



Wild & Woolly



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Annual Buck Test Will Celebrate 10th Anniversary

2015 will be the 10 year anniversary of the Western Maryland Pasture-Based Meat Goat Performance Test. The test was initiated in 2006 to evaluate the performance of meat goat bucklings consuming a pasture-only diet, with natural exposure to internal parasites.



Several changes will be implemented in this year's test. The test will start almost a month later on June 26. The later start date will allow the bucks to begin the test by grazing "clean" warm season annual grasses and legumes. During the second half of the test, the bucks will graze cool season grasses, pre-

infected with worm larvae by grazing sheep. The first half of the test will serve as a "growth" challenge, while the second half of the test will serve as "parasite" challenge.

Another change will be supplemental feeding. Throughout the test, the bucks will be supplemented with pelleted soybean hulls. They will be fed 0.75 lbs. per day or approximately 1.5 percent of their body weight. Last year was the first year in which the bucks received any supplemental feed (other than free choice minerals). They were fed soyhulls during the second half of last year's test.

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Hold the Date December 5- 2015 Lambing & Kidding School

The 2015 Lambing & Kidding School will be held Saturday, December 5 at the Harford County High School in Forest Hill, Maryland.

The school will feature separate educational tracks for youth (8-18) and adults. The youth program will be mostly hands-on. As part of the registration fee, participants will receive resource materials via a notebook or flash drive.

The main speaker will be Dr. Richard Ehrhardt. Dr. Ehrhardt is the Small Ruminant Specialist at Michigan State University. In addition to working with both large and small-scale producers, Dr. Ehrhardt is involved in the training of veterinary students. Detailed information about the 2015 Lambing & Kidding School, including registration information, will be available in the next issue of Wild & Woolly.

UME's first Lambing & Kidding School was held in 2003 at the Howard County Fairgrounds. The school is held every other year (odd years) at a different location in Maryland. Other locations have included Carroll, Charles, Queen Annes, and Washington Counties.

Proceedings from previous schools may be downloaded from <http://www.sheepandgoat.com>.

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Is Goat Milk Healthier than Cow Milk?

By Selma Roth
Saudi Gazette

The consumption of goat's milk among humans is nothing new. For centuries, it has been the milk of choice for populations around the world. In the last few years, it has made a comeback in the Western world, with alternative health practitioners applauding its countless benefits to adults and infants. Some even claim goat's milk may be the solution for those with milk allergies as well as infants. But how much is true of the benefits goat milk supposedly has? Saudi Gazette found the answers to the most commonly heard allegations.



Goat milk is less fattening than cow milk

Goat and cow milk are quite similar when it comes to calories and fat. On average, a 100 ml serving of full fat cow milk contains 67 calories and 3.9 grams of fat, whereas the same amount of goat milk has about 60 calories and 3.5 grams of fat. The semi-skimmed versions of both are similar as well. There is, thus, no evidence for the claim that goat milk is less fattening.

Goat milk is better digested than cow milk

However, goat milk devotees say that even if the amount of fat is similar, goat milk is better digested than cow milk. One of the reasons is that the fat globules in goat milk are smaller than those in cows' milk, making it easier for the body's digestive system to break it down. This may be true for infants and people with difficulties digesting cow milk. However, no studies have been carried out that prove goat milk decreases abdominal bloating.

Another reason is that goat's milk contains a higher amount of medium chain triglycerides (MCTs), which is believed to speed up metabolism and lower cholesterol. Compared to 17 percent of total fat in cow's milk, goat's milk contains 35 percent MCTs, making it more similar to breast milk.

However, the link between weight loss, cholesterol levels and MCTs is not a strong one, and more research is needed. In addition, the difference between the two types of milk is too small to have considerable impact on your waistline.

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Goat milk is more nutritious

Both goat and cow milk are very nutritious drinks. However, it appears that goat milk contains slightly more vitamin A, and the vitamin is better absorbed by the body than the carotenoids found in cow milk, a precursor to vitamin A.

Researchers from the University of Granada in Spain also found that goat milk have higher levels of zinc and selenium, two minerals that boost the immune system. Cow milk, on the other hand, contains 9 times more vitamin B12 than goat milk. This vitamin, which can only be obtained from animal sources, is important in the formation of red blood cells. Children that were given goat milk were found to be vitamin B12

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First Maryland Small Ruminant Expo is a Success



Youth doing necropsies

Over 140 people, including 35 youth, attended the first-ever Maryland Small Ruminant Expo. The Expo was held February 28 at the Frederick County 4-H Camp & Activities Center in Frederick.

