

*Hoof*Print

The Small Ruminant Magazine



ISSUE HIGHLIGHTS

- Using Summer Annuals in a Forage Program
- Understanding the Process of Hand Spinning
- The ABC's of Selection and Breeding?

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HoofPrint: The Small Ruminant Magazine is a periodical to promote better animal health, husbandry, and knowledge among sheep and goat producers. **HoofPrint** is the joint effort of members of the sheep and goat industries and serves as a united voice for all small ruminant producers.

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Executive, Editorial & Advertising Sales
directed by Kentucky Sheep & Goat
Development Office: P.O. Box 4709
Frankfort, KY 40604-4709

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Cover photo provided by
Philippe Roca Roca (c) 2015

PRESIDENT'S LETTER

Dear TSPA Members,

As the newly elected president of the Tennessee Sheep Producer's Association, I'd like to introduce myself. My name is Sam Kennedy and I am from Columbia, TN. I live on our 200 acre family farm with my wife, Rachel, my one year old daughter, Margaret, and my parents, Delk and Mary Susan. After six years in the Navy, I came home to give farming a full time shot in 2010. At that time we were a cattle farm that had added about sixty Katahdin ewes to a rotational grazing system. We now manage about 700 acres and 400 ewes in Maury and Williamson Counties. We utilize grass to raise sheep, cattle, chickens, and even a few goats at the moment. Sheep and particularly, sheep people, are my favorite though!

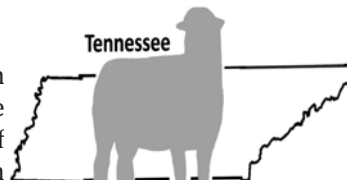
I have learned enough in the last five years to begin to realize just how much more there is to learn. I am grateful for the contacts I've made through TSPA, the leadership of our immediate past president, Scott Payne, the dedicated work of our board, and especially our Treasurer/

Secretary, Mark Powell, who drives this organization year after year. I am honored to serve as your president and wish to say thank you in advance for your support of a newbie such as myself as we try to grow our organization through the year.

As evidenced by our farm's growth in sheep numbers, I believe that sheep represent an outstanding opportunity for farmers in our state. Apparently, I am not the only one because Tennessee once again tied for the second fastest growth rate in sheep numbers in the nation in 2014. We grew by a whopping 13% in a year! And, after declining for nearly half a century, national sheep numbers were also up 1% in 2014. The industry has some significant challenges still ahead in rebuilding, but there is enormous opportunity for growth. We can have a significant part of that in Tennessee!

I will get in to the details as we progress through the year, but to start, I encourage all to make an effort to participate in our organization and recruit new membership. Your membership has many benefits, but I believe one of the most valuable is the

facilitation of the sharing of ideas with other shepherds.



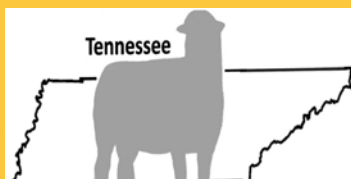
I never would have met my friend Robert Irwin, who is currently running about 5,700 head, had it not been for my TSPA membership. That sounds like a lot of sheep, but it is even more impressive when you learn that every single one of them is behind portable fencing and Robert does not own or lease a single acre of land (tune in to my updates as state ASI director for the rest of the story). It is Robert's kind of energy and creativity that will build the sheep industry of the future, and that doesn't happen unless we get together and talk. So please, come on out and Let's Grow!

Finally, please keep me updated about all the great sheep happenings across our state, and I will try to do the same. I hope your lambing season is going well!

Sincerely,
Sam Kennedy

TSPA - UPCOMING EVENTS

Date	Details • Location • Website
March 17	Appalachian Fencing School - Unicoi Co. - Johnny Lynch Farm, Unicoi, TN • www.tennesseesheep.org
March 19	Appalachian Fencing School-Grainger & Hamblen Co. - Hank and Karen Rasnic Farm, Rutledge, TN • www.tennesseesheep.org
April 17 - 19	Smokey Mountain Fiber Festival - GSM Heritage Center, Townsend, TN • www.townsendartisansguild.net/fiber-arts.shtml
April 24 - 25	TSPA Sheep Shearing School; Doug Rathke instr. - Middle TN State University, Murfreesboro, TN • www.tennesseesheep.org
May 22 - 23	8 th Annual Middle Tennessee Fiber Festival - Dickson County Fairgrounds, Dickson, TN • www.tnfiberfestival.com
June 1-7	TDA Ag Enactment Aps Due - Ellington Agriculture Center, Nashville, TN • www.tn.gov/taep
TBA	TSPA Wool Pool • www.tennesseesheep.org
July 13 - 15	TN Sheep Expo - TN Tech University - Hyder Burks Pavillion, Cookeville, TN • https://ag.tennessee.edu/AnimalScience/4-H/Pages/Sheep.aspx
July 24 - 25	Southern States Dorper Show and Sale - Tennessee Tech University - Hyder Burks Pavillion, Cookeville, TN • www.dorper.org
December 4 - 5	TSPA Annual Meeting - Ward Ag Center, Lebanon, TN • www.tennesseesheep.org



If you are interested in a committee please select below:

- ☐ Wool ☐ Youth
☐ Jr. Expo ☐ Sale
☐ Production Education
☐ Membership/Revenue
☐ Publicity
☐ Annual Meeting

RENEW TODAY!

TSPA Membership Application

Annual Dues: Adult: \$30.00 Junior \$10.00

Name: _____

Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ E-Mail: _____

Breed(s) of Sheep: _____

Please enclose a check for amount made out to TSPA and mail to:
Tennessee Sheep Producer's Association
4233 Poplar Hill Road, Watertown, TN 37184



Appalachian Fencing School 2015



**" 5 Foot Fence to last 30-40 Years
& Keep Buffalo In "**

March 17, 2015

Unicoi, TN

Johnny Lynch Farm
Unicoi & Washington

County Extension & Soil Conservation Districts

RSVP required by March 10, 2015

Contact Mara Holley @ (432)753-2192 ext.101

**" Building Fence to last 30-40 Years
& Keep Livestock In "**

March 19, 2015

Rutledge, TN

Hank and Karen Rasnic Farm
Grainger & Hamblen

County Extension & Soil Conservation Districts

RSVP required by March 12, 2015

Contact Joan Coffey @ (865)828-5211



"Helping People, Help the Land"
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2015 Tennessee Sheep Shearing School

Features Doug Rathke



The 2015 Tennessee Sheep Shearing School will be on **April 24 and 25, 2015**, at the Tennessee Livestock Center on the Middle Tennessee State University (MTSU) campus in Murfreesboro.

The school is sponsored by the Tennessee Sheep Producers Association, Tennessee Farmers Cooperative, the University of Tennessee Extension Service and the MTSU School of Agribusiness.

Doug Rathke, a seasoned shearer, is returning again this year. Doug knows what it takes to learn the art of shearing and he knows what it takes to teach it on a level so it can be understood and retained. That is why so many people have taken his sheep shearing course. Whether you are a beginner or a more advanced shearer, there is something for everyone to learn.

Mr. Rathke will be assisted by Dr. Warren Gill, Director of the MTSU School of Agribusiness and Agriscience; Mark Powell, with the Tennessee Department of Agriculture; William Rick, visiting shearer, and Caleb Fritz, MTSU Alum and local shearer.

The shearing school is designed for either beginner or experienced shearers who wish to improve their skills. Top sheep shearers will teach the most modern, up-to-date shearing methods. One of the most important aspects of the school is information about maintenance and care of sheep shearing equipment.

The school will start at 10:00am on Friday, April 24, with registration. At 10:30 AM there will be a discussion of equipment care and maintenance and at 1:00 PM we will start shearing. On Saturday, April 25, at 8:00 am we will continue until all sheep are sheared.

The cost for the Shearing School is **\$125 per person**. In order to make plans, pre-registration is required. Participation is limited to the first 15 paid applicants. Complete the form below and return to the address shown. If you have questions, please call Warren Gill at (615) 898-2404.

Make checks payable to:

Tennessee
Sheep Producers
Association
4233 Poplar Hill Rd
Watertown, TN
37184

Pre-Registration

2015 TN Sheep Shearing School

Name: _____

Address: _____

City: _____

State: _____ Zip: _____

Phone: _____

E-Mail: _____

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KY SHEEP & WOOL PRODUCERS ASSOCIATION

American Sheep Industry and The Roadmap Project

So ask the question; what does ASI do for us in Kentucky?

ASI is our national sheep producers association and is governed by a board of directors made up of representatives from all 50 states. Each state sheep association pays dues to the national association. In return ASI represents the sheep producers on a national level. ASI spends all of the state association dues on lobbying. That amounted to approximately \$175,000 in 2014. The sheep industry is fighting battles at the state and federal level on many fronts: grazing rights to federally owned lands (50% of the American sheep flock grazes on public lands at some point in their life), the endangered species act (big horn sheep, sage grouse, etc.) and predator issues (wolves, bears, coyotes, black vultures, etc.). Also lamb price insurance, H2A workers, and country of origin labeling, just to name a few others. Keep in mind, if you can't graze livestock where there are also endangered species then we are all potentially in danger. Kentucky's endangered species list includes: 1 reptile, 1 insect, 1 crustacean, 3 bats, 3 birds, 9 plants and 14 mussels, so far!

I hope you all have heard of the "Roadmap Project". It is the industry's effort to bring the sheep industry into the modern age by increasing our product's availability, consistency and quality. Here is the conclusion from a report given to the lamb council at ASI. Keep in mind that 40% of Americans have never eaten lamb!

"The consumer has proven to be willing to pay a higher price for products, whether it's lamb, beef or any other good, when that product is consistent and is of high quality. This stronger demand will encourage growing the supply and will provide financial stability to the producers and the industry as a whole. Consumers expect a year-round availability, therefore, seasonality factors must be considered and not result in more varied product ensuring a year around supply of consistently high quality products. The lamb industry must change its course and it will require restructuring the marketing system. Weight, in and of itself, cannot continue to be the dominant market value driver. Value Based Marketing will afford the industry to grow and prosper by rewarding the individual quality attributes of the lamb carcass and its parts and provide a higher quality consistent product to the consumer. This committee is united in stressing the importance of increasing Value Based and Grid Pricing and encourages: 1) the feedback of data through the entire production chain, 2) all packers to strive to increase their grid-based pricing to over 80%, 3) Feeders and producers use the best data available to produce the highest quality lamb, and 4) Commercial and Seedstock producers to respond to these lamb quality indicators".

From: LAMB VALUE BASED PRICING REPORT

Submitted by the Roadmap Implementation Team

Sub-Committee : Cody Hiemke, Dennis Stiffler, Rick Stott & Wes Patton

November 17, 2014 REPORT SUMMARY <http://www.lambcheckoff.com>



KSWPA - UPCOMING EVENTS

APRIL

Date	Location / Details
April 7 th	EweProfit III School – Oran C. Little Research Farm, Midway, KY
April 11 th	KY Proud Elite Breeder Sale – Frankfort, KY

MAY

May 15 th	SheepProfit Day, Oran C. Little Research Farm, Midway, KY
May 16 th -17 th	KY Sheep and Fiber Festival, Masterson Station Park, Lexington, KY
May 22 nd -23 rd	Middle TN Fiber Festival, Dickson, TN

JUNE

June 16 th	EweProfit I School – Oran C. Little Research Farm, Midway, KY
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JULY

July 30 th - Aug. 1 st	TN Small Ruminant Conference – Nashville, TN
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KSWPA Membership Benefits

- Quarterly issues of HoofPrint Magazine plus the newly designed 2015 Sheep and Goat Management Calendar
- A unified voice for the sheep industry and representation on important state and national committees
- Assistance with new marketing opportunities such as The Kentucky Sheep and Fiber Festival and HoofTrader.com
- Support of various educational and youth activities

Name: _____ Phone: _____ E-Mail: _____
Address: _____ City: _____ State: _____ Zip: _____

Please enclose a check for \$30.00 made out to KSWPA and mail to:
Kentucky Sheep and Goat Development Office
P.O. Box 4709, Frankfort, KY 40604-4709.

