Going Natural With Research

By: Dahila Jackson, Delaware State University

DSU is currently gearing up for the start of research this summer. Last year was the completion of the study evaluating the level of dewormer resistance in the Mid-Atlantic region (Winter 2009 issue) and the graduate student that worked on this project, Elizabeth Crook, will head to Virginia Tech to study Veterinary Medicine in the fall.

This year, research is still continuing on the use of natural dewormers (pumpkin seeds, papaya and ginger) to control internal parasites in sheep and goats. There will be three studies conducted looking at these natural plant products during the course of the summer and determine if they can help in reducing our reliance on chemical dewormers.

As you might recall, our last study indicated that pumpkin seeds were ineffective when ground and fed mixed into the feed. A subsequent study looking at a pumpkin seed drench (6oz/75lbs body weight) and ginger drench (3g/kg body weight) administered every other day for 6 weeks found that fecal egg counts were lower for both of these groups compared to a control group.

Therefore, additional studies using ginger and pumpkin seeds will be conducted this summer to see if we get similar results and to determine the best route of

Seven Good Reasons to Cull Ewes (and Does)

By Jane Fyksen, Agriview Crops Editor

Most sheep producers have a few ewes that are “just on the payroll” and not really contributing to the operation’s profitability.

With increasing production costs, producers really need to evaluate each and every ewe and decide whether she’s really productive.

Marginal ewes –and rams–should not be maintained in the flock, says Roger High with Ohio State University’s Sheep Program. He offers a few guidelines for culling sheep.

“Open ewes are the greatest contributor to low weaning percentages and are costly in terms of feed, labor and management,” he says of starting your cull list with open ewes (and then move on to those that lost lambs due to excessive lambing difficulty, as well as those that prolapsed). He maintains that a ewe that doesn’t breed one time will lose a
Which pasture plant has anthelmintic properties?

a) crabgrass  
b) Sericea lespedeza  
c) Orchardgrass  
d) Alfalfa

True or False

Parasite resistance (fecal egg counts) is less heritable than reproductive (twinning) rate.

True

Test Your Sheep and Goat IQ

A series of online quizzes have been developed and posted to the Maryland Small Ruminant Page. The quizzes serve several purposes. They provide a means for youth to study for small ruminant skillathon competitions. For everyone else, they are a way to test or enhance one’s knowledge of sheep and goat production.

The url of the online quizzes is http://www.sheepandgoat.com/onlinequizzes.html.

Going Natural With Research (continued from page 1)

administration to see reduction in fecal egg counts.

Last year, we also found that papaya seeds (6g/kg body weight) ground and mixed with water and given to goats orally was ineffective in controlling fecal egg counts.

We will attempt to see if varying this dose can have any positive impact on fecal egg counts. These studies are being conducted in collaboration with the University of Maryland Eastern Shore.

Controlling Invasive Weeds

In addition to these studies, DSU welcomes a new graduate student, Jenna Warren, who will be working on the use of goats to control invasive plant species in Delaware.

This project is in collaboration with Delaware Department of Transportation (DelDoT). Invasive plant species are becoming a problem throughout the state of Delaware and the rest of the United States.

The only options for controlling invasive weeds include the use of chemicals, mowing, controlled burns, and animal grazing. Animal grazing is one of the best options for weed control because it is both selective and sustainable and does not have the harmful environmental impacts.

This project kicks off in June and will run until October for this year. Variables measured will include forage biomass, nutritive values, species diversity and effect of grazing on browse species during spring, summer, and fall of each grazing season. In addition, we will also determine the influence of browsing on parasite loads and body weights.

If you would like more information on this research and other research conducted at DSU, or would like to give me your opinion about the type of research and programs you would like to see at DSU, please contact me at (302) 857–6490 or djjackson@desu.edu.
significant amount of her lifetime production potential. It will take returns from two to three productive ewes just to pay for maintaining one open ewe.

