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Maryland's Sheep & Goat Producer Newsletter

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Kiko Buck From Virginia Tops 2008 Goat

A Kiko buck consigned by John Smith from Petersburg, Virginia, was the top performing buck in the 2008 Western Maryland Pasture-Based Meat Goat Performance Test. Kendall "James" and Dana Barnes from Kentucky had the top consignment of bucks. All four of their bucks were in the top 20. The International Kiko Goat Association presented an award to Merritt Burke from Delaware for having a buck in the top 3 of the test.

John Smith (R) had the top-performing goat in the 2008 test

Similar to the forage-based buck test at Oklahoma State University, gold, silver, and bronze standards of performance for average daily gain, parasite resistance, and parasite resilience were established for the bucks on test.

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Goat Production In China

By Susan Schoenian

There are more dairy goats in Fuping County than any county in the world. Fuping County is in North Central China. There are 320,000 dairy goats in Fuping County compared to only 310,000 in the entire United States. The land area of Fuping County is similar to Washington County.

I was told that dairy goats are special to farmers in Fuping and nearby counties because during difficult times, dairy goats provided nutritious milk to the population. Millions of people starved to death during the Great Leap Forward (1958-61) and Cultural Revolution (1966-76).

The average goat farmer has fewer than 10 does. Single dairy goats can often be seen being led down the road. The government is encouraging larger dairy goat farms, based on several organizational models.

The larger farms I visited had 600 or more does. The goats were owned by many farmers. Some of the big farms breed via artificial insemination with fresh semen. Most of the goats are disbudded.

<u>All Sannens</u>

Almost all of the dairy goats are Saanen. A few are crosses with a local breed that also has strong Saanen influence. The genetics are European and in need of replenishing. I suspect high levels of inbreeding. Currently, there is no breed registry for Saanens, nor a record keeping program analogous to our DHIA or NSIP programs.

On small farms, the goats are kept near the homestead. On large farms, the goats are kept in confinement: brick buildings with concrete or brick floors. The goats are fed in fence line feeders and have an outside loafing area. No bedding is used.

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Kiko Buck From Virginia Tops 2008 Goat Test
(Continued from page 1)

Top 10 Bucks In 2008 Western MD Pasture-Based Meat Goat Performance Test

Consigner	St	ID	Breed	St Wt	End Wt	ADG 100-d	HIGH-FEC	AVG FEC	HIGH-FAM	AVG FAM	# Tx	Level
John Smith	VA	191	Kiko	44	68	0.24	967	401	2	1.86	0	Gold
Merritt Burke	DE	339	75% Kiko	41	63	0.22	600	236	2	1.38	0	Gold
Kendell Barnes	KY	X22	Kiko	43	64	0.21	600	376	2	1.25	0	Gold
Don Smith	VA	0824	92% Kiko	46	66	0.20	200	49	2	1.63	0	Gold
Don Smith	VA	0811	75% Kiko	42	59	0.17	1375	424	3	1.75	0	Silver
Jeanne Dietz-Band	MD	1474	Kiko	50	67	0.17	1200	266	2	1.50	0	Silver
Kendell Barnes	KY	X23	Kiko	45	60	0.15	1320	639	2	1.75	0	Silver
Robie Robinson	VA	1084	% Kiko	46	61	0.15	1450	365	2	1.63	0	Silver
Robie Robinson	VA	1120	% Kiko	46	59	0.13	542	142	2	1.50	0	Bronze
Warren Barnes	MO	1540	PB Kiko	54	67	0.13	1550	400	2	1.63	0	Bronze
Avg. in test	**11**	***	***	**49**	**62**	**0.13**	**4830**	**1312**	**3**	**2.02**	**1**	***

ADG – average daily gain (lbs/day); FEC – fecal egg count (eggs per gram);
FAM – FAMACHA© eye anemia score (1-5); and #Tx – number of anthelmintic treatments

Eighty-two goats were nominated for the 2008 test. Nominations were received from 21 breeders from 10 states: Delaware, Illinois, Kansas, Kentucky, Maryland, Mississippi, Missouri, Oklahoma, Pennsylvania, and Virginia. Sixty-two goats were accepted for testing. Fifty-seven finished the test. Three died and two goats were eliminated because they failed to adapt to the pasture diet.

James (L) and Dana (R) Barnes of Kentucky
Top Consignment of bucks

For the 100-day duration of the test, average daily gain ranged from -0.09 to 0.240 lbs. per day and averaged 0.124 for the 57 goats that finished the test. The average goat gained 13 lbs. while on test, while the best performing goats gained 24 lbs. Average daily gain was below last year's performance of 0.253 lbs. per day. The poorer performance was attributed to increased parasite problems and rutting behavior. A mid-summer outbreak of soremouth also likely impacted gains.

