



# Wild & Woolly



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VOLUME XIII □ ISSUE I

WINTER 2014

## 2014 Winter Webinar Series: Sheep & Goat Health

The topic of the 2014 Winter Webinar Series is Sheep & Goat Health. Five webinars will be held on consecutive Tuesday evenings in January and February.

All the webinars will begin at 7 p.m. EST and last for approximately one hour. An additional 30 minutes will be allotted for questions. Interaction will be via a chat box. The primary instructor will be Susan Schoenian, University of Maryland Extension Sheep & Goat Specialist.

The webinars will be conducted via Adobe Connect. Anyone with a connection to the Internet may participate in one or more of the webinars. A high speed internet connection is recommended.

While pre-registration is not required, participation is limited to the first 100 people who log onto <https://connect-test.moo.umd.edu/sschoen/>. This is a new url for University of Maryland webinars, as the Adobe Connect software has been updated.



All webinar participants are asked to subscribe to the University of Maryland webinar listserv.

The webinar listserv is used to communicate with webinar participants and notify users of other webinars. To subscribe, send an e-mail message to [listserv@listserv.umd.edu](mailto:listserv@listserv.umd.edu). In the body of the message, type subscribe sheepgoatwebinars.

	Date	Time	Main topic
I.	January 30	7 p.m. EST	Biosecurity
II.	February 6	7 p.m. EST	Preventative Health Management
III.	February 13	7 p.m. EST	Diagnosis and Treatment of Disease
IV.	February 20	7 p.m. EST	Common Health Problems
V.	February 27	7 p.m. EST	Disease Management

<http://www.sheepandgoat.com/programs/2014webinars.html>

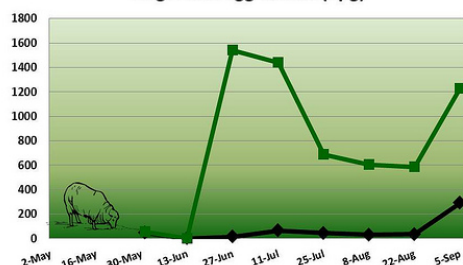
## 2013 Pen Vs. Pasture Study

**2013 Pen vs. Pasture Study  
Body weights (lbs.)**



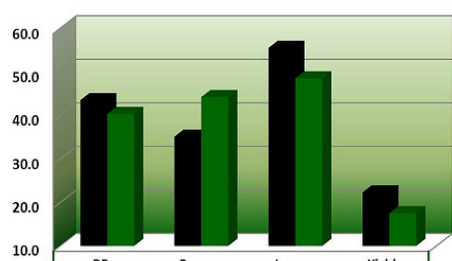
	30-May	13-Jun	27-Jun	11-Jul	25-Jul	8-Aug	22-Aug	5-Sep
Pen	48.3	52.9	57.3	63.4	65.7	72.9	72.0	74.5
Pasture	49.8	50.5	51.5	50.8	53.6	57.3	56.3	55.2

**2013 Pen vs. Pasture Study  
Avg. fecal egg counts (epg)**



	31-May	13-Jun	27-Jun	11-Jul	25-Jul	8-Aug	22-Aug	5-Sep
Pen	48	0	14	65	44	31	36	291
Pasture	57	0	1542	1441	687	605	586	1230

**2013 Pen vs. Pasture study  
Carcass yields, %**



	DP	Bone	Lean	Yield
Pen	43.5	35.1	55.5	22.3
Pasture	40.3	44.2	48.5	17.5

2013 was the third year of the pen vs. pasture study at the University of Maryland's Western Maryland Research & Education Center. Thirty Kiko bucklings were obtained from a farm in Kansas. They were randomly allocated to two treatment groups: PEN vs. PASTURE.

After a 13-day adjustment period, the bucks consumed their respective diets for 84 days. The PEN goats (n=15) were kept in a zero grazing pen 16<sup>2</sup> ft.). They were fed hay and grain. A good quality mixed hay (mostly orchardgrass) was offered free choice in two 4-foot hay racks. Grain (whole barley) was gradually introduced to the diet and increased according to appetite. Consumption averaged 1.1 lbs. head/day over the 84-d feeding period.

