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## Western Maryland Pasture-Based Meat Goat Performance Test

A Pasture-Based Meat Goat Performance Test was initiated at the Western Maryland Research & Education Center in Keedysville, Maryland, on June 10, 2006. Thirty-one (31) goats remain on test. The test will conclude on October 7. While on test, the goats have been evaluated for growth performance, carcass merit, and parasite resistance.

### Six states represented

The goats in the test were consigned by breeders from six states: Maryland, Pennsylvania, Virginia, West Virginia, Georgia, Tennessee, and Oklahoma. All of the goats are intact males. They are Kiko, Boer, and Kiko x Boer crosses.

The goats have been handled every two weeks to determine their FAMACHA®



eye anemia scores, body condition scores, and need for deworming. They have been weighed every four weeks to determine average daily gain (ADG). Fecal samples were collected at 0, 28, and

56 days and are still being analyzed to determine genetic differences in parasite resistance (i.e. fecal egg counts). The goats were scanned on September 25 to determine carcass characteristics.

While on test, the only supplementation the goats have received is free choice minerals, provided by Summit Livestock Minerals, of Pulaski, Virginia. The goats are rotationally grazed on ten acres of cool season grasses. They always have access to a central laneway containing

(Continued on page 4)

## Goat AI Workshop at UMES

Dr. Niki Whitley at the University of Maryland Eastern Shore (UMES) is hosting a goat artificial insemination (AI) workshop/clinic to be taught by Biogenics, Ltd. on November 1-2, 2006. The workshop will be two days long (from 9 am to 6 pm both days) with the first day consisting of classroom teaching and the second day hands-on learning/practice.

Goats for the hands-on work will be provided by UMES, however, you must provide your own equipment for AI. For more information about the format or equipment see: <http://www.biogenicsltd.com/clinics.html> or to sign up for one of five spaces available, please contact Dr. Whitley at [nwhitley@umes.edu](mailto:nwhitley@umes.edu) or 443-614-1968.

*Research Highlights*

# Fecal Egg Counts Affected by Sire

Dr. Niki Whitley, University of Maryland Eastern Shore

UMES has been conducting a SARE funded study for the past three years looking at lamb performance when using different ram breeds on Katahdin ewes. This year, lambs are represented by 3 different sires per breed, resulting in some very interesting results at weaning.

At least 9 ewes were bred to each ram with at least 20 ewes lambing to represent each breed. Lambs were not creep fed and only got the amount of grain they could “steal” from their mothers at feed time. They were weaned at approximately 90 days of age.

At weaning, fecal samples were collected to look at internal parasite egg counts and blood samples were drawn to determine if the animals were anemic. If they were anemic (packed cell volume 20% or less), they were dewormed with Cydectin®. All animals were dewormed with Safeguard® for tapeworms (but it’s not very effective on any other worms in our flock).

Although we have not used statistics to analyze the results, there were breed (and minor sire) differences in parasite resistance indicators in the lambs at weaning. It seems that Suffolk and Dorper sired lambs had the highest fecal egg counts (reported as eggs per gram, or epg, of feces) and also had the highest percentage of lambs that needed deworming (see Table 1 and 2). Texel lambs had the lowest and Katahdin the second lowest fecal egg counts and similar amounts of lambs that needed deworming.

Texel lambs also had low fecal egg counts last year, but there was only one sire represented. This data seems to confirm (so far) that Texel sired Katahdin lambs have low fecal parasite eggs. Other studies have found that Dorper sired lambs had high fecal egg counts, but it was thought that they were more resilient (more tolerant of the worms), but that is not the case so far in this study.

Again, though we have not analyzed the data yet to see if there are true differences, numerically, the overall lowest counts were for lambs from a Texel ram (288 epg). A Katahdin ram, WES 502, sired the purebred Katahdin lambs with the lowest fecal egg counts at weaning (887 epg compared to 1189 and 2098 for the other rams). The Suffolk ram with lambs having the lowest fecal egg counts in their sire breed group had 995 epg (compared to 1322 and 2247 epg for the other rams) and the Dorper ram with lambs having the lowest fecal egg counts in their breed group was from a local farm (1921 epg).

