



Wild & Woolly



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Soyhulls: The "Almost Perfect" Feed

Soybean hulls, or soyhulls as they are more commonly called, are almost the perfect feed for livestock. Depending upon cost and availability, they can replace some (or all) of the hay or grain in the diet. They are the ideal supplement for forage-fed animals.



Soyhulls are a by-product of soybean processing. They are the outer coat of the bean. Soyhulls work best when they are mixed with other feeds or fed pelleted, as they are a bulky, dusty feed. They are generally palatable to most livestock.

Soyhulls are classified as an energy feed. Though they can be variable in composition, their book values are 77 percent TDN (energy), 13 percent CP (crude protein), 0.55 percent calcium (Ca), and 0.17

percent phosphorus (P). They have a similar nutrient composition as oats and ear corn, but with a more desirable ratio of Ca to P and more copper (Cu).

Unlike grains, the energy in soyhulls is derived from highly digestible fiber. Soyhulls are high in NDF (neutral detergent fiber) and low in starch. Starchy feeds increase

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2016 Maryland Sheep Shearing School

The 2016 Maryland Sheep Breeders Association (MSBA) Sheep Shearing School will be held Friday and Saturday, April 15-16, 9:30 a.m. to 3:30 p.m. at Ridgely Thompson's farm at 1942 Uniontown Road, Westminster, MD 21157.

The school is open to anyone in Maryland, Delaware and surrounding states who wants to learn to shear sheep. Ownership of sheep or a desire to become a commercial shearer is preferred.

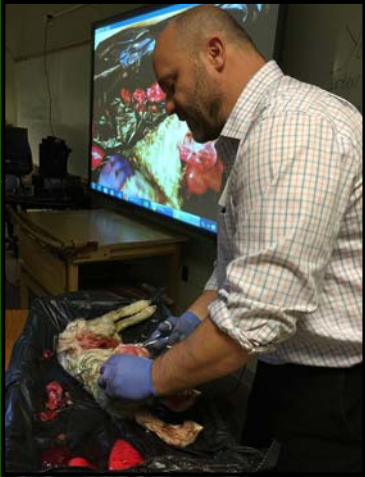
The New Zealand method of shearing will be taught. Shearing machines will be provided. Blade shearing will not be taught. Instructors are Aaron Geiman and Emily Chamelin-Hickman. Aaron is an Agriscience teacher at North Carroll High School. Emily is a professional shearer.

The registration fee is \$80 per person and includes a copy of ASI's Sheep Shearing Notebook and an instructional DVD. Pre-registration is required. No registrations will be accepted after April 1.

Participation is limited to 15 people. The minimum age is 16. Checks should be made payable to the Maryland Sheep Breeders Association, Inc. and mailed to Aaron Geiman at 429 Hook Road, Westminster, Maryland 21157. For more information you can send an email to mdsheepshearingschool@gmail.com

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Another Successful Lambing & Kidding School

The Biennial Lambing & Kidding School held December 5 at North Harford High School in Pylesville, Maryland, drew over 100 youth and adults. The day-long educational program featured separate educational programs for adults and youth.

Dr. Richard Ehrhardt from Michigan State University was the main speaker for the adult program. Other speakers included Susan Schoenian (University of Maryland Extension), Karen Holloway (The Mill), Dan Severson (University of Delaware), Dr. Angela Black (University of Maryland), and Sarah Meagher BhaduriHauck (University of Maryland Extension). The highlight of the program was when Dr. Ehrhardt performed necropsies on three dead lambs.



The youth program featured several hands-on sessions taught by Chris Anderson, Dwayne Murphy, Nathan Glenn, and Dr. Mara Mullnix. Chris and Dwayne are with University Maryland Extension. Nathan is the animal science teacher at North Harford High School. Dr. Mullnix is a veterinarian with a private practice in Monrovia, Maryland.

The youth made mineral feeders out of PVC pipe and halters from rope. They learned about reproduction in sheep and goats and evaluated live ram semen. In another session, youth learned about supplies used to raise sheep and goats.



The Lambing & Kidding School was sponsored by the University of Maryland Small Ruminant Extension Program, North Harford High School, and The Mill. There is a Natural Resources and Agricultural Sciences magnet program at North Harford High School. The magnet program is composed of three clusters focusing on Animal/Equine Sciences, Plant Science, and Natural Resources. The Mill is a farm supply store, with six locations in Maryland and Pennsylvania.

Door prizes were donated by University of Maryland Extension, The Mill, Sheepman Supply Company, Premier Sheep Supplies, and Good Shepherd Lamb Coats. Virginia State University provided biological specimens for the school.



