



Wild & Woolly



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2013 Lambing and Kidding School

The 2013 Lambing & Kidding School will be held Saturday, December 7, 8:30 a.m. to 5 p.m., at the Western Maryland Research & Education Center in Keedysville.

The school will include separate, concurrent educational tracts for youth and adult participants. The school is intended for beginning producers as well as experienced ones. The youth program is suggested for youth ages 12 and above.

The main speaker will be Dr. Mara Mullinix. Dr. Mullinix has a mixed veterinary practice in Monrovia, Maryland. She has considerable experience working with small ruminants and is the consulting vet for the Western Maryland Pasture-Based Meat Goat Performance Test.

The cost of attending the Lambing & Kidding School is \$40 per person; \$25 per youth (age 18 and under). Checks made payable to the University of Maryland should be mailed to Lambing & Kidding School, Western Maryland Research & Education Center, 18330 Keedysville Road, Keedysville, MD 21756.



Dr. Mara Mullinix is the main speaker.

It is also possible to pre-register and pay online at <https://13lkschool.eventbrite.com/>. **The deadline for pre-registration is Friday, November 22.**

Conference proceedings will be provided via flash-drive. There will be a live internet connection so that participants can use their laptops or tablet computers to access program materials during the school. A notebook containing the conference proceedings may be pre-ordered for an additional \$10.

(Continued on page 7)

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The University of Maryland Extension programs are open to any person and will not discriminate against anyone because of race, age, sex, color, sexual orientation, physical or mental disability, religion, ancestry, national origin, marital status, genetic information, political affiliation, and gender identity or expression.

Web Site About Worms

The Southern Consortium for Small Ruminant Parasite Control (SCSRPC) was established in 2003 to address the growing problem of anthelmintic resistance in the small ruminant industry.



In 2012, as the membership of the consortium expanded, the name was changed to the American Consortium for Small Ruminant Parasite Control (ACSRPC), with the name change reflecting the national scope of the parasite problem.

In 2004, the Consortium established a web site at www.scsrpc.org. The primary purpose of

the web site is to provide small ruminant producers with information on sustainable gastrointestinal parasite control.

With the name change last year, a new domain was established at www.acsrpc.org. Be sure to update your bookmarks with this domain. The original domain www.scsrpc.org will also still work.

In the last year or so, the web site has undergone significant revisions. It has a new webmaster (Susan Schoenian) and was recently moved to a new server.

www.acsrpc.org

Three Top-Performing Bucks Sell For More Than \$1,000 Each



Top-performing buck:
Sam (left) and Laurence (right) Burke

Three of the fourteen top-performing bucks from the 2013 Western Maryland Pasture-Based Meat Goat Performance Test sold for more than \$1000 at the 1st Annual Mid-Atlantic Small Ruminant Extravaganza on September 21 in Chatham, Virginia.

For the second year in a row, Sam Burke from Delaware (Cedar Creek Farm) had the

top-performing buck. It sold for \$1100. The top-selling buck was the top-gaining buck consigned by John Weber from Illinois. It brought \$1350. Weber sold another top-performing buck for \$1200. Craig Adams from Illinois sold a pair of bucks for more than \$500. P.J. Murphy from New Jersey also had a \$500 buck. John Smith's (Virginia) top-performing buck brought \$950, and Jarred Denison (Kentucky) sold a buck for \$700.



Top-gaining & selling buck:
John Weber

The top consignor award is given to the consignor with the three best bucks. This year, the award was shared by Dana and Kendall Barnes from Kentucky and John Weber. The Barnes were top consignor in 2008, whereas Weber is a first-time consignor. The

three Barnes bucks were more parasite resistant, whereas the three Weber bucks had better growth rates.

Burke's top-performing buck also received an award for being the most parasite resistant buck in the test. This year, the award was given to the buck that had the best combined data for parasite resistance (fecal egg counts)

and parasite resilience (FAMACHA© scores and number of dewormings). The Burke buck

had the lowest average fecal egg count of the six bucks in the test that were not dewormed.

This year's test conditions were very difficult. The test bucks faced an almost constant parasite challenge. Their growth rates were also limited by dry matter intake; persistent rainfall kept the forage wetter than usual.

For more information about the buck test, visit the blog at <http://mdgoatstest.blogspot.com>.