The adult program featured concurrent sessions on pasture, health, marketing, and alternative enterprises. It featured four producer panels. One of the featured speakers was Dr. Lindsay Lane. Before attending veterinary school in the Cayman Islands and Minnesota, Dr. Lane was the farm manager for the University of Maryland College Park. Currently, Dr. Lane works at the Rocky Gorge Animal Hospital in Laurel, Maryland.

There was a separate program for youth, including sessions on dairy, fiber, and meat. In the dairy session, the youth made soap. In the fiber session, they felted wool and made grading cards. In the meat session, they learned how to cook goat meat. In the final session, Dr. Lane taught the youth how to dissect lambs and kids for the purpose of determining their cause of death. The lambs/kids died of unknown, natural causes.

Lunch was a taco bar featuring locally-sourced lamb and goat meat and cheeses made from sheep and goat milk. Thanks to Pam Adams (Bridgestone Manor Farm) for providing the goat and to Caprikorn Farms and Shepherd's Manor Creamery for providing the cheeses. The lamb was purchased from Holsinger's Meat Market in Maugansville, Maryland.

The Maryland-Pennsylvania-West Virginia Goat Association and University of Maryland Beginning Farmers Success Program provided financial support to the Expo. Door prizes were provided by the University of Maryland Extension Small Ruminant Program, University of Maryland Ag Experiment Station, and Kent Feeds.

NSIP Re-launched, Re-Branded

The National Sheep Improvement Program (NSIP) is a quantitative genetic evaluation program for sheep and meat goat producers. NSIP calculates estimated breeding values (EBVs). An EBV estimates the genetic worth of an animal. NSIP (and similar programs) is the only real way to make genetic improvement in sheep and meat goat breeds.

During May 2014, the National Sheep Improvement Program Board of Directors issued a Request for Proposals "to re-launch NSIP as a new and improved genetic selection tool and to increase membership and use of the technology." In July 2014, Demeter Communications was selected through a competitive bid process to conduct the Re-Launch & Re-Branding initiative.

Demeter completed three case studies to determine how other livestock industries have accomplished widespread adoption of genetic selection tools. The case studies were done on Sheep Genetics (Australia), English Beef & Lamb Executive (EBLEX)/Singet (United Kingdom), and the American Angus Association.

An online survey of sheep (and goat) producers across the United States was conducted to assess the level of awareness, understanding and acceptance of the NSIP among US producers. The survey was conducted between September 25 and October 10, 2014. A total of 999 qualified respondents completed the survey. An e-mail invitation to participate in the survey was sent to 6,400 potential respondents. NSIP desired recommendations on how to improve its organizational structure.

The NSIP website also underwent a "refresh." A color palette was also developed, in order to give all print and electronic materials a consistent look. A new web site was funded in late November. It was launched in January 2015.

<http://www.nsip.org>



2015 Junior Sheep & Goat Skillathon

The 2015 Junior Sheep & Goat Skillathon will be held Sunday, May 3, at the Maryland Sheep & Wool Festival. The Festival is always held the first full week-end of May at the Howard County Fairgrounds in West Friendship.

Registration for the contest begins at 8 a.m. The contest starts at 9 a.m. Awards will be presented at approximately 1 p.m. A small donation is requested to cover the cost of lunch (pizza and sodas).

A skillathon provides youth with the opportunity to blend knowledge and skills acquired in livestock judging, demonstrations, and care and exhibition of animals into a single activity. It consists of a series of stations where youth are tested on their knowledge and abilities related to livestock. In the Sheep & Goat Skillathon, all stations will pertain to sheep and/or goats.

The 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 compete. Youth compete accord-



ing to their age as of January 1st of the current year. Youth ages 8 to 10 compete as juniors; 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

Pre-registration of individuals and teams for the 2015 Junior Sheep & Goat Skillathon is requested by April 28. Teams **must** be pre-registered. Pre-register by sending names, ages, and team affiliations via e-mail to Susan Schoenian at sschoen@umd.edu (or via fax at (301) 432-4089).