The Lambing & Kidding School is held every other year (in odd years) at different locations in Maryland. Since 2003, schools have been held in Carroll, Charles, Harford, Howard, Queen Anne's, and Washington Counties. The main speaker has always been a nationally recognized veterinarian or sheep/goat specialist.

Social Media For Livestock Sales

By Pam Adams

President, MPWV Meat Goat Producers Association

Who would ever think to use Facebook or other social media sites to sell your livestock or products? Well, I have moved in that direction and have had very good luck. I can post an ad on multiple sites and have interested people see the ad almost instantly. Most people have notifications set on so that they are notified when others post on the sites that they frequent the most. This gives the seller instant visibility and the buyer a chance to see what you may be selling immediately.

I recently posted an ad to sell two buck pygmy kids that I did not want to keep and within 5 minutes, I had them both sold. (Can't get that kind of response when posting an ad in the Lancaster Farmer or local newspaper). I also sell my boer goats quickly using these sites as well, and I can set the price I want rather than taking them to the livestock market. This is a great way to sell breeding stock, 4-H goats, or just meat goats for slaughter.

So how do you get started?

Step 1

Create an account on Facebook by going to www.facebook.com and signing up for an account. You need to enter your name, email or phone number and a password. Your birthday is needed as a security measure. The account is free.

Step 2

After you have an account, you should set up your profile and contact information and set your privacy settings.

Step 3

Once you have completed Step 2, you are ready to find friends that have similar interests as you or join special interest groups. To do this go to the top of the screen where it says "Search Facebook". Enter the words "Goats for Sale" in and hit search (the little magnifying glass). Many sites will be listed.

Select one and if it is listed as a public group you can join immediately. If it is listed as a closed group you will have to request to join the group. Many of these sites have specific rules you must follow to post items for sale, but you also can see what others are selling if you are looking for a new buck or doe to add to your herd.

Pay attention to the location of the site. Once you visit the site, look at the information on the page to sense if this sale page is in your area. Often times it will state in the name of the site, but not always. For example "Boer Goats for Sale" or "Boer Goats for Sale in Maryland". If you are willing to sell nationally then join the site anyway. Many buyers will come far distances for the right animal.

Step 4

After you have sold your animal or products, go back to all sites where you have posted the "For Sale" ad and add a comment that the animal has been sold. This will keep your name in the limelight and let others know that you have sold the animal or product. By keeping your name in the limelight, you may get repeat callers looking for other animals before you post another ad.

Excel Spreadsheets for evaluating sheep and goat rations

The UME Small Ruminant Extension Program has recently revised or created Excel spreadsheets for evaluating feed rations for all types and classes of sheep and goats. The spreadsheets use the latest NRC requirements (2007). Users enter their own data for feedstuffs. A spreadsheet with book values for feed composition is included.

The spreadsheets are password-protected to protect the formulas and spreadsheet structure. If someone needs or wants to make significant changes to a spreadsheet, they can get the password to unlock the spreadsheet by sending an e-mail to Susan Schoenian at sschoen@umd.edu.

The ration balancer spreadsheets, along with numerous other spreadsheets, are available on the Maryland Small Ruminant Page at <http://www.sheepandgoat.com/#!/spreadsheets/c22q2>. Alternatively, you can select Spreadsheets from the Resources drop-down menu at www.sheepandgoat.com.

2015 Junior Sheep & Goat Skillathon

The 2016 Junior Sheep & Goat Skillathon will be held on Sunday, May 8 in conjunction with the Maryland Sheep & Wool Festival.

The Maryland Sheep & Wool Festival is always held the first full weekend of May at the Howard County Fairgrounds in West Friendship. There is no entrance fee to the festival and parking is free.



Youth ages 11 to 13 compete as intermediates; and youth 14 to 18 compete as seniors.

The Maryland Sheep Breeders Association provides ribbons and premiums to the top ten individuals in each age division and festival t-shirts to the members of the top three teams in each age division. Additional awards are provided by the University of Maryland Extension Small Ruminant Program.

Registration for the skillathon starts at 8 a.m. The contest starts at 9 a.m. Awards are given at approximately 1 p.m. A small donation is requested to cover the cost of lunch (pizza + sodas).

The Junior Sheep and Goat Skillathon is open to any youth between the ages of 8 and 18. Individuals and teams (of 3 or 4) from any county or state may participate. Youth compete according to their age as of January 1st of the current year (4-H age). Youth ages 8 to 10 compete as juniors;

Pre-registration (especially for teams) is requested by May 1. To register, contact Susan Schoenian at sschoen@umd.edu or (301) 432-2767 x343.

A series of online quizzes had been developed to help youth prepare for skillathons. They are available at <http://www.sheepandgoat.com/#!online-quizzes/c9r1>. Alternatively, you can select quizzes from the resource drop down menu at [sheepandgoat.com](http://www.sheepandgoat.com).

