UK COOPERATIVE EXTENSION SERVICE
University of Kentucky – College of Agriculture
LEXINGTON, KY 40546
KSU COOPERATIVE EXTENSION PROGRAMS
Kentucky State University
Summer Management
Goat Producer's Newsletter

Terry Hutchens, MS, Animal and Food Sciences, UK
Robert Harmon, PhD, Animal and Food Sciences, UK
Kenneth Andries, PhD, Animal Science Specialist, KSU

July
2009 - 0709

High Temperatures and Heat Stress Reduces Productivity for Meat and Dairy Goats
Terry Hutchens, UK

High temperatures raise the concern for heat stress on doe and kid goats. Hot weather and high humidity can reduce breeding efficiency, milk production, feed intake, weight gain and can sometimes cause death due to temperature stress followed by secondary infections such as pasterella pneumonia.

The primary objective for producers is to provide an adequate source of water. Consumption is best when the source is cool, clean, and easily accessible. Water in small containers or troughs should be placed in shade areas because small containers heat rapidly and intake rapidly declines. As environmental temperatures increase from 70 to 95 degrees, water intake must double in order to maintain appropriate body temperature. A water tank five feet long with equal access on both sides is adequate for 10 to 12 mature does. Therefore one water source may not be adequate for many Kentucky herds, especially during extreme temperatures. Flow rates and recover times for tank refill are important. Tank refill rates must be high enough to totally refill the tank in one hour. For a 100-galllon tank the flow rate must be at least 1.6 gallon per min. During hot weather, a buck will consume 2 to 3 gallons daily. Dry does may consume as much as 2 gallons per day, and lactating does will consume 3 or more gallons daily. Adequate intake of water can be enhanced by placing water sources near shade, frequent access areas and mineral feeders.

Grazing Strategies Affect Pasture Ambient Temperatures
Terry Hutches, UK

Grazing strategies can affect pasture ambient temperatures, the temperature a grazing animal feels while on the pasture. Hot weather intensifies the need to temporarily subdivide and rotate pastures. Rotating through pastures at a rapid rate, each 7 to 10 days or less, assures taller pasture grass.

The animals then graze the tops of the plants and leave the rest for regrowth. As a result, the taller grasses shade the soil surface and tend to keep the pasture surface cooler than short, over-grazed pastures.

Higher grazing heights reduce parasite infections. The parasite larva is concentrated in the

lower 4 inches of the pasture plants, and the goats are not consuming that part of the plant.

Rotating through pastures reduces overgrazing, eliminates dust and dirt wallows and assures a more vegetative pasture that is generally higher in nutritional values than the over-grazed and over-mature alternatives.

Reproductive Efficiency is Affected by Ambient Temperature

Terry Hutchens UK

Reproduction efficiency is affected by hot weather. Goat producers need to be concerned about hot humid weather during early breeding season. Hot weather can reduce the duration and intensity of estrus and increase the interval between estrus periods. Also during the early stages of pregnancy the embryo is directly affected by maternal body temperature and high temperatures may reduce the incidence of implantation of the embryo on the uterine horn.

High temperatures can also affect semen viability of the buck for up to a 6-week period. Keep breeding groups small in hot weather and provide adequate shade and water. Young bucks should be limited to breeding 10 females and mature bucks no more than 20 females.

Along with adequate water and good vegetative pastures, goats need high quality vitamins and minerals during excessively hot periods. Make sure the mineral provides adequate vitamins A, D, and E and the minerals Cu, Zn and Se.

Types of Shade for Goat Pastures

Terry Hutchens, UK

Research conducted at the University of Kentucky indicates that beef cows and calves showed an improved rate of gain when shade was provided in the spring and early summer during heat stress periods. There was an increase of 1.25 pounds per day for cows, and 0.41 pounds per day for calves in a May measurement period when heat stress was present and cows were grazing on endophyte-infected fescue.

In addition, the results of this study suggest that if adequate shade is not present in the hotter summer periods, no shade at all may be better than a limited shade amounts. Limited shade may actually be a detriment to performance and well-being of animals as animals crowd under the small shade areas and reduce their overall cooling potential.