For more information, contact Susan at (301) 432-2767 x343 or visit the skillathon web site at <http://www.sheepandgoat.com/programs/skillathon/skillathon.html>.

Follow Lamb and Wool Market on Your Smart Phone

Now, you can follow the lamb and wool markets on your smart phone. The app, ASI Market News, was produced by the American Sheep Industry Association to help sheep producers stay informed on current market conditions.

The app displays 6 national as well as 7 auction barn reports for locations across the United States. The report data is compiled by the USDA Agricultural Marketing Service. From the front page, users can select to search national reports or auction reports.

While the number of eastern markets is limited -- only sale barns that have USDA reporting are being used in the app -- the app includes the New Holland (PA) auction report. New Holland is the largest sheep and goat market in the Eastern US. Lambs sold at New Holland are usually destined for non-traditional markets.

The app was recently updated to include more Eastern reports and a "breakeven calculator." So far, more than 2050 people have downloaded the app. The app allows producers to make more informed marketing decisions.

ASI Market News is available for both Apple and Android operating systems and can be downloaded from their respective stores.

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>
<https://www.facebook.com/MDSsmall>
<https://twitter.com/MDSsheepGoat>

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

Annual Buck Test Will Celebrate 10th anniversary (continued from page 1)

Despite ample forage quality and quantity, fecal testing showed that the bucks were consuming a diet deficient in energy.

Soybean hulls are a high fiber feedstuff. They are a by-product of soybean processing. The hull is the outer part of the bean. Soyhulls are a roughage feed, so they complement a forage diet in contrast with high-starch supplements such as corn. In fact, pasture-fed livestock that are supplemented with soyhulls still qualify for the USDA grass-fed designation.



Nominate your bucks

The nomination period for the 2015 test is April 15 through June 1. Any goat producer is eligible to consign up to five male goats to the test. Any breed or breed cross is eligible, regardless of registration status and eligibility. Goats must have been born between January 1, 2015, and March 15, 2015. They must weigh between 40 and 70 lbs. upon delivery to the test site on June 26. Appropriate health papers are required. All goats must carry official USDA scrapie ID. Any goat showing signs of disease or ill thrift will be refused entry.

The fee for testing a buck in this year's test is \$120 per head. Several discounts will be offered (they are not additive). There will be a \$20 per head discount for Maryland residents and members of the Maryland-Pennsylvania-West Virginia Goat Producers Association. Consigners who consign five half sibs (goats with same sire) or whose herds are enrolled in the National Sheep Improvement Program will also receive a \$20 per head discount. NSIP calculates estimated breeding values (EBVs) for sheep and meat goats.

To request a nomination packet, contact Pam Thomas at pthomas@umd.edu or (301) 432-2767 x315. All necessary documents may also be downloaded from the blog at <http://mdgoatstest.blogspot.com>.

Test protocol

Upon arrival the bucks will stand in a footbath of zinc sulfate. Their hooves should be trimmed, as necessary, to permit penetration of the solution. They will be vaccinated for sore mouth. In order to start the test on an equal basis, the goats will be sequentially dosed with anthelmintics from each anthelmintic class (Valbazen® + Cydectin® + Prohibit®). The purpose of the sequential dosing is to reduce fecal egg counts to near zero, so that differences observed during the test are a result of genetics and not previous environment. As long as Prohibit® (levamisole) has been included in the protocol, the sequential dosing has usually reduced fecal egg counts (on-average) by more than 95 percent.

The goats will be treated for coccidiosis (with Di-Methox®) during the first five days of the test. After a 12-day adjustment period, started weights will be determined on consecutive dates (July 9-10). The test will span 84 days. Every two weeks, the goats will be handled to determine body weights, FAMACHA®, body condition, coat condition, dag, and fecal consistency scores.

Goats will be dewormed (or not) according to the criteria of the Five Point Check®. Goats with FAMACHA® scores of 1 or 2 will not be dewormed unless there is other evidence of clinical parasitism. Goats with FAMACHA® scores of 4 or 5 will always be dewormed. The decision to deworm goats with FAMACHA® scores of 3 will be based on the Five Point Check® and additional risk factors, such as weight gain/loss, changes in scores, scores of other goats, and previous fecal egg count.