Inexpensive Resource For Goat Producers

Heifer Project International's "Raising Goats for Milk and Meat" is a comprehensive manual for the beginning goat farmer. The latest edition includes training guidelines, a learning guide for each chapter, an updated health section and additional information on marketing, meat goats, and care of the land.

The book can be purchased from Shop @ Heifer at <https://shopheifer.org>. It can be purchased for only \$4 from Amazon.com. An earlier version of the book can be downloaded from the International Goat Association at www.iga-goatworld.com/blog/raising-goats-for-milk-and-meat.



Small Ruminant YouTube Channel

The University of Maryland Extension (UME) Small Ruminant Program now meets the requirements to have its own customized url for its own YouTube channel. It is <https://www.youtube.com/c/MarylandExtensionSmallRuminantProgram>.

So far, all of the videos on the YouTube channel are recordings of past webinars.. YouTube is a free video sharing web site. It is one of the most popular web sites on the internet.

More Information On Sheep & Goats Can Be Accessed At:

<http://www.sheepandgoat.com/>
<http://www.sheep101.info/>
<http://mdsheepgoat.blogspot.com>

<http://www.acsrpc.org> or [wormx.ingo](http://www.wormx.ingo)
<https://www.facebook.com/MDSsmall>
<https://twitter.com/MDSsheepGoat>

<http://mdgoattest.blogspot.com>
<http://issuu.com/mdsheepgoat>

Part I : Some Diseases That Affect Sheep

Sheep can be affected by many diseases. This article gives an overview of some of the most common diseases of sheep.

Abortion

Abortion is when pregnancy is terminated and the ewe loses her lamb(s), or she gives birth to weak or deformed lambs that die shortly after birth. While it is not unusual for some ewes to abort, flock abortion rates in excess of 5 percent are usually considered problematic.

There can be many reasons for abortion, and it is not always easy to determine the cause. In the US, the most common infectious causes of sheep abortion are *chlamydia* (enzootic abortion, EAE) and *campylobacter* spp. (vibriosis). Toxoplasmosis is also a common cause of ovine abortion. Less common causes include bluetongue, border disease, brucellosis, Cache valley virus, listeriosis, and salmonellosis.

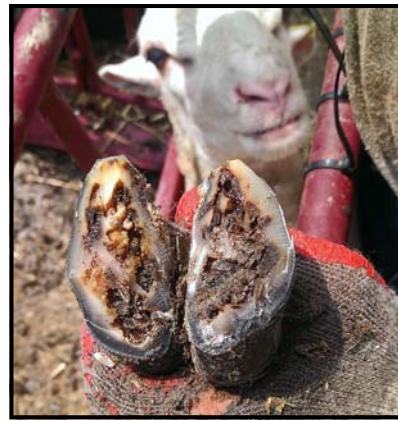
Good hygiene and management will go a long way towards minimizing losses due to abortion. The feeding of antibiotics during late-gestation and the feeding or administration (Rx) of antibiotics during an "abortion storm" may help to reduce losses. There are approved vaccines for both Chlamydia and Vibrio. There is no vaccine (in the US) for toxoplasmosis, but it may help to feed Rumensin® (Rx) during pregnancy. Spaying and neutering barn cats should also help to control toxoplasmosis, as kittens and young cats are the ones responsible for shedding infective oocytes.

Caseous lymphadenitis (CL, CLA)

Caseous lymphadenitis (CL) is an infectious, contagious disease of sheep (and goats). It is caused by a bacterium called *Corynebacterium pseudotuberculosis*. CL causes the formation of internal and external abscesses. Internal (visceral) abscesses form in different organs, resulting in a debilitating (wasting) disease, often referred to as "thin ewe syndrome." Subcutaneous (external) abscesses form near the lymph nodes, mostly around the head and neck region. If/when these abscesses rupture, they release pus into the environment, providing the vector of transmission to other animals.

While not all abscesses are CL, until proven negative by culture, they should be treated as if they are. Bacterial culture is the most reliable test for determining the CL status of an animal, whereas blood tests can determine if

a flock is infected. While abscesses are often surgically drained and flushed (with iodine), draining the abscesses increases the risk of transmission, and there is no guarantee that an abscess will not reappear. There is no treatment or cure for CL. Affected animals should be isolated (minimum) and culled (preferably). Vaccination has been shown to reduce the number of abscesses in infective flocks. It should only be used in flocks in which CL is already present.