Health issues are another reason to cull. They can be a large drain in terms of labor. Sheep limping from foot rot and foot scald perform poorly and should definitely be culled. Mastitis is another health issue that suggests culling. Resulting low milk production can increase labor and cost due to having to raise orphan lambs. Also check eyes for cloudiness or other issues that may cause vision problems, High mentions.

A third reason for culling a ewe is udder quality and/or soundness. “Non-functional ewes are those that have lost all or part of their udder’s function. These ewes create management difficulty because they generally cannot produce enough milk to maintain the nutritional needs of their lambs, thereby creating a need to orphan or bottle feed the lambs so they can survive until weaning,” notes High.

Structurally unsound ewes, those with few teeth left and hard keeping, emaciates ewes are also candidates for culling, as their nutritional needs are higher than average, “and there is no reason to continue producing these types of genetics as possible replacements,” he stresses.

A fourth reason for culling is late lambing. Look at lambing distribution during the lambing season and identify ewes that lamb during the third, fourth or later cycles. Generally, ewe and ram lambs born in the earlier lamb groups will be the most productive sheep in the flock, says High, noting, though, that “producer should keep in mind whose fault it was that the ewe bred in a later heat cycle.” Reasons not the fault of the ewe include: Inadequate nutrition prior to breeding season (i.e. flushing) or ram infertility.

“In general, the primary reason that a ewe flock does not breed early is due to ram infertility, and the primary reason that a single ewe does not breed early is due to ewe infertility at an inappropriate time of the year,” he remarks.

Rams generally have lower fertility early in the breeding season (July, August and early September) and higher fertility later in the breeding season (late September, October and November). A ewe may be cycling normally in the early breeding season, but due to ram infertility, she may not become pregnant.

Heat-stressed rams and infertile rams will generally need 60 days to become fertile enough to impregnate the females. If the entire ewe flock is not settling in the first two heat cycles (34 days), then a ram infertility problem should be suspected, and another ram should be placed with the ewes if you want a lamb crop during that production year, says High.

A fifth potential reason for culling is a ewe’s age. “You should not automatically cull a ewe that is six years of age, but you should consider if she can effectively make it through another year,” he points out. “Ewes need to be culled while they still have a cull value, because dead ewes have no value.” “If she can effectively produce another set of lambs without requiring more of your time and attention, then she can be maintained in the flock,” he says.

A sixth reason to cull is for genetic progress. Based on flock records, get rid of ewes that are most likely to produce poor quality lambs with lower-than-average weaning weights. Take into account ewe age, multiple births and so on. A two-year-olds adjustment for twins is different than a six-year-olds adjustment for twins. It may be detrimental to the flock to only select and keep females based on actual data rather than using genetic adjustment data, High cautions.

Culling for poor disposition – a seventh reason – is often overlooked. However, doing so can prevent a lot of stress down the road. Ewes that are difficult to maintain in a grazing situation (i.e. run through temporary fence or get under gates) shouldn’t get kept. Ewes that step on and lay on lambs in the lambing pens because of a poor and/or flighty disposition are
also candidates for culling.

“In some part-time operations, ewe disposition is a very important criterion…due to lack of time for dealing with mis-mothering, injured and poor-doing lambs,” says High. He emphasizes that culling is a better tool for eliminating dysfunctional and/or non-profitable ewes than for building genetic improvement. “The vast majority of the genetic capability of the ewe comes from the rams that you have used in the past,” he reports.

While some recommend replacing 15 percent of the ewe flock annually, High says the decision to cull ewes changes from one year to the next, depending on feed supply and costs, the need for cash flow, current lamb prices and the flock’s production cycle. Though not a big money-maker, cull ewes can still be included as income on the balance sheet; shepherds should watch markets and sell culls when the price is up.

“Generally, the thinner ewes will have a higher value per pound of body weight, and may even create more total dollars than those ewes that are fat,” adds High. Producers might want to clip the ears on a ewe they’ve decided to cull so she’s easily identifiable; the notched ears will also serve as a mental roadblock to prevent them from going soft later on and deciding to keep her after all.

