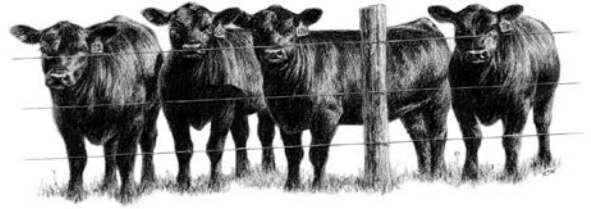


The Cattle Corner



BAXTER COUNTY U OF A COOPERATIVE EXTENSION SERVICE NEWSLETTER

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From the County Agent's desk...

Winter is trying its best to hang on a little longer, and I'm sure we'll still have a few cold spells before spring finally breaks. Perhaps the biggest news is the abundant moisture that we've had and its impact on pastures and hayfields. It's likely going to be difficult for farmers to get into many field to spray or fertilize without rutting them up. We'll need a

stretch of several dry, windy days to get things dried up a little. As such, it'd be wise to be sitting on ready, should we get a day when you can get in the field. Make sure that sprayers are already in working order and calibrated. Fertilizer needs should pretty well already be known by now, especially for cool season fields. Get those soil tests done if you haven't already. And, please don't hesitate to call or come by. I'd be glad to go over soil tests with you, come to the farm to help get a sprayer calibrated, or just walk a field to give some weed control recommendations.

Also, I'd like to mention that I'm going to make this a bi-monthly newsletter that goes out every other month instead of every month. I would still send out an additional one in the event of a major armyworm outbreak or some other news that is critical to get out as soon as possible. With the ability to easily throw information out there on Facebook or in the Baxter Bulletin newspaper articles, this enables me to save some money on paper and postage, as well as the time it takes to prepare and mail 300+ newsletters.

What Can I Do For You This Spring?

Brad Runsick, County Extension Agent

As a county agent, spring is undoubtedly my busiest time of year, but it's also my favorite. After a winter behind a desk at the computer, working on reports and what not, it's a welcome relief to get back out in the field helping producers. Any time I can help you with anything, don't hesitate to give me a call. I don't always have all the answers, but I typically can find someone who does in pretty short order. Here's just a brief rundown of some things I can help you with this spring:

- Sprayer calibration
- Weed identification
- Spray (herbicide) recommendations
- How to read your soil test and give you the most precise fertilizer recommendation based on the fertilizers that are available to you
- Just a basic overall pasture plan to extend grazing season to avoid hay feeding, such as alternative forages (summer annuals, clovers, brassicas, etc.)
- Brush control recommendations
- Forage sampling (hay or green forage) to analyze for % moisture, crude protein, ADF, NDF, TDN, and NEL (\$18 + postage)
- Forage sampling for nitrates (\$5 + postage)

Assessing Body Condition Scores

Bryan Kutz, UofA Extension Animal Science Instructor

Spring calving season is upon us, and assessing body condition scores is essential in maximizing cow herd efficiency. Stress at calving, ample lactation and reproductive performance are key factors that can affect cow herd efficiency and ultimately affect profitable production. Body condition scoring at calving to ensure that breeding condition is favorable is an evaluation tool that can be utilized by farmers and ranchers to assess the level of fat reserves of cows.

The processes of fetal development, delivering a calf, milk production and repair of the reproductive tract are all stresses that require large quantities of energy to enable cows to be rebred within 60 to 85 days. Additionally, the environmental stresses on spring-calving cows may require even more energy intake. Factoring in the heat endured through the summer while calves are nursing reemphasizes the need for energy from excess fat reserves in the cow before calving.

It is much easier to increase condition in cows before rather than after they calve. If possible, separate cows that need additional supplementation. The benefit of ample body condition far outweighs the cost of added nutrition or the opportunity cost in lost productive days in the long run. High nutrition after calving is directed first toward milk production. Cows need to be at a condition where extra energy reserves can be used to help overcome the stress at calving and aid in reproductive tract repair. Feeding cows to gain condition after calving leads to improved milk production and has little effect on increasing body condition.

Studies have shown that cows that are in good to moderate (5 to 7 BCS) condition will tend to have a calving-to-first-estrus interval that could be up to 30 days shorter than those that are in thin condition (1 to 4) at calving. Animals with a low BCS will tend to become far too thin. This results in a low conception rate and an uneconomically long calving-to-breeding interval. At the same time, cows that become excessively fat also have production problems. These cows will likely have more incidences of dystocia and milk production issues because of the additional fat deposits.