Renew your KSWPA Membership TODAY!
Visit www.kysheepandgoat.org

TIME TO RENEW!

What's Going On?

KENTUCKY Make It With Wool Winners attended National Competition.



Gillian Mudd



Megan Straus

Megan Straus from Butler represented Kentucky as a senior and Gillian Mudd from Raywick represented Kentucky as a junior in Reno, NV at the National Make It With Wool Competition. Over thirty states are represented in the national competition. Besides the competition the girls were in the fashion show at the Banquet for the American Sheep Industry convention. While the judges were judging construction the contestants enjoyed "Behind the Scenes and Seams". Each contestant received 1 ½ yard of Pendleton wool, Coats & Clark Thread box, and other sewing notions.

The 2015 Kentucky competition will be October 17, 2015 in Frankfort, Kentucky. Contact Dorothy Vale, state director, kymiww@aol.com for entry form that are due October 1, 2015.

Dear Kentucky Sheep Producers,

I have attended two annual meetings of the American Sheep Industry Association (ASI) and recently returned from the 2015 meeting in Reno, NV. Each time I come away impressed by the leadership on display from sheep ranchers, farmers, lamb feeders, industry people and University folks. I always learn so much and am surprised by the friendly, willing to share attitudes shown by people from all over the country. Every evening there was a gathering of some sort and it was great fun to strike up a conversation with someone who raises sheep in some other part of the country and hear how they do it. Case in point, I asked a fellow from Bakersfield, California if he grazed sheep on alfalfa. Wow, was that the right topic! Ya!! – thousands of sheep on leased alfalfa hay fields. All temporary electric fencing, with frequent moves (i.e. what we call rotational grazing) and during the dormant season. They actually lamb their ewes on alfalfa while grazing in the winter by drift lambing. Drift lambing is basically moving the fence and flock but let the mamas with new borns stay behind in order to mother –up. The ewes with the lambs are then regrouped with the rest of the flock later. I was fascinated because I see more alfalfa hay being grown in Central Kentucky where I live. AND I SURE WOULD LIKE TO LEASE SOME WINTER GRAZING! I was all ears! Anyway to finish the story, after I got home the sheep rancher from CA sent me an email and forwarded some research on alfalfa grazing in the dormant season. It was so nice to have this fellow call his Extension Agent and asked for information to send me, a little sheep farmer in KY. (Email me and I'll send you the article.) Bottom line, in the Imperial Valley of CA grazing alfalfa down to the crowns in the winter does not hurt hay yield or quality the next season. Don't know about KY but I'd like to find out!

As we close out this winter season and begin to see the green grass, let me leave you with a quote I heard in my travels, "No animal has given more comfort to man than the sheep". Well, I thought about that and have to say, I include my dog! So ain't it grand to be in the sheep biz and enjoy the company of the two noblest animals on earth!!

I look forward to working with and for you in the upcoming year,

Jim Mansfield
KSWPA President

The 2015 Kentucky Sheep & Goat Management Calendars

are available to
order at

www.kysheepandgoat.org



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Bob Leer, Paris, KY



President's Letter

Happy Spring Fellow Goat Producers,

A busy season is ahead for the KGPA. We start off with the Kentucky Proud Elite Breeders sale on April 11th, at the Franklin County Fairgrounds, Frankfort. A premier place for 4H and FFA youth to find their Kentucky Proud market goat, lamb or show pig. The KGPA has been involved with this sale from the beginning and we are proud of the quality of the animals available and the Kentucky youth exhibiting them.

This year we have revamped our youth program, please go to our webpage at www.kysheepandgoat.org to see the new rules and prizes available for our youth members.

It is a season of change, this year the KGPA board of directors voted to end the Derby Day Classic, our annual show on Derby Day. Instead, this year, the KGPA is working with the KY Department of Agriculture to offer three new youth events during the annual Kentucky Junior Breeding and Market Goat Show held on Saturday, June 13th at the Marion County Fairgrounds, Lebanon. We are offering a skill-a-thon and judging contest during the show, and immediately after the conclusion of the show, a goat/exhibitor costume contest. You do not have to be a member to participate. We hope to see all of our Kentucky youth, both market and breeding dairy goat exhibitors there! Check out the webpage for more information.

While you're on the webpage look at the Small Ruminant Profit school for 2015-2016. This is an excellent program for new producers. We finished up last year's school in March and it was a great program. Go ahead and sign up today!

Lastly the KGPA is offering the community grant to county goat producer associations. Please take a moment and fill out the application for your association. Also, if you would like for the KGPA to come to your meetings, contact us and we will be there! A list of the current board of directors and their contact info is listed below.

Best wishes for a great spring.

Denise Martin,
President - Kentucky Goat Producers Association



ASK THE GOAT GURU

Question:

I have a compost pile of manure that has been removed from my barn/stalls. An organic gardener arranged to pick up the composted manure and when they found out I raised goats they stated that since they raised sheep they were concerned about the risk of contaminating their ground with bacteria that causes foot rot/scald; therefore, they could not use the compost material. Would the composting not destroy the bacteria or is this a legitimate problem with organic gardening/introduction of disease.

Answer: The causative organisms, *Fusobacterium necrophorum* and *Dichelobacter nodosus*, do not survive for more than a week in the environment. They require an anaerobic environment and persist within the hoof material of infected sheep/goats, i.e. the bacteria reside and are maintained on the host. Therefore, the compost pile should not be a risk of transmitting foot rot/scald. But in the case of organic farming, there may be a concern of introducing other problems when utilizing composted material. Not all bacteria are killed in a compost pile especially in composted material that is not handled properly. Two good articles one can refer to on composting manure and carcasses can be found at www2.ca.uky.edu- Home Composting HO-75 and On-Farm Composting of Animal Mortalities ID-166.

>> **To ask the Goat Guru your question, email kygoatguru@yahoo.com.**



Your \$30 membership provides:

- 4 issues of the *HoofPrint* Magazine plus the newly designed 2015 Sheep and Goat Management Calendar
- A unified voice for the goat industry on the state and national level
- Representation on important committees such as the Check-Off and the Animal Care Standards boards
- Support of various educational and youth activities
- Youth Membership forms can be found at kysheepandgoat.org/KGPA.html
- **And much, much more!**

RENEW Your KGPA Membership Today!
Membership Application

DON'T FORGET TO RENEW!

Visit www.kysheepandgoat.org to join today!

Name: _____

Address: _____ City: _____ State: _____ Zip: _____

Phone: _____ E-Mail: _____

Please enclose a check for \$30 made out to KGPA and mail to:

Kentucky Sheep and Goat Development Office
P.O. Box 4709, Frankfort, KY 40604-4709.

What's Going On?

KY Jr. Breeding and Market Show

KGPA is sponsoring several fun activities during the KY Jr. Breeding and Market Show Jun ____ in Lebanon, KY. Exhibitors can participate in livestock judging, skillathon, and a costume contest. Register at the show.



Katie Stonich, Costumer Contest winner from the 2014 KY State Fair Dairy Goat Show.



KGPA

Community Grant

Once again, KGPA is offering a Community Grant to a county or regional Kentucky goat association for local projects that impact goat producers in their community. For details, visit www.kysheepandgoat.org/Community_Grant.html

KGPA Youth Memberships



KGPA has updated their Youth Membership Program. Be sure to visit www.kysheepandgoat.org/KGPA.html for details!!!

KGPA - UPCOMING EVENTS

Calendar of event items can be sent to kyates@kysheepandgoat.org with date, location and time.

Northern Kentucky Goat Producers Association Meeting – First Tuesday of every month 6:00pm @ the Kenton County Extension Office - 10990 Marshall Road

APRIL

Date	Location / Details
April 4 th	"Strive for the Drive, 2 nd Annual Market Goat Production Sale", Keinan Boers, Parksville farm at 1:00PM. Contact Jessica (859-583-7074) or Beth Johnson (859-583-5655).
April 12 th	KY Proud Elite Breeder Sale, Franklin County Fairgrounds
April 25 th	AGIR Goat Field Day, Langston University, Guthrie, OK

MAY

May 16 th - 17 th	Kentucky Sheep & Fiber Festival – Masterson Station Park, Lexington
---	---

JUNE

June 13 th	Kentucky Junior Breeding and Market Goat Show – Marion County Fairgrounds, Lebanon
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- Vincent Thompson, Elizabethtown, KY
vat.farm.345@gmail.com





INSTINCTS JUST WON'T CUT IT

Attempts to extinguish barn fires take a lot of effort. Many times, firefighters are simply trying to prevent the spread of the fire - this barn is totally involved. Firefighters will not be allowed to enter this structure to save anyone, including animals, and it will be a total loss. Photo courtesy of George Hagan

By Dr. Shea Porr

Although much of this article is written with horses in mind, the principle points can be applied to almost any livestock operation where animals are kept in barns. Ultimately, you need to be proactive when it comes to emergency preparedness in general, and particularly where barn fires are concerned.

Animal owners can receive lots of training on topics like the proper use of equipment, nutrition and health care, and farm management. However, one area that is often lacking is education in emergency preparedness, and fire safety and response. To make matters worse, research has shown that instinctive reactions during a fire are usually not the ones that will lead to a successful outcome. And while no building is completely fireproof, farm owners and managers can take steps to minimize the chances of a fire occurring.

From Spark to Flame

Fires need three things in order to take hold:

- **Ignition** – This is a heat source or something that will start the fire. It can include natural sources, such as lightning, or technological ones, such as fans, bucket heaters, and improper use of extension cords.
- **Fuel** – This is something that will burn. Barns are often filled with dry, flammable materials such as bedding, hay, grain, and wood. Liquid fuel sources are also prevalent, and may include liniments and hoof paints in addition to gasoline or propane.
- **Oxygen** – This is what allows the fire to continue to burn. You're probably not going to be able to control the oxygen around the fire, so focus on the other areas.

With this in mind, barns are often an optimal place for a fire – they contain ignition sources (heaters, coffee makers, fans), fuel (bedding, hay, gasoline), and oxygen.

Fires spread very quickly. Research has shown that most barns are fully involved in fire roughly 5-7 minutes after the fire breaks out. The time frame is similar (or shorter) to the amount of time it takes for many rural or volunteer fire departments to arrive. Often, barn owners and other personnel cannot reach animals fast enough to avoid being overcome by smoke or flames. It can easily take 1-2 minutes to get animals removed from a barn and release them, assuming they are cooperative during a fire. In a chaotic situation, herd animals like sheep, goats, and cattle are not trained for one-on-one handling like horses, and are therefore likely to be harder to manage.

Even worse, fires that start in an animal's stall can spread more rapidly.