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Sheep and Wool Skillathon

Seventy-nine youth competed in the Sheep & Wool Skillathon held May 2 at the Maryland Sheep & Wool Festival: 16 junior, 27 intermediate, and 36 senior. It was the 5th annual skillathon. The competition attracted youth from four states and nine Maryland counties.

The first place junior (age 8-10) was Frank Burner from Berkeley County, West Virginia. Cameron Lefevre, also from Berkeley County, placed second. Brietta Latham from Frederick County was third. The first place junior team was the Howard County team composed of Nicole King, Rebecca Herriotts, Lindsay Williams, and Mark Chaney.

The first place intermediate (age 11-13) was Aislinn Latham from Frederick County. Ryan Hevner from Carroll County placed second. Sarah McGee from Cecil County was third. The first place intermediate team was the St. Mary’s/Calvert County team composed of Charlie Sasscer, Will Jones, Jesiah Manning, and Becky Jones.

The Howard County team placed second. Team members included Rachel King, Matthew Chaney, and Dean and Audrey Bennett. The third place intermediate team was the St. Mary’s County team composed of Jason and John Fore and Travis and Mary Trossbach.

The first place senior (age 14-18) was Matt Kerner from Queen Anne’s County. David King, also from Queen Anne’s County, was second. Brett Bucci from Charles County placed third. The senior team competition was won by Queen Anne’s County. Their team included Matt Kerner and David and Julia King.

Charles County had the second place senior team. Their team included James Hancock, Brett and Michael Bucci, and Tyler Thorne. The Conodoguinet County team from Pennsylvania placed third. Team members included Benjamin and Hannah Jackson, Benjamin Shughart, and Chris Toevs.

The 2010 skillathon included breed identification, equipment identification, feed and forage identification, meat identification, hay judging, sheep judging (Blueface Leicester yearling ewes), fleece judging, a written test, a senior team problem, and a “pot luck” category.

The Maryland Sheep Breeders Association (Maryland Sheep & Wool Festival Committee) provided ribbons and premiums to the top ten individuals in each age category and Festival t-shirts to members of the top three teams in each age category. Additional prizes were donated by D-S Livestock Equipment, Sydell, and the University of Maryland Small Ruminant Extension Program.

Special thanks is extended to Greene’s Lamb for providing discount food coupons, to Rupersburger & Sons for providing lamb cuts, to City Grafx for providing table numbers, and to all the Extension faculty and staff, parents, and volunteers who helped with the skillathon.
This is the major transmission season for one of the most common sheep diseases: contagious footrot. Warm wet weather softens the hoof and soft tissues between the toes making the foot more susceptible to infection. It also favors the transmission of the causative bacteria, *Dichelobacter nodosus* (formerly *Bacteroides nodosus*), from the hooves of carrier sheep to the hooves of unaffected animals. For a review of the causes of virulent and benign footrot in sheep, as well as “scald,” the reader is referred to the last issue of Wild & Woolly.

When footrot appears in a flock, it often seems to go away, or become less severe, as the weather gets hotter and dryer in mid to late summer. Sometimes this appears to be a positive response to a treatment effort, and the shepherd thinks he/she has “cured” it. Unfortunately, eradication of footrot usually takes a planned and concerted effort in most flocks, and many shepherds find that what they thought had disappeared, reappears at this time of year when weather conditions increase the irritation to the foot and favor transmission of the bacteria.

If your flock experienced a footrot problem last year, you might wish to begin considering how to deal with it again this year to limit the labor and production costs it often creates. Scientists usually advise that attempts at eradication of footrot during times of high probable transmission is unwise, but that attempts to control the disease should help limit the number of animals affected and the numbers of cases that progress to severe disease. There are two main methods for controlling footrot during the transmission period — vaccination and topical treatment with a footbath.