The idea of body condition scoring (BCS) is to obtain a simple and reliable measure of the level of fat reserves that will be helpful as the cow progresses through gestation, parturition and rebreeding. When used correctly, this information can help producers make management decisions such as culling or decisions about different feed regimens and how to utilize available forage resources. These decisions all play a big role in making the cow herd efficient and profitable.

Description of Body Condition Scores

Condition	BCS	Description
Thin	1	Severely emaciated. All ribs and bone structure easily visible and physically weak.
	2	Emaciated, similar to 1 above but not weakened. Little visible muscle tissue.
	3	Very thin, no fat on ribs or brisket, and some muscle still visible. Backbone easily visible.
Borderline	4	Thin, with ribs easily visible but shoulders and hindquarters still showing fair muscling. Backbone visible.
Optimum	5	Moderate to thin. Last two or three ribs can be seen. Little evidence of fat in brisket, over ribs or around tailhead.
	6	Good smooth appearance throughout. Some fat deposition in brisket and over tailhead. Ribs covered and back appears rounded.
	7	Very good flesh, brisket full, tailhead shows pockets of fat, and back appears square due to fat. Ribs very smooth.
Fat	8	Obese, back very square, brisket distended, heavy fat pockets around tailhead, and cow has square appearance due to excessive fat. Neck thick and short.
	9	Rarely seen. Very obese. Description of 8 taken to greater extremes. Heavy deposition of udder fat.

Bloat Prevention

Written by Dr. Paul and Melissa Beck

Make no mistake, it is a shocking sight to drive past a lush pasture and see cattle with swollen egg-shaped protrusions from their sides and dead swollen carcasses. To avoid this, producers simply need a little education, a plan and a supplement.

Bloat facts

Frothy bloat is a preventable disease issue for cattle grazing high-quality pastures that can result in traumatic death losses and reduced performance. The rapid onset of pasture bloat and the short window from the occurrence of initial symptoms and death may be the scariest part of this disease.

Bloat can be an issue on small-grain pastures such as wheat – and legume pastures such as white and Persian clover or alfalfa – and can impact both calves and mature cows.

Death losses in bloat-provocative pastures have been reported to be as high as 15 to 20 percent of cattle on a pasture, which can be a massive economic loss for the producer.

Lost production from subclinical bloat may actually be greater than producers realize, but a lot of the costs associated with bloat are from lost production due to the producer's fear of encountering bloat.

Cattle grazing on small-grain pasture can gain in excess of 2.5 to 3 pounds per day without added supplementation, so avoiding the use of legume or small-grain pastures based on a fear of bloat is unreasonable, especially when there are affordable and user-friendly methods for control.

Causes of bloat

Frothy bloat is caused by the formation of a stable foam in the rumen that disrupts the normal eructation (belching) patterns in the rumen. This foam traps gas in the upper area of the rumen, covering the esophageal orifice and not allowing gas to escape the rumen via eructation which, in turn, builds up in the rumen. Death occurs because of pressure buildup on the animal's diaphragm and lungs and results in suffocation.

High-quality forages (clovers, alfalfa and wheat pasture) are commonly associated with this issue because they are very high in soluble cell contents (proteins and sugars) that are rapidly released in the rumen.

These compounds are broken down by ruminal microbes and form a stable protein matrix, which traps ruminal gases produced in the normal function of bacterial breakdown of forages, creating the stable foam.

Bloat is often associated with pastures in the late winter that have regrown in warming days in the waning winter. The pastures are very high in leaf content and nutritive quality.

When a cold snap occurs that freezes these plant tissues and ruptures plant cells, the soluble cell contents are even more rapidly available in the rumen of grazing cattle, exacerbating the bloat potential of the forages. Bloat can occur as soon as one hour after cattle have been placed on bloat-provocative pasture but often occurs within three hours.

Grazing management alternatives

There are several grazing management alternatives that can be used to decrease the incidence of bloat. Because this is a bigger issue for cattle that are able to consume large amounts of these high-quality forages in a short period of time, overstocking cattle on pastures to a point that forage intake is limited has been used in the past.

Alternatively, where rotational grazing is used, cattle can be placed on pastures after the forages have accumulated sufficient growth and maturity. This will increase the fiber content of the forages and, as a result, limit the bloat-provocative nature of the forages.

Offering hays or straws is often suggested as a management option to decrease bloat of cattle grazing high-quality pastures. Research conducted with calves grazing wheat pasture indicates that offering straw to supplement fiber in the diet and increase ruminal contractions has not offered benefits in reducing bloat, possibly because of the low intake of the supplemental straw.

