Iviay 15	June 15	July 15	August 15
High (0.75 ADG)	60	83	105	128
5 (/				_
Med (0.50 ADG)	50	73	95	118
	40	62	QE	109
LOW (0.50 ADG)	40	05	00	109

VIRGINIA TECH. Fall Lambing

Breed mid-May, lamb mid-October

Growth Rate	<u>WW at</u> 60 days	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> 150 days
	Dec 15	Jan 15	Feb 15	March 15
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108



Breed mid-May, lamb mid-October

Major ethnic holidays- Feb, March, June

<u>Growth Rate</u>	<u>WW at</u> <u>60 days</u>	<u>weight at</u> <u>90 days</u>	<u>weight at</u> <u>120 days</u>	<u>weight at</u> <u>150 days</u>
	Dec 15	Jan 15	Feb 15	March 15
High (0.75 ADG)	60	83	105	128
Med (0.50 ADG)	50	73	95	118
Low (0.30 ADG)	40	63	85	108



- Holiday: begin Ramadan 3/10/24, 2/28/25
 - Winter lambing- feed lambs aggressively (young)
 - Spring lambing- X
 - Fall lambing- less aggressive feeding (heavier)
- Holiday: Eid ul-Fitr 4/9/24, 3/30/25
 - Winter lambing- feed lambs aggressively
 - Spring lambing- X
 - Fall lambing- less aggressive feeding (longer hold)
- Holiday: Eid ul-Adah 6/16/24, 6/6/25
 - Winter lambing- less aggressive feeding/pasture
 - Spring lambing- will need be fairly aggressive feeding, get lambs in proper condition
 - Fall lambing- X (older lambs, hold longer)



- Ideal marketing time
 - Strong, reliable prices for age/weight/type
- Ideal lambing season
 - Fits marketing
 - Fits facilities, management, resources
 - Optimizes number/weight lambs to market
- Ideal management system
 - Feeding requirements for ewes- suppl. hay/feed vs grass
 - Feeding and mgt of lambs- pasture vs. drylot, forage vs. grain, how long to hold, intense vs. extensive mgt.



- Genetic Selection
- Ram or Buck Effect
- Hormonal Control
- As holidays move forward, there is more advantage to lambing earlier (in 3-5 years, lambing in Sept-Nov will fit ethnic holidays nicely)
- Need to begin planning now



Best candidate breeds for out-of-season breeding

- Polypay [Dorset-Finn-Ramboullet-Targhee]
- Dorset all Dorset are not created equal
- Finnsheep or Romanov crosses
- Katahdin (?)
- Rambouillet
- Avoid straightbred black-faced breeds
- Dorper, Texel may be ok, but not great









Use of Selection to Develop a Population with Reduced Seasonality

- Developed from crosses among 3 breeds
 - 50% Dorset
 - 25% Rambouillet
 - 25% Finnsheep
- All Have Some Innate Potential for Out-of-Season Breeding



- Establishment began in 1983
 Selection began in 1988
- End selection after fall 1998 lambing
- Maintain the flock with relaxed selection



Fertility (%) in Select and Environmental Control Lines









- Method (applicable all seasons)
 - Isolate ewes from rams for 4 to 6 weeks. Shorter periods may work but less reliable.
 - <u>No</u> fence-line contact; one-half mile or so is better. No shared pens, chutes, etc.
 - Join rams and ewes ~ 2 wks before you want to start getting ewes pregnant
 - Can use teaser (vasectomized) rams to tighten up lambing. Or just introduce breeding rams 2 wks early; will get a few early lambs.







Ram Effect

- Expect:
 - 50 to 90% of ewes ovulate within 2 to 7 days after ram introduction, *but*
 - Less than 20% of ewes in heat within 7 days (first ovulation is *silent* – no estrus)
 - 50 to 80% of ewes in heat 16 to 25 days after ram introduction.
 - Two peaks of estrus: 1st at 16 to 20 days and 2nd at 22 to 26 days.
 - 35 to 60% of ewes pregnant after the 2nd estrus peak
 - Most effective in summer as breeding season is approaching. Less effective in the spring as ewe becoming anestrus.





- How does it work:
 - The smell of the ram (a pheromone) can act directly on the ewe's brain to cause an LH surge and ovulation
 - The exact pheromone has not been isolated (no "ram in a can")
 - The presence of ewes in heat (ie. cycling ewes) also can help to induce anestrous ewes to cycle. Can be an important effect.
 - Ram + cycling ewes provide an optimal social environment for getting ewes to cycle.



