



Wild & Woolly



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84 Bucks Start 10th Anniversary Performance Test

Eighty-four (84) meat goat bucklings began the 2015 Western Maryland Pasture-Based Meat Goat Performance Test on June 26. This is the 10th year of the goat test. It was initiated in 2006 to evaluate the performance of meat goats consuming a pasture diet with natural exposure to internal parasites, primarily the barber pole worm (*Haemonchus contortus*).

Bucks were provided by twenty-five (25) producers from twelve (12) states: Alabama, Illinois, Indiana, Kansas, Kentucky, Maryland, Pennsylvania, Vermont, and Virginia. Fifteen of the consignors have previously consigned bucks to the test. Ten are new consignors.

All of the bucks are Kiko or Kiko-influenced. This is the first year in which there are no fullblood Boers in the test, only Boer crosses. At the start of the test, the bucks ranged in weight from 32.6 to 71.8 lbs. and averaged 49.0 lbs \pm 8.4 lbs. The median weight was 47.8 lbs. The bucks are approximately five pounds heavier than last year. FAMACHA© scores ranged from 1 to 4 and averaged 2.2 \pm 0.7. The median FAMACHA© score was 2. Upon arrival, the bucks were sequentially dewormed with albendazole, moxidectin, and levamisole. This ensures that they start the test equal and "free"

from parasites and that differences observed during the test are the result of genetics and not environment.

While on test, the bucks will be maintained as a single group of pasture. They will be rotationally grazed among six, ~2 acre paddocks, planted in various cool and warm season grasses and legumes. The bucks began the test on warm season annuals: dwarf pearl millet + sunn hemp. The first half of the test (July 9-August 17) will serve as a "growth challenge." During the second half of the test, the bucks will graze cool season grass paddocks that were grazed this spring by sheep. The second half of the test will serve as a "parasite challenge."

Throughout the test, the bucks will be supplemented with pelleted soybean hulls. They will be fed approximately 0.75 lbs. per head per day, which is equal to about 1.5 percent of their average body weight. Fecal analysis from last year's buck test showed that the bucks were consuming a diet that was inadequate in energy; hence, the need for supplementation.

The bucks will be handling bi-weekly to determine body weights, FAMACHA©, body condition, coat condition, dag, and



(Continued on page 8)

Multi-State Skillathon Winners

Congratulations!

Youth from several states took home awards from the Junior Sheep & Goat Skillathon held May 3 at the Maryland Sheep & Wool Festival.

The first place senior was Matt Ferrari from Virginia. Maggie Goodmuth from Howard County was second. Charlie Sasscer from St. Mary's County was 3rd. The first place senior team was the Montgomery-Howard team, composed of Maggie Goodmuth, Lauren Dallas, and Jennifer Brigantae. The second place team was a team from Virginia.



First place winners (L-R)
Matt Ferrari, Senior;
Hannah King, Intermediate
and Jessica Martin, Junior

The first place intermediate was Hannah King from North Carolina. Kallam Latham from Frederick County placed second. Madison Shaw from Pennsylvania was 3rd. The first place intermediate team was the Virginia team composed of Ryleian Travers, Hayley Seabright, Cyle Dehaven, and Chet Boden. Frederick County had the second place intermediate team.

The first place junior was Jessica Martin from Frederick County. Jordan Kelly from Virginia placed 2nd and Marlie Snyder from Washington County placed 3rd. The first place junior team was the Frederick County team, composed of Jessica Martin, Kiandra Strickhouser, and Caroline Clark. Calvert/St. Mary's County had the second place junior team.

Special awards were given to the junior, intermediate, and senior individuals with the top scores in the stations pertaining to fiber. The junior individual with the top fiber score was Jordan Kelly. The intermediate with the top fiber score was Hannah King.

Madison Shaw was a close second. The senior individual with the top fiber score was Jennifer Brigantae from Howard County. In close competition were Ian Sanville from Frederick County and Sabrina Dobbins from St. Mary's County.

The Maryland Sheep Breeders Association provided ribbons and premiums to the top 10 individuals in each age group. They provided Festival t-shirts to members of the three top-placing teams in each age division. The University of Maryland Small Ruminant Extension Program provided plaques to the top individuals.