Nutritional supplement options

Research conducted in Oklahoma and New Mexico indicates that the ionophore monensin decreases the incidence and severity of bloat for calves grazing wheat pasture. This option is attractive because ionophores increase average daily gains by 10 to 15 percent for a cost of about \$0.03 per day above the cost of the carrier supplement, which is an economic benefit to stocker cattle producers.

Even though it decreases the incidence and severity of frothy bloat on pastures, it does not eliminate the issue altogether.

Providing monensin in a carrier supplement (such as corn or soybean hulls) is an attractive option for producers because it provides additional degradable organic matter relative to the degradable nitrogen present in the rumen of cattle grazing wheat forage, as well as improving gains and subsequently the economics of the supplementation program, and finally reducing the incidence and severity of bloat more effectively than other ionophores.

In New Mexico, it was found that feeding steam-flaked milo with 170 mg of monensin per day to calves grazing irrigated wheat pasture in early April decreased the incidence of frothy bloat by 40 percent (from 61 to 37 percent) due to increased ruminal pH, forage digestibility and fluid passage rate from the rumen.

Poloxalene is a surfactant and works to disrupt the froth which can form in the rumen causing bloat. Research shows that monensin works fairly well at preventing bloat, but poloxalene has been proven to be a more effective remedy for frothy bloat than monensin.

Providing poloxalene in a self-fed supplement (blocks or other supplements) costs \$0.15 to \$0.20 per calf per day depending on the cost of the supplement.

If poloxalene is fed only during the period that forages are most bloat-provocative, then the total cost of bloat control can be covered by the prevention of the loss of a single animal. As a management strategy, producers may consider using monensin until you have confirmed bloat issue, then switching to poloxalene once cattle show clinical signs of bloat.

Studies have been conducted since the late 1960s that indicate poloxalene at 1 to 2 g per 100 pounds of bodyweight per day dramatically reduces the incidence of bloat. If poloxalene is provided in the form of a mineral block, it is important to remove all other sources of salt and begin offering it several days before cattle are put on provocative pastures.

Cattle producers don't have to live with the threat of bloat, and they don't have to sacrifice quality forage systems in order to avoid it. There are options that make economic sense; producers have choices and simply need to find the plan that fits best with their production goals.

Dr. Paul Beck was born and raised in Logan county near Guthrie Oklahoma. He attended Oklahoma State University from 1986 to 1993, getting his BS and MS degrees in Animal Science. Paul was herdsman for the research cowherd at the University of Arkansas research station near Hope while working on his PhD in Animal Science from 1997 until he joined the faculty of the University of Arkansas Department of Animal Science in 2004. He retired as a full Professor and interim Research Station Director in August.

Melissa Beck is a full-time stocker operator, a freelance writer and owner of Beck Media. She has a background in animal science and is a former extension educator.

Scouting for Freeze Injury to Bermudagrass Forage

Dr. John Jennings, Extension Forage Specialist

It has been some time since winter temperatures were cold enough to cause concern for injury to bermudagrass pastures and hay fields, but this winter's weather is in that category. Cold injury to bermudagrass is hard to predict because soil moisture and snow cover interact with temperature to increase or reduce cold injury. In general, moist soil conditions during the cold temperature period reduces cold injury and dry soil conditions during extreme cold increases potential for cold injury. The water in moist soil tends to hold heat better than dry soil. Think of it this way - dry, cold conditions tend to freeze-dry plants and roots. The longer the cold, dry weather lasts the more potential for cold injury. Snow cover insulates the soil and protects plants from extreme temperature fluctuations. Conditions are very dry statewide and as of this writing, 50 counties are under burn bans. That along with the repeated cold temperatures plunges will likely cause cold injury to some bermudagrass fields.

Assessing cold injury can't be done in the field until the bermudagrass begins breaking dormancy. Very cold-sensitive varieties may suffer complete winterkill whereas others may exhibit slower and later greenup than normal. This will increase weed pressure and reduce season-long yield. Low soil fertility increases cold injury potential especially low soil potassium levels. The relatively mild winters in the upper south over the past several years have allowed varieties of moderate freeze

tolerance to escape injury that will occur with a cyclic return to more severe winter conditions. Fewer cold-tolerant seeded varieties are available than cold-tolerant sprigged varieties. Some of the best bermudagrass varieties grown along the Gulf Coast are prone to winterkill and winter injury in Arkansas.