In a stall, the animal is usually standing on dry bedding, often wood shavings or straw that is very flammable. Straw reaches a burning temperature of 300°F in 1-5 minutes and generates as much heat, at the same rate, as gasoline. It takes 2-3 minutes for a straw fire to burn an area 10 feet in diameter. Compare this to the size of a common horse's box stall that is 10 to 12 feet square. After a fire starts in a stall and spreads to only 4 feet in diameter, most horses are injured. By the time the fire reaches a 6-foot diameter, the horse's lungs are seared. With an 8-foot diameter fire, the horse will start to suffocate. By 10 feet, the horse is dead. Again, all of this occurs within 2-3 minutes. If a horse is to survive unharmed, he must be removed from the stall within 30 seconds.

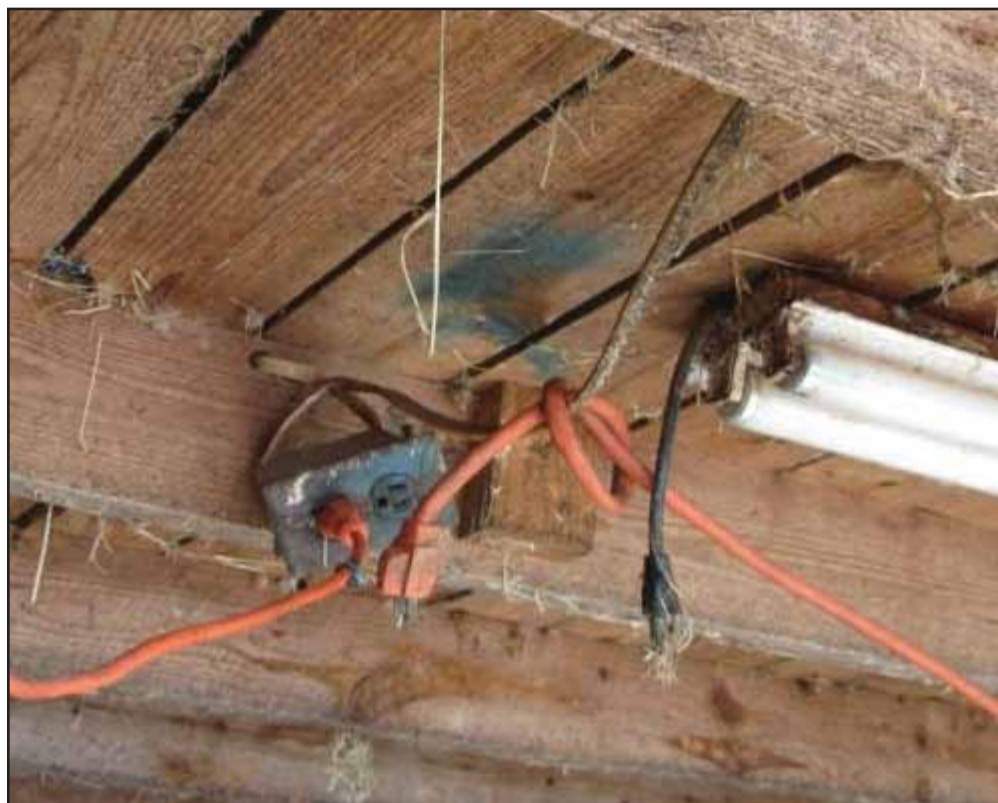
What Causes the Fires?

The top 3 causes of barn fires include improper use of electrical appliances, smoking, and lightning. Electrical appliances should never be left running while located where an animal can reach them. Ideally, all electrical devices should be turned off while there is no human around to supervise. As a note, barn fires are more common in winter months, when unattended heating appliances are often left unsupervised. Even worse is the misuse of extension cords – “daisy chains”, which includes linking multiple extension cords to reach distant locations, and “octopi”, which includes jury-rigging or adapting the outlets to handle more devices than the cord or outlet is designed to power. Both of these set up dangerous situations in barn settings.

Smoking should never be allowed inside or near barns. It is simply too easy for someone to carelessly drop a match or a cigarette butt onto something flammable and walk away before they realize what they've done. Signs should be posted and a “No Smoking” policy should be strictly enforced.

Lightning can also cause barn fires. While lightning can't be prevented, lightning rods and proper grounding of electrical circuits can be installed in order to limit the danger. Lightning rods direct the energy from the strike through a heavy conducting cable that runs deep into the ground. Hire an expert when installing these types of systems.

Bacterial and chemical reactions, such as those that occur in recently baled



Misuse of appliances or other electrical devices is a leading cause of fires in barns. In this photo, the hanging outlet box, dangling extension cords, and cobwebs on the end of the plug for the light are hazards. Photo courtesy of Rebecca Gimenez

hay, can also start fires (spontaneous hay combustion). If the hay is baled while it is too wet and then stacked tightly, either outside or in a confined space, the potential for spontaneous combustion occurs. This is a good reason why large quantities of hay should be stored away from the main barn where animals are housed. Also, bales can be stacked loosely and on their sides in order to allow more ventilation.

Don't Get Them Started in the First Place

There are some obvious fire prevention steps that every barn owner can take. Reviewing the above discussion, every barn should have a strictly enforced no smoking rule and signs should be posted conspicuously around the buildings and property. Anyone who violates this rule should be asked to leave the premises. Electrical appliances installed in the barn, such as water heaters, pipe-heating tape, insect-control devices, and portable heating units, should be inspected regularly. All appliances should be appropriate for use in a barn setting, where dust and rodents can impact their function. Electrical wiring should be encased in metal or PVC conduit, and radios, clippers, extension cords, and similar portable electrical appliances

should be disconnected and stored when not in use. Store extra hay and bedding in a shed separate from the barn.

Fuel sources, which could be inside or outside the barn, should be controlled. Other tips include:

- Keep grass mowed and control weeds, brush, and debris for 30-50 feet around the barn area. This not only keeps the area looking good, but also eliminates dried plant material that is a highly flammable fuel.
- Remove less-frequently used combustibles from the barn. Store all combustibles properly and be sure to provide appropriate receptacles to dispose of soiled rags.
- Keep the barn clean and free of cobwebs, chaff, dust, and loose straw and hay, which are all easily combustible and make excellent fuel sources.
- Ignition sources include the obvious cigarettes and heaters as well as those not-so-obvious, such as machinery exhaust systems. Trucks driven into hay/bedding

Instincts continues on pg. 12

Instincts continued from pg. 11

storage areas have been known to ignite materials in contact with the hot exhaust and catalytic converters.

- Space heaters should only be used according to manufacturers' guidelines and should not be left unattended.

Figuring Out Something's Wrong and Fixing It

Despite your best efforts, fires may still occur in your barn. Some fires smolder for varying lengths of time before erupting into flames. Barns equipped with smoke detectors may get advanced warning of the problem. However, most residential and commercial smoke detectors aren't effective in barns due to dust that clogs the mechanisms. Contact a company that specializes in smoke detection systems for agricultural facilities.

If a fire is discovered in the smoldering stage (no live flame) there is a chance it can be put out. Fires can smolder for hours. However, once flames are spotted, it is usually too late. A rule of thumb is that if the fire is larger than a small trash



This depicts a well-designed barn. Stalls are made of pipe and fire retardant materials, electrical systems are in conduit (along the ceiling), aisles are wide and clear, exits are clearly marked, and there are fire extinguishers strategically placed throughout. Photo courtesy of Klaire Tardiff

can, do not attempt to put it out; exit the building immediately.

Depending on the size of the fire, putting it out may be easily done using a portable, multipurpose ABC type fire

extinguisher. Fire extinguishers should be placed in easily reached, visible spots every 50 feet along the aisle. Keep in mind that fire extinguishers should be checked regularly to ensure they are






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The NLPA Sheep and Goat Fund assists the U.S. sheep and goat industries by financing projects that strengthen and enhance the production and marketing of sheep and goats and their products. It is a valuable tool to expand your operation and take it beyond the farm gate. Learn how you can benefit from the fund at sheepandgoatfund.com.

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properly charged and ready for use. Contact your local fire department for practice on how to properly use a fire extinguisher. Also consider inviting your local fire department out to your facility. This will give the firefighters a chance to familiarize themselves with the layout of the barn, surrounding buildings and pastures, and gain some familiarity with the everyday equipment that livestock owners take for granted, and give you valuable insight to issues they see. They're in the fire-fighting business; take their advice seriously.

Sprinkler systems can suppress a fire until firefighters arrive, possibly saving the animals' lives. The cost is not significant compared to the price of the animals, the facility, and the emotional impact of losing beloved animals to a fire. Additionally, you can often get a lower premium on your insurance.

Finally, every facility should have a fire evacuation plan of action and rules aimed at preventing fires. Phone numbers for the fire department and other emergency personnel should be posted where they are readily accessible, near the phone. Also include the address and directions to the facility – many people panic and cannot remember the address or how to get to the barn during an emergency. Barn personnel should be trained in how to use an extinguisher correctly. Everyone on the farm should know exactly what to do if a fire breaks out. Design the plan to protect human life first and foremost, and keep in mind that if a human is in danger, emergency personnel will rescue the person before any animals.

Keep the barn aisles clean and clear of carts, tack, and other items that would accelerate a fire or hinder a rescue attempt. Lightly moisten dirt aisle ways on a regular basis to keep dust down and reduce fire risk. Remove cobwebs from the barn and surrounding buildings regularly. Cobwebs are flammable and allow fire to spread very rapidly.

Stall construction can help or hinder the evacuation of horses and other animals. Stall doors should open outward into the aisle or slide open so that handlers can free animals more quickly and easily. Stall doorways on the exterior of the barn are also helpful. If a fire has involved the barn structure to a certain degree, firefighters will not enter the building because it will be too unsafe. Outside doors can still allow them to access the animals. Latches should

be easy to operate with one hand, and both halters and lead ropes should be available at each stall door for animals that are trained for individual handling.

If you can, build barn structures to include a fire lane to establish an escape route for removing the animals from the barn more quickly during fire emergencies. Ideally, fire lanes should link from the outside doors of the animals' stalls to paddock spaces or pastures well away from the barn. Chasing the livestock down a fire lane is much easier than catching them individually, and it also keeps them confined so they do not run back into the barn or get in the way of incoming emergency vehicles.

There should also be water sources available near the barn so the fire department can quickly access them. This could include ponds or streams as well as installed fire hydrants (depending on your location). Finally, approaches to the barn should be wide and high enough to accommodate a large fire engine. This may mean widening the drive or trimming trees.

In The End, Planning Is Essential

While a quick rescue is key, fire prevention is far more effective and less costly. Implement policies and practices that minimize the potential for a fire to start. Have a plan in case one does happen. Call on experts to help you review your plan. If a fire happens, follow your plan. Although you may never need to call your local fire department, it is important to be prepared in order to give you and your animals the best chance for survival if a fire does occur. Make a plan – even if you never use it, it's the best "waste of time" you've ever engaged in.

Dr. Shea Porr, Assistant Professor, Animal/Equine Science Murray State University – has experience in university settings, where she has been a faculty member for nearly 20 years, and in the equine industry, where she was a nutritional consultant and district manager for Buckeye Nutrition. In addition to her faculty duties at Murray State University, Dr. Porr supports the horse industry through presentations at professional and industry meetings and events as well as through extension publications and farm consultations. While her background is in nutrition and exercise physiology, she is very interested in emergency preparation and response where horses and large animals are concerned.

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Understanding the Process of Hand Spinning

by Kim Caulfield

It's shearing season again. Shepherds are piling up bags of wool, and hand spinners are drooling and circling like hungry sharks. So, how do you get those eager spinners to look at your wool? One of the best approaches is to learn a little bit about spinning for yourself.