The PASTURE goats (n=14) grazed alongside the bucks (n=81) in the 2013 Western Maryland Pasture-Based Meat Goat Performance Test. The PASTURE goats had access to free choice minerals, but were not given any supplemental feed at any time during the study.

The PASTURE and test goats (n=96) were rotationally grazed among six, 2-acre paddocks. From May 31 until July 15, they grazed cool season grass paddocks, composed mostly of orchardgrass and tall fescue. The cool season grass paddocks had been pre-infected with worm larvae by untreated sheep. From July 15 until August 15, the goats grazed four acres of forage sorghum. After the sorghum pastures were depleted, the goats were returned to the cool season grass pastures.

All of the bucks in the study and test were handled bi-weekly to determine body weights, FAMACHA© scores, body condition scores, coat condition scores, dag scores, and fecal consistency scores. Individual fecal samples were collected bi-weekly to determine fecal egg counts. Pooled fecal samples were collected every 28 days for fecal coproculture (larvae ID). During the study, *Haemonchus contortus* (barber pole worm) comprised 72 to 82 percent of the worm load.

Throughout the study, the PEN goats had significantly higher growth rates:  $0.311 \pm 0.071$  vs.  $0.064 \pm 0.036$  lbs. per day. From day 14 through day 84, the PASTURE goats had significantly higher fecal egg counts than the PEN goats. The higher egg counts led to a significant parasite challenge and higher FAMACHA© scores. As a result, the PASTURE goats were dewormed an average of 1.7 times, whereas none of the PEN goats were dewormed.

On September 6, all of the study goats were harvested to collect carcass data. The carcasses were deboned and separated into portions of lean (meat), fat, and bone. A sample of the longissimus dorsi (rib eye) muscle was re-

(Continued on page 4)

## Consign Bucks to The 2014 Test

2014 will be the 9th year of the Western Maryland Pasture-Based Meat Goat Performance Test. In 2013, 81 bucks participated in the annual test, whose purpose is to evaluate the post-weaning performance of bucklings consuming a pasture-based diet, with natural exposure to internal parasites, primarily the barber pole worm.



*Bucks grazing sorghum pasture in last year's test.*

While on test, the goat are managed as a single group on pasture, with no feed supplementation, other than free choice minerals. They are handled every two weeks to determine body weights, FAMACHA® eye anemia scores, body condition, coat condition, and dagginess (fecal soiling). Individual fecal samples are collected bi-weekly to determine fecal egg counts. Pooled fecal samples are collected every four weeks for coproculture (larvae ID).

The 2014 test will start on May 31 and span 84 days, after a short adjustment period. The 2014 test will be split into two phases. The first six weeks of the test will serve as a "parasite challenge." The goats will graze pre-infected cool season grass paddocks. The second six weeks of the test will serve as a "growth" challenge. The goats will graze clean, annual pastures and be limited hay (1 lb. per head per day).

Bucks that meet Gold, Silver, or Bronze standards of performance for growth, parasite resistance, and parasite resilience and minimum standards for structural correctness and reproductive soundness will be eligible to sell for breeding. The date and location of the sale is pending.

Male goats of any breed or breed cross, with or without registration eligibility, may be consigned to the test. Producers from any state may consign up to five bucks to the 2014 test. If nominations exceed the capacity of the test, preference will be given to Maryland residents and previous consigners.



*(One of last year's top-performing bucks)*

Eligible goats must be born between December 20, 2013, and March 15, 2014, and weigh between 35 and 70 lbs. upon delivery to the test site on May 31.

**Goats that do not meet the weight requirements will be refused entry to the test.** They must have been weaned for at least two weeks prior to the test and have received two vaccinations for enterotoxemia (type C and D) and tetanus. Hooves must be properly trimmed for scoring and foot soaking.

### ON - FARM PERFORMANCE DATA

Beginning in 2014, consigners to the Western Maryland Pasture-Based Meat Goat Performance Test will be asked to provide on-farm performance data for the bucks they consign to the test. On-farm performance data will eventually become a requirement for participation in the test.