Individual fecal samples will be collected upon arrival and every two weeks. Before and after fecal egg counts will be compared to determine the efficacy of anthelmintic treatment. Individual fecal egg counts will serve as an indicator of parasite resistance (or susceptibility). Pooled fecal samples will be collected upon arrival and every 4 weeks to determine the make-up of the worm population. In the past, the barber pole worm (*Haemonchus contortus*) has comprised the majority of the worm load. Fecal egg counts and larvae ID will be done by Dr. Dahlia O'Brien's lab at Virginia State University.

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US Sheep & Goat Inventories Increase

Sheep

Compared to a year ago, the total sheep and lamb inventory increased by 1 percent. It totaled 5.28 million head on January 1, 2015. The breeding sheep inventory increased to 3.94 million head, up from 3.9 million head in last year's inventory.

The 2014 lamb crop of 3.44 million head was up 2 percent from 2013. The 2014 lambing rate was 111 lambs per 100 ewes one year and older on January 1, up 4 percent from 2013.

Shorn wool production was down 1 percent. 3.68 million head of sheep and lambs were shorn in 2014. They produced 26.7 million pounds of wool. The average price paid for wool was \$1.46 per pound for a total value of \$38.9 million. The average fleece weight was 7.3 lbs., unchanged from previous years. Sheep death loss during 2014 was 220,000 head, a decrease of 3 percent from 2013. Lamb death loss increased from 2013 to 2014.

Goats

The goat inventory on January 1, 2015, was 2.68 million head, up 2 percent from 2014. The breeding goat inventory totaled 2.2 million head, up 2 percent from 2014. The 2014 kid crop totaled 1.71 million head for all goats, up 2 percent from 2013.

Meat (and all other) goats comprise the majority of the goat inventory: 2.15 million head. The milk goat inventory was 365,000 head. Angora goats contribute 160,000 head to the inventory, an 8 percent increase.

In 2014, the US produced 880,000 lbs. of mohair. The average weight per clip was 5.5 lbs. The average price was \$4.85 per pound for a value of \$4.27 million.

Source: <http://usda.mannlib.cornell.edu/usda/current/SheeGoat/SheeGoat-01-30-2015.pdf>

New Fact Sheet on Coccidiosis

NCAT-ATTRA has published a new fact sheet: Coccidiosis: Symptoms, Prevention, and Treatment in Sheep, Goats, and Calves. It is written by Linda Coffey. Linda is a member of the American Consortium for Small Ruminant Parasite Control (ACSRPC).

Coccidiosis is a common and damaging illness of sheep, goats, and cattle, particularly young lambs, kids, and calves. Producers will benefit from understanding the causes, and especially the prevention, of this illness.

ATTRA is a program developed and managed by the National Center for Appropriate Technology (NCAT). ATTRA services are available to farmers, ranchers, market gardeners, Extension agents, researchers, educators, farm organizations, and others involved in agriculture, especially those who are economically disadvantaged or belong to traditionally underserved communities

<https://attra.ncat.org/attra-pub/summaries/summary.php?pub=483>

New Videos On Parasite Control

The Northeast Small Ruminant Parasite Control Program has created three instructional videos:

- How and why to do FAMACHA© scoring
- How and why to do sheep and goat fecal egg counting
- Microscope crash course for fecal egg counting

Gastrointestinal nematode (GIN) parasites, such as the barber pole worm (*Haemonchus contortus*), are a serious problem, affecting small ruminant production

throughout New England and the world. The goal of Northeast Small Ruminant Parasite Control Program is to improve the parasite control practices of farmers in New England.

Project partners include Cornell University, University of Rhode Island, University of Wisconsin-Madison, West Virginia University, and the VA-MD Regional College of Veterinary Medicine. For more information about this project including additional resources and updates, go to <http://web.uri.edu/sheepngoat/orei/>.

Is Goat Milk Healthier Than Cow Milk? (continued from page 2)

deficient according to the British Dietetic Association. Symptoms of B12 deficiency include fatigue and weakness.

Goat milk can help people with anemia

While the nutritional breakdown of goat's and cow's milk is similar, the researchers from the University of Granada did a remarkable finding back in 2007: Goat's milk was found to help with the digestive and metabolic utilization of minerals such as iron, calcium, phosphorus and magnesium.

In other words, goats' milk helps with the absorption of these minerals. They even found that rats with a condition of anemia or bone demineralization recovered when drinking goats' milk. This could be an important finding for people suffering from these disorders, especially given that cow milk hinders the absorption of iron in the body. However, studies in humans still need to be conducted in order to confirm the findings.

