



UGA Extension Forage Team

Northwest District

Norman Edwards
nedwards@uga.edu
706-638-2548

Steve Morgan
smorgan@uga.edu
706-628-4824

Wes Smith
swsmith@uga.edu
706-647-8989

Northeast District

Lucy Ray
lray@uga.edu
706-342-2214

Adam Speir
aspeir@uga.edu
707-795-2281

Southwest District

Jeremy Kichler
jkichler@uga.edu
229-616-7455

Brock Ward
bward1@uga.edu
229-732-2311

Southeast District

Carole Knight
clh@uga.edu
912-871-6130

Ray Hicks
rhicks@uga.edu
912-564-2064

Will Lovett
welovett@uga.edu
912-387-5560

Winter survival with limited forage supplies

By Will Lovett
Bacon County CEC

Many areas of Georgia have finally received much needed rain the last few weeks. These rains helped restore moisture and allowed some late planting of winter annuals. Many of us have limited hay supplies for this winter. I know many of you have already reduced livestock numbers on your farms and others are contemplating if they should follow suit with herd reductions or liquidations of your own. Maximizing the utilization of your hay inventory will help you manage expenses throughout the drought. Hay losses due to weather exposure and during feeding should be minimized to protect inventory and minimize expenses. Using forage extenders and limit feeding cattle are other options to stretch forage supplies. Hopefully these tips will help you to survive and profit throughout the drought.

Protect your current hay inventory.

Hay stored outside on the ground can lose up to 50% of its dry matter. Researchers at the University of Kentucky found that net wrapped hay typically weathered two inches deep and suffered 10 percent loss of dry matter when store outside.

Consider the following example for a 100 cow herd that fed hay 150 days per year. We will assume the cattle would consume 30 pounds of hay per day. The herd would consume 595 rolls of hay that weighed 800 pounds each, if the rolls were covered with a tarp or stored in a barn. This same herd would use 622 bales if net wrapped rolls were stored outside. Outside storage would require 27 rolls (11 tons) more hay. If your rolls are twine wrapped your losses would be even greater.

Feeding Losses:

Make sure what you feed your livestock goes in their mouths and not on the ground.

Use hay rings. If you need to minimize hay wastage as much as possible, utilize hay rings with cones. Traditional hay rings do reduce hay loss to an acceptable level averaging around 6%. Make sure you manage the hay allocation to your livestock as closely as possible. Rotate hay ring locations regularly and alternate between multiple hay rings if possible. This will allow hay to be completely cleaned up in individual rings before more is fed. Hay that is left in the bottom of a ring will quickly become weathered and moldy. This will create a snowball effect with the cattle refusing to consume a thicker layer of hay in the feeder bottom each time. By rotating ring locations, you can minimize hay loss, control manure distribution in your pastures and protect your sod.

Storage Method	Weathered Depth (in.)	DM Loss (%)
Twine	4.4	18.2
Netwrap	2.1	10.6
Solid plastic	0.6	3.6
Shed	<0.5	5.7

Winter survival (cont.)

If you unroll bales, only unroll enough hay for a day at the time. While this may add additional trips to the pasture it will conserve hay tremendously.

Studies show that a one-day allotment of unrolled hay only wastes 12%, a weeks' worth unrolled at one time will waste 40% of each bale.

Forage Supplements and Extenders:

There are many commercial products and byproducts available that can be

used to replace a portion or, in some cases, all of an animal's forage requirements. Depending on hay supplies, a commercial feed supplement in the form of a liquid, block, cube or meal feed may be all that you need. As a general rule of thumb most self-limiting liquid or block products are designed for feeding rates in the 2 to 5-pound range. If your livestock are consuming higher rates you need to contact the manufacturer or dealership for the specific product to see if the feeding rate is acceptable. Many of these products use urea for the protein source which can be toxic at high rates. Cubes, pellets and meals are typically designed for higher feeding rates. These commercial products and some commodity ingredients can replace 15- 30% of the dietary forage requirements. Cottonseed hulls, cotton gin trash, peanut hulls and commercial forage extenders can be used to replace most or all of your livestock's forage needs. Commercial livestock producers should work with their local extension office or a competent nutritionist to make sure you have a safe, cost effective program for your livestock if you are considering higher supplementation strategy than you have experience with.

Limit Feeding

Limit feeding can be another cost effective method to stretch forage supplies. This requires a relatively high level of management to execute successfully. You must know your forage nutrient values (requires forage sampling and nutrient analysis), an understanding of nutrient requirements, and typical feed intake ranges for each class of livestock. You will need to monitor performance indicators throughout the feeding period; this could be body condition scores; weight gain or milk production depending on what type of livestock you are feeding.