Goat Twilight Tour



Todd Morren (right)

More than 50 people participated in the goat Twilight Tour held August 1 at the University of Maryland's Western Maryland Research & Education Center in Keedysville.

Participants learned about the Center's Goat Research and Extension Program, including the Western Maryland Pasture-Based Meat Goat Performance Test and pen vs. pasture study.

Participants also had the opportunity to sample recipes made with goat meat (chevon). Local chef Todd Morren prepared easy-marinated goat, curry goat, Greek goat with orzo, roasted goat tacos, and goat skewers with a vinegary herb sauce.

The meat came from two locally-produced Kiko bucks that had been sired by a top-performing buck from a previous performance tests.



Top consignors: Kendall Barnes (left)
Dana Barnes (center) John Weber (right)

Two-Phase Test Proposed For 2014

At the recent consignor's meeting in Virginia, it was decided to split the 2014 Western Maryland Pasture-Based Meat Goat Performance Test into two phases. After a 13-day adjustment period, the bucks would face an internal parasite challenge in the first phase of the test (days 0-42). They would graze cool season grass pastures that are pre-infected by untreated sheep. At the end of the first phase (day 42), all of the goats would be given a 0.5 g bolus of copper oxide wire particles.

In the second phase of the test (day 42-84), the goats would be challenged for growth. They would graze clean, taller, annual pastures. The central laneway would still provide an opportunity for re-infection, but the lower overall risk of parasite re-infection should provide a better opportunity for growth.

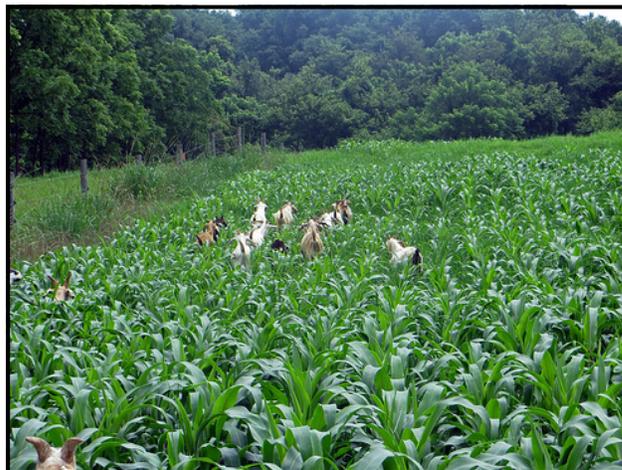
Beginning with day 42, the goats would also be limited to a good quality grass hay. Hay would be fed at a rate of approximately 2% of body weight (about 1 lb. per goat). Feeder space would be adequate to allow all goats to eat at one time.



Cool season grass paddock

While forage quality and quantity are usually not lacking in the test, dry matter intake is a limiting factor and some goats simply do not consume enough dry matter to meet their nutritional requirements for growth. With regards to growth (ADG), energy (TDN) is probably the most limiting nutrient.

Several other changes were proposed to the test. It was suggested that the minimum weight be increased to 40 lbs. It is currently 35 lbs. This change will not take



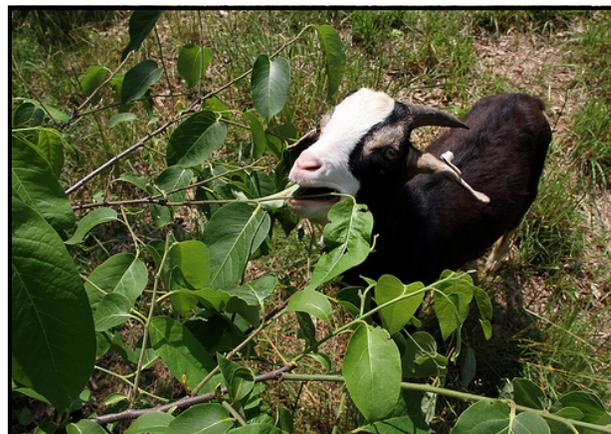
Annual pasture

effect until the 2015 test. However, for the 2014 test, the minimum starting weight of 35 lbs. will be strictly enforced. Goats weighing less than 35 lbs. will be refused entry to the test.