People with milk allergy or lactose intolerance can drink goat milk

Some natural health practitioners claim that people who are lactose intolerant are able to drink goat's milk. It is true that goat milk is slightly lower in lactose (milk sugar) than cow milk, but it does contain lactose nevertheless.

This means if your body tolerates small amounts of lactose you can probably drink a bit more goats' milk than cow milk, just as you are likely to tolerate cheese better than milk. If you, however, cannot have a drop of cow's milk without bringing your digestive system into trouble your body will not tolerate goats' milk either.

If you are allergic to milk, which is a different thing than having lactose intolerance, it is likely the casein protein in milk that causes your problem. Milk allergy is very uncommon among people older than three, but it does exist and it is possible that a person with cow milk allergy is able to drink goat milk. The opposite is also true: Someone with an allergy to goat milk may have no problems with cow milk. The only way to find out is by trying, but do so only if your allergy is not life-threatening.

Goat milk is better for infants

Lastly, manufacturers of infant goat milk formula often claim that goat milk is better for infants, as the chemical structure resembles breast milk more than cow milk. Recently, the European Commission approved goat's milk formula for infants. This is good news, because, as said before, goat's milk boosts the immune system and is more easily digested.

However, it is important to note that breastfeeding remains the number one method to feed a child. In addition, the British Food Standards Agency (FSA) recently warned that infants with cow milk allergy are "almost certainly" also allergic to goat milk.

Conclusion

In some cases, especially among people with anemia or osteoporosis, goat milk may be a healthier choice, but there is no evidence that we should all shift to goat milk. The much higher price tag seems not worth it. That is not to say that it harms to include other types of milk into your diet, including goat or plant-based milks. After all, for a healthy diet variety is key. It is best, however, to consult a healthcare professional prior to making any dietary changes.

Source: Saudi Gazette, 1.09.15

Pasture Management for Small Ruminant Producers Webinar Recordings

UME's 2015 Winter Webinar Series was entitled "Pasture Management for Small Ruminant Producers." It was held on consecutive Wednesday evenings in February and March. Topics include planning a pasture system; pasture plants, including alternative forages; pasture and grazing management; pasture nutrition; and pasture health. Instructors were Jeff Semler and Susan Schoenian.

The five webinars were recording and minimally edited. Links to Adobe Connect recordings, YouTube videos, and PowerPoint presentations (via SlideShare) are available at <http://www.sheepandgoat.com/recordings.html>.

When to Test Sheep For Mineral Levels - Part II

By Joan Burke
 USDA ARS, Booneville, Arkansas

When is blood less accurate for assaying trace minerals?

Most mineral deficiencies can be detected using serum. However, iodine should be measured by its function rather than concentration. Thus, thyroxin and thyrotropin related hormones (iodine containing hormones) should be measured. If assaying for copper toxicity, liver tissue is required since serum levels of copper will not indicate if sheep's liver has toxic levels of copper. Other times that serum levels can not accurately depict trace mineral levels. If blood samples become hemolyzed (separated serum has a cloudy reddish or dark red appearance), they are not useful for many of the mineral evaluations. And, inflammatory diseases can alter some serum and liver concentrations of minerals, such as iron and copper.

Ranges of adequate or deficient (ND = not determined) concentrations of trace minerals for sheep from a recent report from Michigan State University, DCPAH.

Trace mineral	Adequate	Deficient
Cobalt, ng/ml	> 0.1	ND
Copper, µg/ml	0.7 - 2.0	< 0.5
Iron, µg/ml	1.1 - 2.2	< 0.77
Manganese, ng/ml	0.5 - 2.0	ND
Molybdenum, ng/ml	12 - 30	ND
Selenium, ng/ml	110 - 160	< 50
Zinc, µg/ml	0.8 - 1.2	< 0.6

Sheep 0254 and 9247 were lactating ewes that lost lambs; molybdenum was low and zinc was marginal. Sheep 4034 and 4227 were lambs with access to sericea lespedeza; copper was deficient in 4227, iron, manganese, and zinc were deficient and molybdenum was low.

These lambs and those in their group grew poorly and were susceptible to parasites. Sheep 1201 and 1207 were lambs; both were copper and zinc deficient. All sheep were from the southeastern U.S.

Are there concerns about factors that could alter concentrations of minerals?