Last year, few goats required deworming and individual FAMACHA© scores never exceeded three . This year, several goats required multiple anthelmintic treatments. Each goat was dewormed an average of one time, not including the initial double-deworming. Larvae cultures showed the parasite infection to be almost all *Haemonchus contortus*. (see page 8).

Performance-tested buck and doe sale

The 1st Western Maryland Performance-Tested Buck and Invitational Doe Sale and Field Day was held on October 4, 2008. The MD-PA-WV Meat Goat Association assisted with the sale. Five of the top-performing

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Kiko Buck From Virginia Tops 2008 Goat Test
(Continued from page 2)

bucks were sold. Several bucks failed to receive the minimum bid. There were nineteen does sold. Several does did not receive the minimum bid. Most of the does were half-sibs to the bucks on test. It may take several years to build demand for performance tested meat goats, especially pasture-reared ones.

A field day was held in conjunction with the sale. Dr. Dan Waldron from Texas A&M University was the featured speaker. Dr. Waldron discussed performance testing meat goats.

Performance testing program

The Western Maryland Pasture-Based Meat Goat Performance Test was initiated in 2006 at the University of Maryland's Western Maryland Research & Education Center in Keedysville, MD. The purpose of the test is to evaluate the performance of meat goats consuming a pasture-only diet, with natural exposure to internal parasites, primarily *Haemonchus contortus* (the barber pole worm).

Upon arrival to the test site, the goats stand in a foot bath containing zinc sulfate. Weights, FAMACHA© and body condition scores are determined. A fecal sample is collected. Each goat is dewormed with moxidectin and levamisole. A coccidiostat is put in the water for the first three days of the test.

The goats are managed as a single group on pasture from early June until early October. They are rotationally grazed among five 2-acre paddocks composed of orchardgrass, MaxQ™ tall fescue, chicory, and pearl millet. They always have access to a central laneway containing port-a-hut shelters, a shade structure, water, minerals, and a handling system. The perimeter fencing is 6-strand, high-tensile, electric.

The goats are checked one to two times per day. They are handled every two weeks to determine body weights, FAMACHA© scores, and body condition scores. Low-stress livestock handling techniques are used. Goats with FAMACHA© scores of 4 or 5 are dewormed with either moxidectin or levamisole. Goats with FAMACHA© scores of 3 are sometimes dewormed, depending upon other factors. Goats with a FAMACHA scores of 1 or 2 are not dewormed.

Fecal samples are collected every two weeks to determine individual fecal egg counts. Fecal egg counts are determined by Dr. Dahlia Jackson O'Brien's lab at Delaware State University. Pooled fecal samples are analyzed to determine parasite types. Larval development assays are done by Dr. Ray Kaplan's lab at the University of Georgia.

Near the end of the test, the goats are scanned to determine 12th rib backfat thickness and rib eye area. Jim Pritchard from West Virginia University does the ultrasound scanning. Scrotal measurements are taken and the goats are evaluated for structural correctness and reproductive soundness.

The goat test committee includes Susan Schoenian[1], Jeff Semler[1], Willie Lantz[1], David Gordon[1], Jeanne Dietz-Band[1], Mary Beth Bennett[2], and Dr. Dahlia Jackson O'Brien[3]. Dr. Kevin Pelzer[4] serves as the consulting veterinarian.

2009 Test

The 2009 test will be conducted in a similar manner as the 2008 test. The dates are June 6-October 3, 2009. A sale and field day will be held on Saturday, October 3.

Eligible goats may be of any breed or breed cross. They must be born between December 15, 2008, and March 20, 2009, and weigh between 35 and 70 lbs. on June 6th. They are required to be vaccinated twice for overeating disease and tetanus. The nomination period is April 1 - May 15. There is a nomination fee of $20 per goat. The total fee for testing will be $85 per goat.

Breeders may consign up to 5 goats to the performance test. Preference will be given to previous consigners and Maryland residents. A slaughter component will be added in 2009. Consigners may nominate two goats for this portion of the test. Carcasses will be deboned to determine lean meat yield.

[1]University of Maryland Cooperative Extension
[2]West Virginia University Cooperative Extension
[3]Delaware State University
[4]VA-MD Regional College of Veterinary Medicine

For information about the test, visit the blog at http://mdgoattest.blogspot.com.

Read full article at http://www.sheepandgoat.com/releases/08goattestresults.html.

Tools For Humane Slaughter

According to their web site, Spirit of Humane is committed to the development and commercial distribution of humane slaughter systems for small-scale operations. They market restraint equipment and aids for Halal, Kosher, and general hand slaughter.

Spirit of Humane are family farmers who raise sheep and goats in Northwest Wisconsin. They worked with animal welfare experts to develop a restraint system for the religious slaughter of livestock. The restraint system complies with Halal and Kosher standards and exceeds the requirements of the Humane Slaughter Act.