Hand spinning is a hobby today. It is labor intensive, but can be relaxing and rewarding. Here is a brief overview of the process, to help you understand what your customers are talking about, and why they care so much about certain processes.

Skirting

Spinners really cannot work with wool that is weak, matted, or full of dirt or trash. The first step is to sort out anything that is not usable. If a spinner gets a fleece that has already been well skirted, so there is little or nothing left to throw out, he/she will be delighted. Of course, the reverse is also true, so if you sell somebody a fleece with dung balls hidden in the middle, you probably will not get any repeat customers.

Washing

Fleeces are scoured both to remove dirt, and to remove the sticky lanolin and wax that make processing and spinning harder. Wool is easy to wash in small quantities. Most spinners wash one or two pounds

at a time. They fill a tub with hot water and a washing agent, usually dishwashing liquid (there are some companies that make detergents specifically designed for scouring wool). The wool is submerged gently in the hot suds, then left to soak and cool a bit. Sometimes it takes a second hot wash. Then, the wool needs multiple rinses. It must be handled very carefully, with no agitation or wringing, and the temperature of successive rinses cannot drop off too quickly. The wool is gently squeezed out, then set out to dry. It isn't unusual to find fleeces drying on spinners' doorsteps, or on towels in front of household heaters.

Dyeing

Many people make beautiful projects with natural white, gray, or brown wool, but sometimes other colors are fun, too. Natural dyes are always fascinating and challenging. Colors can be extracted from various leaves, mushrooms, woods, etc.. It frequently takes more weight of dry dyestuff than the weight of the wool to be dyed, so these dyes are not often practical in large quantities. There is also a lot of variation from batch to batch, depending on the time of year the dye was gathered, the acidity of the water, the mordent used, etc.. For more predictable results, there are a number of commercial dyes available that work on protein fibers such as wool. Most of these dyes require the wool to

soak in them in very hot water, after which it can be rinsed the same way it was after scouring. There is one other method that deserves a quick mention, though. It is possible to dye small amounts of wool with food coloring, or even Kool-Aid, in a crock pot or a microwave. Since these dyes are non toxic, and readily available, they make a great way to introduce kids to color theory and textile arts.

Carding or Combing

After the wool is clean and dry, it will be in locks and clumps, and may still have some bits of hay or seeds in the fibers. Spinners use various tools to fluff and align the fibers, and to help remove some vegetable matter. Hand cards look much like overgrown slicker brushes that are used to groom dogs. They produce fluffy rolls of wool for spinning soft and springy yarns. Wool combs come in various sizes and designs, but they are all designed to align the fibers in parallel for spinning smooth and strong yarns. Combs can cost more than hand cards, and require more care to use them, since those teeth are very sharp. There are also small processing machines called drum carders which also produce parallel fibers. These are a little faster, and do not cause any strain on the spinner's wrists, but they are more expensive. Relatively clean and healthy fleeces are, BY FAR, easier to process than

problem fleeces, but the work is still slow and painstaking.

Spinning

Okay, here's the part you've been waiting for. There are two general types of tools with which to spin: spindles and wheels. Spindles are generally more affordable and more portable, since they are basically just sticks with whorls on them. They are set in motion by hand. Many hang suspended while the prepared fiber is gently attenuated and allowed to twist into yarn. Some spindles are intended to have their lower ends supported in bowls, while in use. With the right spindle for your project, and a little practice, you can produce almost any kind of yarn. Some large spinning wheels; known as walking wheels, great wheels, or wool wheels; are as tall as their users. They are designed to be turned with one hand, while the other hand draws out the fiber into yarn. The more familiar styles of wheels are used by a spinner sitting and turning the wheel with a foot treadle, leaving both hands free to control the drafting of fiber into yarn. Some modern versions of these wheels are surprisingly portable. There are a few companies that makes various styles

of spinning wheels, and many individual wheel makers around the country are producing unique and beautiful wheels. Some antiques are easily restored for use, as well.

Plying and Blocking

Once a single strand of yarn has been spun, it is often twisted backwards with another strand. This process is called plying. Sometimes three or more strands are plied together. Plying is not necessary for all projects, but it does offer many advantages. Plied yarns do not untwist when their ends are let go. Plied yarns tend to be fluffier than singles, and may have a rounder appearance. A three or four ply yarn is generally much stronger than a single ply. Plying also helps to even out the yarn, since a lump in one ply will seldom appear near lumps in other strands. Whether the yarn is plied or not, it will get washed in warm water and hung to dry. This process is called blocking, and it helps to even out the twist and set it so that the yarn will be easier to work with.

Okay, this has not been detailed enough for a beginner to go out and start spinning, but maybe it has given you a better idea of the steps and time involved in processing and spinning. If you are hoping to sell some

of your fleeces to hand spinners, it will help to know some of the language. It will help you even more if you try the process for yourself, even if you only do it once.

Spinners are usually easy enough to find. Ask at local yarn shops and craft fairs. Look for local spinning, fiber, or weaving guilds. Look for local fiber festivals and see if your county or state fair has a fleece show. Spinning tends to be a very sociable hobby, so new groups spring up frequently. Many spinners are happy to teach, and some spinners and guilds even have wheels that can be borrowed or rented.

Marketing wool to hand spinners is a wonderfully interactive experience. It pays to reach out to them with pictures of your sheep, stories about your flock, and even invitations to your farm. In return, you may get to see socks, hats, and sweaters proudly touted as having come from your fleeces. What fun!

Kim Caulfield is a passionate wool lover. She is equally fascinated by hand spinning and the commercial wool industry. She runs a cottage industry wool processing mill, and she and her mother, Jane, raise a flock of around 150 Romneys, Cotswold and Shetlands near Cornersville, TN.

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Market Matters

by Tess Caudill

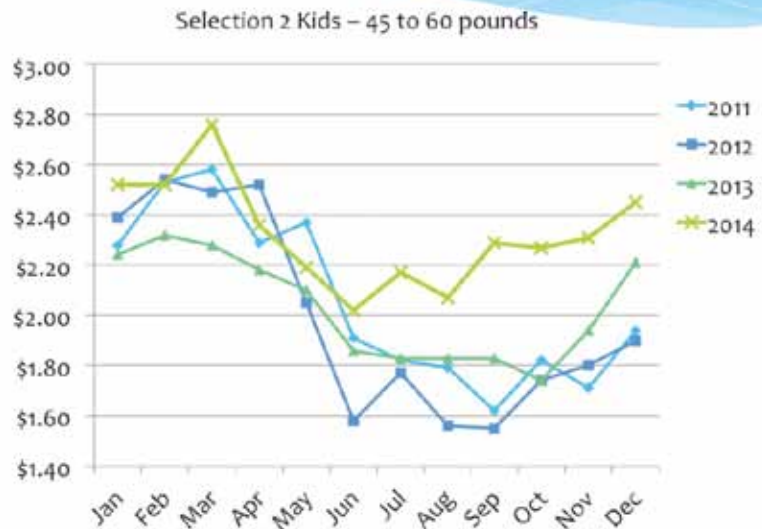
2014 brought us tremendous prices for many classes of sheep and goats, primarily lightweight lambs and kids. As you can see from the charts, 2014 prices for 45 to 60 pounds goat kids soared to the \$2.80 per pound mark early in the year and never fell below \$2.00 per pound, which to my knowledge was a first. Likewise, lambs in the 50 to 70 pound range began and ended the year around the \$2.25 per pound mark and only dipped to around \$1.55 per pound in June which is historically a tough time in terms of market prices for lightweight lambs.

Fat lamb markets were fairly flat for much of 2014 with prices hanging in the \$1.55 to \$1.75 per pound price for much of the year. Unlike the light lamb and goat markets which are ethnic driven and follow a definite seasonal pattern, the fat lamb market is dictated by many variables and is much more difficult to forecast.

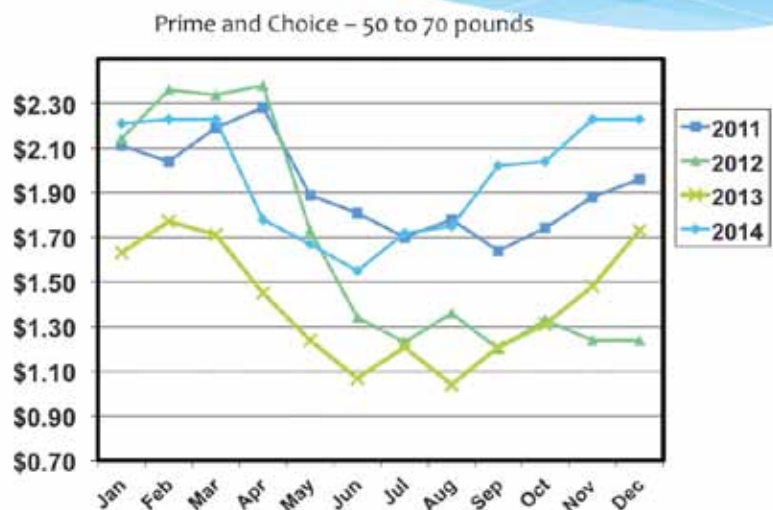
All in all, however, 2014 prices allowed room for profitability for our small ruminant producers and 2015 has started out with a bang. While prices have begun to creep back down some, the January markets opened with Selection 2 goat kids bringing over \$2.90 per pound with instances of fancy Selection 1's as high as \$3.15 per pound. Lambs under 60 pounds were bringing upwards of \$2.70 per pound with reports of fancy 50 pound hair lambs nearing that \$3.00 per pound mark.

I get a lot of calls from producers in late winter and early spring wanting advice on when to sell their lambs or kids. Honestly, marketing is a decision that each individual farm manager needs to make based on the current market situation along with decision making factors on their farm. Given this article is likely hitting mailboxes the week of Easter, the market is probably pretty unstable right now as the flood of animals that hits the market the week of Easter typically sends prices crashing. Based on patterns from previous years, light lambs and kids will likely begin a price drop that will leave them a full \$.80 to \$1.00 per pound cheaper in June than they were at their high point earlier in the year. However, with the exception of 2014, fat lamb prices usually start to increase in April and May and sometimes

Historical Goat Prices – 2011 to 2014



Historical Light Lamb Prices – 2011 to 2014



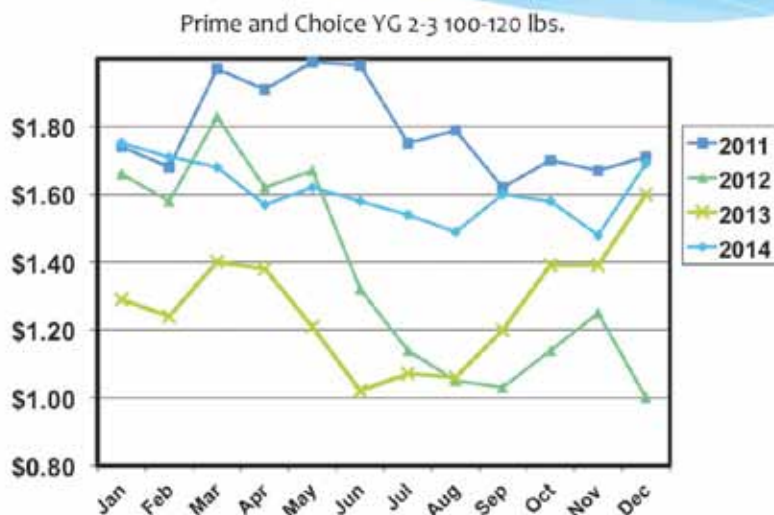
even into June with many times heavy lambs bringing as much as the light lambs in terms of price per pound.

