

Goat Producer's Newsletter

Terry Hutchens Extension Associate for Goat Production UK & KSU
Dr. Monty Chappell, Extension Small Ruminant Specialist UK
Dr. Marion Simon, State Extension Specialist for Small Farm &
Part-time Farmers KSU

4TH KENTUCKY GRAZING CONFERENCE IN LEXINGTON (*Goat Producers Welcome*)

The 4th Kentucky Grazing Conference will be held at the Fayette County Extension Office on November 25, 2003. The program will begin with registration at 8:00 a.m. All exhibits will be open at 8:00 and you can browse and bid on the many "Silent Auction" items. The program gets underway at 8:45. Below is the agenda for all the day's activities:

- 8:00 Registration, Visit Exhibits, Silent Auction
- 8:45 Welcome - Dr. Jimmy Henning
- 9:00 Optimize Grazing – Minimize Stored Feed - Dr. Garry Lacefield
- 9:20 Opportunities for Warm Season Grasses - Mr. Ken Johnson
- 9:40 Grazing Systems for Dairy - Dr. Donna Amaral-Phillips
- 10:00 Break, Visit Exhibits, Silent Auction
- 10:20 Grazing Systems for Beef - Dr. John Johns
- 10:50 Environmental Benefits with Improved Grazing - Mr. David Stipes
- 11:20 Economics of Improved Grazing - Mr. Ed Ballard
- 12:00 Lunch, Visit Exhibits, Silent Auction
- 12:45 KFGC Business Meeting and Awards, Silent Auction
- 1:15 Efficient Use of Pastures for Horses - Dr. Bob Coleman
- 1:45 Grazing Systems for Goats - Mr. Terry Hutchens
- 2:15 Efficient Grazing Systems: Putting Pieces Together - Dr. Chuck Dougherty
- 2:45 Discussion

3:00 Adjourn

A registration fee of \$15.00 (\$5.00 students) will cover proceedings, refreshments, meal and other related handouts and publications. It is not necessary to pre-register for this important conference. If you have questions, contact Garry Lacefield, Conference Chairman (Phone: 270-365-7541, Ext. 202 or by E-mail: glacefie@uky.edu); Christi Forsythe, Conference Secretary (Phone: 270-365-7541, Ext. 221 or by E-mail: cforsyth@uky.edu); or, Ken Johnson, KFGC President and Exhibit Chairman

Kentucky Goat Friendly Pasture Concept

Terry Hutchens, Extension Associate for Goat Management, University of Kentucky & Kentucky State University

Goats are accomplished grazers of grass and browse plants. In addition, they can be managed within a grazing system both intensively or extensively as long as quality forage is made available. Goats are facultative browsers, they prefer to feed at eye level and upward and then feed on forage from the top of the plant down. Goats prefer to move freely from plant to plant-removing foliage from select portions of plants. Foliage meals are dictated by quality factors that insure adequate protein and energy levels. Each stem or leaf is clipped with precision leaving the forage residue standing equal in height and lined up in military fashion. Unlike larger ruminants, there is little fouling or treading of forage.

This process of picking and moving to the next plant is a process of nutrient regulation by consuming diverse plant materials. This is reflective of the fact that goats cannot sustain body weight or function on low quality feeds. When the overall quality of the grazing material is average to low, through selection, goats can increase both protein and energy intake by picking from diverse plants and plant parts from within the grazing plane. The reason for the development of this type of feeding behavior is to compensate for a small rumen volume, a high

rate of passage of ingested materials and a small fermentation vat.

Goats are easy grazers because of their approach to grazing homogenous pastures. Pastures are grazed from the fence-lines and forward on both the left and right side of the center of the field. Gradually, the goats will graze forward and toward the center of the back portion of the pasture and usually leaving a small area of un-grazed material in the center positioned forward to the point of the initial entry into the field.

Defining Grazing Systems

When defining grazing systems for goats, three important issues must be addressed. First, the grazer must provide the animals with sufficient quantity and quality of forage material. The objective of good forage management in a grazing system should also positively affect internal parasite management. Finally, the dominant forage species must be utilized to the greatest potential and then effectively integrating with annual and/ or perennial forage species.

