

Goat Producer's Newsletter

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“Living Under a Rock” by Terry Hutchens

Back in west Kentucky, one often heard the comment, “Where have you been all your life, living under a rock?” That was said to me many times relating to school work and especially spelling tests. But the comment was made in an effort to bring to light something important to me and to benefit me. It was an attempt to make me setup and take notice. For goat producers that may pertain to two important topics, animal identification and feed cost.

The first is the fact that there will be an animal identification program in the United States that will server as a part of the government's ability to protect the food supply and human health. The benefit to sheep and goat farmers will be the likely eradication of a fatal disease of sheep and goats call Scrapie. Certified Scrapie Free herds will be more valuable than those that are not certified. Animal scientist have isolated specific genes of resistances to Scrapie in sheep and may well find similar genes in goats in the future. In short we will all benefit in some way.

Secondly, feed, energy and fertilizer costs will remain high for the foreseeable future. I was reading an article that said that we will not likely ever see three dollar gas prices again. In order to make the goat business profitable we must depend on home grown forages as feed for sheep, goats and other livestock. Forages should be harvested by the livestock and not by machines. Feed grains and concentrates should be used as supplements to forage quality and animal needs. In response to this issue Kentucky State University and the University of Kentucky are conducting a *Master Goat Grazer Program* that will be conducted in locations across the state for the next three years. We will keep you notified of up and coming programs near you. Take a look at our Master Goat Grazer Web Site:

<http://www.uky.edu/Ag/AnimalSciences/goats/MasterGoatGrazer/>

National Scrapie Eradication Program (NSEP) Terry Hutchens

Scrapie is a fatal, degenerative disease affecting the central nervous system of sheep and goats. It is among a number of diseases classified as transmissible spongiform encephalopathies (TSEs). In order to effectively eradicate Scrapie from the sheep and goat herds in the U.S., the USDA implemented the Accelerated Scrapie Eradication Program in 2002. Scrapie was first recorded in the UK in 1732.

Scrapie has an almost worldwide distribution; only Australia and New Zealand are recognized as “Scrapie free.” Scrapie cases have been identified in many breeds of sheep and goats. in both sexes. In the early 1950s, Scrapie research intensified with the importation of Scrapie-infected sheep into Canada, Australia, and the United States. Sheep and goats that are susceptible to Scrapie are typically infected as young lambs or kids through contact with the infected placenta and birth fluids from

infected ewes and does. The infection is not necessarily mother to offspring but is more associated with a contaminated area. Scrapie incubation period is typically 2 to 3 years, and infected animals always die; there is no treatment or vaccine for the disease.

Bucks and rams can be infected with Scrapie; however, males are not known to transmit Scrapie. The ram (sheep only) is known to contribute genetically to Scrapie susceptibility in their offspring.

Clinical signs are variable, and the common age of onset of clinical signs is 3-5 years old; however, clinical cases have been seen in sheep 1 to 12 years of age. Clinical signs include:

(1) Changes in behavior, including hypersensitivity to noise or movement and constant rubbing or scratching. Some Scrapie-infected sheep rub uncontrollably against whatever object they can find, sometimes to the point where abrasions and scabs occur. The name Scrapie comes from this observation. Similar intense rubbing can also be seen with mite infestations.

(2) Neurological behavior changes such as loss of coordination, lip smacking, gait abnormalities where the infected animal appears to be walking on eggshells, or bunny hopping. Other ailments to rule out that may present similar clinical signs include abscesses or other masses in the nervous system; viral and bacterial central nervous system (CNS) infections such as rabies and *Listeria monocytogenes*; nutritional disease such as excessive intake of grain; vitamin deficiency; toxicities such as lead poisoning; and metabolic conditions such as pregnancy toxemia.

(3) Weight Loss, weakness and unable to rise.

(4) Finally, death which is often sudden in nature.

(5) Diagnosis is by dead animal brain tissue and lymphoid tissue. Live animal test is of the lymphoid tissue of the third eyelid. A new promising procedure, not yet approved, is rectal tissue biopsy.