On-farm performance data should include data from all kids born on the farm: sire, dam, birth date, birth weight (optional, but recommended), and weaning weight and age. Dr. Ken Andries from Kentucky State University has agreed to process the data. Records will be adjusted for known environmental factors: age, sex, type of birth and rearing, and age of dam.

Performance and weight ratios will be calculated to allow comparison among contemporary groups of kids or adults. It is suggested that only bucks with performance ratios above 100 be nominated to the test.

The Kentucky State University Goat Herd Improvement Program (GHIP) is available to any goat producer and is designed to increase the availability and utilization of performance records.

*(Continued on page 6)*



## 2014 Junior Sheep & Goat Skillathon

The Junior Sheep & Wool Skillathon, held annually in conjunction with the Maryland Sheep & Wool Festival, has been changed to the Junior Sheep & Goat Skillathon. All skillathon stations will pertain to both sheep and goats, including meat, fiber, and dairy production.

Youth should begin making plans to participate in this year's skillathon. The skillathon will be held Sunday, May 4, 8 a.m. to 2 p.m., at the Howard County Fairgrounds in West Friendship, Maryland



The Junior Sheep & Goat Skillathon is open to any youth between the ages of 8 and 18. Individuals and teams (of 3 or 4) from any county, or state may compete.

Youth compete according to their age as of January 1st of the current year. Youth ages 8 to 10 compete as juniors; youth ages 11 to 13 compete as intermediates; and youth 14 to 18 compete as seniors.

The pre-registration deadline for individuals (requested) and teams (required) is April 28. Pre-register by sending names, ages, and team affiliations via e-mail to Susan Schoenian at [sschoen@umd.edu](mailto:sschoen@umd.edu) (or via fax at (301) 432-4089). There is no cost to participate in the skillathon, but a small donation is requested to cover the cost of lunch (pizza + sodas).

[www.sheepandgoat.com/programs/skillathon/skillathon.html](http://www.sheepandgoat.com/programs/skillathon/skillathon.html)

## 2013 Pen Vs. Pasture Study ( continued from page 2)

moved from each carcass and is being analyzed for fatty acid content.

The PEN goats had heavier live weight (74.5 vs. 55.2 lbs), hot carcass weight (32.4 vs. 22.4 lbs), cold carcass weight (29.9 vs. 20.0 lbs), and dressing percentage (43.5 vs. 40.3%) than the PASTURE goats. The PEN goats had a higher percentages of fat (2.3 vs. 0.4%) and lean (55.5 vs. 48.5%), whereas the PASTURE goats had a higher percentage of bone (44.2 vs. 35.1%). The PEN goats had larger rib eye areas (1.79 vs. 1.29 in<sup>2</sup>) and leg circumference measurements (33.7 vs. 29.4 cm). The PEN goats produced more boneless, fat-free meat (22.3 vs. 17.5%).

In the 2013 study, pen-feeding proved to be more profitable than pasture-rearing. The higher value of the pen-fed goats (estimated to be \$66/head) exceeded the cost of purchased feed. At the same time, pasture rearing is not free and has plenty of its own costs, especially if there are substantial losses due to parasites, as was common in goat herds in 2013.

Pending funding, the pen vs. pasture study will be repeated in 2014, as this was the first year in which a uniform set of goat was utilized. For the past two years, the pen vs. pasture study has been funded by the Maryland Grain Producer

## In The News

### People In The News

- ♦ **Michael Histon** was recently elected president of the Dairy Sheep Association of North America (DSANA). Mike and his wife Colleen operate a sheep dairy in New Windsor, Maryland. Shepherd's Manor Creamery is Maryland's first certified dairy sheep farm and creamery.
- ♦ **Leanne Reuter** and Marc Leone received the 2013 Shepherd of the Year from the Frederick County Sheep Breeders Association on November 7. Reuter and Leone raise Shetland sheep in Rohrsersville, Maryland.
- ♦ **Mary Bare**, a breeder of Leicester Longwool sheep, was named 2013 Shepherd of the Year by the Maryland Sheep Breeders Association on October 26.