Quality forages can meet almost all of the goat's nutritional needs regardless of the reproductive state of the female. The most efficient and least expensive means of harvesting and feeding forage crops is by grazing. Permanent and annual pasture costs will run from \$0.01-\$0.04 / lb of Total Digestible Nutrients (TDN). Energy, TDN is the most limiting nutrient component in Kentucky and if not provided for by forages, must be met by feeding grains, cereals or concentrates. Concentrate feed costs will range from \$0 .05 - \$0.15+ / lb of TDN. (NCSU, Extension Service Publication, 2003)

Why feed goats forages over concentrates? Because they are not cows or sheep and do not respond well to concentrate feeding. Goats are very effective ruminants and can consume as much as 5% of their body weight in forages. At the same time, they are poor assimilators of concentrate feeds. In general, they have a poor rate of gain (.12 - .92 lbs / day, averaging 0.52 lbs / day for bucks on test) together with a poor feed efficiency (5.1 – 12.5 lbs of feed / lb of gain, averaging 7.1 lbs of feed to 1 lb of gain) for a 16% protein and a 60% TDN concentrate buck test ration (Langston Univ. 2003). Furthermore, feeding concentrates may cause metabolic disorders resulting in disease. Diseases that are particularly problematic and many times result from concentrate feeding are acidosis, ketosis, thiamine deficiency, urinary calculi and obesity.

Profit or lose in the meat goat business is hinged on the cost of maintaining the breeding herd

and the average number of kids weaned per breeding female. Beyond these two factors, little else has a great impact on profit or loss. Selecting for greater rate of gain and improved feed efficiency will affect profitability over time but these traits are not fundamental to profitability. Therefore, goats that consume high levels of forages are more profitable for meat farmers than goats fed concentrates (UK Goat Budgets).

Goats grazing homogenous or mixed forages should have a daily allowance of 5-8% of body weight. If allowance is set at 5% of body weight, allowance must be increased as animals increase in weight. Where as allowances of 8% allows a greater degree of flexibility but with less efficiency. Rotation residence time should be set at a maximum of 18 days. Seven to 14 day residence time is reasonable. Residence time and rotation sequence should be determined by forage growth rate and quality factors. Secondly, forage residues should be a minimum of 5 – 6 inches in height in order to reduce internal parasite larvae intake.

Internal parasites are the number one disease problem in goat production in Kentucky. Stomach worms in the family Trichostrongylidae are the leading cause of death in the Kentucky goat population (Animal Disease Diagnostic Laboratory, Newtown Pike, Lexington, Kentucky, 2003). Anthelmintics, or de-worming agents, once thought to be the answer to all internal parasite problems are now part of the problem. Due to dependency and over use of these drugs, internal parasite resistant has developed in all small ruminant-producing regions of the world. This statement was recently made by Dr. Ray Kaplan, Veterinary Parasitology, University of Georgia, 2003, "It is quite likely that any new technologies or developments in internal parasite control will be less effective than chemical control has been prior to emergence of drug resistant internal parasites...Unless we dramatically change the ways we use anthelmintics, there may be no effective anthelmintics remaining."

One of the most important tools in the arsenal against internal parasites is pasture management through rotation and residual height management. One effective, yet simple method is to divide pasture fields in to smaller grazing paddocks and move goats away from manure on a 7 – 18 day bases. Rotations should be less than 21 days from the day of entry.

Secondly, use annual and perennial crops to break-up dominate permanent pastures. In general, permanent pastures promote internal parasite build-up. Therefore, in order to escape infested pastures, clean pastures should be established near or within

the dominant pasture base. These breaks in permanent pasture use gives rise to internal parasite load reduction through time, exposure to sunlight and drying conditions. Furthermore, alternative management techniques such as graze pasture behind goat with non-infective species such as horses or cattle are another means of reducing parasite populations. Likewise making hay behind goats helps in removing infective larvae. Finally, off site, or off farm grazing or browsing of brush, forbs and weeds is always beneficial to the farm by allowing time for egg numbers to decline before returning to the farm.

The dominant forage species for Kentucky is KY 31 Tall Fescue. Tall fescue can be found on 6 million acres in Kentucky. In order to utilize the fescue to the fullest extent possible, both quality and quantity levels need to stay high. Tall Fescue in the early part of the year, April 15 – July 1 is capable of supplying nutrition to goats at any state of reproduction. Similarly, the second period of growth comes in late fall November 1 – December. Integrating alternative species into the fescue pastures can provide high quality forages during dormant fescue periods.

Farm forage resources should reflect soil capabilities, topography of the farm as well as desired management intensity of the farm manager. Use soil map information to identify blocks within the farm offering various potentials for forage production. The following lists of forage blocks may assist in identifying potential resources.