There are two different strategies that can be used to limit feed. One option is to feed just enough of your ration to meet the needs of your livestock plus a reasonable amount of shrink. Another option is to limit the availability of feed to just enough hours for animals to consume their daily allowance to meet requirements. Either limit feeding management strategy will require adequate feeder space to allow all animals to eat at one time and not have access limited by dominant herd mates.

A study that was published in 2007 by researchers at the University of Illinois Urbana-Champaign, compared third trimester cattle allowed access to alfalfa round rolls of hay for 24 (free choice), 9, 6 or 3 hours per day. Cattle with limited access had similar weight gains when compared to the cattle with free choice access to hay. The total hay consumed increased linearly with the number of hours that each group had access to hay. The type of hay (alfalfa vs Bermuda vs fescue) and the quality will most likely influence the time needed to consume enough hay to meet nutrient requirements. You will have to measure intakes and performance closely to make sure nutrient requirements are being met. When implementing any of these strategies be sure to track body condition changes and nutrient needs to make sure your feeding program is performing correctly.

Feeding Losses	
Item	% Waste
Cone	2 - 5
Ring	4 - 7
Trailer	10 - 13
Cradle	15 - 20

Adapted from: Southern Forages (4th ed.) and Buskirk et al., 2003. J. Anim. Sci. 81:109-115



Upcoming Events

American Forage and Grassland Council's Annual Meeting

Jan. 22-25, 2017 | Roanoke, VA

NE Georgia Beef Cattle Short Course

Feb. 8, 2017 | Athens, GA

Georgia Forage and Grassland Council's Annual Meeting

Feb. 16, 2017 9 a.m. | UGA Livestock Instructional Arena | Athens, GA

Tall Fescue Workshops

Feb. 16, 2017 1 - 5 p.m. | UGA Livestock

Instructional Arena | Athens, GA

Mar. 22, 2017 10 a.m. - 3 p.m. | GA Mountain Res. & Educ. Center | Blairsville, GA

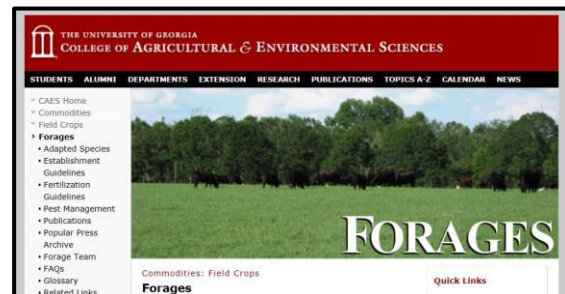
Mar. 23, 2017 10 a.m. - 3 p.m. | Walker Co. Ag Center | Rock Springs, GA

SE Georgia Beef Cattle Short Course

Feb. 28, 2017 | UGA-Tifton Bull Evaluation Center, Iwinville, GA

Looking for more forage information?

Be sure to visit
GeorgiaForages.com!



THE UNIVERSITY OF GEORGIA
COLLEGE OF AGRICULTURAL & ENVIRONMENTAL SCIENCES

STUDENTS ALUMNI DEPARTMENTS EXTENSION RESEARCH PUBLICATIONS TOPICS A-Z CALENDAR NEWS

- CAES Home
- Commodities
- Field Crops
- Forages**
 - Adapted Species
 - Establishment
 - Guidelines
 - Fertilization
 - Guidelines
 - Pest Management
 - Publications
 - Popular Press
 - Archive
 - Forage Team
 - FAQs
 - Glossary
 - Related Links

Commodities: Field Crops
Forages

Quick Links

Tips for feeding baled silage

By **Jeremy Kichler**
Colquitt County CEC

Baled silage has increased in popularity among forage producers over the last few years. This production system, when compared to hay, can help producers avoid high losses associated with outside storage. Baled silage production can be an advantage to producers because of the ability to bale forage at a higher moisture content when wet weather patterns occur.

Cattle or forage producers should never leave baled silage exposed to air for more than two days during feeding. If the daytime temperature exceed 60 degrees F, then cut down exposure time to no more than one day. If you are using an in-line bale wrapper, you must feed enough animals to consume at least one bale per day in the winter. Once a bale is taken away to the feeding site, the next bale is being exposed to air which can result in wasted forage.