So far, these are interesting results, but there is still more data to collect and statistical analysis to be conducted. Stay tuned for more information as it becomes available. Anyone interested in using a Texel, Suffolk or Dorper ram on their farm (free), please contact me (Dr. Niki Whitley) at 410-651-6194 or [nwhitley@umes.edu](mailto:nwhitley@umes.edu).

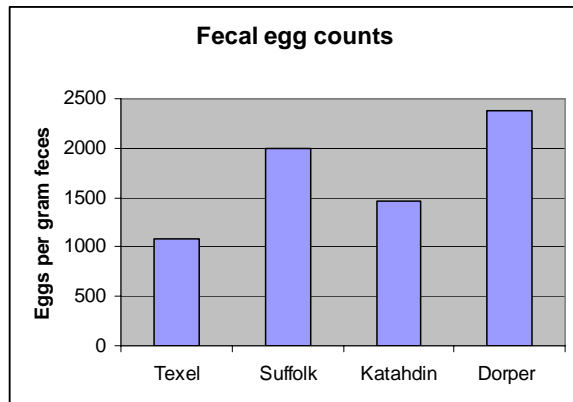


Table 1.

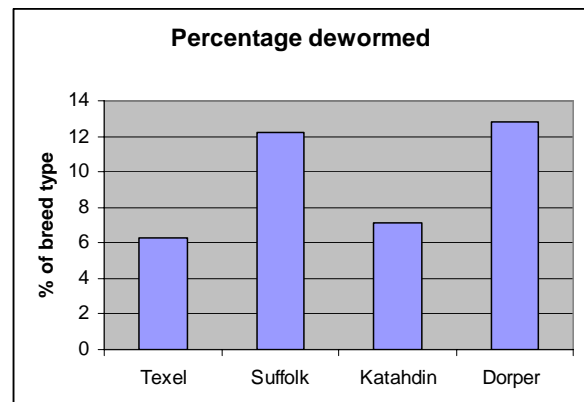


Table 2.

*Just for Youth***4-H/FFA Meat Goat Show at MD State Fair**

This was the fourth year of the 4-H/FFA Meat Goat Show at the Maryland State Fair. Each year, the show gets bigger and better, and the competition gets stiffer.

This year's Grand Champion Meat Goat Showman was Konnar Miller from Smithsburg. Konnar was the Intermediate Champion. Kyle Hudson from Avenue was the top senior showman, while Cooper Bounds from Taneytown won the junior competition. This was the first year of the Dean's Championship Challenge. Konnar bested last year's champion Troy Bennett to win this honor.

Konnar was also the exhibitor of the Grand Champion Market Goat. Her 88-lb. doe kid brought \$5.50 per pound in the 4-H Livestock Auction. The Reserve Champion Market Goat was an 88-lb. wether exhibited by Grace Garst from Walkersville. Grace opted not to sell her goat in the sale.

Claire Bennett from Uniontown exhibited the market goat with the highest rate-of-gain. Her 94-lb. doe kid gained 0.63 lbs. per day. This is an exceptional rate of gain for a goat. Claire also had the market goat with the second highest rate-of-gain at 0.48 lbs. per day. The champion and reserve champion market goats both gained well at 0.42 lbs. per day.

This year's rate-of-gains were significantly better than previous years. The 52 goats in the show average 0.289 lbs. per day, compared to 0.234 last year. By way of comparison, the buck kids in our Meat Goat Performance Test are gaining 0.238 lbs. per day on a pure pasture diet with no grain supplementation. Market goats which gained more than 0.3 lbs. per day received blue (excellent) awards. Those gaining between 0.2 and 0.29 lbs. per day received red (very good) awards and those gaining less than 0.2 lbs. per day received white (good) awards.

This was the first year the meat goat breeding show was divided into commercial and registered shows. The Champion Registered Doe was a 2 year old doe exhibited by Grace Garst. The Champion Commercial Doe



*Champion Senior Showman Kyle Hudson (left); Champion Intermediate and Overall Champion Showman, Konnar Miller (center right); First Place Junior Showman, Cooper Bounds (right); pictured with Bob Hare, judge.*

was a yearling exhibited by Kyle Hudson. Grace's registered doe was named Grand Champion Doe of the 2006 show.