Antidotal observations made by Luginbuhl, 2002, at NCSU and Hutchens, 2005, UK suggested that extremely hot weather, greater than 85 degrees F, drastically reduces the rate of gain of kids on pasture. By comparison, kids fed in shade areas during similar temperature extremes appear to have rates of gain that are relatively unaffected by temperature.

For pasture situation, producers should strongly consider providing shade in most situations during the summer, for dairy goats, pasture grazed feeder kids, and nursing does and kids. There may also be a measurable benefit in providing shade to the reproductive herd during late spring and summer breeding seasons.

Shade Placement

Shade is not often conveniently placed in rotational grazing systems. As is often seen in Kentucky, some pastures have shade while others do not. The following alternatives can be used for shade in a rotational grazing system.

Natural shade is the lowest cost alternative but is not often in the proper location, and care must be taken to avoid killing trees with too high an animal density. Strategic plantings can be used over time to create a natural shade environment. Placing shade trees on the west side of pasture areas is most desirable. But growing trees takes time; check with your county Extension agent for fast growing tree selections.

Permanent shade can be provided by barns or sheds but often the buildings are not in the proper location in the grazing system and can be costly.

Portable, low-cost shades can be built from 2.5-inch pipe and welded into a frame sturdy enough to take the abuse of wind, rain and "bored goats." For rotational grazing, frames can be made portable and can be moved with the animals. The advantage of portable shades is that pasture will not be damaged by high manure accumulation and resulting parasite build-up.

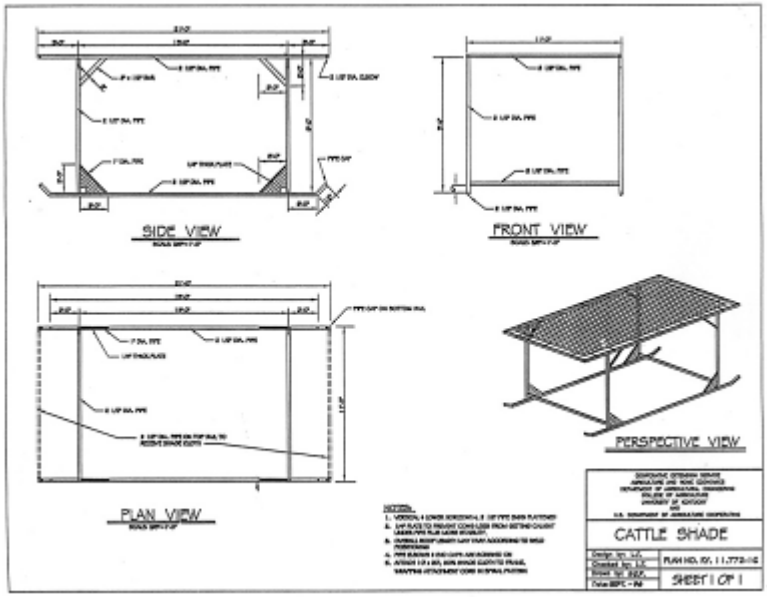
Shade coverings commonly called shade cloth will allow air movement while providing shade. The UK agricultural engineers recommend using 80 percent shade cloth for such structures. Another option that provides additional insulation value and complete shade is the use of sheet metal or woven wire with straw or hay placed on top of the sheet metal or wire. This method provides both shade and heat insulation; however, the construction and maintenance costs of these types of structures can be greater than the shade cloth alternative. Do some investigation and price these alternatives before buying.

The portable frames should have a skid -type bottom member to allow moving from pasture to pasture if necessary. Dimensions of 10 feet x 10 feet and 10 feet x 20 feet are practical maximums for portable shade for goats.

Requirement for Portable Shade Structures

Providing enough portable shade to meet the needs of the entire goat herd can be difficult. Apractical solution is to provide shade at about 75 percent of the requirement. A mature doe with kids will need approximately 25 feet per head of shade area. If 75 percent of the shade needs are met, the adjusted shade area will round up to 20 feet per head. If a farm has 30 does, the farm would need three 10 feet x 20 feet shade structures.