Spirit of Humane markets a suitable knife for humane sheep and goat slaughter and a mobile slaughter unit. The slaughter unit is built to USDA standards. It is designed for small-scale custom and low volume state and federally inspected facilities.

Partial funding of the Spirit of Humane process was provided by a North Central Region SARE Producer Grant, a Wisconsin Added Value Producer grant, and the Browse & Grass Farmer Association.

The Northeast Sheep & Goat Marketing Program was also instrumental in the development of these slaughter tools.

Download a brochure of their products at www.spiritofhumane.com.

Maryland Hosts 2008 Katahdin Expo

The 2008 Katahdin Hair Sheep International (KHSI) Expo & Sale was held September 26-27 at the Washington County Agricultural Education Center near Boonsboro, Maryland.

Approximately 160 Katahdin enthusiasts from 23 states and Mexico attended the educational program on Friday. Representatives from Virginia Tech, Virginia State University, West Virginia University, and the University of Maryland and Delaware State University briefly discussed their small ruminant programs and how Katahdin sheep were being used.

Other speakers focused on the pasture production of Katahdin lambs, genetic improvement of Katahdin sheep, including selection for parasite resistance; and marketing Katahdin sheep and lambs. Two speakers addressed the ethnic markets. Representatives from the Scott County Hair Sheep Association shared their experiences marketing Katahdin lamb through a multi-state supermarket chain (Food City).

Lunch was taco salad made from lamb. Two whole lambs were roasted for dinner. The Hagerstown Canteen did an excellent job on the meals. Entertainment was provided by a local country and western band: Don and the Starlighters.

On the second day of the Expo, participants had the opportunity to tour the nearby Western Maryland Research & Education Center, home of the Western Maryland Pasture-Based Meat Goat Performance Test. The tour also highlighted pumpkins, forages, and vineyards.

Fifty-five registered Katahdin sheep were sold in the National Katahdin Sale on Saturday. The high-selling sheep was a yearling ram consigned by Carl Ginapp from Iowa. The ram sold on the strength of his outstanding EPD's and brought $3,100. The buyer was Dave Maddox from Georgia.

Katahdins are an American breed of hair sheep. They are known for their outstanding reproductive qualities and easy-care nature: no shearing or docking and minimal deworming. Katahdins are the sixth most popular breed of registered sheep in the United States.

High-selling Katahdin (L-R) David Mattox (buyer) and Marcia and Carl Ginapp (consigners)

Out Wintering

*By Karen Hoffman**

Out Wintering is the practice of allowing animals to continue their occupation of pasture during the winter. There are several advantages and disadvantages to this method of "non-housing", as well as strategies for making it successful.

It is important to remember that out wintered animals have considerably higher energy requirements (up to 30% more depending on the weather), so they need to be provided with both a higher quantity and higher quality feed. In some cases, feeding a little bit of grain or corn silage may be the only way to keep them growing, or even maintaining, their body weight.

Don't be fooled by a long hair coat or thick wool. Body condition score the animals periodically to make sure they are keeping enough flesh on. Tough them over the spine, short ribs, and tail head to assess. Also, depending on topography and prevailing winter winds, they should be provided with a windbreak or shelter area where they can escape the wind. Although most animals will stay out in very cold temperatures by choice, it is still wise to have another option available to them.

Out Wintered Pastures will take a beating, so it's also important to think through where you will out winter. If you have a pasture that you'd like to renovate or improve the fertility of, that is your best choice. Your best pastures should be your last choice. You may also want to consider doing some "rotational out wintering" to minimize mud and muck if the winter stays fairly warm, and that may require some planning now to make sure feed can be easily placed and then accessed in a variety of locations.

*Karen Hoffman is an NRCS Animal Scientist from Norwich, New York.

Ultrasound Accurately Predicts Carcass Traits

One hundred seventy two wethers from the mating of four terminal sire breeds with Rambouillet ewes were used to determine the accuracy and repeatability of live-animal ultrasound measures. The lambs were finished in a feedlot to an average body weight of 138.4 ±20.9 lbs.

Before transport to slaughter, loin eye area, loin depth, and backfat thickness were measured from transverse ultrasound images taken between the 12th and 13th ribs. After slaughter, the same measurements were taken on each carcass. Carcasses were fabricated into sub-primal cuts and weights were recorded.

Ultrasound bias approached 0 for loin eye area. Backfat thickness was overestimated by only 0.69 mm (0.03 in.). At a standardized body weight and backfat thickness, wethers with larger loin eye area and loin depth depth yielded larger and more valuable carcasses, and these relationships were detectable with ultrasound.