Parasitism and infectious diseases can influence the normal mineral status of an animal. Stage of production, especially lactation and pregnancy can also affect the mineral status of sheep. Forages can have an influence because of their mineral concentrations, and can be measured by most forage labs. In addition, research at USDA, ARS in Booneville, AR has shown a reduction in serum concentrations of trace minerals, especially molybdenum and selenium, in association with long term feeding of the condensed tannin rich legume, sericea lespedeza (fed to control parasites). Other condensed tannin plants such as birdsfoot trefoil or sainfoin could potentially have the same effect.

What are the costs of testing for minerals?

Costs currently are \$35-\$40 per serum sample to do the trace mineral panel (cobalt, copper, iron, manganese, molybdenum, selenium and zinc). Cost is higher to include the macro minerals (sodium, calcium, chloride, potassium, and magnesium) costs will be higher. The recommendation would be to test a small percentage of the flock (5-10 animals) to assay general mineral levels in a flock. Doing only one or two is not enough to tell if the animals sampled have average mineral levels for your flock are whether the two animals picked are not typical.

In addition to testing the animals a shepherd considers normal, can also include a few lambs or ewes with problems (e.g. a ewe that loses both lambs and does not appear to have mastitis or selecting a lamb with parasite issues and comparing it to ones without problems). Finding out that the animals with parasite problems are low in zinc

Table 3. Sample Report of Serum Levels of Trace Minerals in Several Ewes and Lambs

Animal ID	Cobalt, ng/ml	Copper, µg/ml	Iron, µg/ml	Manganese, ng/ml	Molybdenum, ng/ml	Selenium, ng/ml	Zinc, µg/ml
0254	0.72	0.97	1.42	1.5	3.2	121	0.64
9247	0.36	0.64	1.30	0.7	<0.5	123	0.68
4034	0.22	0.75	0.10	<0.5	<0.5	89	0.48
4227	0.28	0.27	0.18	<0.5	1.3	107	0.52
1201	0.21	0.50	1.34	1.8	88.5	129	0.45
1207	0.79	0.43	1.90	1.5	44.3	138	0.47

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When to Test Sheep For Mineral Levels - Part II (continued from page 8)

while the healthy animals have zinc levels near the normal level would be reason enough to talk to an extension agent with nutrition training to determine if your mineral supplement needs additional zinc.



If mineral levels are low, immune and reproductive function and growth can all be compromised resulting in decreased income. Knowing if the mineral supplementation needs to be modified improves production and profit. In current meat lamb prices (October 2014, \$1.75/lb) 30 lambs that are marketed 10 pounds light would cost the shepherd over \$500. If 10% of your ewes are open because of deficient minerals, the financial loss of \$300/ewe at meat prices and over \$500 up to \$1000 if selling twins at above average registered prices. If the shepherd loses a couple of lambs due to decreased immune function (parasites, pneumonia, blue tongue) resulting in a loss of \$300 to \$1000 depending on whether lambs are selling in a sale barn or as higher priced breeding stock.

Summary

The most common reason to examine the mineral status of an animal is when toxicity is suspected. However, problems such as poor reproductive function (lower than normal pregnancy rates, poor milk production of ewes), increased incidence of disease such as parasitism, or slower growth rates occur can be indicative of mineral

issue. Knowing the mineral status of an animal can aid in formulating a mineral supplement that better suits the flock than a standard commercial mineral.

It is often said that you get what you pay for and the same is often true of mineral supplements. It is important to provide minerals that are of good quality with good bio-availability to the animal to meet nutritional needs. It will be helpful to have conversations with extension specialists and veterinarians to understand common mineral problems that occur in your area if the shepherd has tested several mineral levels in their flock. Meeting mineral needs will optimize production of your flock.

Diagnostic Laboratories

Soils, Forages, Feeds – can be analyzed at most forage analysis labs at state universities.

Blood, serum, tissue – Diagnostic Center for Population and Animal Health, Michigan State University (www.animalhealth.msu.edu); Cornell University Animal Health Diagnostic Center (analyzes some trace minerals; <https://ahdc.vet.cornell.edu/test/>); Wisconsin Veterinary Diagnostic Laboratory (www.wvdl.wisc.edu/); Utah State University Vet Diagnostic Lab (www.usu.edu/uvdl/html/services/toxicology/); Iowa State University Veterinary Diagnostic and Production Animal Medicine (www.vetmed.iastate.edu/diagnostic-lab/).