Remember that shade placement will affect forage utilization. If fields are large, goats will predominately graze a perimeter around the shade. If the field is divided into small 2 to 3 acre pastures, the structures will be moved as the goats are moved through the pastures. This practice will result in improved forage utilization and improved forage quality.



This article has been adapted from *Shade Options for Grazing Cattle* (AEU-91) by Larry Turner, UK Extension agricultural engineer. The complete publication and structure print can be found at:
http://www.bae.uky.edu/Publications/EXT/pubs_Livestock.htm

Thinking Ahead Improves Kid Quality
Ken Andries (KSU)

For many goat producers summer is a time to watch the kids grow and to enjoy your time with the animals. The winter season of frozen water and daily feeding and haying are over and kidding season is done. However, summer is also the time to start thinking and planning for the coming year.

Breeding season is always right around the corner; in fact, producers who want fall kids have already started breeding. If you are spring kidding, now is the time to think about when you want those kids born. Many producers are starting to move kidding out of the middle of winter (January and February). They have realized that cold and wet weather is not the best for kid survival.

Gestation in goats is around 150 days, about 5 months. If you wish to have March kids, October is the time to start breeding. To avoid

January and February kids you need to make sure the bucks are not in with the does between about August 5 and October 5. This will prevent these winter kids.

Use your records to select replacements and cull bucks and does that did not perform as well as you would like. Both performance and health records need to be utilized for this process. Remove poor performing individuals now to reduce the cost associated with keeping them around. Selection of replacement does from your herd that were from multiple births and had better growth rates will help improve the overall performance of your farm.

When selecting a new buck be sure to ask about performance records. This information will help you improve your herd. Many seed stock producers are still not looking at performance, so do not be surprised if growth data is not available; however; the more people ask for the records, the more they will see a need for them. They should at least be able to let you know if the buck was born twin or single and how was it raised. Also, ask to look at other kids by the same sire, or if it is an older buck look at kids he produced. This practice helps give you a better idea of his potential. Ask about the health and nutrition program the producer uses. This knowledge can help reduce the chance of you bringing problems to your farm.

Finally, make sure your animals have access to good quality pasture and a good quality trace mineral mix. There are many on the market today and it is critical that they have enough Se in their diet. Selenium has been linked to reproduction and fertility as well as the more noted weak kid problems we all know about. The best protection from mineral deficiencies is to have a good quality trace mineral available free choice at all times. Fescue pastures are poor quality during this time of year so supplement is needed to get the does back into breeding condition and to make sure the bucks are ready for breeding as well.

Kentucky Investigators Assess the Potential for Increasing Hispanic Consumption of Goat Meat

Terry Hutchens, UK

A goat and lamb Hispanic market potential grant entitled, ”Marketing Potential of Fresh Food Products to Hispanic Consumers: Exploring a New Market Opportunity” was funded by USDA through the Kentucky Department of Agriculture, Marketing Division. Participants in the grant are KDA, Division of Marketing, Kentucky State University, the University of Kentucky and Bluegrass Sheep and Goat, Paintlick Kentucky.

It is widely known that many people of Hispanic origin often purchase live animals form Kentucky Farmers and process them on their own; however, urban dwelling Hispanics have found this process to be more difficult and undesirable. Since Hispanics have a traditional preference for goat and sheep meat, this project is investigating the potential for selling Kentucky grown goat and sheep to the community. These produces will be locally produced, processed and marketed with the objective of creating a network of small-scale farmers providing live animals to local small scale butchers/processors who will in turn supply product to Hispanic groceries and restaurants.

Local consumption of Kentucky produced goat meat is on he rise in Lexington Kentucky. This young lady is consuming goat chops on a bed of rice in a popular Mediterranean restaurant in Lexington Kentucky.

In mid- to late summer approximately 3,000 pounds of goat meat will be placed in three Hispanic grocery stores and three Hispanic restaurants in Fayette, Franklin and Shelby counties. Market assessments will be made, and the types and characteristics of these food products will be determined through the test-marketing process. This information will be used in developing educational programs for Kentucky sheep and goat producers, meat processors and Hispanic consumers.