Footvax® is used for vaccination for *D. nodosus* in the US. This product contains ten strains of this organism in an oil-based carrier. When one of these strains is present in a flock, the vaccine may stimulate a strong immune response that provides protection from infection in many sheep and a significant reduction in severity of foot damage in many others. Unfortunately, some strains of this bacteria exist in the US that are not present in the vaccine, and the lack of complete cross-protection across strains often leads to disappointing results. There currently is no easy way to determine which strain is present in a flock, but if footrot has been a recurring problem, it may be worth using the vaccine to evaluate its potential usefulness. The vaccine requires a primary series of two injections at least six weeks, and not more than six months, apart. Booster vaccinations can be given at six-month intervals or annually just prior to an expected period of transmission. It is important to try to stimulate a strong immune response that will precede, or coincide with, an expected period of transmission. Because the vaccine contains an oil base, users should carefully follow the label precautions and avoid accidental human injection.

Zinc sulfate in a 10% solution (8 pounds of zinc sulfate powder [hepta hydrate] in 10 gallons of water) is the most commonly recommended solution for use in footbaths. A small amount of powdered laundry detergent, about a half cup, is usually added to improve the penetration of hoof horn. Although formalin (formaldehyde) solutions have been recommended for footbaths in the past, they are very irritating if inhaled or splashed in the eyes, are quite irritating to the skin between the hooves, can cause the hoof to become hardened and difficult to trim, are less penetrating than zinc sulfate, and formalin now classed as a probable human carcinogen.

Research has shown that footbathing in a control effort helps primarily in the early stages of infection where it is limited to the skin between the toes and before serious damage to the horny tissue has begun. Therefore, if it is likely that the flock has footrot, footbathing should start early in the transmission period to limit the number and severity of new cases. Numerous recommendations for the length of time animals should spend in the footbath, from walk-through baths to one-hour soaks, can be found in the scientific literature.

Although one-hour soaks can result in higher “cure” rates and longer protection against reinfection, they can be difficult to accomplish with large groups of sheep. Some researchers have gotten good results with 2-5 minute soaks, but these will probably need to be repeated weekly during seasons of high transmission. It is generally agreed that footbathing success is improved if the sheep have relatively clean feet when they enter the footbath.
Footrot and Foot Scald: Part II  Continued from page 5

and if they are placed on a clean dry surface for a couple of hours after bathing.

It is believed that the combination of vaccination and footbathing is more effective than either administered alone. Footbathing may be especially useful if vaccine use was delayed until the onset of the transmission season.

Contrary to popular belief, the bacteria that cause contagious footrot do not survive outside the sheep’s foot for more than seven days. This fact is critical to the success of eradication efforts (which are most successful during dry periods when transmission is unlikely).

However, because neither vaccination or footbathing are likely to be 100% successful in the short term, and because many flocks will not have enough separate pastures to allow a contaminated paddock to rest seven days, spelling pastures during a transmission period is seldom possible or recommended. The goal of footrot control during a transmission period is the reduction of the number and severity of cases, not eradicating the disease.

Another common misconception is that foot trimming prevents footrot. Foot trimming does not prevent sheep from getting footrot. Foot trimming will improve the success of footbathing in sheep which have more advanced disease with hoof separation, or under-running, of the horny tissues of the sole and wall. Foot inspection and appropriate paring are critical to an eradication effort, but inspection and trimming of every animal’s feet may not be necessary for control efforts during seasonal periods when the risk of transmission is high.

Excessive trimming can reduce the effectiveness of footbathing and can lead to permanent damage to the hoof. It is usually adequate to remove only the excessive horny tissue to expose pockets of infection to the footbathing solution.

Severe cases of footrot are costly and may create an animal welfare concern. A review of a flock’s past history and a little planning can reduce the impact of this disease and is particularly relevant as we approach warm wet weather this spring.