(Hooves infested with maggots)

Foot scald and rot

Foot rot and foot scald are the two most common diseases affecting the hooves of sheep (and goats). Lameness is the primary symptom. Foot scald is an infection of the tissues between the sheep's toes, whereas footrot is an infection of the underlying tissue of the hoof. Footrot has a

characteristic foul odor. Foot scald is caused by a bacteria (*Fusobacterium necrophorum*) that is a normal inhabitant of sheep, goat, and cattle farms, whereas footrot is caused by the introduction of a second bacteria (*Bacteroides nodosus*) which usually walks onto the farm in the hooves of an infected animal. Unlike foot scald, foot rot is highly contagious.

Foot rot can be one of the most difficult diseases to control and/or eradicate. Typical control measures include hoof trimming, topical treatments, foot soaking, isolation of infected animals, and administration of antibiotics (usually Rx). Culling is the most powerful tool for eradicating foot rot. Animals which do not respond to treatment or have re-occurring infections should be removed from the flock. Some animals are more resistant to foot rot; they (especially rams) should be favored for breeding. In addition to the costs associated with footrot (and scald), hoof disease is an important welfare issue.

Internal parasites

Internal parasites (worms) are the most common health problem affecting sheep (and goats) worldwide. There are many kinds of parasites that can infect sheep, and the sig-

(Continued on Page 11)

Western Maryland Pasture Based Meat Goat Performance Test

The Western Maryland Pasture-Based Meat Goat Performance Test was initiated in 2006 at the University of Maryland's Western Maryland Research & Education Center in Keedysville. The purpose of the test is to evaluate the post-weaning performance of meat goat bucklings consuming a pasture-based diet with natural exposure to internal parasites. While on test, the goats are evaluated for growth performance, parasite resistance, and parasite resilience.

2015 Test

Eighty-four meat goat bucklings (mostly Kiko) from twenty-five consignors from twelve states, including Georgia, Kansas, Kentucky, Illinois, Indiana, Kentucky, Maryland, North Carolina, Pennsylvania, Tennessee, Vermont, and Virginia, were evaluated in the 2015 test. For the second year in a row, Jodie & Randy Majanscik from Kentucky had the top-performing buck. David Peters (from North Carolina) had two of the top-performing bucks and was named "top consignor." He also had the most resistant buck in the test. The buck had an average fecal egg count of 217 epg. His highest egg count was only 475 epg.



The most resilient bucks in the test were consigned by P.J. Murphy (New Jersey) and Patricia Larr (Indiana). Both of these bucks scored 1 each time their FAMACHA© scores were checked. Other consignors of top-10 bucks included Craig Adams (Illinois), Brent Ballinger (Kentucky), Jarred Dennison (Kentucky), Steve Maynard & Darla Dishman (Tennessee), P.J. Murphy, Waldo Nelson (Maryland), and John Weber (Illinois).

The 2015 Test was dedicated to the memory of long-time consignors Merritt "Sam" Burke from Delaware and Craig Adams from Illinois. Both men passed away in 2015. Each had consigned many top-performing bucks. In fact, Craig had one of the top-performing bucks in this year's test.

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Soyhulls: The "Almost Perfect" Feed (continued from page 1)

the acidity of the rumen and can cause metabolic acidosis. Using soyhulls as an energy source will minimize the risk of acidosis as compared to traditional energy sources.

On the other hand, though soyhulls are high in fiber, they are a poor source of roughage or "effective fiber." Effective fiber is necessary for rumen health. It is related to particle size. Soyhulls also have a high rate of passage through the rumen. For these reasons, it is usually recommended that adequate long-stemmed forage (fiber) be included in the diets of all ruminants.

There are two primary uses of soyhulls in a feeding program for small ruminants. The first is as a supplement for animals grazing (or consuming) low to moderate quality forages. The second is as a replacement for some (or all) of the hay or grain in the diet.

The primary reason to supplement grazing livestock is to improve forage utilization and performance. Supplementation may also improve resilience to internal parasites. Researchers have determined that soyhulls can replace corn as an energy source on a one-to-one

basis. If grassfed (USDA certified) is the goal, soyhulls can be fed to grazing livestock, as USDA's grassfed marketing claim allows unlimited supplementation with soyhulls and other fibrous feedstuffs.

For others, the best use of soyhulls might be as a replacement for some (or all) of the grain or hay in the diet. Sometimes hay is too expensive or in limited supply. Research has shown that soyhulls can replace some (or all) of the hay in the diet of ewes and lambs, with no negative effects on performance or rumen (animal) health. In fact, soyhull-based diets may improve performance in these situations.

Other research has shown that soyhulls can replace starchy feeds, such as corn and barley, in the diets of sheep and goats. An added benefit is that soyhull diets may increase the fat percentage in the milk of ewes and does. In finishing diets, soyhulls may be a more economical choice than traditional feedstuffs, while reducing the risk of rumen acidosis.