The Champion Commercial Buck was a senior buck kid exhibited by Sara Culver from Elkton. The Reserve Champion was the second place senior buck kid exhibited by Carlene Lease from New Windsor. In the registered division, Levi Lantz (Oakland) had the Champion Buck, while Cody Thorne (Bryantown) was the exhibitor of the Reserve Champion Registered Buck.

The judge for both this year's and last year's show was Bob Hare from Winchester, Ohio. Bob is a senior judge with the U.S. Boer Goat Association.



*Konnar Miller with her Champion Market Goat (right); Grace Garst with her Reserve Champion Market Goat*

As the show continues to grow and improve in quality, changes can be made. For next year, I plan to add classes for Best Bred and Owned Market Goat and Best Bred and Owned Doe. The fitting and showing classes are getting large enough that we should divide them. The doe kid classes are also big enough to warrant another class split into junior, intermediate, and senior doe kids. The other idea I have is to add a class for performance tested bucks. In this class, 4-H youth would consign buck kids to our meat goat performance test in Western Maryland. I would also like to see about adding a few goats to the 4-H auction. Currently, we can only sell six market goats.

Please contact Susan at (301) 432-2767 x343 or sschoen@umd.edu if you have suggestions as to how we can improve 4-H meat goat projects and the meat goat show at the Maryland State Fair.

**Sponsors Needed**

We are looking for persons, farms, or organizations who would like to sponsor an award for the 4-H/FFA Goat Show at the Maryland State Fair. Please contact Susan at (301) 432-2767 x343 or sschoen@umd.edu or Willie Lantz at (301)-334-6966 or wlantz@umd.edu if you are interested.

Visit <http://mdsheepgoat.blogspot.com/> to view additional photos.

## Goat test (continued from page 1)

their Port-a-hut shelters, water, and mineral feeders. The laneway also contains a handling system where the goats can be gathered and individually handled.

### 84-day report

The 31 bucks have gained an average of 0.256 lbs. per day for the first 84 days of the test (through August 31). Individual goats have gained between 0.110 and 0.378 lbs. per day. Body condition scores have not changed considerably over the test period, while FAMACHA® scores have varied throughout the testing period. 21/31 goats required deworming on August 4, 11/31 on August 18 and September 15. Deworming was minimal at all other times. The decision to deworm is based primarily on FAMACHA® and body condition scores. A full report will be contained in the next newsletter.



### Next Year

Next year's Western Maryland Pasture-Based Meat Goat Performance Test will begin on June 9, 2007 and conclude on October 6. The 2007 test is open to buck and wether kids of any breed or breed cross. Registration papers are not required. Goats must be born between December 15, 2006, and March 15, 2007 (inclusive). Producers may consign up to 5 animals. It is recommended that producers consign at least two goats.

A maximum of 50 goats will be accepted for the test. The test is open to producers, including 4-H youth, in any state, but Maryland producers are guaranteed 50 percent of the test slots. Consigners are required to sign a statement releasing the University of Maryland from any liability. There will be a fee for each goat consigned. This year the fee was \$75 per goat. If we are able to find sponsors, this fee can be reduced. The fees pay for pasture maintenance (lime

and fertilizer), fencing repairs, veterinary costs, and labor.

Keep up-to-date with the pasture test by visiting the web site: <http://mdgoatstest.blogspot.com/>

## MPWV Meat Goat Fall Meeting

The fall meeting of the MPWV Meat Goat Producers Association will be held on November 18<sup>th</sup> starting at 9 a.m. at the Berkeley County Fairgrounds near Martinsburg, WV. The day will include an educational program, the Association meeting, a lunch featuring goat meat, and an auction at 1:00 p.m. of about 100 breeding goats. For more information on the sale, call Willie Lantz at 301-334-4121 or email [wlantz@umd.edu](mailto:wlantz@umd.edu).

The purpose of the MPWV is to promote the production of meat goats in the region. Membership is open to anyone. The membership fee is \$35 for the first year and \$20 to renew. For information on the MPWV visit their website at [www.meatgoat.biz](http://www.meatgoat.biz).