Some cold sensitive varieties planted from seed include Arizona Common, Jackpot, and Giant. These are commonly included in seed blends to provide quicker cover and first year yield, but tend to winterkill over time leaving the more cold-tolerant variety of the blend. Giant bermudagrass is very cold sensitive and winter kills easily. Jackpot has shown poor cold-tolerance on several farms in north Arkansas. Common survives well in the southern half of Arkansas, but may likely show winter injury this spring across north Arkansas. The most common cold-tolerant seeded variety is Wrangler. Its cold tolerance is on par with many of the cold-tolerant hybrids grown in north Arkansas. Other commonly grown seeded varieties with moderate cold-tolerance include Cheyenne, CD-90160, and KF-194. All three have lower cold tolerance than Wrangler, but have been grown successfully in north Arkansas. The two numbered varieties are used in many seed blends sold in recent years.

When grown in colder climatic areas, varieties with moderate to low winter hardiness can be expected to begin growth later in the spring and require time to re-develop the sod density they had prior to the winter injury. This delayed spring growth makes them susceptible to weed invasion that will negatively impact their ability to reform the sod cover. Cold sensitive varieties are at greatest risk the 1st winter after seeding. Thereafter, they tend to be less susceptible to winter injury, probably because of better developed root and rhizome systems. The winter hardy Wrangler will perform better than moderately winter hardy varieties in colder climatic areas but will not perform as well when winter injury is not a factor. Research in Haskell, Oklahoma in spring of 2001 following a cold winter showed much slower greenup of Cheyenne, CD-90160, and KF-194 than for Wrangler.

The best rated sprigged bermudagrass varieties for cold-tolerance include Midland 99, Ozark, Tifton 44, and Greenfield. Newer varieties such as Vaughns #1 and World Feeder also have shown good cold tolerance. Each of those six varieties are grown in north Arkansas with little cold injury. Some sprigged varieties that are cold-sensitive include Coastal, Russell, Alicia, Jiggs, and Tifton 85. These varieties are grown only in south Arkansas. But the northern limit keeps creeping northward. Jiggs was included in trials at Booneville and commonly suffered severe winter injury. Tifton 85 is the highest yielding and highest quality variety grown in the deep south but has lower cold tolerance than Coastal. Forage specialists from Georgia, Texas, and Louisiana suggest its northern limit is near Shreveport, LA, but it is being grown in southern Arkansas.

Any variety with moderate or low cold tolerance, as well as those growing under fertility or other stress, should be checked closely this spring for signs of injury. Some practices that can improve recovery include proper fertility, judicious weed control, and proper grazing or hay harvest. Soil tests should be taken now to determine soil fertility levels. Fertilizer recommendations are specific for hay or pasture so be sure to note the intended use when submitting soil samples. Bermudagrass has very poor tolerance for shade so weed control is critical for winter damaged stands. Aggressive winter annual weeds or even ryegrass can form a heavy canopy in spring that delays bermudagrass greenup. The effect is much more severe on winter damaged fields. Many species of winter annual weeds are easily controlled with recommended herbicides or with properly managed grazing. Scout fields early and often to determine the best course of remediation. For more information, contact your county Extension office.

Nitrogen from Snowfall: Is it Enough to Matter?

Brad Runsick, County Extension Agent

Sometimes, when we get a little snowfall through the winter, the discussion often comes up about how snowfall adds nitrogen to your soil. However, what is the actual value of that snowfall? No doubt, much of the value comes in the way of additional moisture that helps to saturate our soils throughout winter before heading into the spring growing season, but what about the nitrogen?

A couple things you have to know is: How much N is in the snowfall, and how much is plant available (nitrate and ammonium) or will be within a reasonable amount of time? Nitrogen content of snowfall is also dependent upon the amount of pollution in an area. Given the higher amounts of pollution of the eastern U.S., we tend to have a little more N in our precipitation than, say, the western U.S.

Truth is, our soils receive nitrogen from any precipitation. It does take snow precipitation longer to move downward through the soil profile, but it does not contain any more nitrogen per volume than rain. On the average, 10 inches of snow equates to about 1 inch of rain. Wetter snow will be more, and more powdery snow will be less. So, perhaps, it is possible that more of that nitrogen from snowfall stays in the root zone longer, but that doesn't mean that it's just saturated with nitrogen.

It's important to note that, on average, our soils will produce about 1 ton of grass on their own per year without any additional N fertilization, but in order to produce an additional ton of yield, another 40-60 lbs. of N needs to be added. Snowfall, or any precipitation for that matter, won't nearly touch that. At the very, very best, our annual precipitation might dump 6-7 lbs. of nitrogen per acre on our fields. A drop in the bucket, so to speak. A good winter snowfall event does not negate the need for springtime fertilizations, nor does it mean that producers should lower their application rates.

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