So, when should you sell? In terms of goat kids, I almost always recommend that producers sell between 50 and 60 pounds because that is the weight the market desires most. This time of year you will be docked for making them heavier and the longer you hold, the cheaper the price is likely to be as we work into the

warmer months. So it's kind of a double whammy. The exception to this would be if you wanted to make them wethers and feed them on out to 100 pounds or so. There has been a pretty strong market as of late for larger wether kids. Again, this is a decision for each farm manager to make.

As for light lambs, it was very tempting to sell them in January and February when prices were \$2.70 per pound or better. That price point makes a 55 pound lamb

Historical Fat Lamb Prices – 2011 to 2014



worth nearly \$150 per head and it's very difficult to get a better price than that by feeding one to a heavier weight. However, if you did not sell your lambs back during those high prices, it may be best to go ahead and put a few more pounds on them at this point. Likewise, spring lambs just

now hitting the ground probably need to be marketed heavier than 50 pounds, otherwise you won't have enough pounds to realize a profit at the lower prices per pound we typically see in the summer. Just remember, buyers generally do not like hair lambs over 80 pounds or lambs that

start to look, act, and smell like bucks. If you do not wether your lambs you need to try and market them when they are not more than 4 to 6 months of age or you will end up with a less marketable product.

Again, marketing is a farm management decision and only those folks knowing the current situation on a particular farm are truly qualified to make such a decision. So many factors such as cost of feed, available time and space, and potential for loss should influence your decision on the best time for you to sell. Utilizing tools such as previous years' price patterns along with considering these factors for your particular operation should allow you to make the best decision for you.

Tess Caudill is the marketing specialist for the for the Kentucky Department of Agriculture and has been instrumental in developing a graded marketing program for goats and sheep. She has a B.S. degree from the University of Kentucky in Animal Sciences and currently raises goats, sheep and cattle in Harrodsburg, KY.



The Kentucky Sheep and Goat Check-Off Program collects \$.50 for every \$100 worth of sheep and goats sold in the Commonwealth. According to Kentucky law, Check-Off funds must be used for the purpose of promoting the increased use and sale of sheep and goats.

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To learn more details about the Kentucky Sheep and Goat Check-off Program visit www.kysheepandgoat.org/Check_Off.html

Do you know the ABC's of Selection and Breeding?

by Dr. Debra K. Aaron, Professor

Have you ever read an article on sheep breeding and genetics and wondered what in the world the author was talking about? If so, you'll want to read this edition of Genetically Speaking. Starting with A for Adjustment Factors and ending with Z for Zygote, we'll go through the alphabet one letter at a time to provide you with what you need to know to be a well-informed sheep breeder.



Adjustment Factors

Known environmental or management effects that are part of every performance record. They can be accounted for in a genetic evaluation process (e.g., NSIP). Examples include sex of lamb, type of birth and rearing, and age of dam. To be used properly in selection, all records should be adjusted to a common basis.



Breed Complementarity

An improvement in the overall performance of crossbred offspring resulting from crossing breeds of different but complementary types. Breed complementarity occurs when the characteristics of different breeds complement each other in crossbreeding systems. For example, the mating of large, fast-growing, black-faced rams (Hampshires) to prolific, maternal ewes (Polypays) would be complementary in the production of market lambs.



Crossbreeding

A mating plan involving two or more breeds. Sires of one breed or breed combination are mated to dams of another breed or breed combination. Crossbreeding offers two primary advantages: Breed complementarity and heterosis (hybrid vigor).



Dominance

The ability of one allele (or gene) to express its phenotype at the expense of the alternate allele. It can be thought of as an interaction between genes at a single locus such that in heterozygotes one allele has more of an effect than the other. The allele with the greater effect is dominant over its recessive counterpart. For example, the allele for white wool color is said to be dominate over the allele for black wool color.



Estimated Breeding Value (EBV)

A prediction of genetic value derived from the application of genetic theory and statistics to performance records (e.g., NSIP). It is an estimate of the worth of an individual as a (genetic) parent. An EBV is twice the Expected Progeny Difference (EPD) for an animal. An EPD is a prediction of how much better or poorer an individual's progeny will perform compared to the average of all individuals in the breed. For example, if a ram has an EBV of 12 lb for weaning weight, on the average he should transmit 6 lb of that to his progeny. In other words, if this ram is mated to an average set of ewes, the resulting lambs are expected to be 6 lb above average for weaning weight. This value (one-half the EBV) is referred to as the Expected Progeny Difference (EPD).



Full Sibs

Animals that have the same sire and dam. In contrast, half sibs are animals that have either the same sire or the same dam (half-brothers or half-sisters).



Grading Up

A mating system designed to convert a flock from one breed to another by using purebred rams of one breed on females of any other breed and keeping the female offspring from successive generations as replacements, eventually resulting in "purebred" animals. For example, a Polypay flock can be graded-up to the White Dorper breed if White Dorper rams are repeatedly used on Polypay ewes and the resulting ewe lambs of increasing White Dorper genetics.



Heritability

The portion of total variability for a trait (such as weaning weight or slaughter weight) that is caused by genetic differences among animals. The higher the heritability, the more likely an individual's actual performance will be passed to offspring and response due to selection for that trait will be faster. Heritability estimates of 20% are considered low, 20 to 40% moderate, and greater than 40% high.



Inbreeding

The mating of animals more closely related to each other than the average of the breed. Inbreeding increases the number of homozygous gene pairs and decreases the number of heterozygous gene pairs. Inbreeding increases prepotency as well as the expression of undesirable recessive genes.



Julian Date Calendar

In the commercial world, the number of the day in a particular year, so January 1 = Day 1, February 28 = Day 59, and so on. A Julian calendar is useful for calculating lamb age at weaning. It is more correctly referred to as a "day of year" calendar.



Known Carrier

An animal that has produced an offspring that express a recessive phenotype, such as a genetic defect. The animal is outwardly normal. For example, a ram may carry the recessive gene responsible for spider lamb syndrome but he would look normal. Carrier ewes and rams should be removed from the breeding flock.



Linebreeding

A generally mild form of inbreeding designed to maintain a substantial degree of relationship to a highly regarded ancestor, generally a ram, without causing high levels of inbreeding.



Maternal Breed

A breed that excels in maternal traits (e.g., traits especially important in breeding females, such as fertility, milk production, mothering ability and maintenance). Most maternal breeds are white-faced. Maternal breeds are often referred to as ewe or dam breeds. The Polypay is an example of a maternal breed.



National Sheep Improvement Program (NSIP)

A performance-based program for genetic selection of sheep with data evaluation by Meat and Livestock Australia's LambPlan Program. Producers submit on-farm performance data and NSIP returns genetic evaluations in the form of EBVs. NSIP generates EBVs for weight traits, wool traits, reproductive traits and, for some breeds, parasite resistance. See www.NSIP.org.



Out-of-Season Lambing

Ability of certain ewes to lamb out of the normal (spring) lambing season. Most sheep are seasonal (short-day) breeders and are most fertile in the fall. Some breeds are less seasonal or have extended breeding seasons. Genetic selection offers the best tool for permanent improvement of out-of-season lambing.



Paternal Breed

A breed that excels in paternal traits (e.g., traits important in market offspring, such as rate and efficiency of gain, meat quality and carcass yield). Most paternal breeds are black-faced. Paternal breeds are often referred to as ram or sire breeds. The Hampshire is an example of a paternal breed.



Qualitative and Quantitative Traits

Qualitative traits (for example, wool color and presence or absence of horns) show sharp distinction between phenotypes and are controlled by only one or a few pairs of genes. Qualitative traits are influenced little or none by the environment. Quantitative traits (for example, weaning weight and postweaning ADG) are quantitative in nature and are influenced by many pairs of genes. Quantitative traits can be affected greatly by the environment.



Records

A critical part of a genetic evaluation and selection program. Records fall into six categories: reproduction, maternal ability, growth, wool, carcass and lactation. Records must 1) include the sire and dam of the animal, 2) be accurate and 3) include date on which the measurement (e.g., birth weight, weaning weight) is recorded.



Selection

The practice of determining which animals will be parents of the next generation. Selection is the process sheep breeders use to produce genetic change. Selection should be part of all sheep production enterprises.



Terminal Sire Crossbreeding System

A crossbreeding system in which maternal-breed females are mated to paternal-breed rams to efficiently produce lambs that are especially desirable from a market standpoint. Terminally-sired females are not kept as replacements but are sold as slaughter lambs. Most terminal cross programs involve crossing blackface rams with whiteface ewes.

Genetically Speaking continues on pg. 20



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Utilization of Heterosis

This is an advantage of a systematic crossbreeding program. Effects of heterosis tend to be large for lowly heritable traits (reproduction) and small for highly heritable traits (growth, carcass, wool). Heterosis is maximized by mating crossbred ewes to a ram of another breed to produce crossbred offspring.



Visual Appraisal

A method of selection based solely on phenotype (appearance). It is most important from a structural soundness or conformation standpoint. The most effective selection is based on a combination of visual appraisal and performance records.



Weaning

Separating lambs and ewes from each other to prevent nursing. It is typically done when lambs are approximately 60 days of age in intensively-managed sheep operations. A lamb's weaning weight is a good indicator of a ewe's milk producing ability, as well as an early indication of growth potential.



X Chromosome

The sex chromosome that occurs paired in each female zygote and single in each male zygote in species, such as sheep, where males have two unlike sex chromosomes.



Y Chromosome

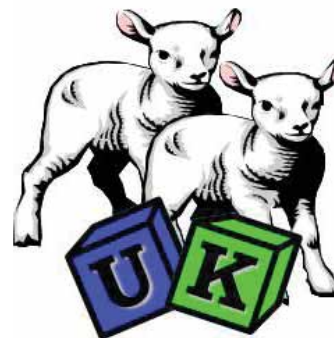
The sex chromosome that is characteristic of male zygotes in species, such as sheep, where males have two unlike sex chromosomes.



Zygote

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Dr. Debra K. Aaron, PhD, professor in the UK Dept. of Animal Sciences, teaches animal science and genetics. Her research interests are in sheep breeding genetics.



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*By Jerry Lamb, Extension Director,
UT/TSU Extension - Rhea County*

The second annual Tennessee Small Ruminant Conference will be a mix of classroom and "hands-on" educational activities covering a wide range of topics for both the goat and sheep producer. The conference will be held from July 30 to August 1 at the Brehm Animal Science Building on the University of Tennessee Agricultural Campus in Knoxville, Tennessee.

A highlight of this year's conference will be a large trade show, vet school tour and portable fencing demonstration. In addition, Ketcham's Sheep Equipment has donated a tilt table and two stop gates valued at \$1,450.00 as a door prize. Also, Tennessee Farmer's Cooperative is donating \$250.00 in feed and Estep Livestock Supply is donating \$250.00 in supplies.

The conference will include well-known speakers from the University of Tennessee, Tennessee State University, Tennessee Farmer's Cooperative and the United States Department of Agriculture. Topics will include nutrition, farm safety & biosecurity, genetic selection, reproductive physiology, agroforestry & silvopasture, custom exempt harvest & meat

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Early Weaning Lambs

By Dr. Donald G. Ely

Department of Animal and Food Sciences, University of Kentucky

Introduction

Animal research publications in the 1960's and 70's were populated with articles related to "Early Weaning Lambs." In those days, early-weaned lambs were described as those removed from the milk of dams at any age prior to the traditional **120-day weaning age**. Performance, in terms of production efficiency, was evaluated when lambs were weaned anywhere from 21 to 90 days of age. Production responses of these same lambs, when provided a multitude of pre- and post-weaning diets under differing environmental settings, led to the conclusion that **early weaning at 60 days of age and a minimum of 50 lb body weight** can be accomplished without reducing post-weaning performance.