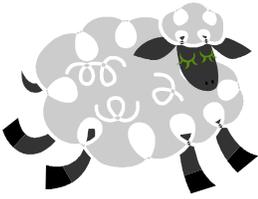
When selecting goats for the 2014 test, producers will want to select goats that will weigh a minimum of 35 lbs. upon delivery to the test site. This means that they should probably weigh at least 40 lbs. to allow for shrink and scale differences.

It was suggested that the minimum weight for sale bucks be 50 lbs. This suggestion was not implemented.

A requirement for on-farm performance testing was also discussed. It was suggested that only bucks with adjusted weaning weight ratios above 100 percent be consigned to the test. Many producers are currently sending their on-farm data to Kentucky State University or Oklahoma State University for tabulation. This idea will be explored further in the months ahead.



Festival Celebrates 40 Years



Visitors from 42 states and 16 countries came to the 40th Maryland Sheep & Wool Festival May 4 and 5, to join in a celebration of sheep and all they produce.

At least 42,000 people was the attendance estimate from the Howard County Department of Tourism, and those visitors pushed into the specially-made donation containers bills and coins amounting to \$29,000, in thanks for the event. They purchased more than \$100,000 of Festival "bling" -- shirts and other items (the second highest amount ever sold).

The 21 classes offered drew 229 students from 29 states; 75 youth participated in the Sheep Skillathon, and at least 610 sheep participated in the sheep shows; with about 30 breeds exhibited in shows and the breeds exhibit. Blue-faced Leicester breeders had their first breed show. More than 800 fleeces from 163 producers were sold to 331 buyers. The Sheep and Wool Queen for this year is Kendra Keeney, with Jamie Roe, Anne Maxwell, and Sarah Manning as princesses.

Four teams competed in the sheep-to-shawl contest, with the third-place garment garnering the highest auction price: \$875. In the Youth Conservation Program, 43 contestants submitted essays to win one of 15 sheep representing 10 rare breeds.

Vendors reported their best year ever. (They almost always seem to, and Festival volunteers take them at their word.) The crowds visiting those vendors at times, indeed, were a little too dense in some buildings. Future "traffic management" will be given some thought by the committee.

Complete results from most Festival events are now on the website at www.sheepandwool.org.

As the Festival's 40 years of success are savored, the Festival leadership, its many volunteers, and members of the Maryland Sheep Breeders board already are planning for the 2014 event: A long-term strategy session drew 25 participants to Turf Valley on July 20 to review a survey sent to volunteers, and move forward with a process and a plan. And they are looking forward to the 41st Festival.

Source: Maryland Sheep News, July 2013. Reprinted with permission.

Bottle Jaw

The official name for "bottle jaw" is submandibular subcutaneous edema. It is an accumulation of fluid (swelling) under the lower jaw of a sheep, goat, or calf. It is usually a result of anemia (blood loss) and occurs primarily due to the infestation of barber pole worms (*Haemonchus contortus*).

Bottle jaw is a serious condition and can be deadly if you don't act quickly. If you see bottle jaw in an animal, you need to administer an effective anthelmintic (dewormer). All dewormers should be administered orally using a syringe with a long metal nozzle. The drug should be deposited over the tongue into the esophagus. Because goats metabolize drugs more rapidly, they typically require higher dosages of the drugs.



Not all animals that are severely infected with barber pole worms will present with bottle jaw. FAMACHA® scores should be checked regularly to determine the need for deworming individual animals. A FAMACHA® score is an estimate of anemia (packed cell volume) and is determined by examining the color of the animal's lower eyelid (conjunctiva). Paleness (white or light pink color) is an indication of anemia and the need for deworming.

While Haemonchosis is the most probable cause of bottle jaw, bottle jaw can be a symptom of other disease conditions, such as Johne's disease, liver fluke disease, and copper deficiency. Coccidiosis can also cause a sheep or goat to get anemic and present with bottle jaw.

The Mill at Meadowlands: A New Fiber Mill In Maryland

On August 5, The Mill at Meadowlands opened its doors to members of the Maryland Sheep Breeders Association (MSBA). The pristine new facility, located in Randallstown, was a “hit” with MSBA members and other fiber enthusiasts.

The Mill is able to process any kind of animal fiber (wool, mohair, alpaca, llama, angora rabbit, dog, cat, and exotic), except for Cashmere (they lack appropriate equipment). According to their web site, they can process as little as 2 pounds of fiber at a time and 100 pounds of fiber in 7 hours.