A poor choice in a storage site can increase the likely hood of holes appearing in plastic wrap, which results in oxygen exposure. Once the bale is exposed to air, then the forage begins to deteriorate which results in additional feed costs. Baled silage needs to be placed away from fence rows and trees which can cause holes in the plastic. Growers need to inspect stored forages on a consist basis in order to find and repair plastic holes quickly. If you have to repair small holes before the baleage is fed then patch the hole with tape that has been treated with a UV inhibitor.

Producers often struggle with baling forage at the correct moisture. Forages in this production systems need to be between 45-65% moisture before it is wrapped and ensiled. Baling the crop too dry is common because a field may start out at the right moisture and end up being too dry. Forage that is too dry does not contain enough moisture for bacteria to perform sufficient fermentation. If forage moisture is too high then spoilage occurs quickly when exposed to air.



If you have used an-line wrapper and need to feed a bale then simply spear into the bale, lift, and pull away. The plastic between it and the next bale will tear away. Then cut over the top and peel the plastic off in one large section. If you have individually wrapped bales, cut a large X in the end that will be speared and then pull back the flaps. Spear the bale, lift, and cut across the top and down the other flat side to peel the plastic off in one piece. In both cases, twine should then be removed before placing in the paddock and placing a feeding ring around the bale. Wastage and refusal are rarely an issue with feeding baled silage, unless a bale is being fed to too few animals.

Acorn toxicosis in cattle

By **Adam Speir**
Madison County CEC

Beef cattle producers are generally aware that there are several plants that can be toxic to cattle. One of those plant species that can be toxic are oaks and their acorns. The risk of toxicosis is highest during fall and winter months when acorns are on the ground and when grazing options for cattle are more limited, leading to hungry cattle. While most cattle might find acorns unpalatable, hungry cattle might eat enough acorns to cause potential death. With grazing so limited due to dry weather and late winter planting, it is more likely that cattle might get into oaks that border pastures and graze on acorns looking for additional nutrition. Cattle producers need to understand what acorn toxicosis looks like in cattle and how to prevent it.

Oaks, like many nut-bearing trees, produce tannins. These tannins are complex chemical compounds that are responsible for the flavors in things like nuts, coffee, tobacco, and wine. When cattle consume acorns that contain tannins, the chemical compounds are metabolized into tannic acids that cause ulcerations in the mouth, esophagus, gastrointestinal tract, and kidneys.

>>Page 4

Acorn toxicosis in cattle (cont.)

Because of the effect on the animals' kidneys, renal failure is a common problem preceding death resulting from acorn toxicosis.

In cow herds, calves would likely be the first ones to exhibit acorn toxicosis. Tannins concentrate in milk, so nursing calves could be exposed to tannic acids without having eaten the acorns themselves.

Initial symptoms will likely include constipation and decreased feed intake. Continued exposure will result in increased ulceration of the gastrointestinal tract, which will become apparent through the symptoms of black, watery diarrhea, which may or may not contain blood and be characterized by an extremely foul odor. Calves will likely be lethargic with edema (swelling) in the abdomen and extremities. In the advanced stages, blood may drain from the nose, and calves may have difficulty urinating and defecating, marked by straining. In adult animals symptoms will be similar with the addition of agalactia (reduced lactation) in lactating cows, and potential birth defects in calves born to poisoned, pregnant cows.



Producers should understand that the symptoms of acorn toxicosis are very similar to Bovine Viral Diarrhea (BVD) Type 2. The major differentiating factor is the presence or absence of a fever. Type 2 BVD is characterized by highly elevated body temperature, while acorn toxicosis will likely present with little or no fever at all.

There is no known medical treatment to combat the acorn toxicosis itself. However, moving animals off of acorns and providing proper care can reduce the likelihood of death in some adults and calves. Contacting your veterinarian at the first sign of symptoms is recommended. Administering fluids and electrolytes to preserve kidney function is important. If urination stops, kidney failure is likely and death could occur soon after. If constipation is observed, administering mineral oil can help as a laxative. A veterinarian should be consulted if considering administering a broad-spectrum antibiotic to combat infection from ulcers formed by the tannins.

As with dealing with any toxic plants in pastures and hayfields, prevention is the best method of control. Moving cattle off pastures where oaks or acorns are present is important. You could simply move them to another pasture or sacrifice paddock to feed hay or temporarily fence cattle away from oak trees. If removal from the area is not possible, feeding a combination of hydrated lime, molasses, soybean meal, and corn could help prevent the effects of acorn toxicosis, though consultation with a veterinarian and careful feeding is recommended. Feeding high quality forage, feed, baleage, or winter grazing will be the best way to prevent cattle from scavenging on acorns or being overly hungry when near oaks.