VIRGINIA TECH. Eazi-Breed Sheep CIDR

- Vaginal insert releases progesterone
- Removal after 5 days
- Heat 1-3 days post removal
- Cost ~\$6-7







- Historically fall-lambing
- Decline in spring pregnancy/fall lambing percentages
 - Environment?
 - Genetics?
- CIDR synchronization initiated Spring 2010
 - Goal: return to natural spring breeding/fall lambing







- Spring breeding (2 groups)
 - 1) Control group of ewes (no synchronization)- ewes had lambed previous fall
 - 2) Ewes lambing Jan-Feb received CIDR (weaned at 60 d)
 - CIDR administered late April to late May
 - CIDR removal after 5 or 7 day
 - Single sire breeding groups (3-4 sires per yr)
 - Same sires across treatments, ~45 d breeding season
- Fall breeding
 - All mature ewes not pregnant for fall lambs (as well as ewe lambs)
 - August breeding to lamb Jan-Feb



Pregnancy Rates

7 years, 594 ewes





Service Sires-Spring 2011





Fall (Oct-Nov) vs. Winter Lambing (Jan-Feb)

5 yr, 323 mature ewes



VIRGINIA TECH. Fall vs. Winter Lambing Economics

- +30% lambs born and weaned in Winter
 - Requires 24% higher price/lb. for fall lambs sold to generate same total gross revenue (assuming same sale weight)
 - 100 pound lambs: \$2.47 vs. \$2.00 (\$47/head)
- This does not account for differences in pregnancy rate
 - not all ewes will conceive for fall lambs
 - requires second lambing season (winter/spring)





- Lambing rates will be significantly lower for fall vs. winter/spring lambing ewes
 - Offset by higher lamb prices and lower costs of production??
- Economic considerations (will vary with your goals and objectives for lambing out of season):
 - Cost and labor of synchronization, along with reduced litter size and lower pregnancy rates...
 - vs. potential increased lamb price and decreased production costs
 - vs. alternative strategy of meeting seasonal marketing goals with lamb management and feeding strategies (not significantly change lambing season)

Squeeze down the Marketing Dates that Really Require Out-of-Season Lambing



Currently ethnic holidays with historically strong lamb prices are Feb-June (and getting earlier each year)

VIRGINIA TECH. Should I move my breeding season?

- Moving it later- very simple. Will have more lambs born, lambs to market, etc.
- Moving it earlier- needs to be done incrementally.
 - Start with moving it 30 days earlier
 - Ewes need to be in adequate body condition, recovered from previous lactation
 - Wean lambs in timely fashion to increase post-partum interval
 - Strategies such as Ram Effect and CIDR will be helpful



- Inducing out-of-season breeding with hormones or ram effect is a process, not an event.
- White-faced breeds are usually better out-of-season breeders than black-faced breeds
- May and June are the deepest part of the anestrous and most difficult time to achieve fertility. Breeding in April or in July will be much easier than breeding in May and June.



- CIDRs can improve out-of-season breeding but results are variable and fertility seldom exceeds 65 to 70%
- Ram fertility and libido just as important as cycling ewe for spring breeding
 - Single vs. multiple sire breeding pastures
 - Staggering of CIDR removal
- Ewes should be in good body condition, weaned and recovered from the weaning process
- Ewes should not be exposed to rams prior to synchronization



- Integration of lambing season, management, and marketing is critical
- Key components:
 - Lambing season- optimize number born/weaned at projected age/weight based on market
 - Management- manage costs of production (both ewe flock, and lamb crop)
 - Marketing- establish goals relative to lamb age and weight, position to be flexible as needed





Have a great lambing season!



College of Agriculture and Life Sciences



College of Agriculture and Life Sciences



NC STATE UNIVERSITY

Soil Health Principles

- 1. Soil Armor
- 2. Minimizing Soil Disturbance
- 3. Plant Diversity
- 4. Continual Live Plant/Root

healthy SOIL IS made of about 45% minerals 25% water 5% organic 25% air Surce: The Nature & Properties of Soils page 17 (Nye Brady, Ray R Weil)

United States Department of Agriculture

USDA is an equal opportunity provider and employer.

Want more soil secrets? Check out www.nrcs.usda.gov

BUILDING SOIL ORGANIC MATTER





Relative Growth Rate



NC STATE UNIVERSITY

College of Agriculture and Life Sciences

Root development is strongly related to frequency and extent of leaf removal



ADAPTIVE GRAZING

- Planning is required
- Stocking Rate
- Stock Density
- Graze Period (time animals occupy a pasture)
- Residual forage (start/stop grazing height)
- Rest period
 - Number of paddocks?
 - Number of groups?
- Rotation Length (graze cycle)
- Observations and Monitoring

NC STATE UNIVERSITY

College of Agriculture and Life Sciences





College of Agriculture and Life Sciences

PASTURE INVENTORY CHECKLIST

- Grass species
- Weed species/pressures
- Distribution of species in pastures
- Poisonous species
- Water/shade locations



ASSESSING THE PASTURE STAND

- Point Step Analysis is the most practical approach
- Randomly walk the pasture and identify plants or bare ground on 100 to 200 points

Figure 1.	Point Step Worksheet	

Pasture #	Tall	Orchard	White	Buttercup	Other	Other	Bare	Total
	Fescue	-grass	Clover		Desirable	Undesirable	Ground	
1*	HI HI IH	111	I#1 IIII	HHI HHI HHI	1111	1111	HTI HTI HTI	100
	HI HI HI			П			HTI HTI HTI	
	HI HI HI						JH1 1111	
	1111 34	3	9	17	4	4	29	
2								

* Pasture 1 shows signs of heavy horsenettle and dog fennel population.