Key Aspects of the National Scrapie Eradication Program

- Detect pre-clinical sheep and goats through slaughter surveillance and live animal testing.
- Trace infected animals to their flock/herd of origin because of identification requirements.
- Use genetic-based (sheep only) clean-up strategies that allow producers to stay in business.
- Trace and test exposed animals that have been sold out of now infected flocks/herds.

Kentucky Department of Agriculture Scrapie Program

Kentucky is considered a consistent state within the Scrapie Eradication Program, which means that we have met the guidelines set forth by the USDA to control and eradicate Scrapie. In order for Kentucky to maintain its consistent status, the regulations requiring the use of official Scrapie identification upon change of ownership have been implemented.

Effective July 1, 2008, all sheep and goats must be identified with a Scrapie animal ID ear tag or other official individual animal ID prior to being unloaded at the point of sale.

The Office of State Veterinarian and Office of Agricultural Marketing and Product Promotion are encouraging producers to secure the ear tags and present their animals at the livestock market already tagged. These tags should never be removed from the animal or replaced with a different or new ear tag. Scrapie ear tags are provided by the USDA free of charge at this time and are official animal identification tags. If you do not have Scrapie tags, follow these steps:

- Contact the USDA APHIS VS office in Frankfort KY (502) 848-2040.
- OR fill out the enclosed premises registration form and Scrapie tag order form. Return form to an Animal Health Inspector at the livestock market, or mail to the address on the form.
- Animal originating from states other than Kentucky must be identified with their state's Scrapie tag prior to entering KY.

For more information contact Robert C. Stout, DVM, State Veterinarian (502) 564-3956.

Approval of Goat Registry Tattoos for Use in the Scrapie Flock Certification Program (SFCP) and List of Approved Registries

Associations that register goats may use tattoos as official identification for goats enrolled in the SFCP, if the following conditions are met:

A. Each tattoo contains a unique premises identification number assigned by the registry and a unique individual-animal identification

B. The registry has provided the Animal and Plant Health Inspection Service (APHIS) with a letter indicating that the registry:

1. uses the required type of tattoo; and
2. will, upon request, provide APHIS with information that will allow any association-registered goat to be traced to its flock of origin.


APHIS has approved the use of registry tattoos as official identification for the SFCP from the following organizations:

The American Boer Goat Association, the American Dairy Goat Association, the American Goat Society, the American Kiko Goat Association, the Cashmere Goat Registry, the International Boer Goat Association, the International Fainting Goat Association, the Miniature Silky Fainting Goat Association, the Myotonic Goat Registry, the National Pygmy Goat Association, the Nigerian Dwarf Goat Association, the Pedigree International, the Pygora Breeders Association and the U.S. Boer Goat Association.

Obtain Certified Scrapie Free information through the following USDA link.
<C:\web\goats\presentations\usda certified free programvsfcp.pdf>

A Method of Developing a Pasture into a Grazing System Terry Hutchens

Hard times make sharp pencils. High fuel, feed and fertilizer costs impacted farmers in 2007, and economic conditions will remain challenging throughout 2008 and perhaps beyond. The most economical feed for goats is home grown forages. Each goat has the opportunity to harvest high quality feed by grazing and therefore accrues no harvest, storage, or transportation costs associated with the farming activity. Consider the following plan for developing a pasture into a grazing system.

Reduce animal numbers. Kentucky pasture conditions generally allow overstocking of pasture land for three months. Seventy
 (Go to page 5) 

Kentucky Tag Order/Tattoo Registration Form

Today's Date _____ Any Previous Orders? _____

National Premises ID _____
 (To obtain this ID call KY Dept. Agriculture (502-564-3956))

Owner Name _____

Farm Name _____

Address _____

City _____, Kentucky Zip Code _____

County _____

Home Phone _(____) _____ Work Phone_(____) _____

Primary Breed _____

Flock Size(# of animals) _____

Number of Tags _____ (Order enough tags to last for at least two (2) years.)

Send me information on the Scrapie Flock Certification Program

My goats are identified with a registered tattoo. Please send me information on using the tattoos to meet the identification requirements.