This year's Sheep & Goat Skillathon included the following stations: sheep breed ID, goat breed ID, hay judging, meat ID, feed ID, equipment ID, fleece judging, fiber ID, keep-cull, and a written test.

Congratulations to all the youth who participated in this year's skillathon and thanks to everyone who helped with the skillathon. The Junior Sheep & Goat Skillathon is held every year on the Sunday of the Festival. The Maryland Sheep & Wool Festival is always held the first full weekend of May.



First place winners in wool
(L-R) Jordan Kelly, Junior;
Hannah King, Intermediate;
and Jennifer Brigantae

New Resources from NCAT-ATTRA

Four new fact sheets have been added to the web site of the American Consortium for Small Ruminant Parasite Control (ACSRPC):

- Tips for managing parasites
- Tips for preventing parasites
- Tips for treating parasites
- Tips for working with a veterinarian

To download the new factsheets, go to <https://attra.ncat.org>. Click on publications, then Livestock & Pasture. Scroll down to find new fact sheets.

The fact sheets were written by Linda Coffey. Linda Coffey is a Sheep & Goat Specialist for NCAT-ATTRA. , Sheep & Goat Specialist for NCAT-ATTRA.

The National Center for Appropriate Technology (NCAT) is a private nonprofit organization, founded in 1976, which manages a series of projects that promote self-reliance and sustainable lifestyles through wise use of appropriate technology. ATTRA is a program developed and managed by NCAT. ATTRA services are available to farmers, ranchers, market gardeners, Extension agents, researchers, educators, farm organizations, and others involved in agriculture.



ACSRPC Web Site Re-designed

The web site of the American Consortium for Small Ruminant Parasite Control (ACSRPC) has been redesigned using wix.com. You can view the new web site at either www.acsrpc.org or www.wormx.info.

You should consider the ACSRPC web site to be your definitive source of information on internal parasite control in small ruminants. The consortium was formed in 2003 in response to the critical state of the small ruminant industry associated with the emergence of anthelmintic resistant

worms. It is a group of scientists, veterinarians, and extension specialists.

The current ACSRPC web site was developed and is solely maintained by Susan Schoenian.

www.acsrpc.org
www.wormx.info



Maryland Small Ruminant Page Re-designed

The Maryland Small Ruminant Page (www.sheepandgoat.com) has been redesigned using wix.com. It is still a work in progress.

The web site was created in 1998 to serve as an information portal for sheep and goat producers. It was developed and is solely maintained by Susan Schoenian.

While the domain name remains the same, the addresses of previous pages or documents have changed or been eliminated. The web site no longer contains multiple pages of links.

www.sheepandgoat.com



The Big Five (of parasite control)



In South Africa, the Big Five refers to the five hardest wildlife to hunt: lion, leopard, elephant, buffalo, and rhinoceros. Safari operators use the term for marketing. Everyone who goes on a safari wants to see the Big Five.

Dr. Gareth Bath, a South African veterinarian, borrowed the terms Big Five to divide parasite control strategies into five broad categories: 1) animals (host); 2) worms (parasite); 3) pasture; 4) monitoring, and 5) treatment.

1 Animals

Dr. Bath coined the phrase, "Stop Selecting Sissy Sheep," to emphasize the importance of host resistance. According to Dr. Bath, too much emphasis has been placed on anthelmintic resistance as opposed to host resistance. Sheep and goats

can be selected and bred for increased resistance and resilience to internal parasites. There are successful examples.

Emphasis should be placed on the selection of resistant and resilient males. Only rams and bucks with low fecal egg counts that don't require deworming should be selected for breeding. While the selection standards for ewes and does cannot be as strict as those for males, it is still important to select ewes that are more resistant and resilient to worms. However, instead of selecting the top animals (as with males), the goal is to cull the bottom end. Targeted selective treatment using the Five Point Check© can be used to achieve this goal.

Good nutrition, especially protein and trace minerals, is essential to supporting immunity. Animals cannot express their genetic potential for parasite resistance and resilience if they are not adequately fed. The importance of dietary protein has been well-established. Less is known about the importance of trace minerals.