### Westminster Auction Burns

On January 8, the Westminster Livestock Auction suffered \$300,000 in fire damages. It took more than 40 firefighters from several companies to control the 2-alarm blaze. Fortunately, there were no injuries. The cause of the fire is under investigation.

The auction will be closed until further notice. It is not known if and when the owners will rebuild.

Westminster was one of three livestock auctions in the Maryland. The two remaining auctions are in Hagerstown (Washington County) and Grantsville (Garrett County).

## Virginia State University Hires New Small Ruminant Extension Specialist

Dr. Dahlia O'Brien has been hired as the new Small Ruminant Extension Specialist at Virginia State University. Until recently, Dr. O'Brien held a similar position at Delaware State University. In Delaware, Dr. O'Brien's research focused on characterizing levels of anthelmintic resistance and evaluating natural/alternative dewormers.

Dr. O'Brien's parasitology lab in Delaware performed fecal testing for the Western Maryland Pasture-Based Meat Goat Performance Test.

Dr. O'Brien received her agricultural degrees, including a Ph.D. from the University of Maryland Eastern Shore. She is a native of Jamaica.





## Consign Bucks to The 2014 Test (continued from page 3)



Health papers are required for admission to the test. Any buck showing signs of contagious disease will be refused entry to the test. The test has a zero tolerance for abscesses.

A nomination form and \$20 per goat nomination fee is required to nominate a goat to the test. The nomination period for the 2014 goat test is April 1- May 15. It is not necessary to identify specific bucks at the time of nomination. A balance of \$80 is due for each goat, upon delivery to the test site.

Information and documents pertaining to the 2014 test are available at the Meat Goat Test Blog at <http://mdgoatetest.blogspot.com>. Questions can be directed to Susan Schoenian at (301) 432-2767 x343 or [sschoen@umd.edu](mailto:sschoen@umd.edu).

## Learning about Lambing and Kidding

Eighty-eight adults and youth attended the 2013 Lambing & Kidding School, held December 7 at the Western Maryland Research & Education Center in Keedysville, Maryland.

The primary speaker was Dr. Mara Mullinix, who operates a mixed veterinary practice in Monrovia, Maryland. Other speakers and facilitators included Susan Schoenian, Dr. Nelson Escobar, Chris Anderson, Shannon Uzelac, and Becky Yost – all University of Maryland Extension faculty/staff.

The proceedings of the school can be downloaded from <http://www.sheepandgoat.com/programs/13LKSchoolProceedings.html>. Special thanks is extended to the entities that donated door prizes or supported the school in other ways: D-S Livestock Equipment, Good Shepherd Lamb Coats, Health E-Z™ Hay Feeders, Premier 1 Supplies, Sheepman Supply Company, and Shepherd Magazine.

The school was sponsored by the University of Maryland Small Ruminant Extension Program. It also received financial support from the University's Beginning Farmer Success Program. The Lambing & Kidding School is held every other year at a different location in Maryland. The next school (in 2015) is tentatively planned for Harford County.



Joseph Degreenia dissects goat testicles at Lambing & Kidding School

## More Information On Sheep & Goats Can Be Accessed At:

<http://www.sheepandgoat.com/>

<http://www.sheep101.info/>

<http://mdsheepgoat.blogspot.com>

<http://www.acsrpc.org>



<http://mdgoatetest.blogspot.com>

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

<https://twitter.com/MDSheepGoat>

## Ethnic Marketing Webinar Recordings

A webinar series entitled the “Ethnic Marketing of Lamb & Mutton” was held in November and December 2013. The webinars were organized by the University of Maryland (Susan Schoenian), University of Maine (Richard Borzowski), and Ohio State University (Roger High). Speakers included Susan Schoenian, Katherine Harrison (Ohio), and Dr. Richard Ehrhardt (Michigan).

The webinars were recorded, minimally edited, and made public for viewing. Links to the recordings are available at <http://www.sheepandgoat.com/recordings.html#ethnic>. Links to the PowerPoint presentations that accompanied each webinar are available from the same web page.