Why Early Wean?

The primary reason to early wean is to increase the efficiency of production. **Figure 1** illustrates how this can be. Milk production of ewes declines rapidly after peak production at 3 to 5 weeks post partum and is of minor importance to lambs after 8 to 10 weeks. This is a result of decreased milk synthesis because intervals between suckling bouts increase as the ages of lambs increase. Concurrently, lambs become accustomed to longer separations from ewes as they consume more and more creep feed. On average, each lamb consumes about 1.0 lb of total creep feed from birth to 28 days of age. **Figure 1** shows lamb dry feed intake increases dramatically from 28 to 60 days and continues to increase as lambs grow older and become heavier. It was the early weaning research that established the concepts depicted in **Figure 1**: **As ewe milk production decreases, lamb dry**

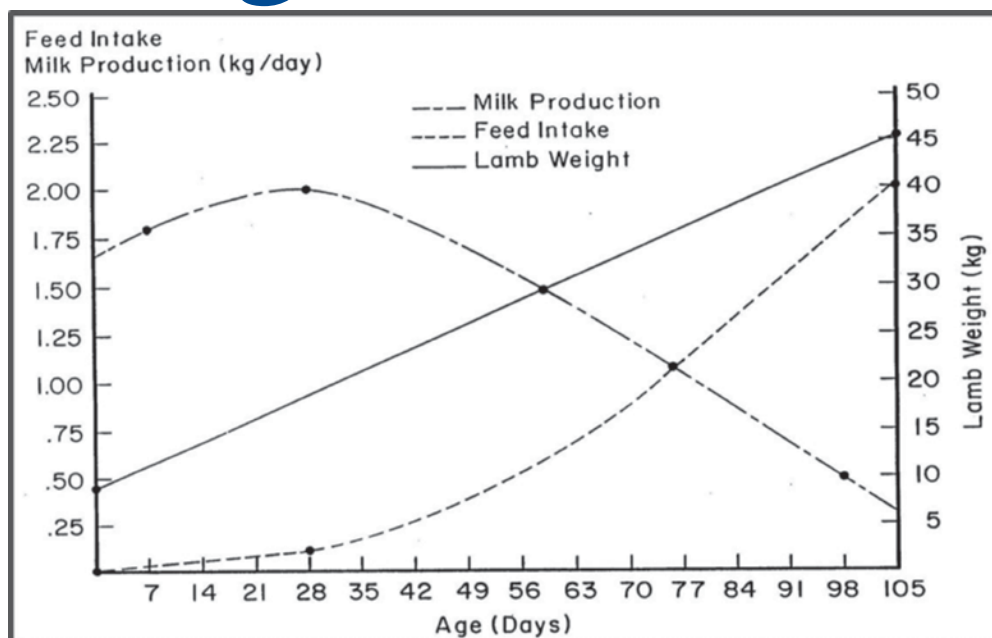


Figure 1. Relationship Between Ewe Milk Production, Lamb Weight Gain, and Feed Intake to 105 Days Post-Partum

feed (creep) increases so lambs gain at a steady rate from birth to 45 kg (100 lb). Lambs that have been creep-fed will have a functioning rumen by 60 days of age and are more efficient in converting feed to gain than are ewes in converting feed to milk and then into lamb gain. **Therefore, the optimum age to early-wean is when the Lamb Weight line intersects with the Milk Production line.**

Table 1 is an illustration of how production efficiency increases with early weaning. Thirty Polypay ewes with twin lambs were assigned to three systems when lambs were 65 days old

(average). One lamb of each twin pair was weaned at 65 days to their pre-weaning creep in the 1W-1UW system. The other lambs remained with the ewes and were creep-fed the same diet as the 1W lambs. Ewes were fed to meet their nutrient requirements when nursing singles from 65 days until lambs reached 99 lb. In the 2W system, both lambs of 10 ewes were weaned to their pre-weaning creep at 65 days. Ewes were turned to pasture. Lambs in the 2UW system remained with ewes and continued to be creep-fed. Ewes were fed to meet their nutrient requirements when nursing twins in late lactation.

Table 1. Performance of Lambs Managed in Three Systems from 65 Days to Slaughter^a

Measurement	System		
	1W-1UW	2W	2UW
Days on Feed	58	62	53
ADG, lb	0.75	0.70	0.77
DFI (lamb), lb	2.90	3.43	2.46
FE (lamb), lb	3.87	4.90	3.18
DFI (lamb + ewe), lb	5.72	3.43	5.81
FE (lamb + ewe), lb	7.63	4.90	7.55

^a Initial weight = 56 lb; Slaughter weight = 99 lb.

The 2UW lambs required fewest days to reach 99 lb because their ADG was highest (0.77 lb). They also consumed the least concentrate supplement (lamb fed: DFI = 2.46 lb/head). Consequently, lambs in the 2 UW system used their lamb feed most efficiently (2.46 lb/lb gain). Lambs in the 2W system took longest to reach 99 lb, gained slowest (0.70 lb ADG), consumed the most lamb feed, and were the least efficient in converting lamb feed to gain. Up to this point, it looks as if early weaning may not be as economically beneficial as once thought. However, we must not forget about the feed of the ewes. Ewes in the 2W system went to pasture where they remained until the study was completed. Those in the 1W-1UW and 2UW systems remained in confinement and continued to consume hay and concentrates until lambs reached the 99 lb slaughter weight. Note how the DFI of lambs + ewes increased in these systems, whereas the harvested DFI (hay and concentrates) of lambs + ewes in the 2W system remained the same as the DFI (lamb): 3.43 lb/head. Resulting FE (lamb + ewe) in the 1W-1UW and 2UW systems increased dramatically because of the ewe feed consumption from 65 days until lambs reached their 99-lb target

slaughter weight. When the complete ewe/lamb(s) unit was analyzed, production efficiency became apparent when lambs are early-weaned (2W).

Early weaning may be advantageous when a limited amount of high-quality pasture is available. This feed can be fed to the efficient lambs as the dry ewes are maintained on a lower quality feed supply. Ewes can then rebreed, depending on breed and season of the year, and allow producers the opportunity to obtain more than one lamb crop per year. Separating the ewes from their lambs at 60 days of age can reduce the incidence of stomach worm infestations in the lambs because their source of infestations, the ewes, is removed. Predator attacks from coyotes, dogs, wolves, etc. may be eliminated when lambs are weaned into confinement near or inside barns instead of remaining with ewes or being weaned to pasture at 60 days.

Early Weaning January/February-Borns

A prerequisite to any successful early weaning program is consumption of a dry creep feed. This prerequisite must be met

in a January/February lambing program because weaned lambs are managed either in confinement or on a spring pasture supplemented with concentrates until marketing in May/June at 100 to 120 lb. Consumption of a dry, palatable creep diet of ground/cracked corn, ground alfalfa hay, and/or soybean meal stimulates greatest rumen development and provides assurance of successful weaning at 60 days and 50 lb body weight. The creep diet does not need to be complex. Typically, a 90% ground/cracked yellow corn and 10% soybean meal diet will produce optimum growth to 60 days.

The first two weeks following weaning are critical to newly weaned lambs. To prevent this from being a traumatic experience for the lambs, they must be consuming maximum creep feed. Leave lambs in the pre-weaning area when ewes are moved out of seeing and hearing range. Provide clean, fresh water; keep lambs in dry, sanitary conditions, and continue feeding the pre-weaning diet after ewes leave. After 7 days, mix the pre-weaning creep and the post-weaning diet 50:50. Continue decreasing the creep and increasing the post-weaning

News to Ewes continues on pg. 24

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diet until the creep diet is diluted out. In confinement, post-weaning diets should contain a minimum of 14% crude protein and at least 75% concentrates. Some post-weaning diets for early-weaned lambs are shown in **Table 2**.

For maximum production, these diets should be self-fed. Lambs fed Diet 1 need to be supplemented with to 0.3 to 0.5 lb grass hay (mid-bloom) per head daily. The amount of hay in Diets 2 and 3 is adequate to maintain rumen activity of the lambs. Adding additional hay will likely decrease gain. Diet 2 is excellent, has high protein percentage, but is relatively expensive because of its alfalfa hay and soybean meal content. Diet 3 is less expensive because distillers dried grains with solubles replaced some of the soybean meal. Soybean hulls provide the energy in Diets 4 and 5. Lamb gains with these diets may not be as high as those obtained with Diets 1, 2, and 3. However, costs of the soybean hull diets may be less than the corn/soybean meal diets.

If lambs are early-weaned to spring pasture, they should weigh a minimum of 50 lb each. They must be consuming maximum creep feed and adjusted to

Table 2. Ingredient Composition of Diets for Early-Weaned Lambs in Confinement

Ingredient	Diet, %				
	1	2	3	4	5
Gnd. alfalfa hay, MB ^a	-	10.0	-	-	-
Gnd. orchardgrass hay	-	-	10.0	-	-
Gnd./Cr. yellow corn	79.1	65.9	61.0	-	-
SBM ^c	13.5	14.3	13.9	10.0	10.0
SBH ^c	-	-	-	80.4	75.5
CGF ^c	-	-	-	-	10.0
DDGS ^c	4.3	5.0	10.0	5.0	-
Salt	0.6	0.6	0.6	0.6	0.6
Gnd. limestone	0.9	1.2	1.5	1.0	0.6
Dicalcium phosphate	0.6	-	-	-	0.3
Complete sheep mineral	0.3	0.3	0.3	0.3	0.3
Ammonium chloride	0.5	0.5	0.5	0.5	0.4
Vitamin A ^d	0.05	-	-	-	-
Vitamin D3 ^d	0.01	-	-	-	-
Vitamin E ^d	0.10	0.13	0.13	0.13	0.13
Vitamin A, D, E premix ^e	-	0.05	0.05	0.05	0.05
Corn oil	-	2.0	2.0	2.0	2.0

^a Mid-bloom.

^b Ground through hammer mill without screen.

^c SBM = soybean meal (48% crude protein); SBH = soybean hulls; CGF = corn gluten feed; DDGS = distillers dried grains with solubles.

^d Vitamin A (10,000 IU/gram); Vitamin D3 (15,000 IU/gram); Vitamin E (20,000 IU/lb).

^e 4,000,000 IU Vitamin A; 800,000 IU Vitamin D3; 500 IU Vitamin E/lb.

pasture when weaned. Ninety percent ground/cracked yellow corn and 10% soybean meal is an adequate creep diet.

Ewes must have trained their lambs how to graze for this system to work efficiently. Move ewes away from the lambs. Continue to provide the creep diet (self-fed) for 7 days; then, mix creep and shelled corn 50:50 for 7 more days. Provide shelled corn ad libitum from day 14, along with bluegrass or orchardgrass spring pasture, until marketing in May/June. Diet 1 (**Table 2**) can be used instead of shelled corn if a higher protein diet is preferred. However, this diet is more expensive than corn alone. Diets 2 and 3 (**Table 2**) can be used, but the hays should be replaced with ground/cracked yellow corn, because lambs will be

consuming adequate roughage from the spring pasture. Diets 4 and 5 (**Table 2**) can also be fed, but gains are likely to be less than those attained with shelled corn or Diet 1, 2, and 3 because of the higher roughage content (soybean hulls).