In order for an animal to develop immunity to parasites, there needs to be adequate exposure (challenge). The goal should not be to eradicate parasites, but rather to establish a balance between the host and parasites. At the same time,

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New ASI Representation

Susan Schoenian is the new ASI representative for the Maryland Sheep Breeders Association (MSBA). Susan is a sheep producer from Washington County. She is also the Sheep & Goat Specialist for University of Maryland Extension. Susan currently serves on the Productivity Improvement Team of the US Sheep Roadmap Project. She has received funding from ASI's Let's Grow Program to support her extension programming efforts.

The American Sheep Industry Association (ASI) is the national organization representing the interests of more than 79,500 sheep producers located throughout the United States. From East to West, farm flocks to range operations, ASI works to represent the interests of all producers.

ASI is a federation of 45 state sheep associations as well as individual members. All ASI officers, board of director members and council and committee members serve as volunteers – without pay. Funding for ASI comes from member dues and individual donations. Individual and state member dues are 0.035 cents per stock sheep and \$8 per member and must be renewed yearly.

Joan Hobbs, a Montgomery County sheep producer, has been Maryland's ASI representative for many years. Thanks to Joan for her many years of hard work and commitment to the Maryland and National Sheep Industries.

Contact Susan at sschoen@umd.edu or (301) 432-2767 x343 if there are issues you think ASI should address..



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

The Big Five (of parasite control) continued from page 4

exposure cannot be so great that it overcomes the natural ability of the animal to resist worms.

If animals are suffering from other diseases, they may not be able to express their genetic potential for parasite resistance and resilience. It is important to control other disease factors. It is important not to introduce resistant worms to the farm. Newly acquired animals should be properly quarantined and dewormed to prevent the introduction of resistant worms.

2 Worms

Parasites are a numbers game: fecal egg counts; number of larvae that hatch, mature, and survive; number of infective larvae that are consumed; number of larvae that mature into adults; and number of eggs laid.

Other numbers of importance include livestock numbers, numbers of days on pasture, days of pasture rest, and prolificacy in egg laying.



Since it can take a week to several months (depending upon the climate) for eggs to hatch and the larvae to become infective, the shorter the period of grazing, the less chance there is of a severe build-up of infective larvae. Short duration, high pressure grazing not only improves pasture utilization, but brings parasite control benefits.

If length of stay cannot be reduced, then the number of animals grazing a pasture should be reduced. Pasture contamination can be lowered by reducing the number of animals that graze a unit of land. The period of pasture rest is crucial to reducing the build-up of infective worm larvae. The period of rest required varies from one month to several months, depending upon climate and season.

Another way to remove infective larvae from a pasture is to graze the pasture with non-susceptible species, such as cattle or horses. Pasture "hot spots" increase the risk of severe parasitism and should be avoided. Examples of hot spots include grassed pens, marshy areas, and leaky water troughs. Sheep and goats are attracted to these better-watered and fertilized grazing spots.

Pasture fertilization improves pasture growth, but indirectly protects larvae from desiccation. Fertilization also improves pasture palatability which encourages intake, resulting in more infective larvae being ingested.

3 Pasture

Since pasture is the vector for transmission, it is essential that pasture factors be considered when developing a parasite control program. The risk of infection is dependent upon the height of the pasture. It is well known that the infectivity of pasture decreases in a logarithmic fashion as the height of the pasture increases. Short-cropped pastures carry an increased risk of pasture infectivity.

The type (species) of pasture affects the risk of parasitism. Certain pasture species are more prone to spreading parasite infection. Other are not. For example, sericea lespedeza has been shown to contribute to parasite control.

The slope of a pasture affects run-off and therefore larval survival. Pastures with good drainage carry a lower risk of severe parasite infection as compared to poorly-drained paddocks. The direction that a pasture faces (aspect) also affects risk. Slopes that get less direct sun are cooler and will retain their moisture longer. Extra water on pasture (e.g. irrigation) can increase risk. Soil type may have an effect on risk. Heavy, clay soils retain moisture more than light, sandy soils.

4 Monitoring

Though less useful for monitoring the parasite burden for individual animals, fecal egg counts are useful for monitoring the infection rate on pasture. Collecting pool samples every month is a good plan. Before and after fecal egg counts can be used to efficacy of anthelmintics. Individual animals should be tested. Pooled samples can be used to test for anthelmintic resistance, if the samples are collected from the same animals both times.