College of Agriculture and Life Sciences

NC STATE UNIVERSITY

INDICATOR SPECIES REPETITIVE CLOSE GRAZING

- Annual bluegrass
- White clover
- Chickweed
- Buttercup



NC STATE UNIVERSITY

College of Agriculture and Life Sciences

Figure 1.	Point Step	Worksh	leet					
Pasture #	Tall Fescue	Orchard -grass	White Clover	Buttercup	Other Desirable	Other Undesirable	Bare Ground	Total
1*	HTI HTI IH HTI HTI IH HTI HTI IH IIII 34	111	I#1 IIII 9	17	4	 A	#11#11#1 #11#11#1 #11!!!! 29	100
2								

* Pasture 1 shows signs of heavy horsenettle and dog fennel population.

50% Desirable species (Fescue, Orchard, Clover, Other Desirable)
9% Clover
21% Weeds. Mostly Buttercup.
29% Bare Ground

Interpretation?

- Overgrazing may be an issue (bareground)
- Not enough clover to worry about (chemical treatments)
- Candidate for weed control only with rest, or complete renovation.
- Spray to control buttercup later winter and/or wait and spray for the other perennial in late spring. For full renovation spray with glyphosate and plant summer annual.

TYPE OF RENOVATION

- Partial Renovation
 - Rejuvenation or enhancement of existing pasture
 - Generally improving existing forage stands after injury from winter, drought, flood, other stressors.
 - Fertility correction, herbicide (if indicated), rest
- Total Renovation
 - Correct fertility issues
 - Address grazing management issues
 - · Killing existing plants followed by reestablishment of desirable forage species

PLAN, PLAN, PLAN



College of Agriculture and Life Sciences

SOIL TEST AND FOLLOW FERTILITY RECOMMENDATIONS



Sample hayfields every year and 1/3 of your pastures each year

College of Agriculture and Life Sciences

College of Agriculture and Life Sciences





NC STATE UNIVERSITY

Soil Map—Person County, North Carolina N. 21 22. W W. St 25 .82 682930 683030 683130 683180 683230 36° 27 26' N 369 27 261 0000 -0980 00000 09960 00000 0.000 00000 0990 0000 0990 or of the local division of the local divisi 0000 38° 27 16' N 36° 27 16° 683090 683130 683230 682580 683030 683180 W 34 25 08 Scale: 1:2,240 If printed on A land cape (11" x 8.5") sheet. 60 Mete 180 Feet Edge tics: UTM Zone 17N WGS8 A 0 100 200 400 tator Corner coordinates: WGS84 USDA Natural Resources Conservation Service Web Soil Survey National Cooperative Soil Survey 11/10/2017 Page 1 of 3

NCDA SOIL TESTING



Figure 1. Proper sampling depth depends on tillage practices for the area sampled.





Figure 2. Sampling strategies. A) Use a zigzag pattern to collect cores randomly from a field with uniform soil. B) Subdivide fields that have distinct zones (soil type, cropping history, etc.) if it is feasible to lime and fertilize each area separately.



ICTIVE SAMPLES NCDA&CS Agronomic Division Soli Testing Section group, no fee rect: & 41 sample for ward dates.

		Ter montany, termin \$6 to 1	a sum all all a sub a sum have			
SAMPLE INFORMATION	PAYMENT	GROWER INFORMATION (press	se print legibly)	CONSULTANT/OTHER RECIPIENT		
FARM ID (optional)	FEE TOTAL	LAST NAME	FIRST NAME	LAST NAME	FIRST NAME	
SAMPLE DATE (optional)	ESCROW ACCOUNT ONLY (urite account name below)	ADORESS (in N.C. where samples	were collected)	ADDRESS		
NC COUNTY (sohere collected)	Beminders Des NCDARCS semule	CITY	NC	CITY	STATE ZIP	
NUMBER OF SAMPLES	boxes only. Fill to red line. Bags not accepted.	E-MAIL ADORESS		E-MAIL ADDRESS		
	Select crop code(s) from list on back of form.	PHONE	PALS #	PHONE	(if known)	

by submitting this form to the NCDA&CS Agronomic Division, I attest that the accompanying samples were collected in North Carolina