The Mill’s ten state-of-the-art machines were built specifically for them. The Axi-Flo is the first machine that is used to process the fiber. It opens the fibers by tumbling to reduce debris. It also helps to maintain the fiber’s natural strength. The picker is the second machine used. It removes sand, rocks, twigs, dust, and other organic matter. It also dehairs the fiber.

The Kiwi scour is a 7-bowl, temperature-controlled, automated scouring system from New Zealand. It washes the fiber, removing dirt and lanolin. The carder (from Italy) removes organic matter while combing and aligning the fibers into roving. The pin drafter is the fifth machine used. It evens, strengthens, and aligns the roving. The spinners are used to turn the roving into yarn. The Mill has two MJD spinners that can switch from ply to twist in a matter of seconds.

No dyeing or coloring is done at the Mill; however, the Mill’s services get the fiber ready for colorant or dye. Contact the Mill before sending or dropping off fiber for processing. Good husbandry skills (e.g. skirting) will make processing fees less. The Mill can ship anywhere in the world.

For more information, visit the Mill’s web site at www.themillmeadowlands.com or contact them at (410) 916-5126 or info@themillmeadowlands.com. The Mill is also on Facebook, Twitter, and Pinterest. Check their main web site for links to their social media pages.

You can also request a tour of the Mill. The Mill is located on a working farm and private residence.

The Mill at Meadowlands is an “environmentally-friendly” fiber mill, with “one-on-one service and industrial speed.”

Source: The Mill at Meadowlands (www.themillmeadowlands.com).



Carding machine



Two-roll cleaner



Wool top or roving

Worldwide Consumption of Sheep and Goat Meat

There is a widely-publicized myth that goat meat (chevon) is the most widely-consumed meat in the world. It is not. In fact, it is mathematically impossible, given the number of goats in the world and the yield of an individual goat. Even if you increased world goat population figures by 10-fold, it is still impossible.

In addition, the consumption of sheep and goat meat is usually lumped together. It is often left out of data sets, because it is so minor compared to the major meats. And it is harder to obtain accurate data pertaining to sheep and goat meat consumption, as the animals are often slaughtered on-farm and consumed locally.

The most widely-consumed meats in the world (in order) are pork, poultry, and beef. While it's possible that more people in the world eat goat meat (and sheep meat) than pork, poultry, or beef, most consumers of goat meat live in the developing world, where the per capita meat consumption is very low. It may be their preferred meat, but they don't eat a lot of it.

The table shows the countries of the world that consume the most sheep and goat meat. Some countries probably eat more lamb, others more goat. The data

Country	Per capita consumption
Mongolia	89.5
Iceland	54.3
New Zealand	50.8
Turkmenistan	49.9
Kuwait	40.0
Australia	31.5
Greece	30.1
Mauritania	27.1
Barbados	25.5
Syria	24.4
Fiji	23.3

is from 2007. The source is the Food & Agricultural Organization of the United Nations.

In the United States, the per capita consumption of lamb is only about 1 lb. The consumption of goat meat is unknown. On the plus side, the consumption of lamb and goat (in the U.S.) is considerably higher among certain ethnic groups, and demand exceeds supply.

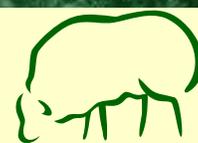
2013 Maryland Sheep Industry Day

The Maryland Sheep Breeders Association (MSBA) will be hosting a Maryland Sheep Industry Day on Saturday, October 26 at the Howard County Fairgrounds in West Friendship.

The focus of the day-long educational seminar will be nutrition. The main speaker will be Dr. Dan Morrical from Iowa State University. Lunch will be a culinary delight: grilled lamb sliders and sausage and tortellini soup (with lamb sausage). The event will also include a "supply swap." Bring items that you would like to swap with other shepherds.

The registration deadline is October 15. The cost of attending is \$10 for MSBA members and \$20 for non-members. Checks should be made payable to MSBA and mailed to Kelly Cole at 2210 Bear Den Road, Frederick, MD 21701.

The registration deadline is October 15. You may download a program flyer and registration form at www.sheepandgoat.com/programs/mdsheepday2013.pdf.