My tattoo is _____

Return this form to the following address

USDA,APHIS,VS

P.O. Box 399

Frankfort, KY 40602

Phone (502)848-2040

Or you may FAX this form to (502)848-2041

For Office Use Only

Flock ID _____ Processed by _____ Order date _____

Assigned Prem ID Entered into AHSM AINM

(from page 3) percent of cool season grass growth (tall fescue, orchard grass) occurs from April 15 through June 15. During this period of exponential growth, producers develop a false sense of security concerning pasture quantity and quality. Stocking rates as high as 8 or 10 does per acre is possible during this first period of growth. However, as the season progresses, day length gets shorter, environmental temperatures become higher, and soil moisture becomes limiting, triggering the cool season plant to become reproductive and produce a seed head. The reproductive stage of growth is followed by a summer dormancy period in cool season grasses, creating a condition called summer slump, where both forage quantity and quality remain low until cool weather returns in the fall of the year.

Midseason cool season forages are lower in nutritional value, and therefore the grazing animal needs to eat more of the forage in order to maintain required nutrient intake levels. At the same time, dry matter production declines, and without proper management, pastures are subject to overgrazing. Overgrazing



A forage mixture of KY-31 tall fescue, forage chicory and Sericea Lespedeza.

results in reduced pasture vigor, increased weed encroachment, and a decline in overall pasture quality. Or more commonly stated, “I’m running out of pasture most years and I start feeding expensive hay in September.”

Reduce animal numbers by culling the ones that are “not makin’ money.” Cull does with apparent health problems such as bad feet, legs, and udders, and chronic respiratory problems. Cull does that have had problems becoming pregnant within two in season heat cycles. Cull does that have problems with kidding or raising kids, or those that have produced kids with low birth and weaning weights. Cull does that have higher than the average nutritional needs and don’t do well in pasture-based management systems.

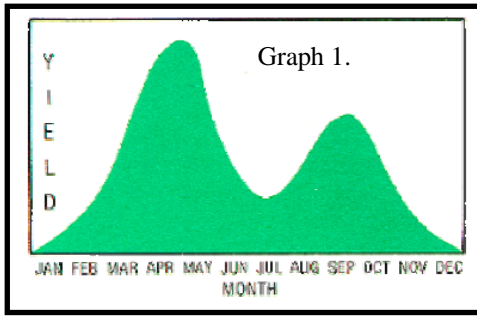
Efficient does must wean a high percentage (80% or more) of their average body weight in order to be economically viable. For example, a 120 lb doe should wean between 100 to 120 lb of kids annually. A doe who weans her body weight will have a kid weaning score of 100; a doe (120 lb) who weans 100 lbs of kids ($[100 \text{ lb} / 120 \text{ lb}] * 100$) has a kid weaning score of 83. Cull does with kid weaning scores below 80.

Soil Test Pastures. Soil testing is a fast, easy, and an inexpensive way of saving money. Soil testing provides farmers the ability to customize soil and plant fertility levels with changes in specific forage species and soil types. Review how to take a soil sample (AGR-16, *Taking Soil Test Samples*, <http://www.ca.uky.edu/agc/pubs/agr/agr16/agr16.pdf>), and deliver your soil sample to your local County Extension Office. Apply lime and fertilizer according to the soil test recommendation.

Develop a Simple Grazing Plan. Develop a grazing plan that will more effectively utilize the high quality pasture that is produced during the three months of abundant spring growth. Kidding on spring pastures reduces feed and hay costs. Planned and managed grazing programs provide a means for improving pasture grazing days (number of days on pasture),

pasture quantity, and quality of production throughout the entire grazing year.

Graph 1. represents the growth curve of most cool season



grasses in Kentucky. Late April and early May grazers are on the lower left side of the peak of the curve. Total cool season forage growth peaks in mid-May and declines in late June and July through August. This change takes place annually as the temperature increases, soil moisture declines, and the days become shorter. Shorter day length stimulates the cool season plant to become reproductive and produce a seed head. Proper grazing management can lessen the mid-season or summer slump effect by keeping the plant more vegetative than reproductive. This is done by harvesting the tops of the pasture plants before the stem can elongate to prepare for a seed head.