Early Weaning April-Borns

Lambing in April offers more marketing options than January/February lambing. However, more management expertise may be required before these options become successful. Lambs can be marketed for slaughter directly off the ewe at light weights (50 to 70 lb). Although lambs can remain with ewes until marketing in the fall, their slaughter weights may vary from 70 to 120 lb and, thus, may not receive top dollar at the market. Variation in market weights may be a result of internal parasite, foot, and/or excessive environmental temperature problems encountered throughout the summer. Additionally, ewes may rob their lambs of the high-quality pasture without producing adequate milk for maximum gain. The third option for April-born lambs is to early-wean to pasture and import them into a forage management program that produces 100 to 120 lb slaughter lambs at targeted marketing dates from September to December (depending on producer's preference). In this option,

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ewes with lambs grazing spring pasture (bluegrass, orchardgrass, or mixture) need to be supplemented with 1.0 lb/head/day shelled corn until weaning. Meanwhile, lambs need to be creep-fed the 90:10 diet (ground/cracked corn: soybean meal). Lambs should be at least 60 days of age and weigh at least 50 lb when weaned. After weaning, about June 20 to July 1, lambs begin to graze summer pasture and are supplemented with shelled corn or a growing finishing diet. Either of these diets can be self-fed or hand-fed once daily at 2.0% of the average body weight. Self-feeding will result in maximum intake of the finishing diet at the expense of the pasture forage and will allow marketing in September/October. This system works well when forage availability becomes limiting during the heat of summer. Hand-feeding once daily at 2.0% of body weight promotes greater use of forage than self-feeding. Feeding lesser amounts of the finishing diet each day will result in lambs reaching 100 to 120 lb market weights later in the fall (October/November). The forage of choice for this scenario is alfalfa because of its nutrient composition and productivity during July and August. Shelled corn can serve as an economical

supplemental concentrate when lambs graze alfalfa. The diet in **Table 3** can also be used to supplement lambs on grass or alfalfa pastures. This diet will provide excess protein, compared with only corn, however, it does contain adequate mineral and ammonium chloride (to prevent urinary calculi).

Summary

Lambs can be weaned successfully in confinement or to pasture at 60 days of age if they weigh at least 50 lb. Creep feeding is the most important prerequisite for success. The main reason to early-wean is to increase production efficiency. If lambs have been creep-fed, removing ewes has minimal or no effect on subsequent post-weaning performance. Weaned

Table 3. Growing/Finishing Diet for Early-Weaned Lambs on Pasture

Ingredient	Percent of Diet
Ground/cracked yellow corn	81.80
Soybean meal (48% CP)	10.00
Distillers dried grains with solubles	5.00
Complete mineral mix	2.50
Ammonium chloride	0.50
Vitamin E ^a	0.12
Vitamin A, D, E premix ^b	0.05

^a 20,000 IU/lb

^b 4,000,000 IU Vitamin A; 800,000 IU Vitamin D3; 500 IU Vitamin E/lb

lambs are highly efficient converters of high-quality concentrates into lean tissue (growth) either in confinement or on pasture forage. So, if the producer's goal is to produce market lambs as economically efficient as possible, early-weaning is one management tool that can contribute to this goal. 🐏

Dr. Donald G. Ely, professor in the Department of Animal & Food Sciences at the University of Kentucky

Zoonotic Diseases in Sheep and Goats

Dr. Beth Johnson

Zoonotic diseases are those diseases that can be transmitted to humans from animals. Some of the diseases are benign and very minor while others can be life threatening. It is important to recognize the zoonotic diseases and take appropriate precautions to prevent exposure to the disease causing agents. The diseases can be divided into categories causing skin diseases, eye diseases, gastrointestinal diseases and abortifacient diseases. Some of the agents are multifactorial and can cause eye disease and abortions for example.

SKIN ZONOTIC DISEASES

DERMATOPHYTOSIS: "RINGWORM"

Contrary to what many think, this disease is not caused by a worm, it is caused by a fungus, *Trichophyton verrucosum*. It can infect cattle, sheep, goats and humans. It is usually characterized by clearly demarcated, 1 - 10 cm² areas of hair loss, covered

by dry wart-like crusts on the ears, face and neck. Some lesions can appear on the trunk and legs of affected animals especially in show animals that have been sheared. The lesions do not appear to cause excessive itching, but in humans the lesions can be pruritic. In humans, the lesions appear as a raised lesion with a "red ring" around the lesion. Where the disease has been seen in sheared animals, it has been characterized by raised 4 - 6 cm diameter scabs over the wool/hair-covered parts of the body. When the matted wool/hair covering the lesions is removed, the underlying skin appears inflamed and bleeds readily. This is what we often see in show lambs and kids when they are sheared down. Slick shearing, repetitive washing and stress make show animals more susceptible to infection by this organism. There are several lotions, shampoos and sprays available for treatment of this disease and producers who become infected should contact their dermatologist

for treatment advice before the disease becomes advanced.

CONTAGIOUS ECTHYMA - "ORF, SORE MOUTH"

Contagious ecthyma is a vesicular disease caused by a virus in the poxvirus group. It causes an infectious, contagious skin inflammation that can infect sheep, goats and humans. It is characterized by scab formation on the mouth, nostrils, eyes and other areas that don't have wool or hair, such as the udder and vulva. The virus is very resistant and remains infectious for more than 12 years in the dried scabs that fall off in the pasture or barn.

Lesions often occur first on the gum line as small, raised, red areas that become blisters. These blisters eventually rupture and combine into large scabs. Lesions are most common on the mouth of lambs/kids and on the udders of ewes/does. Secondary bacterial infection is common. After one to four weeks, the scabs fall off, and the lesions heal with no scarring.

Humans can contract contagious ecthyma. For people, the lesions usually are solitary and appear on the hands, arms or face. Lesions appear as scabs shaped like doughnuts. The lesions heal in a few weeks without scarring. When handling animals with sore mouth, it is highly recommended to wear gloves and practice good sanitation.

Vaccination against sore mouth can be performed by utilizing a commercial live virus vaccine. A small area is abraded on the inside thigh of kids/lambs and applying a small drop of the vaccine on the abrasion. **DO NOT VACCINATE YOUR ANIMALS IF YOU DO NOT HAVE THIS DISEASE IN YOUR HERD!**

ABORTION DISEASES

There are primarily 4 diseases that cause abortions in sheep and goats and are possible zoonotic diseases especially to pregnant women. It is highly recommended that pregnant women use extreme caution in the lambing/kidding barns.

CHLAMYDIA

Chlamydia is the most common cause of abortion in ewes. It is transmitted from aborting sheep to other susceptible females through fetal membranes. Ewe lambs are usually the most susceptible on farms where the organism is present. The bacteria which causes enzootic abortions in ewes is called *Chlamydophila abortus* (old name *Chlamydia psittaci*). *Chlamydia* causes abortion during the last month of pregnancy and may also result in the birth of lambs that die shortly after birth.

The organism may also cause pneumonia in young lambs, but the *chlamydia* species that causes abortion is not associated with conjunctivitis or arthritis. *Chlamydia* abortions can usually be stopped or reduced by treating the entire flock with oral or injectable tetracycline. A vaccine is available. It should be administered 60 days

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CAMPYLOBACTER

Campylobacteriosis is a common cause of abortion in ewes. Abortion during the last month of pregnancy, stillborn lambs, and the birth of weak lambs are common signs of Campylobacter abortion. The organisms which cause abortion are *Campylobacter jejuni* or *Campylobacter fetus*. Ewes are infected by oral ingestion of infected fetal membranes. The incubation period from the time of infection and abortion is only two weeks. Vaccination can be effective in the face of an outbreak.

Feeding of tetracycline has also been shown to be effective. Disease spread can be prevented by isolating the aborting ewe, disposal of the fetuses and membranes and disinfecting the affected area. Infected ewes usually recover after aborting and are immune to re-infection. A vaccine is available. It should be administered prior to breeding and repeated in 60 to 90 days, then annually.

TOXOPLASMOSIS

Toxoplasmosis is a common cause of abortion in does and ewes. It is caused by *Toxoplasma gondii*, a protozoan parasite which infects cats. Toxoplasma abortion in does/ewes follows ingestion of feed or water that has been contaminated with oocyte-laden cat feces. The organism migrates to the placenta and fetuses causing their death and expulsion. Ewes and does will abort during the last month of pregnancy or give birth to dead or weak lambs/kids that usually die from starvation.

Infection in the first two months of gestation results in embryonic death and re-absorption. There is some evidence that Rumensin® and Deccox® will partially prevent toxoplasmosis in pregnant ewes. Limiting cat populations or utilizing older cats in a barn and preventing contamination of feed and water with cat feces will help to prevent disease outbreaks.

Q FEVER

Q Fever is a disease caused by the bacterium, *Coxiella burnetti*. Sheep, goats, and cattle are most likely to get Q fever. The most common sign of Q fever is abortion during late pregnancy. However, most animals do not show any signs of illness. Animals get Q fever through contact with body fluids or secretions. Q fever is zoonotic (transmissible to people).

Infection begins with inhalation of a spore-like small cell variant and from con-

tact with milk, urine, feces, vaginal mucus or semen of infected animals. Incubation period is usually 2-3 weeks. In humans, the most common symptom is mild flu-like symptoms with abrupt onset of fever, malaise, profuse perspiration, severe headache, muscle pain, joint pain, loss of appetite, upper respiratory problems, dry cough, pleuritic pain, chills, confusion and gastrointestinal symptoms, such as nausea, vomiting, and diarrhea. There are more serious disease manifestations that may result from infection by *Coxiella burnetti* including endocarditis or atypical pneumonia so it is very important to consult with a physician if you suspect you have been infected with this organism.

Animals can become persistent carriers of this disease and continue to infect other animals in the herd so one may want to do serological testing of their herd to determine which animals have titers to *Coxiella burnetti*. It is easily treated by antibiotics in both humans and animals, but in immunocompromised individuals it may be a major concern.

Gastrointestinal Diseases

There are several causative agents that may cause mild to severe gastrointestinal signs such as vomiting, diarrhea and abdominal pain. Consumption of raw milk from cows, sheep or goats has been incriminated as a source of dangerous bacteria such as *Salmonella*, *E. coli*, and *Listeria*, which are responsible for causing numerous foodborne illnesses. Campylobacter has also been identified as a source of gastrointestinal symptoms. If consuming raw unpasteurized milk it is important to know the source of the milk and use caution.

Conclusion:

As you can see, it is important to recognize and be aware of these diseases. Most of these diseases result in benign infection where the producer may not even be aware that they have been exposed to a disease agent, but in those cases where severe infection occurs it is important to notify your physician of what you have been exposed to. This will help in identifying the source of the infection and speed up treatment and recovery!

Dr. Beth Johnson is a Staff Veterinarian in the Kentucky Department of Agriculture and has 40 years of experience raising and treating small ruminants. Her family farms in Parksville, KY where she raises Gelbvieh cattle and Boer goats.

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Using Summer Annuals in a Forage Program

by Dr. Gary Bates

Producing high quality forage should be one of the primary goals of any livestock producer. Usually perennial grasses are the preferred forage species on which to develop a forage program. Grasses such as tall fescue, orchardgrass, or bermudagrass tend to be cheaper to produce, and are at less risk of failure due to environmental pressure. There are situations when annual species can be a key part of a forage program. Most often, hot, dry conditions are a period of forage deficit for most operations, especially ones that are using cool-season grasses as their forage base. In this scenario, summer annual species can provide grazing during the summer.