To read a more in-depth article about feeding soyhulls to small ruminants, go to <http://www.sheepandgoat.com/#!soyhulls/cbwi>

Western Maryland Pasture Based Meat Goat Performance Test (continued from page 6)

2016 Test

2016 will be the 11th year of the Western Maryland Pasture-Based Meat Goat Performance Test. Several changes will be implemented. Instead of being supplemented with soyhull pellets, the bucks will be supplemented with whole barley. Whole barley is a more economical source of energy than soyhulls. It will be provided to the test by the research center. Similarly to last year, the bucks will be fed once daily based on appetite. They will be fed a maximum of one pound per head per day or approximately 2 percent of body weight.

All bucks with FAMACHA© scores of 3 which lose weight (≥ 0.1 lbs) during the previous 14-day period will be dewormed. This will provide a more consistent criteria for dealing with FAMACHA© score 3 goats. All of the goats will be weighed before FAMACHA©, body condition, coat condition, dag, and fecal consistency scores are determined. Eighty goats can be weighed quite rapidly, whereas it takes several hours to work eighty goats. There is concern that some goats may be losing weight (via urine and feces) while they are waiting to be handled. This change should reduce some of the variability in weight gain/loss.

Nomination Period

The nomination period for the 2016 test is from April 15 until June 1. 2014 and 2015 consignors will receive nomination packets in the mail in the beginning of April. Otherwise, nomination packets can be requested by contacting Pam Thomas at (301) 432-2767 x315 or pthomas@umd.edu. All of the documents in the nomination packets can also be downloaded from the blog at <http://mdgoatstest.blogspot.com>. There is a \$20 fee for each goat nominated. The \$20 nomination fee is applied towards the total testing fee of \$120 per goat.

Goat breeders from any state may nominate up to five male goats to the test. At least two is recommended. Half-sibs (same sire) are encouraged. Male goats of any breed or breed cross are eligible. There is no registration requirement. Goats must be born between January 1 and March 15, 2016. They must weigh between 40 and 70 pounds upon delivery to the test site on June 24. They must have been weaned for at least two weeks prior to the arrival day and have received two vaccinations for *Clostridium perfringens* type C & D and tetanus (CDT). The goats will be vaccinated for soremouth upon arrival. Health papers are required for entry into the

test. Any goat showing signs of ill thrift or disease will be rejected.

Test protocol

While on test, the goats will be managed as a single group on pasture. They will be rotationally grazed among six paddocks, composed of various cool and warm season grasses and legumes. The goats will always have access to a central laneway that contains port-a-hut shelters, a treatment pen, a handling system, mineral feeders, and water troughs.

After a 13-day adjustment period, the test will span 84 days. During the first 42 days of the test, the goats will graze "clean" warm season annual forages (dwarf pearl millet and Sunn Hemp in recent years). The first 42 days of the test will serve as a "growth challenge." During the second 42 days of the test, the goats will graze cool season grasses. The cool season grass paddocks will have been pre-contaminated with infective worm larvae by grazing sheep. The second 42 days will serve as a "parasite challenge." Upon arrival, the goats will be sequentially dewormed with anthelmintics from each anthelmintic class (moxidectin + albendazole + levamisole) to make sure they start the test equally and mostly free from parasitic infection.

Upon arrival and every two weeks, the goats will be weighed and evaluated to determine their FAMACHA©, body condition, coat condition, dag, and fecal consistency scores. Goats with FAMACHA© scores of 1 or 2 will not be dewormed. Goats with FAMACHA© scores of 4 or 5 will be dewormed and placed in the treatment pen for supportive therapy and/or observation. The decision to deworm goats with FAMACHA© scores of 3 will be based on the criteria of the Five Point Check©, along with other factors, including weight gain/loss. A fever of 104°F will be the trigger for treating respiratory distress.

Fecal samples will be collected upon arrival and bi-weekly from each goat to determine parasite resistance. Pooled fecal samples will be collected periodically to determine the proportion of barber worm infection. Typically, the barber pole worm comprises 70 percent or more of the worm infection. Pooled fecal samples will also be used to determine the quality of diet the goats are consuming. Data has indicated that the goat's pasture diet is deficient in energy; thus, the

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2015 Winter Webinar Series For Small Ruminant Producers: Special Topics

Since 2011, the University of Maryland Small Ruminant Extension Program has been holding a winter webinar series (short course) for small ruminant producers. Each webinar series has included four to six webinars united by a single theme, such as nutrition, health, breeding or health. The instructors have been Susan Schoenian and Jeff Semler.

The 2016 Winter Webinar Series will cover six mostly unrelated topics: toxic plants, sericea lespedeza, EBV's, minerals and vitamins, internal parasites, and natural dewormers. It will include speakers from several other states and institutions. Jeff and Susan will each do one webinar. Dr. Dan Morrical is a Professor of Animal Science and Extension Sheep Specialist at Iowa State University. His area of expertise is sheep nutrition.