Pastures are more effectively grazed when divided into sub-pastures or paddocks. The paddocks are grazed and/or harvested in a uniform manner, thus maintaining the pasture in a vegetative state rather than a reproductive state. Short grazing periods with high animal density reduce selectivity of pasture plant choices. Pasture grazing patterns become more uniform and less spotty in nature. Therefore utilization of forages increases with increased frequency of the rotation. For example, three-day grazing periods are more efficient than five days, and seven-day rotations are more efficient than ten days.

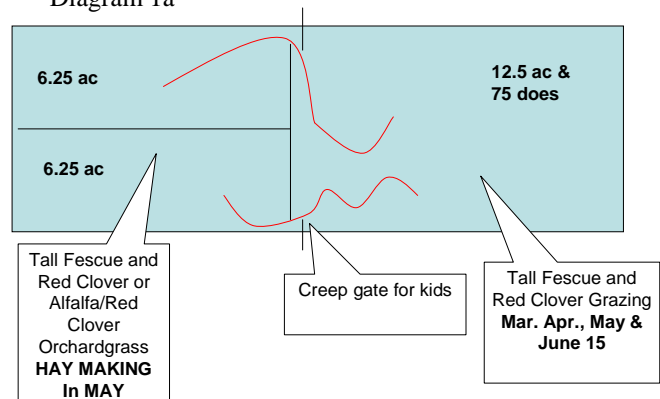
When spring forage is excessive, ungrazed paddocks can be harvested for hay and grazed by other livestock species such as horses, light weight stocker cattle, or thin cows. Late winter purchased cattle can be sold off the farm in mid-summer (July),

grazed through, and sold in the fall or moved to other locations during the summer slump period. It is important to keep in mind that the purpose of all this is to maintain the pasture in a vegetative state by frequent harvesting of the plant and delaying the onset of seed production.

Alternatively, ungrazed paddocks can be creep grazed during the spring kidding season. High quality forage can be harvested from these paddocks that are not utilized early in the grazing season. Ungrazed paddocks can serve as a creep grazing pastures for suckling kids. Creep pastures are highly vegetative and untouched by the doe herd. Kids have free access to the succulent leafy tips on the vegetative pasture plants. The leafy tips can substitute for creep feeds and concentrates. Creep grazed kids move freely back and forth from the lactating doe to the creep field by means of a creep gate. A creep gate is a gate with small openings allowing the kids complete access to the dedicated creep pasture yet not allowing the does to pass through. An example of creep grazing can be seen in Diagram 1a.

Grazing Plans for 25 acres

Diagram 1a



Grazing Plans for 25 acres

Diagram 1b

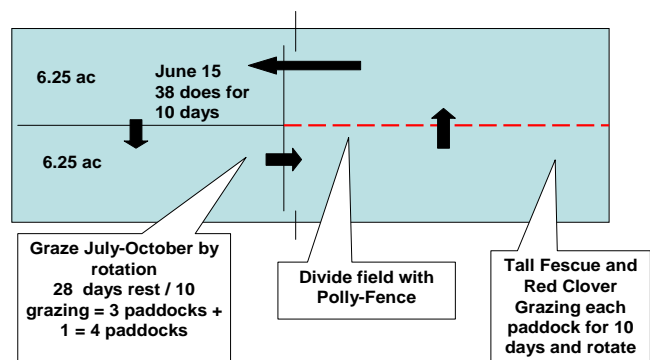
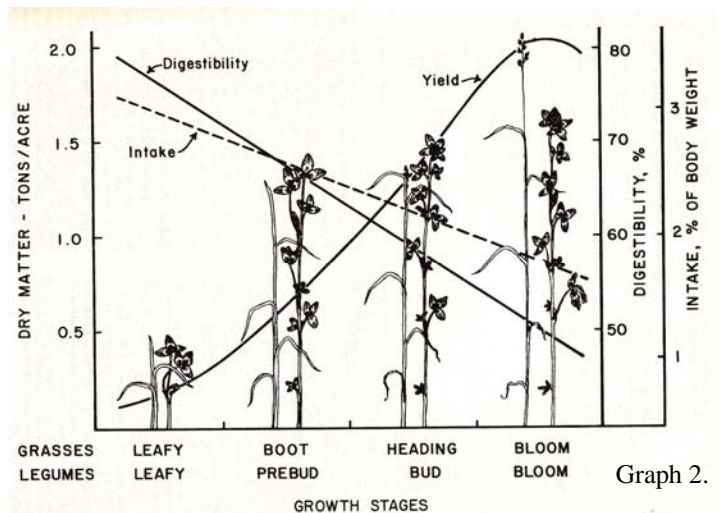