The data indicate biological and economical incentives for increasing loin eye area in wethers, and live-animal ultrasound can provide reliable estimates of carcass measures. These results are applicable to terminal sire breeders and producers who market sheep using carcass-merit pricing systems. (Source: *Journal of Animal Science*, November 2008.)

Ultrasound Carcass Contest

The Maryland Sheep & Wool Festival sponsors an ultrasound lamb carcass contest. This year's contest will be held on Saturday, May 2, 2009, at the Howard County Fairgrounds in West Friendship, MD. For more information, contact Susan Schoenian at (301) 432-2767 x343 or sschoen@umd.edu or visit http://www.sheepandwool.org/events/carcass_contest.html.

Goat Production in China *(Continued from page 1)*

On the large farms, corn silage and/or green chop is fed, along with some hay and grain. Small farmers feed mostly the corn plant and some grain, if they can afford it.

Most of the goats I saw appeared healthy and well tended. There were a few spoiled udders and some occasional hoof problems. China is not free from foot-and-mouth disease, so vaccination is mandated by the central government. Mastitis is probably a bigger problem than suspected, especially on farms where the lots are not kept clean, teat dips are not used, or where goats are overcrowded. There seems to be a heavy reliance on herbal medicines for livestock. It would be good to test some of these products in the U.S.

Fuping County is a crop production area, which is why dairy goats are kept in confinement and fed harvested feeds. Corn is harvested by hand and the grain is dried on the roads and in parking lots. Some corn is kept on the ears and hung around the farmstead for drying. The leftover fodder is fed to livestock or burned in the fields.

Dairy goat kids are born mostly from December through March. On most of the farms, the kids remain with their dams for about a month. When they're a month old, they'll weigh about 10 kg (22 lbs.) and those not being kept for breeding will be sold.

Hand milking

Most of the goats, regardless of farm size, are milked by hand. The milk is collected into a bucket, strained into another container, then cooled in a vat of cold water. It is transported to the processing plant in containers. Most of the milk is made into powdered milk, much of which is exported to other Asian countries.

If a doe is treated with a drug, her milk is segregated at the milking station. The milk processing company purchases the tainted milk and discards it. Apparently, the companies are reluctant to refuse to purchase milk from farmers. There is an educational need to explain to farmers why milk that contains antibiotic residues cannot enter the food chain. There is also a need to teach farmers to wash the udders of the goats prior to milking and to use teat-dips after milking. Some do, but it is not a routine practice on small farms.

Within five years, most of the goats in China will probably be machine milked at milking stations built by the milk processing plants or World Bank. A farmer will be able to take his or her goats to a milking station in their local village where the goats will be milked by a trained milker. The authorities believe that centralized machine milking will improve the quality and safety of the milk. One milking station is considered ample for milking 500 to 600 goats.

China's dairy goat industry remains untainted from the international melamine scandal, in which Chinese milk processors admitted to adding melamine to diluted cow's milk to increase protein levels. Melamine is an industrial chemical used in the processing of plastic. Melamine-tainted milk has been blamed for four infant deaths and is believed responsible for thousands of illnesses and hospitalizations.

One of the dairy companies is experimenting with cheese production. As in the U.S., goat products are not as popular as cow products. There is a strong need for promotion and to tout the health benefits of goat milk, cheese, and meat. Goats seem to have more cultural significance in China than they do in the United States, but cow's milk still dominates the market place. Prices are similar for goat and cow milk.

Meat goats

China has far more goats than any country in the world: over 197,000,000, according to the Food and Agricultural Organization (FAO) of the United Nations. Like the United States, the majority of them are meat goats. There is also a large population of Cashmere goats. I had the opportunity to visit a Boer goat breeding station. The station was located in a more mountainous area, thus the goats were allowed to graze. After having symptoms of Haemonchosis described to me, I introduced my Chinese peers to the FAMACHA© eye anemia system for monitoring barber pole worm infection.

According to goat specialists, Boers are crossed with local breeds for meat production and

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Fun Fact: Goats, Sheep and Octopus' pupils of their eyes are rectangular

Goat Production in China *(Continued from page 6)*

the crossbred offspring are superior to either of the parent breeds. Prices for meat goats are generally good, though prices for Boer goat breeding stock have plummeted as the breed has become established commercially. Boer goats were imported into China in 1998 from New Zealand and Germany.

Meat goats are slaughtered when they are approximately 10 to 12 months of age and weighing over 35 kg (77 lbs.). The meat yield is about 40 percent. Most of the meat goat kids are born from December through January. According to goat specialists, the industry is growing.

Northwest Agricultural & Forestry University

I was in China for two weeks in October. My travel companion was Dave Martin, Agricultural Extension Agent and County Extension Director in Baltimore County. While I was learning about China's goat industry, Dave was getting an overview of the apple industry.