LAB NUMBER (Leave blank)		LIME A	PLIED WITH	-IN	You must specify a crop CODE to receive a recommendation (see reverse side of form)									
	IDENTIFICATION	PAST	12 MONTHS		5004X 40040		4500ND 6000	0005						
		Tons/Acre	Month	Year	FIRST CROP	CODE	SECOND CROP	CODE						
1														
2														
3														
4														
6														



NC STATE UNIVERSITY

College of Agriculture and Life Sciences

NCDA&CS Agronomic Division Phone: (919) 733-2655			Webs	Website: www.ncagr.gov/agronomi/									Report No.			FY17-SL032738					
Predictive										Client:	Johnny R 945 Woo Roxboro	Roger odsda	ers ale Rd 27573			Adviso	r:				
Soil Report Mehlio							Mehlich-	3 Extraction Sampled					l Cou	unty : Per	nty : Person						
Links to Helpful Information							Client ID: 350281								Advisor ID:						
Sampled: 05/01/2017 Received: 05/02/2017 Completed: 05/11/2017 Farm:																					
Sample I	ID: 15		Reco	mmenda	tions:		Lime _					Nu	utrien					Mor	.e		
l			Crop	1		(tor	ns/acre)	N	P	205	K2O	Mg		S	Mn	Zn	Cu	В		Informat	ion
Lime His	story:		1-5	Jdan/Sorg	Jhum past.		0.0	140-18	0 1	100	50	0		0	0	U	0	0		Note: 12	2
			2-0	nall Gram	(56)		0.0	00-100	<u> </u>	.00	10			<u> </u>	0	U	U	U		Note: 5	
Test Res	sults [un	its - W/V	in g/cm³	; CEC and	1 Na in me	q/100 (cm³; NO3₋ŀ	∦ in mg//	dm³]:				s	soil Class	: Mine	ral					
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	i Mn	-I Mn-A	41 P	Mn-Al2	Zn-I	Zn-Al	Cu-l	Na	ESP	SS-I	NO3-N
0.46	0.98	9.5	84	1.5	6.0	17	75	53	27	43	86.	2 534	4	527	200	200	112	0.1	1		
Sample I	ID: 9a		Reco	mmenda	tions:		Lime		_			Nu	nts (lb/acr	re)			Mor				
			Crop	,	_	(tor	ns/acre)	Ν	P	205	K2O	Mg	_	S	Mn	Zn	Cu	В		Informat	tion
Lime His	story:		1-Fe	ascue/OG	rass/Tim, F	ε	1.2	50-70	/ 1	<i>,</i> 10	0	0		0	0	0	0	0		Note: 12	2
<u> </u>			2-F	ascue/OG	rass/Tim, I	М	0.0	120-20	<u>.01</u>	<u>/10</u>	0	0		0	0	0	0	0		Note: 12	2
Test Res	sults [un	its - W/V	in g/cm ³	; CEC and	d Na in me	q/100 (cm³; NO3₋N	∦ in mg/	dm³]:				s	soil Class	: Mine	ral					
HM%	W/V	CEC	BS%	Ac	pH	P-I	K-I	Ca%	Mg%	S-I	i Mn	-I Mn-A	AI1 7	Mn-Al2	Zn-I	Zn-Al	Cu-l	Na	ESP	SS-I	NO3-N
0.41	1.02	10.7	87	1.4	6.0	15	94	54	28	41	126	3 767	7	775	152	152	120	0.2	2		
Sample I	ID: 9b		Reco	mmenda	tions:		Lime		Nutrients (Ib/acre)										Ť	Mor	re
- ·	Crop (to			(tor	ns/acre)	N	P	205	K20	Mg		S	Mn	Zn	Cu	В	1	Informat	tion		
Lime His	story:		1-S	udan/Sorç	jhum past.		0.0	140-18	<i>i</i> 0 <i>i</i>	90	40	0		0	0	0	0	0		Note: 12	2
			2-S	mall Grain	ı (SG)		0.0	80-10	<u>)</u> ′	90	0	0		0	0	0	0	0		Note: 3	
Test Res	sults [un	its - W/V	in g/cm ³	; CEC and	d Na in me	q/100 /	cm ³ ; NO3-M		dm³]:				s	soil Class	: Mine	ral					
HM%	W/V	CEC	BS%	Ac	рН	P-I	K-I	Ca%	Mg%	S-I	i Mn	-I Mn-A	AI1 7	Mn-Al2	Zn-I	Zn-Al	Cu-l	Na	ESP	SS-I	NO3-N
0.41	1.04	9.8	83	1.6	5.9	20	81	55	24	40	157	3 961	1	954	95	95	103	0.1	1		
DO NOT CUT OUT LIME

Get your priorities right!

Lime is still job #1



6-12 months prior to seeding

NC STATE UNIVERSITY

College of Agriculture and Life Sciences

HOW SOIL PH AFFECTS AVAILABILITY OF PLANT NUTRIENTS

How soil pH affects availability of plant nutrients.