Dr. Tom Terrill is a Forage Specialist at the Animal Science Unit at Fort Valley State University in Fort Valley, Georgia. His primary research focus is on sustainable parasite control in small ruminants, with emphasis on use of sericea lespedeza, a low-input, tannin-rich perennial legume, as a natural dewormer for sheep and goats.

Dr. Gareth Bath is Professor Emeritus at the University of Pretoria in South Africa. He has had wide experience with most aspects of sheep and goat health and production and is the co-developer of the FAMACHA® system

and Five Point Check®. Dr. Dahlia O'Brien is the Small Ruminant Extension Specialist at Virginia State University. She is interested in alternative means of parasite control.

Each webinar will last approximately one hour. Additional time will be allotted for questions. Interaction will be via a chat box.

Anyone with a connection to the internet may participate in the live webinars. High speed access is recommended. Pre-registration is not required. The webinars are open to the first 100 people who log on. All communication pertaining to the the webinars is conducted via a listserv. To subscribe to the listserv, send an e-mail message to listserv@listserv.umd.edu. In the body of the message, write subscribe sheepgoatwebinars. You may unsubscribe from the listserv by sending an e-mail message to the same address. Instead of writing subscribe, write unsubscribe or signoff (sheepgoatwebinars).

All of the webinars will be recorded and edited. They will also be converted to YouTube videos. PowerPoint presentations will be uploaded to SlideShare. Links to Adobe Connect presentations, YouTube videos, and PowerPoint presentations will be available at: <http://www.sheepandgoat.com/#!webinars/cu81>.

Date	Time	Topic	Speaker	Affiliation
Feb 4	7 p.m. EST	Toxic plants	Jeff Semler	University of MD
Feb 11	7 p.m. EST	EBVs for beginners	Susan Schoenian	University of MD
Feb 18	7 p.m. EST	Mineral and vitamin nutrition	Dr. Dan Morrical	Iowa State University
Feb 25	7 p.m. EST	Serica lespedeza	Dr. Tom Terrill	Fort Valley State University
Mar 3	TBA	The big five (of parasite control)	Dr. Gareth Bath	University of Pretoria
Mar 10	7 p.m. EST	Natural dewormers	Dr. Dahlia O'Brien	Virginia State University



Jeff Semler



Susan Schoenian



Dr. Dan Morrical



Dr. Tom Terrill



Dr. Gareth Bath



Dr. Dahlia O'Brien

Western Maryland Commercial Producer Study Group

Efforts have begun to organize a group of commercial sheep (and goat) producers in Western Maryland. The group is for producers who raise sheep (and/or goats) for profit and have at least 75 breeding females (preferably more). While you don't need to be a resident of Maryland to be part of the group, it will be based in Western Maryland and surrounding areas.

The Productivity Improvement Team of the US Sheep Industry's Roadmap Project has made producer study groups a priority of its efforts, recognizing that one of the best ways for producers to learn is from each other. In other countries (UK, New Zealand), study groups are one of the primary ways in which producers learn new ideas.

While the group may meet from time to time, the intent is to visit different kinds of sheep operations, so producers can see ideas at work and learn from each other. Most farms do something well. There are different ways to raise and market sheep and all can be successful. When you have more livestock, you tend to do things differently.

Susan Schoenian will be the facilitator for the group. If you are interested in learning more, contact her at sschoen@umd.edu or (301) 432-2767 x343.

You might be interested in this group, IF . . .

- ◆ You raise sheep (and/or goats) commercially
- ◆ You file a schedule F with your taxes
- ◆ You raise sheep for meat
- ◆ You have a commercial (certified) sheep or goat dairy
- ◆ You have at least 75 breeding females
- ◆ You don't have 75 breeding females yet, but plan to have that many (or more) in the future
- ◆ You mix your own feed
- ◆ You're planning to expand your operation
- ◆ You are under 40 and think sheep and goat production has a lot of profit potential

Twilight Tour & Tasting - Save The Date - July 8

The 2016 Twilight Tour & Tasting will be held Friday, July 8, from 4 p.m. to 8 p.m. at the Washington County Agricultural Education Center in Boonsboro, Maryland. Similar events were held in 2013 and 2014.

The tasting part of the event will include a sampling of dishes made with lamb and goat (meat) and cheeses made from sheep and goat milk. All the dishes will be prepared by a local chef (Todd Morren). The cheeses will be provided by local small ruminant dairies. Cheese will be available for sampling and purchase. Joe Fiola, the university's viticulturist, will also be on hand to talk about choosing the right wine for different meats and cheeses. There will be demonstration using the fibers produced by sheep and goats.