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>



<http://mdgoatquest.blogspot.com>

<https://www.facebook.com/MDSmallRuminant>

<https://twitter.com/MDSheepGoat>

Recipe -Easy-Marinated Goat

Ingredients

- 1-4 lbs. of goat meat (stew meat or bone-in cuts such as shanks or chops work well)
- 1/2 C. olive oil
- 1 Tbl. Oregano
- 1 1/2 tsp. black pepper
- 1 1/2 tsp. salt
- 1 Tbl. lemon juice
- 1 Tbl. white vinegar
- 2 tsp. garlic, minced
- 1 tsp. ginger, minced



Directions

Set the goat meat aside. In a food processor, combine all remaining ingredients and pulse into a paste. Coat the goat meat completely with the paste, wrap it in aluminum foil and refrigerate. Marinate for at least two hours.

Preheat the oven to 400 degrees. Bake the goat, in the foil, for 40 minutes. Reduce the heat to 350 degrees and bake for an additional 2 hours. The meat is finished when the juices run clear. Let the cooked meat rest for 20 minutes before carving. Serve over rice.

Source: Red Tractor Farm

2013 Lambing and Kidding School - Tentative Agenda (continued from page 1)

Time	Adult Tract	Youth Tract
8:30 a.m. to 9:30 a.m.	Registration and refreshments	
9:30 a.m. to 10:15 a.m.	Ready, get set, go!: Getting ready for lambing and kidding Susan Schoenian	Wet lab Male and female reproductive systems Chris Anderson, Nelson Escobar and Shannon Uzelec
10:15 to 10:30 a.m.	Break	
10:30 to 12 noon	Lambing and Kidding: what's normal and what can go wrong? Dr. Mara Mullinx	Wet lab continued
12 noon to 1 p.m.	Lunch and door prizes	
1 p.m. to 1:30 p.m.	My goat died: why didn't my dewormer work? Susan Schoenian	So you think you want to be a vet Dr. Mara Mullinx
1:30 to 2:15	Babies whenever you want: out-of-season breeding Dr. Nelson Escobar	Taking care of moms and babies Dr. Mara Mullinx
2:15 to 2:30	Break	
2:30 to 4 p.m.	The first 72 hours: prenatal care of lambs and kids Dr. Mara Mullinx	Lambing & Kidding Jeopardy A fun competition
4 to 5 p.m.	Q & A with the Vet	

For more information about the 2013 Lambing and Kidding School go to :
www.sheepandgoat.com/programs/13LKSchool.html

Slowing Dewormer Resistance

By Susan Schoenian

Gastro-intestinal parasites (worms) have developed resistance to all of the currently available dewormers (anthelmintics). Resistance means that an anthelmintic treatment is not effective (or only marginally effective) at killing worms and alleviating clinical symptoms. Worm resistance is heritable, meaning the worm's ability to survive is passed onto its offspring.

Dewormer resistance is inevitable, as no treatment is one hundred percent effective. However, the speed by which resistance develops is not. For many producers, the level of resistance is still at a level at which there is time to slow it down and enable the continued use of anthelmintics.

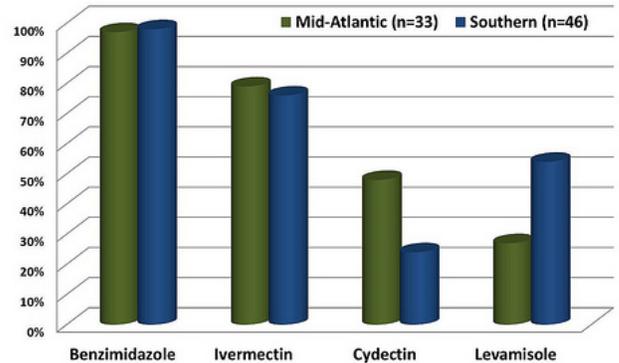
The primary cause of dewormer resistance is frequent deworming, especially without regard to clinical need. The practice of deworming sheep and goats based on some arbitrary schedule (e.g. every 3 months) or because they have some worm eggs in their feces is outdated and never was a good idea, certainly not a sustainable one.

The improper use of dewormers has also accelerated the development of drug-resistant worms. Underdosing is especially problematic because it delivers a sub-therapeutic dose to the animal, making it easier for the worms to develop resistance. Sub-therapeutic doses also result when a dewormer is poured on the animal's back or injected into its body.