Kentucky Master Goat Grazer Demonstration Farms

Terry Hutchens, UK

Ken Andries (KSU), Terry Hutchens (UK) and Keenan Turner (UK) are working jointly on three demonstration farms located in Lewis, Scott and Monroe counties. The objective of the grazing program is to provide farmers with information that they can observe on the demonstration farms. Goat and sheep producers will have the opportunity to monitor different grazing strategies that may well fit into their mall ruminant farming operation.

Farmers will also have the opportunity to discuss these strategies with university specialists and the farmers who have implemented new grazing practices on their farms. Grazing and animal data will be collected and will be used for formulating recommendations and Extension publications. Each farm will participate in the project for at least two years. During this demonstration period, farm field days, news articles and data collection will be gleaned from the process and disseminated to Kentucky goat and sheep producers.

Lewis Co. Farmer Successfully Grazed Goats on Alfalfa

How often do you hear, “If you graze goats on alfalfa, they will blot and die”? Goat producers Joe Bentley and Lewis County Extension Agent Phil Konopka challenged this belief and proved it wrong during spring 2009. Joe is the Lewis County Master Goat Grazer participant. Joe is trying a number of forage strategies; one is to graze 20 nursing does with kids on 1.7 acres of annual ryegrass (April through early May) and transition the 20 lactating does onto alfalfa in early May. All does are moved by rotation through the ryegrass and alfalfa. When the kids are weaned, the does are removed from the alfalfa and the kids continue grazing until market weight is reached. Once does are removed, the second and third regrowth of alfalfa will be harvested for hay. The does will again graze the alfalfa following freeze down or after November 10.

Second Strategy (Observational)

The second strategy was to graze 16 does with kids on 3.5 acres of alfalfa starting on April 3 and removing them on May 20. The does were not rotated but were allowed to pick and choose from the alfalfa field. For the most part, the does and kids grazed the tops of the plant. Due to the top pruning of the alfalfa, the plants remained shorter but sturdy and upright; little trampling was observed. Hay was then harvested from the field shortly after removal of the does. Joe reported that 180 bales of alfalfa (4.5 tons) were harvested from the 3.5 acres following the 50-day grazing period. The stocking rate was 5.0 does with kids per acre; they grazed the alfalfa for 50 days during heavy lactation. Amazingly, 52 bales of alfalfa (1.3 tons) were harvested per acre following the 50-day grazing period.

Goat producer Joe Bentley (left) and Lewis County Extension Agent Phil Konopka seen evaluating annual ryegrass field in March.

We now need to consider the economics of this activity. If the 52 bales or 1.3 tons were sold for $120 per ton and the annual cost of growing alfalfa for hay is estimated to be $235.87 per acre annually (UK Agricultural Economic Department 2006 enterprise budget), on a per-cutting basis (using 3 cuttings per year) the estimated cost per cutting is $78.62 per acre. Therefore, this activity fed 16 early lactating does for 50 days and returns a net profit of ($156 - $78.62) = $77.38 per acre to the alfalfa operation. The alfalfa can then be harvested as usual for the remainder of the hay production year. More to come on this topic; weight gain and economic data is being collected.

Lewis Co. farmer, Joe Bentley is evaluating merging his livestock and hay enterprise while participating in the Goat Master Grazer Program. Shown here are does and kids grazing alfalfa without blot or health incident. Following a 50 day grazing period starting on April 3, goats were removed and 52 bales of hay was harvested per acre.

Monroe County Master Goat Grazers Use Summer Annuals

Monroe County goat and sheep producers Dick and Gloria King moved animals from tall fescue pastures to sorghum sudangrass pastures on July 1. The Kings have an overall stocking rate of 20 mature does per acre for the sudan field. The sorghum sudan pasture has been divided into four sub-pastures or paddocks. Previous work with sorghum sudangrass in Kentucky indicated that unless the field is divided unto paddocks, the goats will not allow the grazed plant to regrow. As the small shoots begin to emerge, the goats quickly consume the new growth. In a Pulaski Co. study in 2003, 5000 lbs of dry feed regrowth was observed following a 21 day resting period.