The tour part of the event will include a wagon tour of the Western Maryland Pasture-Based Meat Goat Performance Test. The test site is located on the adjacent property of the Western Maryland Research & Education Center. 2016 is the 11th year of the test, which aims to identify top-performing meat goat bucks. Attendees will also learn about how goats and sheep can be used to control unwanted vegetation.

The purpose of the event is to showcase everything about sheep and goats. There will be more information about the event in the spring issue of Wild & Woolly. Pre-registration will be required to make sure we have enough meat and cheese for everyone to sample. The event will be open to the general public.



Using Copper Oxide Wire Particles (COWPS) Safely

by Dr. Lisa Williamson
University of Georgia College of Veterinary Medicine

Copper oxide wire particles (COWP) can be successfully integrated into *Haemonchus contortus* (barberpole worm) management strategies on sheep and goat farms, particularly when producers are armed with knowledge on how to use them safely. Recent studies have shown that copper oxide wire particles exert an anthelmintic effect in the abomasum and that *Haemonchus contortus* is particularly susceptible to this treatment. Copasure® Bolus For Sheep and Goats is now commercially available in 2 and 4 gram bolus sizes.



The goal of this article is to remind the reader that copper treatment can be beneficial, but accidental over-supplementation of copper from any source is potentially dangerous. Controversy exists regarding how much dietary copper small ruminants need, and this determination is made even more complicated by the interaction of dietary copper with other minerals in the gut, such as molybdenum, sulfur, and iron. Under optimal circumstances, a balance exists between copper accumulation and copper excretion in the liver. Sheep are much less efficient than goats at excreting excess copper from their liver, so they are less tolerant of excessive copper intake.

Toxicity can occur when the liver becomes heavily saturated with copper. A stress factor such as shearing, handling, transport, bad weather, disease, or transport causes unbound (free) copper to be suddenly released from the liver into circulation. Once in the bloodstream, copper damages the red blood cells. Consequences include anemia, yellow discoloration of the eyes, and red colored urine.

Further, free copper in circulation damages the kidneys and the liver. It is difficult to remedy a herd or flock wide copper toxicity problem once it starts. Losses can continue for months even after copper supplementation stops. I have great respect for the devastating consequences that copper toxicity can cause on sheep and goat farms. None of the cases I have seen have stemmed specifically from copper oxide wire particle use to date, thankfully.

So, how can the benefit of copper oxide wire particle administration be obtained, while at the same time, minimizing potential negative consequences? Work with your veterinarian to periodically assess the copper status of your herd or flock. Blood copper levels can be misleading, as they can be "normal" despite having

dangerously high or low tissue copper levels. The best way to assess copper status is to measure copper and other minerals in liver and kidney samples. Collect liver and kidney samples from healthy animals that die suddenly or from animals while they are being processed for meat.

Frozen or chilled samples can be sent to the Michigan State University Diagnostic Center for Population and Animal Health (DCPAH). Request the trace nutrient (mineral) panel. If tissue copper levels are reported as above the normal reference range, then treatment with copper oxide wire particles is not recommended. However, if copper levels are in the normal or low range, especially if molybdenum levels are in the normal to high range, then use of copper oxide wire particles is a viable option.

Use the Copasure® product rather than other brands of copper oxide wire particles. The 2 gram Copasure® bolus can be split into two, 1 gram treatments, or into four, 0.5 gram treatments.

Do not use copper sulfate for worm control. Copper sulfate is much less effective as an anthelmintic compared to Copasure®. Also, copper in this readily available form is much more likely to result in toxicity.

Use the smallest dose of Copasure® needed to achieve the desired effect. More is definitely not better! Oral doses of 0.5 to 1 gram per head can be used in youngsters, and 2 to 4 grams per head can be used in adults. To err on the side of safety, use the lower doses in sheep and small breed goats. Minimize the number of treatments given to the same sheep or goat within a grazing season. If the higher doses are used, no more than 2 treatments should be given in any one grazing season, and at least 6 weeks should elapse between treatments.

Selective use of Copasure® will help minimize complications. Reserve copper oxide wire particle treatment for sheep and goats that are showing signs of disease related to haemonchosis, such as suboptimal body condition and high (anemic) FAMACHA© scores.

Source: ACSRPC web site
(www.wormx.info or www.acsrpc.org)

Read full article at <http://www.wormx.info/#!cowp-safety/c1zco>

Part I : Some Diseases That Affect Sheep (continued from page 5)

nificance of each will vary by geographic region, farm, and year. They include roundworms (nematodes), flat worms (tapeworms and flukes), and protozoa (single-cell organisms). The most pathogenic worm is the barber pole worm (*Haemonchus contortus*) which causes bottle jaw (submandibular edema) and anemia (blood loss). Coccidia is probably the next most important parasite on sheep farms. It is a protozoan parasite that damages the lining of the small intestines, resulting in poor weight gain and ill thrift.