Certain management practices will accelerate the development of resistant worms. For example, moving treated animals to a clean pasture is no longer a recommended practice because the only surviving worms will be resistant to the dewormer. Animals should not be dewormed when infections are low. For example, very few females will have a heavy parasite load at pre-breeding. Thus, deworming at this time will increase selection for resistant worms.

Targeted selective treatment

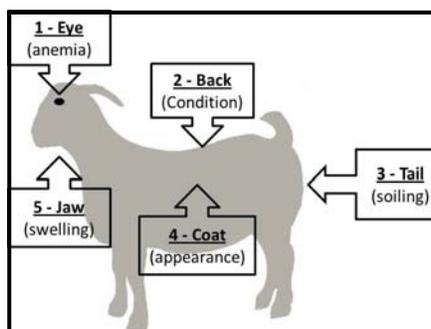
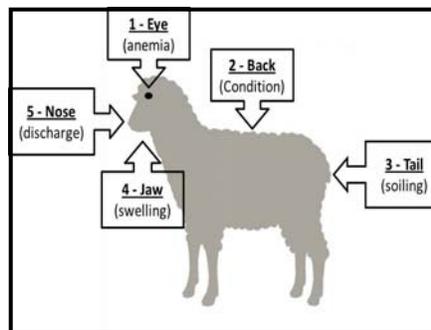
Percent farms with anthelmintic resistance



The primary way to slow dewormer resistance is to reduce the number of anthelmintic treatments. To do so, targeted selective treatment (TST) strategies need to be employed. TST identifies those animals which require treatment and/or those animals which would benefit from treatment. Rarely should the whole flock or herd be treated for internal parasites. Instead, individual deworming decisions should be made on the basis of FAMACHA© (eye anemia) scores and other criteria.

The Five Point Check© is an extension of the FAMACHA© system. It is a decision-making tool that allows producers to make deworming decisions for all of the parasites that commonly affect small ruminants. The Five Point Check© involves five check points on the animal: 1) ocular mucous membranes (FAMACHA© score); 2) back (body condition score); 3) tail (dag score); jaw (bottle jaw); and 5) nose (nasal discharge). The Five Point Check© was developed for sheep. For goats, it is suggested that the nose check point be replaced with coat condition (or appearance), as nasal bots tend to be less problematic in goats than sheep.

Weight gain is another criteria that can be used to determine which animals would benefit from deworming. For example, the heaviest lambs or kids can be left untreated, assuming they are of similar breed and age.



(Continued on page 10)

Nigerian Dwarf Goats Increasing In Popularity

By Jane Bailey

The Nigerian Dwarf Dairy goat is truly a conservation success story both nationally and locally here in Maryland. The small dairy goat, often confused with more stoutly physique of the pygmy, was listed as "rare" on the American Livestock Breeds priority list as late as the 1980's. It was upgraded in 2004 to "recovering," and in the spring of 2013 has been completely removed and deemed stable.

The huge popularity of this little breed is evident in the registration numbers provided by the American Dairy Goat Association. In 2005 when they were first recognized by ADGA, there were 1,612 nationally. ADGA reports that in 2012 there were 7,215 registered, and the first half of 2013, they have registered an additional 4229. These numbers represent does and bucks and do not take into account the pet wethers in the population. Unlike their large breed counterparts, wethers are still in high demand as pets and back yard weed control troops.

Here in Maryland, we had 3 or 4 breeders statewide back in 2004 when they first came on the scene with the American Dairy Goat Association. Today, there are at least 15 herds actively breeding, milking, and showing their animals. There are now several herds here in Maryland actively participating in the Linear Appraisal program yearly, which is helping breeders accurately evaluate both the structural and inheritable traits in their breeding stock, to produce better and better offspring.

Additionally, there are now 4 or 5 herds here in the state participating in the DHI (Dairy Herd Improvement) program through milk testing. This is aiding local breeders in selective breeding of does that produce the most milk over an extended lactation with high butterfat and protein milk.

Speaking of butterfat, one would be selling the breed short without mentioning the high butterfat content of Nigerian Dwarf milk in comparison to other breeds. They average 6% with some as high as 9% compared to the average dairy goat or cow who are down around 4%. What does this mean for the consumer?

A delicious sweet milk for drinking and baking - but

most desirable for cheese making as higher butterfat means more cheese per gallon. And, let's not forget how amazing the homemade ice cream can be.