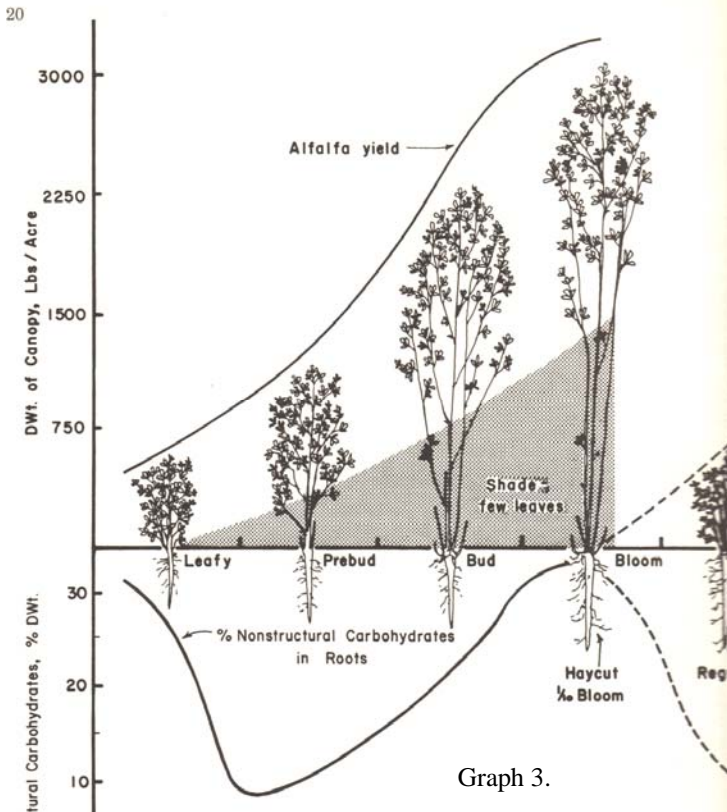
Diagram 1a. illustrates a 25 acre farm with 75 does (3 does/acre), yet the stocking rate is 45% higher in the spring, counting does and kids. At this growth stage in the cool season cycle Graph 1., all the dry matter and most nutritional needs can be met during the early growth period. The goat herd is limited to 12.5 acres March–June 15. Suckling kids have access to high quality forages by passing through a creep gate located in the corner of the field, and hay can be harvested in May from at least one 6.25 paddock.

The kids are weaned and sold or grown out to heaver weights in small lots away from the breeding herd. The next progression shown in Diagram 1b is the erection of a temporary poly-wire fence and divides the first grazing paddock into two smaller paddocks. Goats are rotationally grazed from one paddock to the next each tenth day. **However, in reality some paddocks may grow faster than others, and the grazing pattern may not follow a counterclockwise pattern. Goats should be moved before the average forage height reaches 4 inches.** A good rule of thumb is to graze half and leave half of the forage in the paddocks, or begin grazing when pastures reaches 8 inches (following 28-30 days of regrowth) in height, and leave half or move goats when pasture height is reduced to within 4 inches of the soil line. In some cases, grazing periods may be shorter in some paddocks and longer in others due to soil variation, slope, and other environmental factors. It is always a good idea to have a rescue paddock or a location that the animals can be moved to during dry weather or extremely slow growth periods. The purpose of a rescue paddock is to add regrowth time to the dedicated rotational paddocks. Once again, the purpose for following this sequence is to harvest the top part of the pasture plants in order to maintain them in a vegetative state. This is accomplished by grazing the tops off in a short period of time and allowing a predetermined regrowth period between grazings.