## Meat Production with Goats & Sheep Forum

The Forum for Rural Innovation will present "Meat Production with Goats and Sheep in the Mid-Atlantic: Turn Grass into \$\$\$" on Friday, October 13, 2006, at the Best Western Lee Jackson Motor Inn & Conference Center in Winchester, Virginia.



The forum will feature a series of presentations to detail the potential of small ruminants and address several of the essentials for getting started in production. It is intended to provide farmers, landowners, rural business owners, local elected and appointed officials, Extension educators, economic development and planning professionals an opportunity to hear innovations in the sheep and goat industry.

Space is limited to the first 150 people who register. Pre-registration is required by October 3. The \$30 registration fee includes continental breakfast and lunch (featuring lamb and goat).

## Worms, Worms, and . . . more Worms!

### Testing for Anthelmintic Resistance

DrenchRite<sup>®</sup> is an in vitro test that involves hatching out worm larvae from a composite fecal sample and testing the larvae for vulnerability to the different anthelmintics. The DrenchRite<sup>®</sup> test is commonly used in Australia and is available through the diagnostic lab at the University of Georgia, College of Veterinary Medicine.

#### On a Maryland farm

A DrenchRite<sup>®</sup> test was recently conducted on a composite fecal sample from a sheep farm in central Maryland. Test results showed high resistance to the benzimidazole group of anthelmintics (Valbazen<sup>®</sup> and SafeGuard<sup>®</sup>). Drug efficacy for this class of drugs was predicted to be only 6 percent. Resistance to levamisole (Levasol<sup>®</sup>, Tramisol<sup>®</sup>, Prohibit<sup>®</sup>) was moderately high. Drug efficacy for levamisole was predicted to be 66 percent for the barber pole worm (*Haemonchus contortis*) and only 51 percent for *Trichostrongylus*.

Suprisingly, barber pole worms on this farm were still sensitive to ivermectin. However, *Trichostrongylus* worms were resistant to ivermectin. All stomach worms were sensitive to moxidectin (Cydectin<sup>®</sup>, Quest<sup>®</sup>). The DrenchRite<sup>®</sup> test does not directly test for moxidectin resistance, but resistance can be determined based on ivermectin doses.

#### Limit use of moxidectin

Based on the results of this test, this producer should not rely on the benzimidazoles for treatment of stomach worms. These products should still be effective against tapeworms, though tapeworms tend to be non-pathogenic in most flocks. To preserve the effectiveness of moxidectin, this producer should limit its use to clinically parasitized animals (e.g. FAMACHA<sup>®</sup> scores 4 or 5).

The DrenchRite<sup>®</sup> assay offers a viable alternative to the laborious task of performing multiple fecal egg counts. However, testing is currently on hold, as the lab in Georgia seeks a new lab technician. For more information, visit:

<http://www.scsr.org/SCSRPC/ProdRec/sdrench.htm>

### Double Dose Fenbendazole (for Goats)

Fenbendazole or Safe-Guard<sup>®</sup> received Food and Drug Administration approval for use in goats in 2003. In the summer of 2004, "Safe-Guard<sup>®</sup> Dewormer for Goats" became available in a 125 ml bottle. The labeled dosage is 2.3 ml per hundred pounds of body weight, the same as cattle.

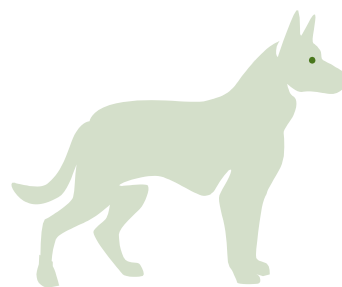
In goats, Safe-Guard<sup>®</sup> is labeled for the removal and control of *Haemonchus contortus* and *Teladorsagia circumcincta* (adult worms). For years, veterinarians have been advocating 2X the cattle dose or a 10 mg/kg dose for goats (approximately 5 ml or a 10 percent suspension per 100 lbs. of body weight. This is twice the cattle dose and twice the current labeled goat dose of 5 mg/kg. Tapeworm control is achieved at the 10 mg/kg level, but not the 5 mg/kg level.