Nigerian Dwarves were accepted into the Maryland State fair in 2011 and now one can see more than 60 from around the region strutting their beauty each year. With their cornucopia of colors, smaller equipment and housing needs, ease of keeping, and excellent milk production for their size (good milkers produce 4-5 pounds per day), they are certain stay !

More information can be found at the American Nigerian Dwarf Dairy Goat Association at www.andda.org. For a list of local breeders and events at the Maryland Dairy Goat Association at www.marylanddairygoat.org.



This is a photo of my milk parlor/stand specially built 3'6" high for the Nigerians. They enter the parlor, go up the stairs seen on the left and to the head stanchions. It took the does about 3 days to learn the stairs and run to their spots. It is a four goat stand and we milk two at a time by machine. Yearling milker to the far left milking about a quart per day to our top producer on the right a 4 year old milking 5-6 lbs. per day.

About the author: Jane Bailey is the owner of Tiny Town Nigerian Dwarf Goats. Her Andover Meadow Farm is located on Maryland's Eastern Shore. Jane is the Eastern Director of the American Nigerian Dwarf Association.

Slowing Dewormer Resistance (continued from page 8)

Proper anthelmintic use

Sheep and goats should always be dewormed with drench (liquid) formulations. Drenches are FDA-approved, safer, and more effective than other formulations. They should be dewormed using an oral dosing syringe with a long, metal nozzle. The syringe can be a single dose syringe or an automatic syringe that refills after each treatment. If an automatic (backpack) drench gun is used, the equipment should be calibrated for the heaviest animals in the group not the average.

The drug should be deposited over the tongue into the esophagus. If the medicine is deposited into the animal's mouth, this may stimulate the closure of the esophageal groove, causing the medicine to bypass the rumen and be less effective. Fasting animals prior to drenching can also increase the effectiveness of certain dewormers (e.g. benzimidazoles, ivermectin). Another strategy is to give two consecutive doses 12 hours apart. The longer the drug is in the rumen, the more effective it will be. It goes without saying that all drugs should be used according to the manufacturer's instructions.

Because newly purchased animals can be as source of anthelmintic resistance, all new arrivals should be kept in a quarantine pen and be dewormed with drugs from two (levamisole + moxidectin) or three (albendazole + levamisole + moxidectin) anthelmintic classes. The idea is to kill all the worms so that no resistant worms survive.

Leaving some animals untreated and/or keeping animals on the same pasture will help to dilute the worm populations and maintain "refugia" (untreated worms). Maintaining refugia is the key to slowing drug resistance. If you treat at pre-breeding, pre-lambing, or post-weaning, be sure to leave some animals untreated. Another good option is to keep livestock in the barn or drylot for 48 hours after treatment with an anthelmintic. This will ensure that any eggs that are present in the gut have passed out into the feces.

Pasture and grazing management

Of course, any practice that reduces the need for deworming will slow drug resistance. Rotational grazing can reduce or increase the need for deworming, depending upon how it is practiced. The keys are not allowing pastures to become too contaminated with worm larvae and allowing sufficient rest periods to

Testing for drug resistance

The effectiveness of an anthelmintic can be determined by comparing before and after fecal egg counts. This is called a fecal egg count reduction test (FECRT). A fecal sample (> 200 epg) is collected at the time of deworming. A second sample is collected from the same animal 7 to 14 days later. The percent reduction in fecal egg count is calculated and compared to a group of "control" animals that were not dosed. An effective deworming should reduce fecal egg counts by 95 percent or more. A high level of resistance is present if egg counts are reduced by less than 60 percent.

The DrenchRite® test (larval development assay) can also be used to detect drug resistance. The DrenchRite® test utilizes eggs isolated from the feces of infected animals and tests for resistance to all drugs simultaneously. A pooled fecal sample (>350-500 epg) from at least 10 animals is required. The DrenchRite® test can also be used to identify worm species.

enable worm eggs and larvae to die off. Removing a hay or silage crop will result in a clean pasture for grazing. Co-grazing small ruminants with cattle or horses can have beneficial effects on both pasture and parasite management.