The University of Maryland and Northwest Agricultural & Forestry University (in Yangling) have entered into an agreement. The purpose of our collaboration will be student and faculty exchanges and for us to work with our Chinese counterparts to develop an agricultural extension program based on the U.S. model of extension, where extension is research-based and delivered from the land grant university.

Northwest Agricultural & Forestry University boasts world class facilities for biotechnology research. It even has a farm for cloned animals. A Pygmy goat was cloned in similar fashion as Dolly the sheep. Her name is "Sunshine" and she has several offspring. She was cloned from skin cells. There is an admission fee to enter the farm for cloned livestock.

At the University's dairy goat farm, goats are still milked by hand. A new goat farm is being built at another location on campus. The new farm will include a milking parlor. It also has a large vat for dipping goats. The vat is long and deep and we wondered how the goats would handle the "swim". Dipping is no longer a common practice in the U.S.

Sheep

The only sheep I saw during my visit to China were Polled Dorsets at the University's farm for cloned animals. China has more sheep than any country of the world: almost 172,000,000, according to the FAO. Most are raised in northern China, where the land is not suitable for cultivation. China has some interesting breeds of sheep, notably the Large-tailed Han, whose fat-tail is so huge (up to 25 kg) it hinders movement during grazing. Hopefully, I'll see more sheep on my next visit to China.

Read full article at
http://www.sheepandgoat.com/articles/China.htm.

2009 4-H Tail Docking Policy

The 2009 Maryland 4-H Tail Docking Policy remains unchanged from 2008. 4-H lambs should be docked no shorter than the distal end of the caudal tail fold. Lambs docked in this manner will have a minimum tail length of 0.7 inches at the time of show, as determined by the approved measuring device.

Purchased lambs should have a minimum tail length of 1.4 inches at the time of "weaning." This gives a high probability that the lamb's tail will measure at least 0.7 inches at the time of show. 4-Hers should use the De-Tail device to select lambs that have been properly docked.

Compliance with the Maryland 4-H Tail Docking Policy is voluntary**.** Lamb tails (docks) will not be officially measured at any Maryland 4-H activity. No lambs will be disqualified from showing due to tail length, unless the short dock has resulted in a rectal prolapse.

Any sheep or lamb that exhibits a rectal prolapse at a 4-H activity will be ineligible for the activity and sent home by the Extension Educator, Sheep Superintendent, or other appropriately deemed individual. Lambs with purse-string sutures will also be ineligible for exhibition in 4-H activities.

Exhibitors and breeders who complied with 2008 Maryland 4-H Tail Docking Policy are to be commended for maintaining high ethical standards.

Questions about Maryland's 2009 4-H Tail Docking Policy should be directed to Susan Schoenian at (301) 432-2767 x343 or sschoen@umd.edu.