Effective internal parasite control requires a combination of management tools, including administration of effective drugs (called anthelmintics). Success will differ by season, year, farm, and animal. The widespread development of anthelmintic-resistant worms makes effective control even more challenging. Lambs (and occasionally sheep) may die from parasitic infection, but sub-clinical losses are probably far more costly to the average sheep farm.

Mastitis

Mastitis is an infection or inflammation of the udder (or mammary gland). The most common cause is a bacterial infection. When both halves of the udder are affected, the

cause may be OPP. Mastitis is most common in intensively-managed flocks (that practice early weaning) and among heavy-milking ewes. It is the most common reason for culling, especially young ewes.

Mastitis may be acute or chronic. The first sign may be lameness or hungry or poor-performing lambs. The ewe's udder may be hard, warm, or discolored. The milk may or may not be abnormal. In extreme cases (gangrenous, "blue bag"), mastitis can be life-threatening. On the other hand, ewes with chronic mastitis may go unnoticed. In fact, sub-clinical mastitis is probably the most costly form of mastitis.

Treatment of mastitis usually involves antibiotics (systemic and/or intramammary, Rx) and anti-inflammatory drugs (Rx). While some ewes respond to treatment, ewes with spoiled udders should not be retained for breeding. Proper management during the drying off period is essential to preventing mastitis in flocks that practice early weaning. Good hygiene is especially important for housed flocks.

Look for Part II in the next issue of Wild & Woolly.

Source: <http://www.sheepandgoat.com/#!>

Western Maryland Pasture Based Meat Goat Performance Test (continued from page 7)

rationale for supplementation. Forage samples will be analyzed to determine the nutritive composition of the pasture plants. Analysis usually shows the pasture plants to be highly nutritious.

Towards the end of the test, the goats will be scanned to determine the depth and area of their rib eye muscle. They will also be evaluated for structural correctness (feet, legs, hooves, mouth) and reproductive soundness (testicles, teats).

After all data has been collected and evaluated, the top-performing buck and top-10 bucks will be selected and recognized. Growth, parasite resistance, and parasite resilience will be the primary selection criteria. Top-performing bucks will have fecal egg counts that never exceed 1000 epg and average less than 500 epg. Their FAMACHA© scores will have not exceeded 3 and they will not have been dewormed. Only bucks with above-average ADG will be selected as top performers. At the conclusion of the test, all bucks must be picked up from the test site. Alternatively, they may be sold locally for feeding or taken to the local sale barn.

The top-ten bucks may be sold via private treaty, returned to the farm for breeding, or be sold at other consignment sales. The hope is that some of the top-performing bucks will be sold as yearlings at the annual Bluegrass Performance Invitational in Frankfort, Kentucky. Participation in this sale is limited to consignors to the Western Maryland Pasture-Based Meat Goat Performance Test. It is the only sale in the US of meat goats from performance-tested herds.

<http://mdgoatstest.blogspot.com>

Calendar of Events

January 27-30

American Sheep Industry Association Annual Convention
American Goat Federation meeting
Scottsdale Plaza Resort, Scottsdale, Arizona
Info: https://www.sheepusa.org/About_Events_Convention

February 3-6

PASA Farming for the Future Conference
Info: <http://conference.pasafarming.org/>

(Continued on Page 12)

Calendar Of Events (continued from page 11)

February 4-March 3

Winter Webinar Series: Special Topics
7 p.m. EST - [https:// webmeeting.umd.edu/mdsheepgoat](https://webmeeting.umd.edu/mdsheepgoat)
Info: <http://www.sheepandgoat.com/#!webinars/cu81>

April 15-16

Maryland Sheep Shearing School
Ridgely Thompson Farm, Westminster, Maryland
Info: Aaron Geiman at adgeiman75@gmail.com

April 15-June 1

Nomination period for Western Maryland Pasture-Based
Meat Goat Performance Test
Info: <http://mdbucktest.blogspot.com> or sschoen@umd.edu

May 7-8

Maryland Sheep & Wool Festival
Howard County Fairgrounds, West Friendship, Maryland
Info: www.sheepandwool.org

May 8

Junior Sheep & Goat Skillathon
Howard County Fairgrounds, West Friendship, Maryland
Info: <http://www.sheepandgoat.com/#!skillathon/c21eg>

July 8

Twilight Tour & Tasting
Washington County Ag Education Center, Boonsboro, MD
Info: Susan Schoenian at sschoen@umd.edu or (301) 432-2767
x343

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