The term summer annual includes several species of forage. The chart below illustrates the pros and cons of the species that can be used practically.

Planting summer annuals – All of these forages can be planted conventionally or no-till. Be careful to pay attention to planting depth. Smaller seeded species like teffgrass and crabgrass are easily planted too deep. If planting conventionally, make sure to cultipack the ground prior to broadcasting the seed, then cultipack a second time after seeding.

Fertilization – Be sure to go ahead and take a soil test now in preparation for planting the summer annual in May/June.

Fertilize and lime according to soil test results. For grasses, apply no more than 60 lb N per acre at planting, and then 45-60 lb after the first cutting, if moisture is not limiting. If being used for grazing, nitrogen rate can be decreased based on forage needs.

Toxicities - There are two potential toxicities that can occur with summer grasses.

Nitrate toxicity - Nitrate accumulation occurs because the plant continues to take up nitrogen through the roots, but drought conditions cause an inadequate water supply for rapid plant growth. Nitrates are accumulated in the plant for use in protein formation when adequate water becomes available.

When the animal consumes a plant with high nitrate levels, the nitrogen is converted from nitrate to a form called nitrite. These nitrites get into the blood stream and interfere with the ability of red blood cells to carry oxygen. Animals suffering from nitrate poisoning exhibit labored breathing, muscle tremors and staggering. Membranes of the eyes and mouth are bluish because of the lack of oxygen. Death can occur relatively quickly.

Prevention is the best way to deal with nitrate toxicity. If any pasture is suspected of having high nitrate levels, avoid grazing these pastures until seven to 10 days after an adequate rain. Hay that is suspected of having high nitrate levels can be analyzed.

Contact your local Extension office for more information.

Prussic acid poisoning - Prussic acid poisoning occurs when animals consume plants that contain high levels of prussic acid, a form of cyanide. Potentially toxic levels can develop in sorghum X sudangrass hybrids immediately after a frost. Pearl millet, teffgrass, and crabgrass do not produce prussic acid.

Prussic acid interferes with the ability of red blood cells to transfer oxygen. Symptoms include excessive salivation, rapid breathing and muscle spasms. Symptoms may occur within 10 to 15 minutes after the animal consumes the forage high in prussic acid.

If using sorghum X sudangrass hybrids, avoid grazing when temperatures begin to cool in the fall. This forage can be cut for hay, since prussic acid breaks down in 10-14 days. Even if hay is cut the day after frost, avoiding feeding this hay for 14 days will eliminate the danger.

Dr. Bates received his Ph.D from the University of Georgia and his M.S. and Bachelor's of Science from Louisiana State University. He joined the faculty of The University of Tennessee in 1993 as an Extension Forage Specialist. Dr. Bates's educational program emphasizes the practices needed for profitable forage production. Forage species selection, establishment, fertilization, harvest and storage are the major areas of his program.

Species	Pros	Cons	Seeding rate	Seeding depth
Sorghum x sudangrass	High yielding. Grazing or hay use. Can be planted earlier than most other summer annual grasses.	Prussic acid potential with fall frosts. Worst nitrate accumulator of summer annual grasses. Can grow 6 ft tall if not managed.	30 lb drilled	½ - 1 in
Pearl millet	High yielding. Grazing or hay use. No prussic acid potential.	Can grow 6 ft tall if not managed.	20 lb drilled	½ - 1 inch
Teffgrass	High quality. Fine stemmed. Very palatable.	Not as high yielding as SS hybrid or pearl millet. Can be pulled up when grazed due to shallow root system	8 lb	⅛ inch
Crabgrass	Easy to establish. Palatable. Good for grazing and hay.	Not as high yielding as SS hybrid.	4 lb	¼ inch
Cowpeas	High quality. Legume – no nitrogen required.	Usually need to be grown in mixture with SS hybrid, pearl millet or teffgrass.	75 lb	1 inch
Annual lespedeza	Can grow on low fertility soil. High quality	Not high yielding. Short-seasoned	25 - 40 lb	¼ inch

The Tennessee Agricultural Enhancement Program



by Mark Powell

The Tennessee Agricultural Enhancement Program (TAEP) is a cost share initiative directed by the Tennessee Department of Agriculture. It supports a wide range of rural and community programs across Tennessee. TAEP was first funded in 2005 through an appropriation for agricultural development in an effort to provide cost share assistance for long term investments in Tennessee's livestock and farming operations. In 2009, the Tennessee General Assembly passed legislation that secures funding for TAEP from the revenue stream created by the cigarette tax. Today the TAEP program is composed of 7 cost share programs including: genetics, livestock equipment, livestock working facility cover, hay storage, livestock feed storage, grain storage and producer diversification.

Requirements for Standard 35% Cost Share

The standard cost share for Tennessee sheep and goat producers is 35%. In order to receive cost share, producers must meet specific requirements. A producer needs to own a minimum of 30 head of sheep and/or goats for all TAEP livestock programs with the exception of livestock feed storage where they need a minimum of 150 head. Producers interested in participating in TAEP will also need to apply for a Premise ID through the Tennessee Department of Agriculture by calling 615-837-5120 or online at www.tn.gov/agriculture/regulatory/livestock.html.

Requirements for 50% Cost Share

Sheep and goat producers can maximize their cost share assistance up to 50% cost share by obtaining a Master Sheep/Goat Certification. The Master Sheep and Goat Producer Program is an educational tool to provide information to broaden production management skills and improve the producer's competitiveness in the market place thereby increasing their profitability. The Master Sheep and Meat Goat Producer Program is led by a team of extension service agents and specialists from the University of Tennessee and Tennessee State University. The program is comprised of 13 educational topics that focus on sheep and goat production and issues facing the sheep and goat industries. Once a producer becomes certified, they remain certified for a period of 3 years.

Program Areas for Sheep and Goat Producers

Genetics - \$350

The purpose of the sheep and goat genetics program is to increase the marketability, longevity and reputation of Tennessee's sheep and goats. In this program sheep and goat producers can receive cost share assistance on the purchase of a registered ram or a full blood or registered buck. Rams must be RR for spider syndrome and RR for scrapie. This program also allows for cost share on artificial insemination equipment, semen, estrus synchronization/detection devices, and breeding soundness and pregnancy tests.

Livestock Equipment - \$3,500

The purpose of the TAEP Livestock Equipment program is to improve long term sheep and goat husbandry and management capabilities while enhancing farm safety. Sheep and Goat producers can purchase handling equipment including gates, panels, crowding tubs, and turn tables to better manage their herds and flocks. Other items of interest for sheep and goat producers include hay and mineral feeders, feed bins and augers, creep and bunk feeders, lambing pens, pasture sprayers and sheep shears.

Hay Storage - \$7,500

The purpose of the TAEP Hay Storage Program is to improve the quantity and nutritional quality of stored forages by using proper storage and management techniques. Hay storage structures can be either new or additions to existing structures. The barns should have a minimum eave height of 14ft and must have at least one side completely open. Gravel in barns is not required but is highly recommended at the rate of 4-6 inches on top of geotextile fabric.

Livestock Feed Storage - \$10,000

The purpose of the TAEP Livestock Feed Storage Program is to improve the long term feed storage, cost efficiency and feed quality. Producers can build commodity sheds for storage of bulk feed commodities and whole grains used in a mixing to produce livestock feed. Also include in this program are mixer and grinder mixer wagons, hay wrappers, silage baggers and upright and ground silos. This program requires producer to own a minimum of 150 head of sheep and/or goats.

Producer Diversification - \$15,000

The purpose of the producer diversification

program is to encourage producers to expand or improve their operations through the production of diversified agricultural products.

The Producer Diversification program is composed of 6 sectors including: agritourism, fruits and vegetable, honey bee, horticulture, organic and value-added. The producer diversification program is a competitive cost share program where applicants from individual sectors are judged against one another in competition for cost share dollars. Many sheep and goat producers who apply for the Producer Diversification Program do so in the value-added sector. This sector provides cost share funds to producers that want to sell their own farm fresh meats. Items included in this area include: cold storage, walk-in and chest freezers, loading docks, packaging equipment, processing areas and processing equipment.

Since the program's inception in 2005, TAEP has provided over \$100 million in cost share funds to livestock and grain producers across the state of Tennessee. A recent University of Tennessee Study showed that for every dollar of TAEP investment, \$3.89 is generated in the rural economies and communities in the form of jobs, businesses, and retail businesses.

To apply for the TAEP cost share programs, producers are encouraged to visit the TAEP website at www.tn.gov/taep or visit their local county extension service office. Application dates for this year's application are June 1 through June 7, 2015. Producers have the option of filling out and mailing a paper application during that period, or they can apply on line at the above website.

For more information on the TAEP program and how it can benefit Tennessee Sheep and Goat Producers, please contact the TN Department of Agriculture TAEP Administrator, Mark Powell at 615-837-5323 or email at Mark.Powell@tn.gov.

Mark Powell is the Administrator of the Tennessee Agriculture Enhancement Program. Mark lives with his wife, Jenni, and 3 little girls, Sarah (7), Anna (10), and Grace (11) on a 180 acre sheep farm in Watertown, TN. He received his Bachelors degree in Animal Science from the University of Tennessee-Knoxville and a Masters in Reproductive Management from the University of Missouri-Columbia. He got a Bible Masters from Pensacola Christian College in Pensacola Florida.

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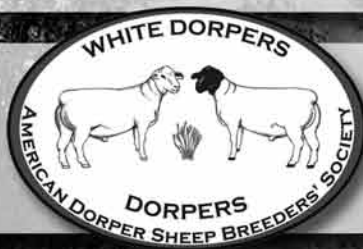


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American Dorper Sheep Breeders Society
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Kentucky Goat Producers Association
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National Kiko Goat Registry
kikogoats@hughes.net
www.NationalKikoRegistry.com

National Livestock Producers Association
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Paris Stockyards
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Tennessee Sheep Producers Association
www.tennesseesheep.org

TN Small Ruminant Grazing Conference
Brehm Animal Science Bldg, UT Ag Campus
www.rhea.tennessee.edu
423-775-7807

United Producers, Inc.
270-843-3224

University of Kentucky
www.uky.edu/AnimalSciences/sheep/sheep.html
www.uky.edu/AnimalSciences/goat/goat.html
www.ca.uky.edu



The Cooperative Extension Program at Langston University will host the 30th Annual

Goat Field Day

Saturday April 25, 2015

9:00 a.m. to 4:30 p.m.

at the E (Kika) de la Garza American Institute for Goat Research

This year's focus will be on ***Taking Control of Marketing***. Featured speakers will be specialists with considerable goat experience.

Presentations will include:

Morning Session:

- Marketing on a Large Scale for Small Ruminants
- Dairy Products Marketing
- Marketing Your Meat Goats

Afternoon hands-on workshops:

- further discussion on various aspects of marketing
- useful tips for cheese makers, tanning skins,
- herd health issues, basic goat husbandry,
- goat feeding and nutrition, government assistance,
- fitting and showing market wethers, DHL training,
- internal parasites, and many more workshops

Program includes morning and afternoon activities for youth. Langston University is located 12 miles east of Guthrie, OK on Highway 33.

Registration is free and begins at 8:00 a.m. Lunch may be purchased or you can bring your own. For registration information contact Dr. Terry Gipson (405) 466-6126 or tgipson@langston.edu or register online at www2.luresext.edu/goats/library/fd2015.html

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