Monroe Co. goat and sheep producers Dick and Gloria King moved animals from tall fescue pastures to sorghum sudangrass pastures on July 1. The Kings have grazed sudangrass in previous years but have presently broken the field into four grazing paddocks.

Furthermore, the reason for the four paddock design is that the recovery time or rest period is 21 days (when divided by 7 days of grazing = 3 paddocks + 1 paddock = 4 paddocks).

So each paddock will be grazed for 7 days and then allowed to rest for 21 days. Body weights, FAMACHA, body condition scores and cost data will be collected throughout the year.

The above photo illustrates an effective method used by Dick King for subdividing a field. A single electric wire supplies electrical current around the fence perimeter. Cross fences can easily be electrified at any location within the perimeter. Note the vegetation control under the cross fencing to prevent grounding of the fence.

Slatewoods Farm Will Host the 6th Annual Goat A.I. Clinic
Saturday, October 3, 2009
Starting time 9:00 A.M.

Kathy Jones of Slatewoods Farm will host her 6th goat A.I. clinic this year. This year's clinic will host producers from three states and Kentucky. For additional information contact Kathy at slatewoods@inthehills.com

For more information:

Terry Hutchens
Extension Goat Specialist
University of Kentucky
Animal and Food Sciences
905 Garrigus Building
Lexington KY. 40546-0215
thutchen@uky.edu
Phone: 859-257-2465
Fax: 859-257-2534
Http://www.uky.edu/Ag/AnimalScience/

SHEEP, GOAT REFERENDA SCHEDULED FOR OCT. 1

FRANKFORT, Ky. — Kentucky sheep and goat producers may vote on check-offs in separate referenda scheduled to be held Oct. 1 in county Extension offices throughout the Commonwealth, Agriculture Commissioner Richie Farmer has announced.

The referenda ask whether sheep and goat producers wish to assess themselves at a rate of one-half of one percent (.50%) of the net market price of their animals. If the check-off is approved, the Kentucky Sheep and Wool Producers Association and the Kentucky Goat Producers Association would administer the funds in the areas of promotion, consumer information, producer communication, industry information, and research.

“It is extremely important for Kentucky producers to participate in these referenda, whether they support or oppose the idea of a check-off,” according to Kentucky Sheep and Goat Development Office executive director Ray Bowman. “I sincerely trust that producers will realize the positive impact the existence of state check-offs will have on the future of goat and sheep production in Kentucky and show their support for the industries by voting in favor of the check-offs.”

Voting will be open Oct. 1 from 8 a.m.-noon and 1-4:30 p.m. local time. Persons directly involved in the production of sheep and goats will be eligible to vote in their respective referenda in their county of residence. Producers will be required to provide identification and complete a certification attesting that they are eligible to vote. Corporate producers and eligible producers who reside outside of Kentucky may vote only in the county where their farm is located. Eligible producers may vote by absentee ballot.

Votes will be tabulated in the agriculture commissioner’s office in Frankfort.

If approved, collection of check-off funds would be mandatory, but reimbursement of funds paid would be an option to the producer.

For additional information, contact Jimmy Henning, assistant director for agriculture and natural resources in the University of Kentucky College of Agriculture, at (859) 257-4302 or jimmy.henning@uky.edu, Craig Maffet, Kentucky Department of Agriculture, at (502) 564-5126 or craig.maffet@ky.gov or contact the Kentucky Sheep and Goat Development Office (502) 352-2434 on the web at www.kysheepandgoat.org or e-mail us at info@kysheepandgoat.org

COOPERATIVE EXTENSION SERVICE

UNIVERSITY OF KENTUCKY College of Agriculture

Cooperative Extension Service

University of Kentucky
(Your) Department
Ag. Distribution Center
229 Stadium View Road
Lexington KY 40546-0229

RETURN SERVICE REQUESTED