The Five Point Check© and other criteria such as weight gain and milk production can be used to assess the effect of parasites on individual animals. The FAMACHA© system is the most extensively researched component of TST.

The weather (rain, humidity, and temperature) can be monitored to predict conditions which are favorable to larvae development. Unfortunately, there is no scientific model which indicates the level of risk. Grazing conditions also affect risk of parasitism.

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Dewormer Charts for Small Ruminants

A dewormer chart for camelids (llamas and alpacas) has been added to the web site of the American Consortium for Small Ruminant Parasite Control (ACSRPC). The chart was developed by Dr. Lisa Williamson, a veterinarian at the University of Georgia College of Veterinary Medicine. Similar charts are available for goats and sheep.

Go to www.wormx.info. Click on Topics, then Dewormers. Links to the Dewormer charts can be found under the heading Charts. There are also links to the dewormer charts on the Wormx (ACSRPC) home page.

Gastro-intestinal parasites are one of the leading causes of illness and death in camelids. According to research, *Haemonchus contortus* (barber pole worm) for sheep is the most prevalent worm species on camelid farms in the Southeast, and camelids have similar drug resistant issues as sheep and goats.

The charts give the recommended dosages of the drugs for difference size (weight) animals. All dosages are for oral drench formulations, the recommended route of administration for small ruminants. The dewormer charts also provide withdrawal times for meat and milk. Extra-label drug use is restricted to veterinarians.

Another Successful Maryland Wool Pools

The Maryland Sheep Breeders Association held their 58th annual Maryland Wool Pool on June 17 at the Maryland State Fairgrounds in Timonium, Maryland. Fifty-eight consigners brought 29,643 lbs. of wool to the pool. After grading and sorting, the wool was packaged into 78 bales, weighing an average of 390 lbs.

Special thanks to the 30 volunteers that assisted with this year's pool. Volunteers are what makes the pool successful and profitable. Emily Chamelin is the manager of the Maryland Wool Pool. Contact her at aeriedairy@yahoo.com if you have any questions or suggestions for the wool pool.

Wool grade	Pounds	Price per lb.
Choice white	48	\$0.95
Medium white	9793	\$0.88
Coarse white	5013	\$0.78
Non-white	300	\$0.80
Short	14489	\$0.72

2015 Lambing & Kidding School

The 2015 Lambing & Kidding School will be held Saturday, December 5 at North Harford County High School Pylesville, 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 Anne's, and Washington Counties.

Which Dewormer(s) Work On Your Farm ?

Worms have developed resistance to all of the dewormers and dewormer classes ($n=3$) used to treat internal parasites in small ruminants. Resistance varies by geographic region and individual farm and is usually the result of past deworming practices.

Worms do not develop resistance to specific drugs, but instead they develop resistance to the drug's mode of action (i.e. method of killing worms). Dewormers in a dewormer class share a mode of action; thus, when resistance develops to one drug, there is cross-resistance to the other drugs in the same class, even if one drug is initially more potent than another in the same class, e.g. albendazole vs. fenbendazole.

From an industry-wide standpoint, resistance tends to be highest for the benzimidazoles or "white dewormers." This is the oldest class of dewormers. It includes fenbendazole (SafeGuard®, Panacur®), albendazole (Valbazen®) and oxybendazole (Synathic). Efficacy may be increased with increased exposure to the drug, but there is no guarantee that fasting and/or sequential dosing will be any more effective than a single dose.

Macrocytic lactones (or macrolides) represent another dewormer class. There are two subclasses to this group: avermectins and milbemycins. From an industry-wide standpoint, resistance tends to be high among the avermectins. The avermectins include ivermectin (Ivomec®), eprinomectrin (Eprinex®), and doramectin (Dectomax®). As with the benzimidazoles, efficacy may be increased with increased exposure to the drug. Ivermectin is also useful for treating external parasites and is one of the drugs of choice for the meningeal worm.

Moxidectin (Cydectin®) is the only milbemycin. In the Mid-Atlantic region, resistance tends to be less for moxidectin as compared to avermectins and benzimidazoles; however, moxidectin resistance is developing rapidly due to its widespread use and chemical similarity to ivermectin.