The Maryland Small Ruminant Extension Program began doing webinars in 2011. Since then, webinars have covered various aspects of sheep and goat production, including ewe and doe management; nutrition and feeding; internal parasites; foot health; and breeding and genetics.

Recordings and PowerPoint presentations from all previous webinars are available at [www.sheepandgoat.com/recordings.html](http://www.sheepandgoat.com/recordings.html).



## Ration Balancing Software For Sheep and Goats

By Susan Schoenian

Feed is the single largest cost associated with raising small ruminants. Sheep and goat producers should balance (or evaluate) feed rations to make sure they are meeting the nutritional requirements of their animals. Ration balancing can ensure optimal animal performance, prevent nutritional problems, and manage feed costs.



There are two primary ways to balance rations: by hand (using paper, pencil, and a calculator) or with a computer (with or without the Internet). Computers and the internet can make ration balancing easier, as tedious tasks are automated, arithmetic errors are eliminated, and programs are preloaded with nutritional requirements and feed libraries.

### Software

Several software options are available for sheep and goat producers. Programs vary in their cost, user interface, and features.

Iowa State University BRANDS software is a series of highly-developed Microsoft Excel spreadsheets that uses the net energy (NE) and metabolizable protein (MP) systems to balance rations for various classes of sheep. There are

Standard (\$100) and Professional (\$450) versions of the software.

ARIES 2007 is a standalone program that balances sheep rations using either a least-cost or evaluation (substitution) method. ARIES (\$400) can be ordered from the

University of California Davis at <http://animalscience.ucdavis.edu/extension/Software/aries/>.

Montana State University's Sheep Ration Program is a free online program that uses the 1985 nutritional requirements for sheep. It balances rations for energy, protein, and various minerals. To use the program, go to <http://www.msusheep ration.montana.edu/>.

Langston University's Ration Balancer and Nutritional Calculator predicts the energy, protein, calcium, and phosphorus intake of goats and transfers the information to a ration balancing worksheet. To use the nutrient calculator, go to [http://www.luresext.edu/goats/research/nutr\\_calc.htm](http://www.luresext.edu/goats/research/nutr_calc.htm).

SheepBytes provides total flock nutritional management. It is a web-based application that runs on any browser. For the individual user, the cost is \$100 for the first year and \$50/year for subsequent years. For commercial users, the cost is \$200 for the first year and \$100/year for subsequent years. To learn more about SheepBytes or to view a demo, go to [www.sheepbytes.ca](http://www.sheepbytes.ca).

*(Continued on page 11)*

## Research Update

- ◆ In a study conducted at North Dakota State University, spermatozoa (sperm) concentrations decreased linearly as the amount of DDGS (distiller's grains with solubles) was increased in the ration of ram lambs. However, DDGS had no effect on growth performance, carcass characteristics, and other reproductive parameters in rams. (1)
  - ◆ New Zealand researchers used 11,369 records to evaluate embryo survival in sheep. They determined that the ewe's ability to maintain pregnancy has 5.5 times the effect on pregnancy loss as the embryo's ability to survive. They found a quadratic relationship between ewe weight and embryo survival and learned that 2 year olds have the lowest embryo survival and ovulation rates. (1).
  - ◆ Texas A&M researchers found no significant differences for Dorper and Rambouillet lambs for weaning weight, postweaning gain, final weight, feed intake, feed conversion efficiency, or residue feed intake. Mean average daily gain was 0.75 for Dorper lambs and 0.76 for Rambouillet lambs. Feed conversion was 0.153 for Dorper lambs and 0.158 for Rambouillet lambs (1).
  - ◆ Texas A&M researchers used the production records from 291 does to compare the performance of Spanish and Spanish-Boer does. Boer-Spanish does had greater birth weight (6.1 vs. 5.9 lbs), body weight at breeding (102 vs. 96 lbs), and number of kids born (1.70 vs. 1.62) than Spanish does. Boer-Spanish does weaned similar numbers of kids as Spanish does (1.30 vs 1.31). (1)
  - ◆ North Dakota State University researchers determined that expired human foodstuffs can be used as an energy supplement for ruminants. In crossbred wether lambs, measures of intake and digestibility did not differ among diets than contained whole barley (control), potato chips, macaroni, or donuts. (2).
  - ◆ Australian researchers looked at the excretion (in the feces) of whole grains fed to goats. Whole grain loss was affected by grain size and digestibility of the roughage component of the diet, but represented only a small part of the diet (0.8% DM). Researchers concluded that there is no economic benefit to processing grains for goats. (3).
  - ◆ For the first time, European researchers successfully vaccinated kids for coccidiosis. Kids immunized with live attenuated *E. ninakohlyakimovae* oocysts shed fewer oocysts and showed reduced signs of coccidiosis (4).
  - ◆ French researchers determined birthcoat type to be an important factor affecting lamb survival in a prolific breed adapted to harsh conditions (Romane). Total mortality was less for lambs with (long) hairy coats vs. (short) woolly coats. Hairy-coat lambs experienced less heat loss at birth and had better growth performance to d 50. The heritability of coat type was estimated to be 0.88. (1)
  - ◆ Researchers at North Dakota State University fed different amounts of metabolizable protein (MP) to ewes in late gestation to determine the effect on ewe and offspring performance from birth to weaning. Their results suggest that ewes maintain and gain body weight and condition when consuming diets with increased MP, but the increased MP has minimal effect on lamb performance through weaning. (1)
- Source: (1) Journal of Animal Science; (2) Sheep & Goat Research Journal; (3) Small Ruminant Research; and (4) Veterinary Parasitology;