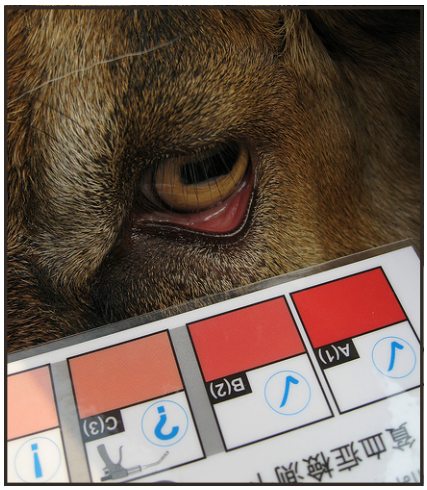
Almost All Barber Pole Worm

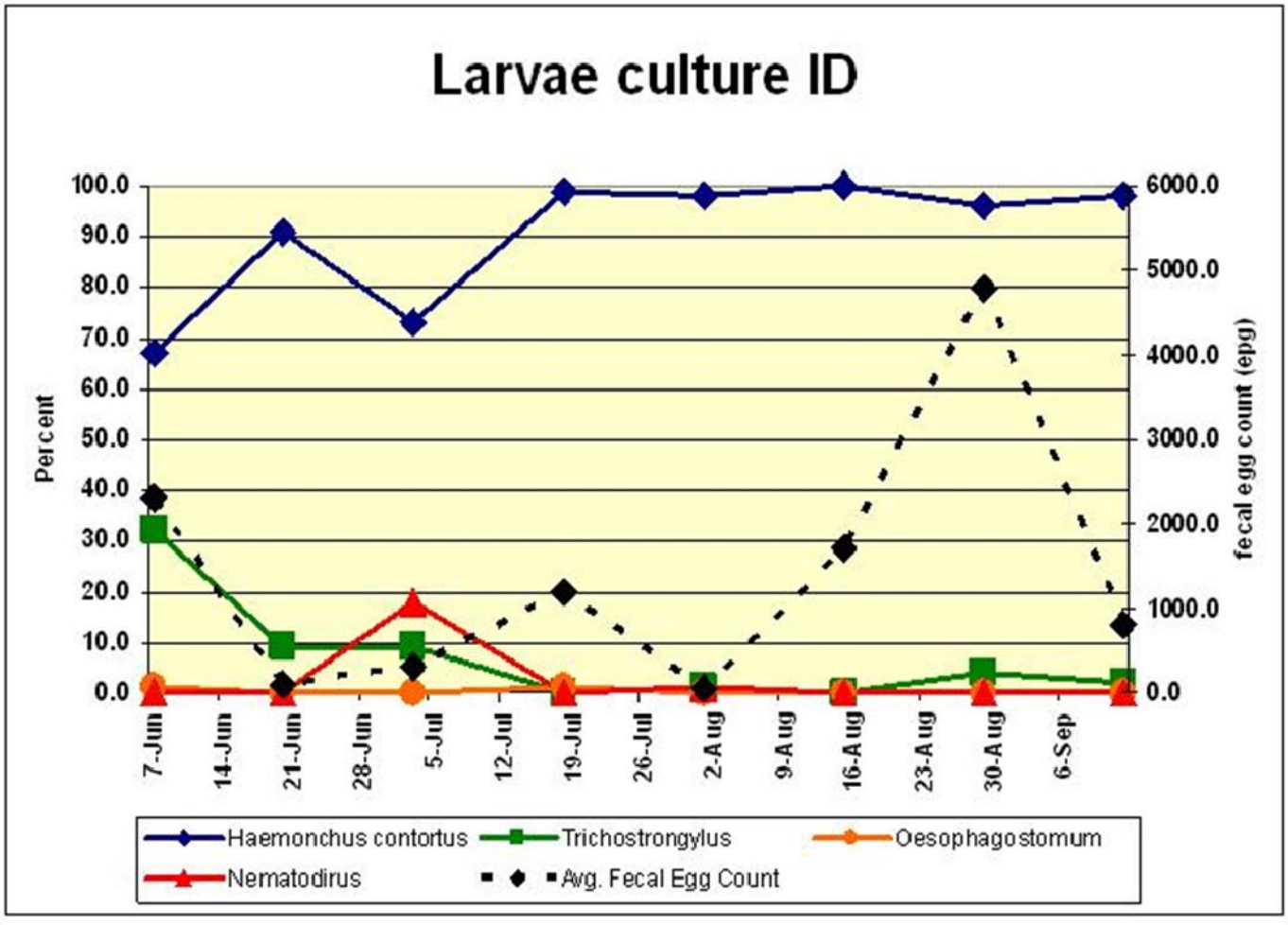
Small ruminants are affected by different species of internal parasites, and worms can be a problem at different times of the year. However, summer time is usually the most troublesome period and the barber pole worm (*Haemonchus contortus*) is usually the most prevalent worm parasite in areas receiving summer rainfall.

The parasites affecting sheep and goats come primarily from the strongyle (roundworm) family. Unfortunately, the eggs of most of these worms look the same when they are examined under a microscope. Consequently, it is necessary to hatch the eggs and look at the larva to identify the exact type of parasite. The test is called a larval development assay or LDA.

At the 2008 Western Maryland Pasture-Based Meat Goat Performance Test, fecal samples were collected every 14 days from the 62 goats on test. Individual fecal samples were sent to Dr. Dahlia Jackson's lab at Delaware State University for fecal egg count determination, while pooled samples were sent to Dr. Ray Kaplan's lab at the University of Georgia for larval ID.

For the majority of the testing period, the barber pole worm comprised 96 to 100 percent of the worm infection. This "single" species worm load meant that the FAMACHA© system could be used to determine which goats required anthelmintic treatment.





Maryland 4-Hers Excel In Livestock Judging

by David Gordon

The Maryland 4-H Livestock Judging Team capped off an impressive fall by finishing 3rd overall at the National Contest and winning an invitation to compete internationally in Scotland. The contest was held as part of the North American International Livestock Expo in Louisville, KY.

The contest drew 33 teams and 126 youth that were all competing to see who the best 4-H team in the nation was. The Maryland team consisted of Drew Cashman, Claire Bennett, Troy Bennett and Lukas Ziegler. All four members are 4-Hers in Carroll County.

In a very competitive contest the Maryland 4-Hers shined. The team placed 3rd in sheep and goats, 8th in swine, 2nd in beef, 4th in oral reasons and actually tied for 2nd overall but were 3rd because of a tie breaker. The team had two members, Drew Cashman and Claire Bennett that were also named All-Americans.