Originally published in OSU Sheep Team Newsletter April 2009. Reprinted with permission from author

Seventy - Two Goats Start 2010 Performance Test

Seventy-two goats (all intact males) started the Western Maryland Pasture-Based Meat Goat Performance Test on June 5. Most of the goats are Kiko or Kiko cross. In addition, there are three Myotonic, two Boer, two Savannah, and various crossbreds in the test. Twenty consigners from 12 states are participating in this year’s test: DE, IL, KS, KY, MD, MO, NC, OH, PA, TN, VA, and WV.

The test is in its 5th consecutive year. It was initiated in 2006 to evaluate and compare the performance of meat goats consuming a pasture-only diet with natural exposure to gastro-internal parasites (primary the barber pole worm).

While on test, the goats are managed as a single herd on pasture. They are rotationally-grazed among five, 2-acre paddocks, composed of cool season grasses (orchardgrass and MaxQ™ tall fescue), 5 acres; dwarf pearl millet, 2 acres; chicory, 2 acres; and volunteer weeds, 1 acre.

They always have access to a central laneway containing water, minerals, shelter, and a handling system. The goats are handled bi-weekly to determine body weights, FAMACHA® eye anemia, body condition, and coat condition scores, and collect fecal samples.
Seventy-Two Goats Start 2010 Performance Test  (Continued from page 6)

The goats on this year’s test range in age from 77 to 171 days and average 118 days of age. Their starting weights ranged from 28 to 75 lbs. The average starting weight is 44.3 lbs. The first two weeks of the test will serve as an adjustment period. Official starting weights will be recorded on June 17.

To follow the progress of the test, visit the blog at http://mdgoattest.blogspot.com. Ask to be added to the e-mail reflector list so you’ll receive blog entries via e-mail. Bi-weekly reports can be downloaded from the blog.

Be sure to mark your calendar for Saturday, October 2nd. This is the date of the Western Maryland Annual Goat Field Day, Sale, and Goat Skillathon. The top-performing bucks in the test will be offered for sale, along with doe kids and yearling does. The event will be held at the Washington County Agricultural Education Center near Boonsboro (adjacent property to the test site). There will be more information in the next newsletter.

2010 Maryland Wool Pool

The 53rd Annual Maryland Wool Pool will be held on Wednesday, June 16 from 8:30 a.m. to 2:30 p.m. at the Maryland State Fairgrounds in Timonium. There will be three lines to accept wool: one line for square bales and two lines for loose wool.

Prices are higher than last year’s prices by a few cents per pound: choice white-face, 0.55 per lb.; medium white-face, 0.54; coarse white-face, 0.51; non white-face; 0.49; and short, 0.37. This year’s pool has been purchased by Chargers, Inc. of Jamestown, South Carolina.

The price for wool will be the above prices minus a deduction for pool expenses (usually between 5 and 8 cents per pound). A check will be mailed within several weeks of the pool. Maryland Sheep Breeders Association annual dues of $25 will be withheld on wool sales over $40.

Wool will be shipped to the buyer in nylon square bags. Producers bringing wool to the pool in nylon square packs weighing 250 lbs. or more will receive a 5 cent per pound bonus payment and a replacement wool pack. Smaller lots of wool can be delivered in clear plastic bags or loose in the vehicle.

Wool delivered in polypropylene bags will be refused. Wool delivered in burlap bags will be discounted 3 cents per pound. The pool will not accept wet wool, black and gray wool, and wool from hair sheep or hair sheep crosses.

Questions or concerns pertaining to the wool pool should be directed to Rich Barczewski (pool manager) at (302) 857-6410 (day time), (302) 659-1211 (evening, before 9 p.m.), or rbarczewski@desu.edu.
Creep Feeding Primer

By: Susan Schoenian
Small Ruminant Specialist
University of Maryland Extension

Creep feeding is a means of providing supplemental nutrition to nursing lambs and kids. It is accomplished by giving lambs and kids access to extra feed or better quality pasture, while excluding their dams.

Lambs and kids that are born in the winter months are often creep-fed, since pasture is not readily available. Show animals are typically creep-fed, in order to get them bigger for show.