### Penn State Home Study Courses

Beef, sheep, meat goat and swine producers looking for information on how to make their livestock enterprises more profitable can take advantage of four home-study courses offered by Penn State Extension this winter.

The courses, all of which begin Feb. 5, will cover profit-enhancing production principles for raising livestock. Lessons are available through conventional mail delivery or through email and the Internet.

The sheep, meat goat and swine courses each have six weekly lessons; the beef course has seven lessons. Lesson topics include production basics, selection principles (beef), nutrition, health, reproduction, marketing and financial issues.

For more details or to sign up for a course, go to <http://agsci.psu.edu/livestock-courses> or call 814-445-8911, extension 141.

The cost for each course is \$50 if taken via email and the Internet and \$85 if taken using U.S. Postal Service deliveries. Deadline for registration is Jan. 27.



## In Defense of On-Farm Slaughter

By Susan Schoenian

In the United States, there are four levels of meat inspection: federal (USDA), state, custom-exempt, and personal exemption (on-farm slaughter).

Federal is the highest level of inspection. The meat from animals slaughtered in a federally-inspected plant can be sold without restrictions, so long as the meat is properly labeled. Federal inspection includes a pre- and post-mortem inspection of the animal, along with extensive requirements for the facility in which the animals are slaughtered.



*Federally-inspected carcasses*

Though state-inspection must be "at least equal to" federal inspection, the meat from animals slaughtered in a state-inspected facility is usually limited to sales within the state of slaughter. As of January 1, 2014, only 27 states have state meat inspection programs. The rest of the states (including Maryland) have turned meat inspection responsibilities over to the federal government. Producers in these states are subject to federal regulations and any additional regulations imposed by their states or counties.

Custom-exempt slaughter is exempt from continuous inspection. Facilities have sanitary and inspection requirements, but there is no pre- or post-mortem inspection of the animals. The carcasses and meat from animals slaughtered in a custom-exempt plant are stamped "not for resale" and returned to the owner. Consumption of the meat is limited to the owner and members of his/her household and non-paying guests and employees.

Federal and state regulations provide a personal exemption. The personal exemption allows a farmer to slaughter an animal (of his own raising). Similar to custom-exempt, the meat must be consumed exclusively by the owner and members of his/her household and nonpaying guests and employees.

Unfortunately, the states interpret the personal exemption differently. Most states take a very strict interpretation and consider the owner of the animal to only be the person who actually raised it. In other states (e.g. New York), the owner of the animal is considered to be the owner when they purchase it. In other words, slaughter by the buyer is permitted. However, the seller must sell a live animal and not

assist in the slaughter in any way. Offal should be properly disposed of.