NC STATE UNIVERSITY

INCORPORATING LEGUMES

Steps to frost seeding

- Graze close (stockpiled fields)
- Soil test/ higher pH (>6.0) and adequate P
- DO NOT apply Spring N
- Select legumes
 - White clover grazing
 - Red Clover summer grazing and hay fields
- Broadcast from Feb. 15 to March 15

Managing Renovated Fields

- Fertility
- Mow or graze to keep grass vegetative (2-3 inches)
- Rotational grazing

Table 3. Recommended seeding rates forlegumes used in renovation.

legume(s) used	seeding rate (Ib/acre)
white clover	2
red clover	8
annual lespedeza	25-35
white clover + red clover + annual lespedeza	2 4 8

Source: University of Tennessee





NC STATE UNIVERSITY

College of Agriculture and Life Sciences



Annual forages: • Build soil health

- Fill gaps in forage production and quality Alternative to toxic fescue •
- •



NC STATE UNIVERSITY



College of Agriculture and Life Sciences

NC STATE UNIVERSITY

FORAGE CHICORY AND PLANTAIN

- Can be planted in the fall or spring
- Works well when mixed with clovers
- High mineral content
- High nutritive value



Photo credit: Southeast AgriSeed

NC STATE UNIVERSITY

College of Agriculture and Life Sciences

FORAGE CHICORY AND PLANTAIN

- Must have good soil contact for establishment
- Plantain seems to work better for overseeding existing pastures
- Needs a firm seedbed
- Planting depth 1/8 to ¼ inch



Photo credit: Southeast AgriSeed

NC STATE UNIVERSITY

College of Agriculture and Life Sciences

AVERAGE DAILY GAIN OF SHEEP GRAZING CHICORY VS BERMUDAGRASS 84 DAYS





Lambs grazing chicory +38 lbs 0% vs 72% wormed on bermudagrass



NC STATE UNIVERSITY

College of Agriculture and Life Sciences

GROWTH OF LAMBS GRAZING CHICORY OR COASTAL BERMUDAGRASS



SUMMARY

- Evaluate pastures to learn plant species, challenges and opportunities.
- Pasture renovation requires planning.
- Be patience when renovating pastures.
- Newly seeded perennial forages will need at least 12 months to establish and only limited grazing should occur during this period.
- Learn how to use temporary electric fence.
- Use Annual Forages to fill forage gaps and for renovation.
- Good grazing management will improve soil health and build diversity.













2024 Scrapie Update

Contacts:



Dr. Chris Fletcher (276) 228-5501 Dr. Dan Hadacek (540) 209-9120 Dr. Tabby Moore (540) 209-9122



Scrapie



- A fatal, degenerative disease affecting the central nervous system of sheep and goats.
- Classified as transmissible spongiform encephalopathies (TSE)
 - BSE "Mad cow" disease, and CWD chronic wasting disease in cervids
- Genetic resistance
 - Sheep codon 171: RR/QR/QQ
 - Goats codon 222: KK/QK/QQ
- Surveillance, and depopulation are the primary means of controlling this disease.
- Spread through all secretions.



History of Scrapie

- First recognized in the 1700's in Europe
- 1947 first found in the US
- 1952 \rightarrow USDA initiated a National Scrapie Eradication Program
- 2003 Regulatory Scrapie Slaughter Surveillance (RSSS)
- Since 2012 Only Australia and New Zealand only countries "Scrapie Free"





In the US



- Total of 16,811 animals (10,828 sheep and 5,983 goats) were sampled in FY 2023 with a goal of 40,000
 - Last positive sheep was in January 2021 (Arkansas)
 - Last positive goat was in June 2019 (PA and Indiana)
- Virginia has not had a positive in over 7 years



* As of December 31, 2023.

USDA

83



States Free of Classical Scrapie Cases > 7 Years

Virginia (All State) Producers

- We need Whole heads from sheep and goats
 - Over 18 months
 - Slaughtered, die, or euthanized
 - Especially if the Sheep/Goat was exhibiting neurological symptoms
 - Your veterinarian or VDACS can collect
 - Scrapie Tag needs to be submitted with the animal









Free Scrapie Tags for New Producers

- 1-866-USDA-TAG
- VA producers → 804-343-2569











Both plastic and metal tags are acceptable identification.



New style (Shearwell) plastic tags from USDA

Who Needs Tagged?

- Any Sheep or Goat that leaves your farm!
 - Livestock market
 - Shows
 - Even if you sell an animal to your neighbor!
- The only time they don't need a tag is:
 - Staying at home (however it's good for your own records)
 - Lambs under 18m going directly to slaughter facility





Why is all this important?