Why Does This Grazing Plan Work? It works in two ways. First, grazing pastures rotationally delays the forage plant's transition from the vegetative state to the reproductive state. This delay improves pasture quality and quantity, and lengthens grazing time. Graph 2. defines the relationship between maturity of the plant, yield, digestibility, and intake. As grasses and legumes progress toward seed production, the seed becomes a primary carbohydrate sink. Protein and carbohydrate levels decline in the foliage and are mobilized toward the seed production. In order to produce a seed head, the stem must produce more lignin (non-digestible structural material), and the cellulose component becomes more structural and less digestible. Therefore, dry matter yields increase with maturity while digestibility of the forage declines. Likewise, forage intake levels decline with progression of maturity. In a way of comparison, we humans can eat a much greater volume of apples than apple stems.



Second, Graph 3. describes the relationship between the amount of foliage on an alfalfa plant and non-structural carbohydrate stores in the root of the plant. Root carbohydrate level is highest at 10% bloom (when 10% of the plants show one open flower). When the foliage is removed from the plant through cutting or grazing, regrowth is initiated by the carbohydrate storage in the root. The carbohydrate stores are utilized exclusively midway through the prebud stage of



growth. As plant foliage cover increases, carbohydrate stores increase. Stores are adequate at bud to early bloom stage. This entire recovery process takes about 35 days, therefore there are approximately 35 days between hay cuttings on alfalfa. More frequent cuttings will reduce plant vigor and affect the stand. Similarly, if the alfalfa plant is allowed to go to seed, plant vigor will be reduced because stored plant carbohydrates are used in seed production.

What happens if you don't allow the resting period between hay cuttings? Plant root reserves remain depleted of non-structural carbohydrate, and the plant's ability to regrow following foliage removal declines over time. Plant regrowth is slow; the alfalfa plants are weakened and become susceptible to crown and root diseases. The alfalfa crown stems are no longer productive, and the pasture begins to thin; some plants die, weed encroachment occurs, and the stand is lost. The outcome is predictable.

Overgrazing of grass and legume species has the same effect as continuous cutting of alfalfa stands. Again the outcome is predictable.

Continuously grazing pasture plants does not allow root reserves time to replenish. Foliage density is never allowed to become fully expanded to make enough carbohydrate to replenish the root. Continuous grazing results in weak stands, limited tiller development, thinning of the stand, weed encroachment, and loss of the desirable stand.

Conclusions. In pasture systems that graze a defined area for a short period of time (5-10 days) and then move grazing animals from that location for 28 to 30 days are more productive and more efficient than are continuously grazed pastures. These pastures are deep rooted, less susceptible to water stress, more heat tolerant, more disease resistant, and have a high number of grazing days than continuously grazed pastures.

EVALUATE YOUR DEWORMER THIS SPRING

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Spring is a good time to evaluate the dewormer you are using. This evaluation is necessary because worms on many small ruminant farms are resistant to one or even several dewormers. In such cases, the dewormer may not actually remove worms. If your dewormer is not working, it is best to learn that as soon as possible and **PRIOR TO THE HIGH RISK MONTHS OF JULY-SEPTEMBER**. This period can be thought of as **WORM SEASON** in the Kentucky/Tennessee region.

Each year deaths due to worms peak in **WORM SEASON**. Early knowledge obtained by testing allows time for changes in the deworming program if needed and prevents loss of valuable animals. When temperatures rise in July, conditions become ideal for the development of high levels of pasture contamination due to barber pole worm (*Haemonchus*). It is important to determine if the dewormer you are using is actually removing these damaging worms **BEFORE** this high risk season.

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<http://www.uky.edu/Ag/AnimalSciences/goats/goatinfo.html>



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