Read part I from last issue of newsletter

Source: Katahdin Hairald Winter 2014. Reprinted with permission of authors and editor.

Maryland Producer Wins ASI's Camptender Award

David Greene was the recent recipient of the American Sheep Industry (ASI) Association's Camptender Award. The Camptender Award recognizes industry contributions from a professional in a position or field related to sheep production.

David is a retired county extension agent and county extension director from Carroll County (Maryland). For years, he taught the Maryland-Delaware Sheep Shearing School. David has served ASI in many ways for many years. He and his wife Nancy operate a 100-acre sheep farm in northern Baltimore County.



Congratulations to David!

Research Updates

Annual Meeting of the Southern Section of the American Society of Animal Science [Atlanta, Georgia - February 2015]

- **Creep feeding kids**

At Tennessee State University, creep feeding improved the preweaning growth of meat goat bucklings, but not doelings. Conformation scores did not differ between treatment groups, but the creep-fed bucklings had a higher market value. The research is on-going to determine the repeatability of the results and the effect(s) of creep feeding on the dams.

- **COWP source matters**

At the USDA ARS station in Booneville, Arkansas, the efficacy of copper oxide wire particles (COWPs) from three sources was compared (in lambs). The COWPs from Copasure® (Animax) had greater efficacy at reducing *H. contortus* infection than the COWPs from other sources: UltraCruz (Santa Cruz Animal Health) and a copper oxide wire from Australia.

- **Altering fatty acid composition of meat**

At Clemson University, coconut oil, flaxseed oil or Provinal was added to commercial milk replacer and fed to 45-d old Southdown wethers. After bottle-feeding, the lambs were grazed on alfalfa pastures. The research showed that supplementation with unique oils during a 30-d bottle-feeding period can alter fatty acid composition in tissues that is maintained throughout finishing.

- **Woody plants as a feed source for lambs**

Texas A&M researchers determined ground woody plants to be a viable and economical source of roughage for feed lot lambs. The ground wood diets consisted of either red-berry, blue berry, one-seed juniper, eastern red cedar, or mesquite. The woody plant diets were compared with a more traditional roughage source: cotton seed hulls.

- **Weaning age has no effect on parasites**

In the US Virgin Islands, weaning age (63, 90, or 120 d) had no effect on parasite burdens in hair ewes. Weaning hair lambs later than 63 d of age resulted in heavier lambs at weaning, but there was no effect on parasite burdens.

- **Terminal sire matings improve growth rates**

At Virginia State University, terminal sire matings (with Dorset) of landrace hair sheep (Barbados Blackbelly and St. Croix) increased pre-weaning growth performance of lambs, without adversely affecting survival to weaning. However, supplementation rather than crossbreeding had a more significant effect on carcass quality. Terminal sire

matings improved growth rates, but crossbred lambs had higher fecal egg counts.

American Sheep Industry Association Annual Convention [Reno, Nevada - January 2015]

- **New Guardian Dog Breeds**

The National Wildlife Research Center in Utah has imported several new breeds of livestock protection dogs to see if they are more effective at deterring predation from larger predators such as grizzly bears and wolves. The new breeds are larger and more aggressive, yet still people-friendly. The newer breeds include the Kangal, Karakachan, and Cão de Gado Transmontano. The research is being carried out in Idaho, Montana, and Oregon.

- **Needle-less vaccination**

For more than nine years, the US Sheep Experiment Station in Dubois, Idaho, has been evaluating the efficacy of needle-less vaccination. Needle-less vaccination has been shown to be just as effective as needle vaccination. When used on a large number of animals, it is also cost-effective as compared to multi-use and disposable syringes. Needle-less vaccinations are easier to give, resulting in considerable labor savings. However, since the vaccination unit costs approximately \$3,000, needle-less vaccination is not likely to be cost-effective on small farms, unless the unit is shared by many producers.

- **"Easy Care" sheep research**

The USDA Meat Animal Research Center (MARC) in Clay Center, Nebraska, has embarked on an "easy-care" research project in which prolific ewes are pasture-lambled and not provided with any supplemental labor or feed. Under this production scenario, MARC is comparing its composite ewe (50% Romanov x 25% Katahdin x 25% Dorper) with traditional hair (Katahdin) and wool (Polypay) ewe breeds.