Intervet, the manufacturer of Safe-Guard<sup>®</sup>, is reviewing the possibility of obtaining a higher dose on the Safe-Guard<sup>®</sup> goat label. Fenbendazole is not FDA-approved for use in sheep. Goats should not be slaughtered for food within six days of treatment. Safe-Guard<sup>®</sup> should not be used in lactating dairy goats.

### Dog Sniffs Sheep for Worms

A sniffer dog has been trained to tell which sheep have parasitic worms, Australian researchers show.

The dog's skills will be used to develop an electronic handheld "sniffer" device to detect gastrointestinal nematodes in sheep.



"Scents, and the use of sniffer dogs to detect them, are used to determine the presence of a number of substances," says chief investigator Associate Professor Mark Sandeman. For more information visit

<http://www.abc.net.au/science/news/stories/s1617432.htm>



## Featured Web Sites

### Scott County Hair Sheep Association

<http://www.hairsheep.us/index.html>

The Scott County Hair Sheep Association launched its new web site on June 1, 2006. The new web site offers an exciting online venue for members and non-members to meet, share ideas, and discuss industry



**Scott County Hair Sheep Association**

issues. Board member Martha Mewbourne says, "the new web site is a testament to the growth and progressive attitude of this organization. The web site adds a new dimension to our organization and a convenient place for our community to meet and interact."

The web site features many educational resources, talk forums, classifieds, recipes, and the ability to join the association online. Enhanced features such as a detailed member index and the ability to post classified ads online are available to association members through the site. Non-members are welcome on the site and may register to participate in the forums. Those interested in membership may download a PDF application or apply directly on the web site. Online dues payment will be available in the near future.

### Hair Sheep Proceedings Online

<http://www.sheepusa.org>

In June 2005, Virginia State University hosted a Hair Sheep Workshop. The workshop was co-sponsored by the National Sheep Industry Improvement Center ([www.nsiic.org](http://www.nsiic.org)) and the NCERA-190 Regional Research Project (Increasing efficiency of sheep production). The purpose of the workshop was to provide timely, research-based information on the production potential of hair sheep and their role in the U.S. Sheep Industry.

A web site was created to summarize the invited presentations. The web site is being hosted by the American Sheep Industry



**Joan Burke, USDA-ARS, Booneville, AR**

Association at [www.sheepusa.org](http://www.sheepusa.org). To view the proceedings of the Hair Sheep Workshop, click on the RESEARCH JOURNAL icon, then 2005 Hair Sheep Workshop.

## Maryland Sheep News is BAAACK!

The *Maryland Sheep News* has been on hiatus for a couple of years. It is the newsletter for the Maryland Sheep Breeders Association. Sarah Ruckelshaus is the new editor of the Sheep News. Sarah can be reached by e-mail at [sarah@ruckelshaus.com](mailto:sarah@ruckelshaus.com). Please give your support to Sarah.

The *Maryland Sheep News* is sent to all members of the Maryland Sheep Breeders Association. The annual membership/subscription fee is \$15. If you take your wool to the Maryland Wool Pool, membership in MSBA is deducted on wool sales over \$30.

The membership year runs from October through September. Dues for membership received prior to June 1, 2006 will be accepted as paid through September 30, 2006. Dues received June 1, 2006 and later (including dues deducted at the Maryland Wool Pool) will be accepted as paid through September 30, 2007.

## SCOURING for Answers?



Diarrhea is defined as an increased frequency, fluidity, or volume of fecal excretion. In livestock, diarrhea is called scours. There are many causes of diarrhea: bacterial, viral, parasites, and diet.

Diarrhea should not be considered an illness in and of itself but rather a symptom of other more serious health problems in sheep and goats. Diarrhea is not always the result of an infectious disease. It can be induced by stress, poor management, and nutrition.

A scouring lamb or kid loses large amounts of fluids and electrolytes, such as sodium and chlorine. Usually, the cause of death in scouring lambs and kids is dehydration and acidosis, or increased body acidity. Whatever the microbial cause of scours, the most effective treatment for a scouring lamb or kid is rehydration by administering fluids.