Maintaining a sufficient grazing height of at least 3-4 inches will reduce ingestion of infective worm larvae; it is estimated that approximately 80 percent of larvae is in the first two inches of vegetative growth. Along the same line, animals that browse will be exposed to less infective worm larvae. Some forages (e.g. Sericea lespedeza, chicory) have been shown to inhibit parasite development. Zero grazing will obviously reduce (if not eliminate) the need for deworming; however, it will prevent animals from developing immunity.

Genetic selection

Species, breeds and individuals within a breed differ in their ability to handle parasitic infection. Goats tend to be more susceptible to parasites than sheep. Hair sheep (e.g. St. Croix, Barbado) are more resistant to parasites than their woolly counterparts. The resistance of hair x wool crosses (e.g. Katahdin) tends to be intermediate between hair and woolled breeds. The Gulf Coast Native is the only woolled breed of sheep with documented parasite resistance.

(Continued on page 11)

Slowing Dewormer Resistance (continued from page 10)

While less data is available on goats, Kiko, Spanish, and Myotonic goats tend to be more resistant to parasites than Boers, Nubians, and other breeds. Though the level of heterosis has not been documented, crossbred individuals will tend to be more parasite-resistant than their purebred counterparts.

Any flock or herd can be selected for reduced parasite infection. Parasites are not evenly dispersed in a flock or herd. The 80-20 rule states that 20 percent of the animals are responsible for 80 percent of the worm infection (fecal egg counts). By selecting animals that shed fewer eggs and require less frequent anthelmintic treatments, a producer can significantly reduce anthelmintic use, while developing a more resistant herd.

The most important strategy is to use a ram or buck with documented resistance to internal parasites. Unfortunately, selection programs for resistant sheep and goats are still in their infancy. The Katahdin breed is the only breed in which EBV's are calculated (via LambPlan) for parasite resistance (fecal egg counts). In the Western Maryland Pasture-Based

Meat Goat Performance Test, fecal egg count data is collected on participating bucks. Virginia Tech's Southwest AREC's hair sheep ram test includes an evaluation for parasite resistance.

Read full article at <http://www.sheepandgoat.com/articles/slowdrugresist.html>.



Upcoming Webinars On Ethnic Marketing

The University of Maryland, the University of Maine and Ohio State University are cooperating to hold a series of webinars on the ethnic marketing of lamb and mutton. The webinars are being supported by the American Sheep Industry Association's Let's Grow with Two Plus program. The series will also be applicable to goat producers, as the marketing of sheep and goats is similar.

The webinars will be held on consecutive Tuesday evenings (7 p.m. EST) on November 19, November 26, December 3, and December 10. Each webinar will last for approximately 1 hours. An additional 30 minutes will be allowed for questions. Interaction will be via a chat box. Participants will be expected to actively participate through practical home assignments and activities.

Date	Topic
November 19	Ethnic market background
November 26	Understanding the ethnic consumer
December 3	Understanding and evaluating your marketing options
December 10	Developing a marketing plan

The webinars are free, but pre-registration is required.

The webinars will be hosted (broadcast live and recorded) by the University of Maryland. Pre-registration will be via the University of Maine at <http://umaine.edu/livestock/sheep/ethnic-marketing-of-lamb-and-mutton/>.

Calendar Of Events

October 26

Maryland Sheep Industry Day
Howard County Fairgrounds,
West Friendship, Maryland
Info: Kelly Cole at kc137f@yahoo.com



October 26

Maryland Sheep Breeders Association
Annual Meeting and Dinner
Howard County Fairgrounds,
West Friendship, Maryland
Info: Kelly Cole at kc137f@yahoo.com

(Continued on page 12)

Calendar Of Events (continued from page 11)



November 8-9

UMES Small Farm Conference
Campus, Princess Anne, Maryland
Info: www.umes.edu/workarea/downloadasset.aspx?id=45877

December 7

Biennial Lambing & Kidding School
Western Maryland Research & Education Center
Info: Susan at (301) 432-2767 x343 or sschoen@umd.edu

January 10-11

Virginia-North Carolina Shepherd's Symposium
Virginia Tech, Blacksburg, Virginia
Info: <http://www.vasheeproducers.com/>

January 17-18

Future Harvest CASA Conference
Marriott Inn and Conference Center, College Park, Maryland
Info: www.futureharvestcasa.org/events

January 22-25, 2014

American Sheep Industry Association/
National Lamb Feeders Association Convention
Charleston Marriott, Charleston, South Carolina
Info: www.sheepusa.org

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