The state of Vermont recently passed a law that will allow the on-farm slaughter of up to 25 sheep or no more than 3,500 lbs. (live weight) of any combination of livestock. The slaughter site must be sanitary and designed to prevent water pollution. The farmer cannot assist in the slaughter of the animal(s).

For most states, the issue is not who slaughters the animal, but rather where the animal is slaughtered. Many states argue that allowing a buyer to slaughter an animal on the seller's farm is a violation of federal or state meat inspection laws, even though the seller isn't slaughtering the animal or assisting in any way.

In actuality, USDA and most states (since they usually duplicate federal regulations) do not address on-farm slaughter by the buyer. Even Dr. Neil Hamilton's "The Legal Guide for Direct Farm Marketing" fails to address on-farm slaughter by the buyer. Conclusion: on-farm slaughter by the buyer is neither legal or illegal. It is a gray area, open to interpretation or personal opinion.

To avoid the ambiguity in federal regulations, some states specifically prohibit on-farm slaughter by the buyer. For example, North Carolina law states that all slaughter take place in an approved facility regulated by the North Carolina Department of Agriculture and Consumer Services. The only exception is that you are allowed to slaughter an animal of your own raising. The state of Illinois requires an animal to be owned for at least 30 days in order to be exempt from inspection.

Because meat inspection laws vary by state and sometimes county, it is essential that farmers/producers know the laws in their state (and county) and how the laws are interpreted.



*personal exemption (on-farm slaughter)*

Read the rest of my article at <http://www.sheepandgoat.com/articles/onfarmslaughter.html>.

## A Dairy Goat Farm In Brazil

by Susan Schoenian



*(Susan posing with goat farmers)*

In November 2014, I made my third trip to Brazil. I was invited to speak at the 8th Congress of the Brazilian Society of Animal Production. My topic was fattening (finishing) meat goats. I spoke about our pen vs. pasture comparison studies.

While in Brazil I had the opportunity to visit a dairy goat farm located in Fortaleza, Brazil's 5<sup>th</sup> largest city and host of the conference. As with most places I have visited, the goats were being kept in complete confinement. The does were group housed in pens, on raised wooded, slatted floors. The bucks were individually housed.

The goats' ration consisted of chopped grass, chopped hay, corn meal, soybean meal, and minerals. It was fed in fence line bunkers. The farm dedicated a few hectares (1 hectare = ~2.5 acres) to the production of elephant grass, a tall, high-yielding perennial grass. Since it only rains two months out of the year, irrigation is a necessity.

After kidding, the kids are immediately removed from their dams and fed heat-treated colostrum. They are fed colostrum, then cow's milk via a bowl. It was a high producing herd of Sannens, with genetics from Europe and the United States.

The milk, obtained twice daily via a portable milker, is made into various confections, including Doce de Leite ("candy of milk"), a popular sweet in South America. The farm had plans to start making three different

kinds of cheese. All products were being directed marketed.

On my last visit to Brazil (in 2011), I had also visited dairy goat farms. Dairy goat production is being promoted in Northeast Brazil; the government is purchasing goat milk for schools. While sheep production is more evenly dispersed throughout the country, most goat production is concentrated in Brazil's two northeastern states.

The farms I visited in 2011 also housed their goats, in concrete or wooden structures or in dry lot with shaded feeding areas. Native goats, resembling Alpine, were the breed of choice. Rations included a variety of feedstuffs, such as hay, grass, silage, chopped cactus, and by-products from food processing. Milking was by hand, on elevated walkways.

The confinement rearing of goats is common throughout the developing world. Dairy goats are also commonly raised in confinement in developed countries, such as New Zealand and France.



*(Doe housing)*

Confinement rearing offers many advantages over free grazing. In fragile environments, it prevents overgrazing and environmental degradation. A pen provides a collection point for manure, a valuable by-product in many countries. Pen rearing prevents goats from getting infected with worm parasites, though coccidiosis can still be a problem, especially in kids. The diet of the animals can be more precisely controlled in zero-grazing situations.

I enjoy visiting farms in other countries. I always learn something that I can apply here.