1. Block 1 – winter annuals – Winter annuals are crops planted in the fall and harvested by grazing in the spring. Winter annuals can support does that have kidded and lactating. If body condition drops more than 1-point (on a 1 – 5 scale) additional grain, .5 to 1 lb/head/day can be fed. Ideal body condition for lactating does should be 2.5 – 3.0. Energy supplementation becomes more important with multiple births. Some examples of winter annuals for Kentucky are small grain pastures and annual ryegrasses.
2. Block 2 – browse plants - Goats by nature are browsing animals. Goats would prefer browsing to grazing. Many Kentucky farms have become overgrown with small trees, brambles, brush and assorted woody plants. Such conditions are often found where mowing is difficult due to slope and rock outcrops. Goats can be moved from small grain pastures into browse areas as soon as full foliage has accumulated on the woody plants. If only 1/3 to 1/2 of the foliage is removed during a single grazing season, the plant will respond with abundant re-growth the following year. On the other hand, continuous defoliation and barking will eliminate the plant. As the goats establish grazing boundaries and allies between woody plants, grasses will return to these area and cattle and sheep can effectively utilize these areas together with the goats.
3. Block 3 – perennial pasture grasses – Internal parasite egg and larva loads are generally high on perennial pasture grasses during the spring of the year. While goats are grazing winter annual pastures and/or browse plants, cattle can graze the spring pastures thus cleaning the parasites from the second growth. Secondly, hay can be harvested from perennial pasture thus eliminating the majority of internal parasites prior to grazing by susceptible goats. Summer pastures are adequate for dry does, but growing animals should be supplemented with an energy and protein.
4. Block 4 – summer annuals – Summer annual crops are planted in the spring and harvested by grazing or by making hay or silage. Soybean, corn, sunflower, pearl millet and Sorghum Sudan hybrids are all potential choices. Taller crops like corn or Sorghum Sudan hybrids should be allowed to get twelve inches above the heads of withers or doelings before grazing. Once grazed to desirable height, grazers should be rotated forward allowing 10-20 days for regrowth. First grazers may be lightweight market animals followed by dry does or cows. Leaving a 6 to 8 inch stubble height will reduce internal parasite uptake due to grazing height separation.
5. Block 5 – perennial legumes – Perennial legume crops can be harvested two, three sometimes four times per season. Legumes like alfalfa, red clover and Sericea Lespedeza can be used effectively within a goat-grazing plan. Alfalfa and red clovers, cool season legumes are earlier than Lespedeza, therefore, spring born nursing juvenals can graze ahead of their mothers by passing through creep gates into fresh legume pasture. Lactating does having limited access to pasture, subdivided by electric fencing and are forced to clean up the legumes. Alfalfa stands can be thinned if the crop is not harvest to crown level. The next growth can be harvested for hay followed by a second grazing period for weanling market animals and replacement doelings. It is important to note that dry does or bucks should be used only as clean up grazers otherwise they will become fat resulting in reproductive health problems.

Sericea Lespedeza is a warm season legume with a high potential for goat production. Sericea can be grazed and/or harvested for hay. Harvest should begin once the crop has reached 15 to 20 inches in height. A 4-inch stubble should be left to insure proper re-growth. Sericea can be harvest 2-3 times within a season. Winter annual cereals, clovers and vetch can be over-seed into the crop in the fall for early spring grazing. Sericea can also be used for interseeding standing perennial grass pastures. Sericea Lespedeza can be established on soils and slopes known to be undesirable for clovers and alfalfa.

Some Marketing Strategies for Kentucky Farmers

Terry Hutchens, Extension Associate, Goat Production, University of Kentucky & Kentucky State University & Tess Caudill, Goat Marketing Specialist, Marketing Division, Kentucky Department of Agriculture

Pooling: Pooling or co-mingling of animals into graded and grouped livestock marketing packages has a long history in Kentucky Agriculture. Kentucky is noted for graded feeder calf and lamb sales. Animals are generally received from small farms yielding small numbers of animals, they are graded and grouped and sold in large packages making them more marketable on the regional or national level.

On the regional as well as local level, Kentucky goat farmers have benefited from loosely organized to a more formal organization of marketing associations. The purpose of these organizations is to market jointly, graded groups of like weights, age and type of slaughter kids that are sold to buyers, processors and distributors of the product. Kentucky has successfully developed a type of informal organization operating regionally, by marketing kids through the Kentucky Department of Agriculture; Marketing Division's Tel-O-Auctions and graded slaughter kid sales. These sales have shown to be financially advantages to farmers who have participated in these activities. Goat producers, who participated in the graded and grouped sales, averaged \$11.88 /head above those marketing independently at the same time period.