Before treating an animal for diarrhea, it is essential to determine why the animal is scouring. Take the animal's temperature using a rectal thermometer. If body temperature is above the normal range (102-103°F), fever medications and antibiotics can be used to control the infection.

### Infectious causes of diarrhea in sheep and lambs

<b>Bacterial</b>	<i>E. coli</i> <i>Salmonella sp.</i> <i>Clostridium perfringens</i>
<b>Viral</b>	Rotavirus Coronavirus
<b>Protozoa</b>	Cryptosporidia Coccidia ( <i>Eimeria sp.</i> ) <i>Giardia sp.</i>

### Non-infectious causes (or contributing factors)

<b>Parasitic</b>	Gastro-intestinal worms (not <i>Haemonchus</i> )
<b>Nutritional</b>	Dietary changes Overfeeding Simple indigestion Inadequate consumption of colostrum Poor quality colostrum Poor quality or stagnant water Lush or wet pasture Plant and fungal toxins Allergies
<b>Management (Poor environment)</b>	Overstocking / overcrowding Poor sanitation
<b>Stress</b>	Weaning Handling

Many of the common causes of diarrhea are self-limiting, and the major goals of treatment are to keep the animal physiologically intact while the diarrhea runs its course. A variety of oral anti-diarrheal medications have been used in sheep and goats. They may be helpful, but no trials have ever been reported.

Pepto-Bismol® (Bismuth Subsalicylate, Bismusal) is commonly used to treat livestock with diarrhea. Pepto Bismol® contains bismuth which coats, soothes, and relieves the irritated lining of the stomach. Kaopectate® (Kaolin-Pectin) can be used to treat non-infectious causes of diarrhea. Drugs which decrease gut motility (e.g. Imodium®) should not be used. Oral yogurt or probiotics are often given to restore a more normal gut flora.

Antibacterial drugs tend to be very overrated in the treatment of diarrhea but they are sometimes indicated. Treatment with antibiotics is usually not useful when animals are infected with viruses or protozoa. However, antibiotics are useful when bacterial infections are the primary infective agent or where the risk of secondary bacterial infections is high. Sulfa-antibiotics or amprolium should be used in the case of coccidia.

\*\*\*It is important to note that many of the organisms that cause scours in livestock can cause disease in humans. Read full article at <http://www.sheepandgoat.com/articles/scours.html>.

## Calendar of Events

### **October 13 - Forum for Rural Innovation: Meat Production with Goats and Sheep: Turn Grass into \$\$\$.**

Best Western Lee Jackson Motor Inn and Conference Center  
Winchester, VA • Craig Yohn at (304) 728-7413 ext. 2  
[craig.yohn@mail.wvu.edu](mailto:craig.yohn@mail.wvu.edu) or [www.jeffersonfarms.com](http://www.jeffersonfarms.com)

### **October 21 - Maryland Sheep Breeders Association Annual Meeting and Banquet**

Carroll County Ag Center, Westminster, MD  
Joe Frey at (301) 991-5826 or [j.frey@myactv.net](mailto:j.frey@myactv.net)

### **October 28 - Virginia Fall Bred Ewe Sale**

Rockingham County Fairgrounds, Harrisonburg, VA  
Corey Childs at (703) 777-0373 or [cchilds@vt.edu](mailto:cchilds@vt.edu)

### **November 1-2 - Goat Artificial Insemination (AI) Workshop**

University of Maryland Eastern Shore, Princess Anne, MD  
Dr. Niki Whitley at (410) 651-6194 or [nwhitley@umes.edu](mailto:nwhitley@umes.edu)

### **November 18 - MPWV Meat Goat Meeting**

Berkeley County Fairgrounds, Martinsburg, WV  
Willie Lantz at (301) 334-4121 or [wlantz@umd.edu](mailto:wlantz@umd.edu)

### **February 21-24, 2007 - Direct Marketing Conference**

Holiday Inn Select, Solomons Island, MD  
Shannon Dill at (410) 822-1244 or [sdill@umd.edu](mailto:sdill@umd.edu)

For more, click on "Upcoming Events" on the web page,  
<http://www.sheepandgoat.com>



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