Creep feeding is recommended for accelerated lambing and kidding programs, in flocks and herds where there are a lot of multiple births, and anytime milk production is a limiting factor. Artificially-reared lambs and kids should be creep-fed. Creep feeding is also advisable when pasture quality or quantity is lacking.

Lambs and kids that are creep-fed will almost always grow faster than those that are not, especially if concentrates are the source of supplemental nutrition. Faster growth means lambs and kids can be marketed younger and sooner, often in time for high demand periods (e.g. Orthodox Easter).

Creep feeding teaches young animals to eat. It reduces the stress of early weaning. The rumens of creep-fed lambs and kids will develop faster. I have seen three week old lambs chewing their cuds. It is always more economical to feed lambs and kids than does and ewes. A young lamb or kid converts feed to gain very efficiently.

Creep feeding does not need to be complicated. A “creep area” may be set up in the barn or out on pasture. The creep barrier needs to be big enough for lambs to fit through, but small enough to keep even the smallest ewe out. Even a tire can be used as a creep barrier. Creep feed may be fed in troughs or self-feeders. Good creep feeders don’t allow lambs or kids to play on or put their feet in the feeders.

Creep rations don’t need to be complicated - just fresh, palatable, always available, and highly-digestible. Typical feed ingredients are ground or cracked corn, alfalfa hay or meal, soybean meal, oats, and molasses. The percent protein in the creep ration should be at least 14 to 18. The protein should be all-natural.

It is recommended that lambs and kids be introduced to creep feed early in life, ideally by the time they are 10 days old. You can make your own creep ration or purchase a commercial product. On my farm, I start with a mixture of soybean meal, cracked corn, and minerals. Some producers use straight soybean meal for their creep starter or topdress their creep ration with it. Soybean meal is very palatable to young lambs and kids. As my lambs get older and begin chewing their cuds, I gradually switch their creep ration to whole barley and a pelleted protein supplement.

When lambs are young, feeds with a smaller particle size are more palatable to them. As they get older, they prefer coarser feeds and are able to digest whole grains very efficiently. The protein content of the ration can be reduced as the lambs get older.

For disease prevention, it is a good idea to include a cocidiostat and urine acidifier in the creep ration. The ratio of calcium to phosphorus should be at least 2:1 to prevent urinary calculi in male lambs and kids.

Creep-fed lambs and kids are more susceptible to enterotoxia, “classical” overeating disease (Clostridium perfringens type D). Their dams should be vaccinated approximately one month before parturition. Lambs and kids should be vaccinated as their colostral immunity wanes, at approximately 6-8 and 10-12 weeks of age.

Lambs and kids from unvaccinated dams should receive their first vaccination for overeating disease when they approximately four weeks old, followed by a booster four weeks later. Earlier vaccines are not likely to be effective due to the immature immune system of young lambs and kids and the interference of the maternal antibodies. Overeating disease most commonly affects the fastest growing lambs and kids, usually past a month of age.

Creep feeding is a common practice in the sheep and goat industry. All producers need to evaluate the appropriateness of the practice for their production and marketing systems. For creep feeding to be economical, the higher value (extra weight and higher prices) of creep-fed lambs and kids needs to exceed the cost of the creep feed. Creep feeding may not always be economical, especially on farms with high quality forage.
Grilled American Lamb Kebobs with Orzo

# Servings: 4

1-1/2 pounds *American lamb* boneless leg, cut into 1-1/2-inch cubes
1/4 cup olive oil, divided
4 teaspoons lemon juice
2 cloves garlic, finely chopped
1 tablespoon chopped fresh rosemary leaves
1 medium zucchini, cut into 1-inch-thick slices
1 small red onion, cut into small wedges
4 wooden skewers, soaked in water
Salt and pepper to taste
1 cup orzo pasta, cooked according to package directions
1/2 cup coarsely chopped roasted red bell peppers
1/3 cup pitted kalamata olives, quartered
1 teaspoon shredded lemon peel

Recipe For Grilling

In large sealable plastic bag, combine lamb, 3 tablespoons olive oil, lemon juice, garlic and rosemary. Refrigerate and marinate for 1 hour or overnight. Remove lamb from marinade and discard marinade. Alternately thread lamb, zucchini and red onion onto skewers. Season kebobs with salt and pepper.