- For the US to be deemed FREE of Scrapie
 - Must go 7 years without a positive classical scrapie case
- Only Australia and New Zealand are considered Free of Scrapie
- Would open new Sheep and Goat Trade
 - Est. loss of \$10-20 million



shutterstock.com · 2332951181





GINIA DEPARTMENT OF AGRICULTURE AND CONSUMER SERVICES



Antibiotic Use in Livestock For 2024

Chris Fletcher D.V.M. Virginia Department of Agriculture and Consumer Services

The Recent Past

- January 1, 2017
- Veterinary Feed Directive (VFD)



- Affected ANY antibiotic placed in feed/water used in livestock
- Prohibits using antibiotics for growth promotion
 - Does NOT affect lonophores
- VFD is a written directive (prescription) for antibiotics in animals

VFD

- Very specific on what a veterinarian can write
- Really hit the Poultry, Swine, Bee industries hard!
- Can NOT go off-label
- Works like a prescription
- Veterinary Client Patient Relationship (VCPR)
- Veterinarian must fill out a form for you to take to the feed store to be able to buy the medicated feed with an antibiotic
- Paperwork must be kept by Veterinarian, Producer, and Feed Mill for
 - 2 years





Products that REQUIRE a VFD

- Chlortetracycline (Aureomycin, CTC, Pennchlor)
- Chlortetracycline + Sulfamethazine (AS 700)
- Neomycin + Oxytetracycline (Neo-Terramycin, Neo-Oxy)
- Oxytetracycline (Terramycin, Pennox)
- Tylosin (Tylan)
- Tilmicosin (Pulmotil)
- Virginiamycin (V-Max)

Do NOT require VFD

- Amprolium (Corid)
- Decoquinate (Deccox)
- Fenbendazole (Safe-Guard)
- Lasalocid (Bovetec)
- Melengestrol Acetate (MGA)
- Monensin (Rumensin)
- Morantel (Rumatel)
- Poloxalene (Bloat Guard)
- Ractopamine (Optaflexx, Actogain)
- Tetraclovinphos (Rabon)

June 11, 2023.....OTC \rightarrow Prescription



- FDA regulates what antibiotics Veterinarians can use
- Goal: "to slow the development of antibiotic resistance through increased oversight and judicious use of antibiotics deemed medically important in human medicine." REGARDLESS OF ROUTE OF DELIVERY
- Removes human medically important antibiotics from the farm store shelf



















Veterinarian-client-patient relationship

- The veterinarian has assumed the responsibility for making clinical judgments regarding the health of the animal and the need for medical treatment, and the client has agreed to follow the veterinarian's instructions
- The veterinarian has sufficient knowledge of the animal to initiate at least a general or preliminary diagnosis of the medical condition of the animal. This means that the veterinarian has recently seen and is personally acquainted with the keeping and care of the animal by virtue of an examination of the animal or by medically appropriate and timely visits to the premises where the animal is kept
- The veterinarian is readily available or has arranged for emergency coverage and for follow-up evaluation in the event of adverse reactions or the failure of the treatment regimen.

What it means for you

- If you already work closely with your Veterinarian
 - Not really going to affect you other than where you purchase Antibiotics
 - If purchasing online....will need a prescription from your veterinarian
 - "Shop Local"
- If you do all your "Doctoring" yourself
 - Must form a relationship with a Veterinarian
 - A Veterinarian must come to see your operation
 - Must have a VCPR for a veterinarian to provide you with a prescription
 - Not unlike a human doctor
- Keep in mind that these Antibiotics have an Expiration Date
 - If you did stock-up

Our Focus.....

An Ounce of Prevention is Worth a Pound of Cure - Benjamin Franklin -

Take Home

- Find a Veterinarian that you can build a working relationship
- Be good stewards \rightarrow use Antibiotics wisely
 - Safely and Correctly
- Don't forget about Withdrawal times for antibiotics





 Sheep Shearing Schools
Wool Pools & Commercial Marketing of Wool
Direct & Specialty Marketing



Beginner Sheep Shearing School Pulaski Livestock Market 5509 Banks Avenue Dublin, VA 24084



Friday, 23 February 9:30 am to 5pm: machine setup, blade selection, shearing belly and breech (back of hind legs and under the tail)

Saturday, 24 February 9:30am to 5pm: opportunity to practice full-pattern shearing with experienced shearers present to assist.

First day's instruction should conclude around 2pm. For those who attend the first day and wish to try full pattern shearing, they are welcome to continue shearing from 2pm to 5pm. If you have attended a shearing school in the past and are already familiar with machine set-up and blade selection, you are welcome to attend the second day only.

Class size is limited so participants must pre-register.

Participants are encouraged to bring their own machines and blades but there will be machines and blades for people to use

To Register: Contact Tom Stanley at 540-588-0241 voice/text or e-mail stanleyt@vt.edu

Cost: \$60 per person each day, includes lunch. Make Checks payable to Virginia Sheep Producers Association High quality shearing poster available for participants to purchase for additional \$25.