Pooling Direct Farm Sales: Other Kentucky farmers have pooled small groups of slaughter kids and have successfully sold them direct to consumers. This process takes a bit more planning and work because these farmers must seek out the consumer and make a clear agreement well in advance of the initial sale. These farmers report that once the trust is built, subsequent marketing is simple. The farmers group animals having the desired weight (60-80 lbs intact

male goats) having purity of appearance such as no bad eyes, feet, legs, abscesses or too fat. The Imam (priest, elder, or male head of house) inspects the goats and the purchase is made. The farmers transport the animals for the owner to the custom slaughterhouse where they are slaughtered by Halal tradition. The meat is transported and distributed to families and friends of the Imam. In this case, approximately 30 animals are sold each month. The farmers receive \$1/Lb of live weight regardless of time of year. Most Asian Americans want to spend \$100 per animal. Therefore, when calculating the price per pound, the processing cost should be considered (\$20-\$35/head) in the total price.

Pooling On-Farm-Slaughter: On-farm-slaughter marketing is similar to the above with the exception that following the live animal sale to the customer, the new owners slaughter the animals and carries the meat and offal away. In this case, farmers should provide a site suitable for slaughter and offal management.

Goat meat marketed in this manner is generally used in daily servings of stews and soups. Stew goats should be thin enough that fat is not visible during the boiling process. This would translate in to a grade 2-3. Desirable weights are 60-80 lbs with the exception of the Meat Feast (Eid-Holin) celebration when a 70-90 lb intact male, 10 to 11 months of age is used in the feast.

Many Hispanic customers have learned the value of the Boer genetics and they are willing to go up to 100 Lbs of live weight. Local Hispanic demand for Cabreto (20-30 Lbs live weight veal goat) and the Chevo (broken mouth goat weighing 100-150 Lbs) is less than for the 80 to 100 lbs animal. The Chevo is more goat for the buck. Farmers report that Hispanic customers are to some degree less concerned with the flawlessness of the goat.

Pooling Goats For Cosmopolitan Gourmets And The Health Set: In addition to horses and bluegrass, Kentucky is becoming a wine producing state. Many wine producers have found ways to entice the gourmet seeking Kentuckian into local wineries for the purpose of drinking wine and tasting exotic food. Many such Kentuckians have traveled to countries where goat is served and they have tasteful memories of that experience lingering on their pallet. Some Kentucky goat farms have pooled resources and have cooked and served ground goat meat and chops at such events. Goat burgers are generally priced at \$3.50 and chops \$5.50. However, some producers have reported prices of \$10.00/lbs for this type of clientele.

Goat meat is high in protein and low in saturated fat. Goat meat may be on the list for the desirable American low fat diet. However, for this to develop

substantially, goat must become a mainline food item and as easy to purchase as skinless chicken.

This type of marketing requires investments of time, equipment as well as having to arrange for slaughter, transportation, and communication with the winery owners and compliance with health requirements. The same is true for those farmers selling specialty cuts to restaurants. It is important to count all costs involve in this type of operation.

University of Kentucky and Kentucky State University Extension Activities in October and November

1. The 4th Kentucky Grazing Conference will be held at the Fayette County Extension Office on November 25, 2003. The program will begin with registration at 8:00 a.m. All exhibits will be open at 8:00 and you can browse and bid on the many "Silent Auction" items. The program gets underway at 8:45.
2. Nov. 20: Forages Species for Goats, David Harrison, LeRue Co. Extension office, Hodgenville KY. 270-358-3401
3. First Week in December: Artificial Insemination of Goats, Ed Lanham, Marion Co. Extension Office, Lebanon KY, 859-692-2421
4. AI demo conducted in Lewis Co. in October, Eddy and Henry Mackie Farm with Co. Agent Richard Bowling.
5. Fecal Parasite Egg Count Workshops conducted in October, Mason and Clark Counties

6. Thirty Thursday in October Goat Day at KSU Farm

**Terry K. Hutchens,
Extension Associate Specialist for Goat
Production**



Cooperative Extension Service

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

Official Business

PRESORTED
STANDARD
US POSTAGE PAID
LEXINGTON KY
PERMIT #109