Drew Cashman was had a very consistent day and finished as the 9th high individual overall. Claire Bennett was also impressive finishing 9th in oral reasons and as 12th high individual overall. Troy Bennett was 9th in Beef, and 4th in Performance Beef. Lukas Ziegler was also strong and finished as the 25th high individual overall.

As one of the top three teams in the nation, the Maryland team has also been invited to compete internationally at the Royal Highland Show in Edinburgh, Scotland. The team will have the opportunity to compete at the show, stay on farms in Europe, do some sightseeing and visit agricultural farms and businesses on a variety of tours. The trip is scheduled for the end of June in 2009. Congratulations to four exceptional young people who truly represented Maryland 4-H well.

Editor's note: All four members of the winning judging team exhibit sheep and/or meat goats at their county and state fair. They have competed in the Sheep & Wool Skillathon at the Maryland Sheep & Wool Festival.

The team is coached by David Gordon (Montgomery County), Bonnie Boyden (Charles County), Karen Holloway (Harford County), and Kathy Gordon (Carroll County).

(L-R) Drew Cashman, Claire Bennett, Troy Bennett, and Lukas Ziegler.

2009 Youth Sheep & Wool Skillathon

The 2009 Sheep & Wool Skillathon will be held on Sunday, May 3 at the Howard County Fairgrounds in West Friendship, Maryland. The Sheep & Wool Skillathon consists of a series of stations where youth are tested on their knowledge and abilities related to sheep and wool.

The skillathon is open to any youth between the ages of 8 and 18. Youth will compete according to their age on January 1 , 2009. Individuals and teams of 3 or 4 may compete. Teams must be pre-registered prior to the day of the contest. Registration is required by April 25th. Send names, addresses, phone numbers, and e-mail addresses to Susan Schoenian at 18330 Keedysville Road, Keedysville MD 21756, (301) 432-2767 x343, or sschoen@umd.edu.

An illustrated guide to sheep and goat production

The National Sustainable Agriculture Network, also known as ATTRA, recently published an "Illustrated Guide to Sheep and Goats Production." The 20-page, basic and heavily graphic introduction to sheep and goat production discusses animal selection, feeding, breeding and young stock, equipment and handling, and marketing.

http://attra.ncat.org/attra-pub/PDF/sheep_illus.pdf

Infectious Keratoconjunctivitis (pink eye)

Pink eye is the lay term used to describe any number of diseases affecting the eye(s) of animals. The more proper name is infectious keratoconjunctivitis. Webster's Dictionary defines keratoconjunctivitis as "a combined inflammation of the cornea and conjunctiva."

Pink eye is an infectious and contagious bacterial disease of sheep, goats, and other animals. Though most common in the summer and in young animals, it may occur at any time of the year and in sheep and goats of any age.

Pink eye is caused by one of a number of different microorganisms. The microorgansims most commonly associated with pinkeye in sheep and goats are *Chlamydia psittaci ovis* and *Mycoplasma conjunctivae*. The *Chlamydia* organism is the same organism that can cause enzootic abortions in ewes and does. Several other bacteria may play a secondary role in infections.

The causative organism(s) can be determined by a veterinary diagnostic lab from a scraping or swab of the conjunctiva. Depending upon the causative organism, pink eye can be contagious to people.

Noninfectious forms of pink eye can occur when the eye is irritated by bright sunlight, dust, hay, or grass. Injuries or trauma may also affect the eye(s).

Symptoms

Pink eye tends to occur as an outbreak in a flock or herd. The causative organism is commonly introduced via purchased sheep or goats. The microorganisms that cause pink eye are widely distributed and may persist in resistant, carrier animals. Spread occurs via direct contact. Sheep and goats raised under intensive conditions are most commonly affected. Overcrowding and poor ventilation contribute to the spread of the disease. Dry, dusty conditions and irritants such as flies tend to predispose or exacerbate the disease. Flies or dust can carry the bacteria to the eye.

Whatever organism is responsible, the symptoms are similar. Affected animals blink repeatedly and have an aversion to bright sunlight. The side of the face below the eye may be wet due to tearing. Upon close examination, the membranes of the eye appear red and inflamed. The eyes become cloudy or opaque. An ulcer may develop. The condition is painful and may affect one or both eyes. Pink eye can cause temporary blindness in affected animals; permanent blindness in severe cases.

Sheep and goats rarely die from pink eye. The cost of the disease is associated with treatment costs (medicine and labor) and production losses, as affected animals may have difficulty finding food and water. Animals that suffer temporary blindness may require hand feeding or watering to prevent production losses.

Treatment

Affected animals should be isolated from the rest of the flock to prevent spread of the disease. They should be housed in a clean, dry, shady area.