The third class of dewormers is called the cell depolarizers, due to the way in which they kill worms. Levamisole (Prohibit®) is the primary drug in this class. It tends to be the most effective anthelmintic on most Mid-Atlantic small ruminant farms. Less is known about morantel (Rumatel® and Positive Goat Pellet) and strongid, the other members of this dewormer class.

Monepantel (Zolvix®) is the first member of the amino-acetonitrile derivatives (AADs) or "orange" drench class. It is the first new class of dewormer since the 1980's. It is not yet available in the US. While Zolvix® should be effective against resistant strains of worms (in the US), the first cases of resistance (to Zolvix®) have already been confirmed in countries where the drug has been available for several years.

No method of parasite control will be effective unless it is backed up by at least one effective dewormer. Even "natural" or organic methods of parasite control must rely on effective drugs for treatment of clinically parasitized animals. It is essential that sheep, goat, and camelid producers know which drugs are effective on their farms, as it may be different than the norms discussed in this article.

Fecal Egg Count Reduction Test

There are two ways to determine drug efficacy. Before and after (treatment) fecal egg counts can be compared to determine the efficacy of an anthelmintic treatment. This is called the fecal egg count reduction test (FECRT). An effective treatment will reduce fecal egg counts by 95 percent or more.

A fecal egg count reduction test needs to be done for each drug and for multiple animals. It can be costly and/or time-consuming. Many producers don't have enough animals to get reliable results. A fecal egg count test will not identify the species of resistant worm(s).

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84 Bucks Start 10th Anniversary Performance Test (continued from page 1)



fecal consistency scores. Deworming will be done on an as-needed basis, as determined by FAMACHA© scores, the Five Point Check©, and other criteria (e.g. weight gain or loss).

At the end of the 84-day testing period, the ten top-performing bucks will be identified and recognized. Selection criteria will include growth rate, para-

site resistance (fecal egg counts) and parasite resilience (FAMACHA© scores and need for deworming). Bucks in the test will be available for sale via private treaty.

Some of the top-performing bucks will be returned to their farm(s) of origin and sold (as yearlings) at next year's Bluegrass Performance Invitational in Frankfort, Kentucky. This year's Bluegrass Performance Invitational will be held September 5-6. The sale will feature does consigned by consignors to the Maryland buck test.

To follow this year's test, go to the blog at <http://mdgoatstest.blogspot.com>. Subscribe to the meat goat test listserv, if you want to receive blog entries via e-mail. To subscribe, send an e-mail message to listserv@listserv.umd.edu. In the body of the message, write subscribe meat-goatstest.

The Western Maryland Pasture-Based Meat Goat Performance Test is conducted at the University of Maryland's Western Maryland Research & Education Center (WMREC) in Keedysville, Maryland.



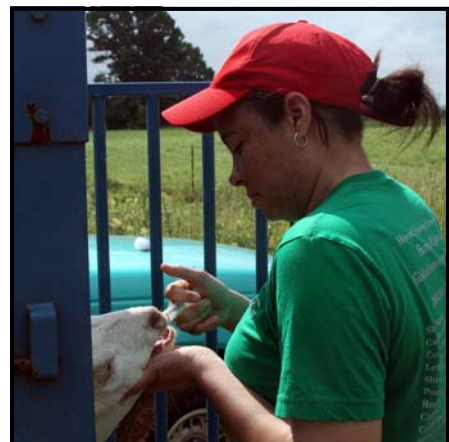
The Big Five of parasite control (continued from page 5)

5 Treatment

Anthelmintics (drugs) are an essential component of TST. However, they must be used effectively and frugally to ensure their continued usefulness. Most anthelmintic resistance can be traced back to frequent and inappropriate use of drugs.

Targeted Selective Treatment (TST) and Targeted Treatment (TT) should be implemented on all farms. The FAMACHA© system is the most widely used component of TST. The Five Point Check© is a simplified extension of the FAMACHA© system for use against other major parasites. It is gaining acceptance in the sheep and goat industry.

It is important to follow drug labels. Drug dosage should be based on weight. Most producers do not accurately guess the weight of their animals. Underdosing accelerates the development of resistant worms. If an automatic drench gun is being used, it should be set for the heaviest animals in the group. The gun should be checked for accuracy and repeatability. The most vulnerable members of the flock/herd should receive special attention, e.g. lambs/kids and lactating or heavy pregnant females.