- **Ovine progressive pneumonia**

While ovine progressive pneumonia (OPP) can be transmitted via contaminated colostrum and milk, researchers at USDA MARC have determined that exposure of immature ewes to mature ewes that are infected with the virus is the primary means by which OPP is spread. They have also identified genotypes which are less susceptible to OPP. CAE (caprine arthritic encephalitis) and OPP are similar viruses; cross-transmission is possible.

Annual Buck Test Will Celebrate 10th anniversary (continued from page 5)

Towards the end of the test, the goats will be scanned using realtime ultrasound to determine the size of their longissimus dorsi (rib eye muscle). Jim Pritchard from West Virginia University will do the scanning. The bucks will also be evaluated for structural correctness (feet, legs, and teeth) and reproductive soundness (teats and testicles).

The top-ten bucks will be identified and recognized. The primary selection criteria will be growth rate (ADG), parasite resistance (fecal egg counts), and parasite resilience (FAMACHA® scores and treatment need). Ultrasound data, hoof health, scrotal circumference, teat structure, and other factors may also be considered when determining the ten top-performing bucks.

At the conclusion of the test, the goats must be picked up from the test site. Poor performing bucks can be taken to the local sale barn. The top-performing bucks may be sold via private treaty or returned to their farms. The test will assist with private treaty sales.

It is recommended that some of the top-performing bucks be returned to their farms of origin and sold (as yearlings) at the 2016 Bluegrass Performance Invitational. In fact, consigners to the Western Maryland Pasture-Based Meat Goat Performance Test are the only ones eligible to consign does to the 2015 Bluegrass Performance Invitational Sale, to be held September 4-5 in Frankfort, Kentucky. For more information about the Bluegrass Performance Invitational, contact Jarred Denison at Jarred@jdranchkikos.com or (502) 875-8857.

<http://mdgoatstest.blogspot.com>

Annual Forage to Manage Internal Parasite

by Richard Ehrhardt
Small Ruminant Specialist
Michigan State University

The health and productivity of sheep and goats in perennial pasture grazing systems are often limited by a combination of forage quality and gastrointestinal nematode (GIN) infection. This is particularly evident in lactating dams and their offspring, as these animals are at greater risk for GIN infection due to their lower immunity relative to non-lactating adults.

Alternating the grazing episodes/bouts of these susceptible animals with either machine harvesting the forage or by grazing with less susceptible animals or species (cattle, for example) are strategies to maintain forage quality while reducing infection risk.

Another effective method is to integrate the use of annual forages into a grazing program. Annuals can provide grazing opportunities with zero to low risk for GIN infection while simultaneously providing a plane of nutrition even higher than perennial pastures, meeting the nutritional requirements of lactating dams and their offspring.

Source: American Consortium for Small Ruminant Parasite Control (ACSRPC)



Calendar

May 1

Integrated Parasite Management (IPM)/FAMACHA Workshop
@ Maryland Sheep & Wool Festival, West Friendship, Maryland
Info: www.sheepandwool.org

May 2-3

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

(Continued on Page 12)

Calendar Of Events (continued from page 11)

May 3

Junior Sheep & Goat Skillathon

@ Maryland Sheep & Wool Festival, West Friendship, Maryland

Info: www.sheepandgoat.com/programs/skillathon/skillathon.html

May 5-6

Goat Artificial Insemination Clinic by Bio-Genetics LTD

Washington Count Ag Center, Boonsboro, Maryland

Info: <http://www.sheepandgoat.com/programs/MDGA2015AI.pdf>

June 17

Start of Ramadan (Muslim Holy month)

June 26

Buck delivered to test site

Western Maryland Pasture-Based Meat Goat Performance Test

Western Maryland Research & Education Center,

Keedysville, Maryland

Info: <http://mdbucktest.blogspot.com>

July 17 (18)

Eid al-Fitr (Muslim Festival of Fast Breaking)

August 10-12

Goat Artificial Insemination Workshop

Small Ruminant Educational Unit, North Carolina State University,

Raleigh, North Carolina

Info: <http://www.cals.ncsu.edu/ncsugoatAI/>

December 5 - Hold the Date!

2015 Lambing & Kidding School

Harford County, Maryland

Info: Susan Schoenian at sschoen@umd.edu

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