## Ration Balancing (continued from page 7)

Cornell University's FeedForm formulates feeds, supplements, and premixes based on the substitution method. It requires Microsoft Access as its interface and can be downloaded as a zip file (for free) from <http://ansci.cornell.edu/sheep/management/economics/cspsoftware/feedform/index.html>.

The Sheep & Goat Unit at Chico State University (California) has developed several spreadsheets to help sheep and goat producers balance rations for energy, protein, fat, fiber, calcium, and phosphorus. The spreadsheets can be downloaded for free from <http://www.chicostatesheepgoat.com/resources.html>.

The University of Maryland has developed several nutrition spreadsheets for evaluating sheep and meat goat rations. The spreadsheets balance simple rations for energy, protein, calcium, and phosphorus. The spreadsheets can be downloaded for free from <http://www.sheepandgoat.com/spreadsheets.html>. In addition, you can download spreadsheets to batch mix feed and compare nutrient costs of different feedstuffs.

### Ration balancing

Most software uses the substitution method to balance or evaluate rations. After choosing the group of animals you want to feed and the feedstuffs you have available, the program automatically compares the two. The user then edits the amounts until the animals' nutritional requirements are met.

The key to effective ration balancing is the input data. You must know the weight, age, physiological status and performance level of the animals you are feeding. You must also know the weight and nutrient composition of the feeds you are feeding. For purchased feeds (concentrates, supplements, and premixes), you can use the information from the feed tag. For feedstuffs that don't vary much in their nutritive content (e.g. grains and oilseeds), you can use "book values" (available from various sources, including online factsheets).

Hay (and other feeds that vary in their nutritive content) should be tested at a forage lab and actual nutritional values should be entered into the ration balancing software. The National Forage Testing Association ([www.foragetesting.org](http://www.foragetesting.org)) compiles an annual list of certified forage testing laboratories. Cumberland Valley Analytical Services ([www.foragelab.com](http://www.foragelab.com)), located in Western Maryland is one of the largest chemistry-based feed labs in the U.S.

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



## 2014 Maryland - Delaware Shearing School



David Greene (L)

The 2014 Maryland-Delaware Shearing School will be held Friday and Saturday, April 18-19, 9:30 a.m. to 3:30 p.m. at Ridgely Thompson's farm at 1942 Uniontown Road, Westminster, MD 21157.

The school is open to anyone in Maryland, Delaware and surrounding states who wants to learn to shear sheep.

The New Zealand method of shearing will be taught. Shearing machines will be provided. Blade shearing will

not be taught. Instructors are David Greene (pictured), Dr. Richard Barczewski, and Aaron Geiman.

The registration fee is \$80 per person and includes a copy of ASI's Sheep Shearing Notebook and an instructional DVD. Pre-registration is required. No registrations will be accepted after April 14. Participation is limited to the first 25. The minimum age is 16.

Checks should be made payable to the Carroll County Extension Advisory Council and mailed to David L. Greene, 2014 White Hall Road, White Hall, MD 21161-9712.

The school is sponsored by University of Maryland and Delaware Extension, the Maryland Sheep Breeders Association, and the Delaware Sheep and Wool Producers Association.



## Calendar Of Events



### January 22-25

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

### January 30, February 6, 13, 20, and 27

Winter Webinar Series: Sheep & Goat Health  
Info: <http://www.sheepandgoat.com/programs/2013webinars.html>

### April 1-May 15

Nomination period for Western Maryland  
Pasture-Based Meat Goat Performance Test  
Info: Susan Schoenian at (301) 432-2767 x343  
or [sschoen@umd.edu](mailto:sschoen@umd.edu)

### April 18-19

Maryland - Delaware Shearing School  
Ridgely Thompson's Farm, Westminster, MD  
Info: <http://www.umd.edu>

### April 20

Eastern Orthodox and Western Roman Easter

### May 4

Junior Sheep & Goat Skillathon  
@ Maryland Sheep & Wool Festival  
Howard County Fairgrounds, West Friendship, MD  
Info: <http://www.sheepandgoat.com/programs/skillathon/>

## UNIVERSITY OF MARYLAND EXTENSION

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