Notice to Participants:

Sheep shearing is physically demanding and requires bending and lifting the equivalent of 50 lbs. or more. Participants take part in this training at their own risk. It is recom mended participants regularly engage in, at a minimum, gentle stretching and light to moderate exercise in the weeks before the shearing school. People with chronic spinal Indicate exercise in the Weeks device the anearing school, recipie with circlen's spinal pain or injury are discouraged from participating in this school That stated – Virginia Cooperative Extension Programs are open to all. If you have a disability or cir-cumstance that requires special accommodations in order to participate in this program, contact Tom Stanley at \$40-463-4734 ext. 2 by February 16, 2024.



virginia sheep Virginia Cooperative Extension

Sheep shearing for Fun, Fresh Air and Exercise!

Two-Day Beginner Sheep Shearing Schools:

Friday & Saturday 23&24 February, Pulaski County. Class is full, but contact Tom Stanley to be placed on waiting list. Taking more students will be a function of getting additional assistant instructors.

Friday & Saturday 26&27 April Lee County. Registration process pending, contact Tom Stanley for more information.

Why do we raise wool sheep?

Many Virginia sheep producers raise a wool-type sheep because of their breed's carcass characteristics relative to other breeds

Shearing is strictly a 'cost-ofdoing-business'





Commercial Wool Marketing: Wool Pools

Wool Pools: traditional process of collective marketing by Virginia wool growers Wool marketed as a commodity.

Overwhelming percentage of the wool delivered to Virginia Wool Pools is >26-micron from British 'down-breeds'

(22-micron and finer comes from Merino-derived breeds and ≤22-micron is US Department of Defense standard for 'garment-quality' wool)

High percentage of Virginia wool brought to pools is from black-faced breeds (Suffolk/Hampshire) = black fibers, fabric with black wool fiber does not yield consistent color when dyed, especially with brighter colors

Commercial Wool Marketing: Wool Pools

In recent years, fleeces from <u>wool X hair breed crosses</u> have been coming to wool pools. Hair is a hollow fiber, wool is a solid fiber, they behave very differently in fabric. <u>Contaminants</u> in the wool bag has been a problem for decades: manure, straw, shavings, cocklebur, burdock, polytwine.

Result: very limited market options for wool from Virginia wool pools.

Possible uses: insulation products, horticultural applications, sound bafflingbut these are **not** high-value markets!

For many wool pools, the price offered by a wool merchant does not justify transporting the wool the distance to the pick-up point.

A Number of Virginia Wool Pools effectively do not have a market for wool in 2024.

USDA Wool LDP (Loan Deficiency Payment) available through your local USDA Service Center's Farm Service Agency

Serves as a price 'floor' for U.S. produced wool. 2024: \$.40/lb for <u>Raw</u> <u>Ungraded Wool</u>

Different Virginia Pools use different classifications for wool (white-face, black-face, clear, burry, etc) but these are not wool grades recognized by USDA. <u>All Virginia Wool going through Virginia Pools is "Raw Ungraded Wool"</u>

Wool Growers who wish to receive higher LDP payments for lower micron (finer) wools must secure documentation from a qualified third-party confirming the wool grade.



A Number of Virginia Wool Pools effectively do not have a market for their wool All Raw Ungraded wool can qua

Date Name Addre	: <u>М</u> м,	/D1	D/20	<u>2</u> 4			, da	1990 - San	Date: Nome	MM	.oc /D	D/20	12024				E.F.	
iHORN Lot #	Gross WI	have	Net WI	Grade	Gross Price	Also Dashot	Net	Amount	Addres	s NOOL								
1	175	3	172	White	.20			34,40	Lot #	Gross WI	Ture	Net WI	Grade	Gross Price	Mar Deduct	Net Price	Amos	
2	100	3	97	Black	.10			9.70	1	75	2	73	Wool				0	
3	10	3	7	Blackne	1			0 00	2	50	2	48	Black				00	
4	50	3	47	tays				OL	3	30	2	28	Tass				0:	
5	50	3	47	Bellies				0 00										
101/	AL.		370						_									
heck	No.		-1-		4	Dues			TOT	u		149						
						Wool Bo	gs.		Check	No.				No.	Duer Wool B	5	-	
_	Wool Pr	ool Me	moger												-		6	

All Raw Ungraded wool can qualify for the \$.40/lb. LDP payment.

- These sample wool pool tickets (left) have been reviewed by Virginia USDA FSA leadership and approved as acceptable documentation.
- Ticket must be signed by third-party wool pool manager and producer must relinquish all beneficial interest in the wool on the date of this receipt.
- It is critical the wool producer complete all necessary paperwork at their local USDA
 Farm Service Agency Office <u>before</u> the day of the wool pool.
- Acceptance of wool receipts by each FSA office is ultimately the decision of that county office's 'Farm Service Agency County Committee'



All wool qualifies for \$.40/lb. LDP. Accurately describe each wool bag's content so Wool Pool Managers know how and if it can be marketed.