Pink eye is usually treated with any number of antibiotics that are injected into the body or placed directly in the eye. The most common treatment is to apply terramycin ointment to the affected eye(s) two to four times per day. Some veterinarians advocate the use of intramammary mastitis tubes for the treatment of pink eye. As with the terramycin ointment, the antibiotic is applied directly to the eye.

Ointments are usually more effective than powders or sprays. They are less irritating to the already inflamed eye. Eye drops are easier to administer than ointments. Before

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Infectious Keratoconjunctivitis (pink eye)
(Continued from page 10)

applying medicine to the eye, the animal's face should be cleaned and the debris around the eye(s) should be removed. Surgical gloves should be used when affected animals are handled.

Sometimes, subconjunctival injections of penicillin are given or the antibiotic is dropped into the eye. When it is not practical to treat individual animals repeatedly, antibiotics may be injected systemically. Long-acting oxytetracyclines (e.g. LA-200®) are most commonly used. The addition of oxytetracycline to be the feed may be beneficial. Tylosin (Tylan®) is also effective against the causative organisms of pink eye.

Because most of these antibiotic treatments are not FDA-approved to treat pink eye in sheep and/or goats, veterinary advice should be sought. Extra-label drug use requires veterinary approval, even if the drugs can be purchased over-the-counter or via mail order. Subconjunctival injections should not be attempted by lay people.

Despite efforts, treatment may have little effect on the course or severity of the disease. Pink eye is similar to sore mouth (orf) in that the disease is usually self-limiting and the majority of affected animals will clear up without treatment, usually in a week to 10 days. Severely affected animals may take longer to recover. Recovered animals have resistance for varying lengths of time. It is possible for them to become re-infected, as acquired immunity is neither strong nor long-lasting.

Prevention

There is no vaccine to prevent pink eye in sheep and goats. Because the microorganisms that cause pink eye in cattle (*Moraxella bovis*) are different from the ones that cause pink eye in sheep and goats, the vaccine used to prevent pink eye in cattle will not prevent pink eye in sheep or goats.

The best way to prevent pink eye is to maintain a closed flock or herd. Do not purchase animals from public auctions. Isolate new livestock for at least 30 days. Show animals should also be isolated upon returning to the farm, as pink eye is common at fairs and expositions.

Dust and fly control will aid in the control and spread of pink eye. Protection from sunlight should be provided. Complete disease eradication is difficult because the organisms that cause pinkeye are widespread and may persist in carrier animals.

Read full article at http://www.sheepandgoat.com/articles/pinkeye.html.

Annual Virginia-North Carolina Shepherd's Symposium

The Annual Virginia-North Carolina Shepherds' Symposium will be held January 9-10, 2009, at the Augusta County Government Center in Verona, Virginia. There will be a Sheep 101 Workshop on Friday from 9 a.m. to 5 p.m. The workshop will include hands-on activities with sheep. Participation is limited to the first 25 people who register.

The registration deadline for the Symposium is January 2. The registration fee is $25 per person and it includes lunch, breaks, and materials. Youth registration is $10. There is an additional $25 for those participating in the Sheep 101 Workshop.

Checks payable to the Virginia Sheep Producers Association should be sent to Virginia Tech, Department of Poultry and Animal Sciences, Blacksburg, VA 24061. For more information, contact Dr. Scott Greiner at (540) 231-9163 or sgreiner@vt.edu.

The Virginia-North Carolina Shepherds' Symposium is open to all sheep producers from the Mid-Atlantic Region. It provides in-service training opportunities for extension personnel, educators, and other professionals in sheep and related agribusiness industries. Youth are an important segment of the sheep industry and are invited to attend.

View program at http://www.ext.vt.edu/news/periodicals/livestock/aps-08_12/aps-1207.html.

Calendar of Events

January 9-10

Virginia-North Carolina Shepherds' Symposium
Augusta County Government Center, Verona, Virginia
Info: Dr. Scott Greiner at (540) 231-9163 or sgreiner@vt.edu

January 16-17
10th annul Future Harvest CASA Conference
Holiday Inn and Conference Center, Frederick, MD
Info: (410) 549-7878 or futureharvestcasa@gmail.com or http://www.futureharvestcasa.org/09conference.html

January 21-24
American Sheep Industry Association Annual Convention
Marriott San Diego Mission Valley, San Diego, CA
Info: info@sheepusa.org or (303) 771-3500

March 5
Changing Ag Markets: New Opportunities Seminar
Howard County Fairgrounds, West Friendship, MD
Info: Cindy Mason at (301) 432-2767 or cmason@umd.edu or http://www.agmarketing.umd.edu/Pages/2008ChangingBrochure.pdf

May 2-3

Maryland Sheep & Wool Festival
Howard County Fairgrounds, West Friendship, MD
Info: sschoen@umd.edu 301-432-2767 ext 343 or http://www.sheepandwool.org

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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 Cooperative 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.

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