A 4-R Program For Summer Grazing

With the arrival of summer we can generally expect warm to hot temperatures and less frequent rainfall. The vast majority of pastures managed for grazing in our area are composed of cool season grass species that grow best when temperatures are cool to warm and moisture is plentiful. Thus, we have the summer slump in pasture productivity.

Although summer weather conditions are not conducive to high yields with cool season grasses, there are some grazing management practices that can help to increase summertime productivity. These practices can be summarized as the four "Rs."

The first "R" is remove seed heads. Clipping off seed heads in late June will return grass plants to vegetative growth and improve the quality of the forage that is grazed.

The second "R" is right starting height. Do not let livestock into a pasture paddock where grass height is too short because this is almost certain to lead to overgrazing.

What is the right height? It depends upon the predominant grass in the pasture mix.

The third "R" is residual leaf area. Do not overgraze pasture paddocks. Pull livestock out of pasture paddocks while there is still sufficient leaf area for the plant to continue to photosynthesize. The general principle that is taught in grazing schools is to take half the plant and leave half the plant.

The fourth "R" is rest period. After a grazing pass allow enough time for that plant to regrow back to the right grazing height. The length of this rest period is affected by how much leaf residual has been left, the air and soil temperature, and soil moisture. Summer pasture rotations need to slow down because the grass is growing slower.

Summer weather can negatively affect cool season pastures, but following good grazing management practices can minimize those negative effects.

Source: Ohio's Country Journal

Which Dewormer (s) Work on Your Farm? (continued from page 7)

DrenchRite Test

The other method to determine anthelmintic efficacy is the DrenchRite® test or larval development assay (LDA). This is an in vitro (lab) test that uses third stage larvae to test for susceptibility to the different drugs. The assay also identifies the type of parasites that are present in the sample. The only place (in the US) that does the DrenchRite® test is Dr. Ray Kaplan's lab at the University of Georgia.

At a cost of \$450, the DrenchRite® test may seem like an expensive option. However, unlike the fecal egg count reduction test, it determines resistance to all drugs simultaneously from a single pooled sample. Moreover, its cost can easily be justified when you consider the value of a few animals that may die because they are not dosed with an effective drug. It would only take two 70-lb. market goats to cover the cost of the test.

For more information about the DrenchRite® test, including pricing, instructions, and submission forms, contact Dr. Kaplan's lab at (706) 542-0742 or jsch@uga.edu or bstorey@uga.edu.

What Works With Worms Conference Proceedings

The American Consortium for Small Ruminant Parasite Control (ACSRPC), along with the South African Veterinary Association and veterinary faculty of the University of Pretoria, recently hosted an International Congress on Sustainable Parasite Control.

What Works With Worms (W4) was held May 25-26, 2015, at the Farm Inn in Pretoria, South Africa. Proceedings from the conference have been published on the web site of the American Consortium for Small Ruminant Parasite Control (ACSRPC) at <http://www.wormx.info/#!whatworkswithworms/cx0a>.

Special Thanks

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Industry Assoc.
&
California
Commission

for providing
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Calendar Of Events

August 1

Pennsylvania Performance-Tested Ram & Buck Sale
PA Livestock Evaluation Center, PA Furnace, Pennsylvania
Info: <http://www.livestockevaluationcenter.com/Default.aspx>

August 6-8

Katahdin Hair Sheep International Expo & Sale
Rustic Lodge, Indiana, Pennsylvania
Info: www.katahdins.org

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/>

August 22

West Virginia Performance Tested Ram & Buck Sale
WVU Reymann Memorial Farm, Wardensville, West Virginia
Info: <https://www.facebook.com/wvrambucktest>

September 4-5

Bluegrass Performance Invitational
Lakeview Park, Frankfurt, Kentucky
Info: <http://bluegrassperformanceinvitational.com/>

September 23-26

Eid ul Adha - Muslim Festival of the Sacrifice

September 26

Southwest AREC Sheep Field Day and Ram Test Sale
Southwest AREC, Glade Spring, Virginia
Info: <http://www.apsc.vt.edu/extension/sheep/swarec-ram-program/index.html>

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