Clear fleeces – no debris



and contaminants



Bellies, Breech, manure tags, sweepings, etc etc

Communicate with our wool pool management before shearing. Find out their marketing plan and how they want the wool packaged.



Direct, Specialty, and Value-Added Markets



American Sheep Industry Wool Trust Fund provides funding annually for wool outreach and education, including shearing schools.

Virginia's allocation is driven by membership in the State Association. Thank you for joining Virginia Sheep Producers Association today! <u>https://vasheepproducers.com/</u>

ad hoc committee developing plans for wool fiber education event late summer or early fall, 2024. Contact Tom Stanley for more information: stanleyt@vt.edu

American Sheep Industry Update

REGION II DIRECTOR LISA WEEKS

Lamb Import Investigation

- April 2023 8 member states plus NLFA requested ASI investigate the possibility of addressing the ever increasing lamb imports from AUS and NZ.
- Need proof of injury before remedy can be pursued
- Evidence was found that would support the antidumping investigation, but at a 1-2% margin.
- There was no evidence that either AUS or NZ were subsidizing producers (anti-countervailing)

Lamb Import Investigation

- Additionally the DC Law firm looked into the possibility of a 201 trade case.
- Two main deterrents:
- Covid hit within the middle of the three year window
- The boxed meat price for half of the period actually increased. For six months the price was at record levels.

Lamb Import Investigation

- Other US influences: A major lamb company closed, the changes to H2-A wages, dramatic increase in inflation at the farm/ranch level.
- The DC law firm is on retainer.
- If the window of opportunity opens to pursue the 201 trade case, ASI will initiate action.
Stop the Ban!

- A referendum to prohibit slaughterhouses in the city of Denver is on the November ballot. (Denver)
- This referendum unfairly targets the single employee-owned business of Superior Farms. If passed the company would be forced to shut down.
- The ripple effect could embolden similar efforts across the country, threatening jobs and impacting the supply chain.
- www.stopthebanprotectjobs.com

Howard Wyman Leadership School

- Lambfeedersusa.org
- Applications due February 15.
- Email to Lambfeeders1@outlook.com
- School will be held in Brownsville, OR March 24-27

ASI Legislative Week

- Annual trip to Capitol Hill March 11-13
- Tuesday a.m. Briefing and USDA plus any land management agencies
- Congressional visits Tuesday p.m. and Wednesday
- Reception Wednesday @ 5:30 p.m.
- ASI covers 2 sleeping rooms per state
- Zahrah@sheepusa.org

USDA NAHMS 2024

- US Department of Agriculture's National Animal Health Monitoring System (NAHMS) conducted every 10 years. Random selection of 5000 sheep operations across 30 states. (Virginia included this time)
- Phase I (Jan/Feb)
- Phase II (Apr-Jul) NAHMS 2024 will include collecting biologics: fecals, blood, and interdigital swabs. All samples will be stored for future research.
- \$3200 compensation potential to producer participating in Phase II. Participating producers will receive a report on their animals.
- NAHMS2024@USDA.GOV

Secure Sheep and Wool Supply Plan

- If foot and mouth disease (FMD) is found in US livestock, Regulatory Officials will limit the movement of animals and animal products to try and control the spread of disease.
- The SSWS Plan for Continuity of Business provides opportunities to voluntarily prepare before an FMD outbreak.
- Limit exposure through enhanced biosecurity.
- Ability to move animals to processing or another premises under a movement permit.
- Maintain business continuity for the sheep industry, including producers, haulers, packers and wool processors during an FMD outbreak.

Secure Sheep and Wool Supply Plan

- Create a premises map
- Define a line of separation or boundary line separating off-farm from on-farm movements.
- Develop a contingency plan that can be implemented at the beginning of an FMD outbreak.
- Disease monitoring (surveillance) ability to recognize when something is "off".
- Securesheepwool.org

ASI Rapid Fire Program Update

- Sheep Production Handbook <u>www.sheepusa.org</u>
- Webinars <u>www.sheepusa.org</u> under Producer Education
- ASI Market News App market reports, wool calculator, gestation calculator, and more!
- ASI Podcast Research Update <u>www.sheepusa.org</u> under Producer Education

ASI Rapid Fire Program Update

- Quality Assurance Programs Sheep Safety and Quality Assurance (SSQA), American Wool Assurance (AWA), and Youth for the Quality Care of Animals (YQCA) – www.sheepusa.org under Producer Education
- Webinars <u>www.sheepusa.org</u> under Producer Education
- ASI Market News App market reports, wool calculator, gestation calculator, and more!
- ASI Podcast Research Update <u>www.sheepusa.org</u> under Producer Education

Thank You!

Questions??