Grill over medium-hot coals 7 minutes per side or until desired degree of doneness: 145ºF for medium-rare, 160ºF for medium and 170ºF for well-done. Remove lamb from grill, cover and let stand 5 minutes. Toss cooked pasta with remaining 1 tablespoon olive oil, roasted red peppers, olives and lemon peel. Serve with lamb.

This recipe and others are available at American Lamb website: http://www.americanlamb.com/home.aspx

Sheep Safety and Quality Assurance - Online

You can now become Sheep Safety and Quality Assurance (SSQA) Level 1 certified from the comfort of your own home. The American Sheep Industry Association (ASI) recently released their newly developed online version of this training. It is available at http://www.sheepusa.org/ by clicking on “Online Education.”

The Level 1 training is designed to educate producers on the basics of assuring safety and quality in American lamb products, to describe and define the safety and quality guidelines, and to assure that producers understand the concepts and reasoning behind the development of the guidelines and the importance of their implementation.

At the conclusion of the training, participants complete the assessment and mail to the results to ASI to be added to the growing list of producers who believe that producing safe and high quality lamb is of utmost importance.

Source: ASI Weekly
http://sheepindustrynews.org/sheep_safety/

Langston University offers a unit on Meat Goat Quality Assurance as part of their web-based Training and Certification Program for Meat Goat Producers. http://www2.lurexst.edu/goats/training/ga.html

Calendar of Events

**June 16**
Maryland Wool Pool
Maryland State Fairgrounds, Timonium, MD
Info: Richard Barczewski — email rbarczewski@desu.edu
302- 857-6410 (day time),
302- 659-1211 (evening, before 9 p.m.)

**June 24**
Red Meat Mobile Slaughter Unit Information Session
Washington County Agricultural Education Center
Boonsboro MD
Info: Leslie Hart at 301-432-4782 or
lhendrickson@washco-md.net

**July 6-8**
Maryland 4-H Livestock Round-Up
Frederick County 4-H Camp, Frederick MD
Info: University of MD County Extnsion Offices or Chris Anderson at canders2@umd.edu

**July 31**
West Virginia Performance TestedRam and Buck Sale
WVU Reymann Memorial Farm, Wardensville,WV
Info: Brad Smith at 304-257-4688 or email:
Brad.smith@mail.wvu.edu
Calendar of Events Continued

August 7
Pennsylvania Performance Tested Ram and Buck Sale
Pennsylvania Livestock Evaluation Center
PA Furnace, Pennsylvania
Info: Glen Hubbard at (814) 238-2527 or ghubbard@state.pa.us

August 28
Virginia Performance Tested Ram Lamb Sale
Virginia Sheep Evaluation Center, Steele’s Tavern, Virginia
Info: Scott Greiner at (540) 231-9163 or sgreiner@vt.edu

October 1 and 2
Scott County Hair Sheep Association Field Day
and Private Treaty Sale
Natural Tunnel State Park and Cove Ridge Center
Info: http://www.hairsheep.us/NaturalTunnel2010.html or postmaster@hairsheep.us

October 2
Western Maryland Annual Goat Field day,
Sale, and Junior Skillathon
Washington County Agricultural Education Center
Boonsboro, Maryland
Info: Susan Schoenian at (301) 432-2767 x343 or sschoen@umd.edu

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Comments and suggestions regarding the newsletter are always welcome. References to commercial products or trade names are made with the understanding that no discrimination is intended and no endorsement by University of Maryland Extension is implied.

More information on sheep, goats, and upcoming events can be accessed at:
http://www.sheepandgoat.com/
http://www.sheep101.info/
http://mdsheepgoat.blogspot.com
http://www.sheepgoatmarketing.info.