OFF THE HOOF

Cooperative Extension Service
University of Kentucky
Beef IRM Team

KENTUCKY BEEF CATTLE NEWSLETTER APRIL 5, 2025

Each article is peer-reviewed by UK Beef IRM Team and edited by Dr. Les Anderson, Beef Extension Specialist, Department of Animal & Food Science, University of Kentucky

This month's newsletter includes:

Timely Tips

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Spring Calving Cow Herd

- Watch cows and calves closely. Work hard to save every calf. Calves can be identified with an ear tag while they are young and easy to handle. Commercial male calves should be castrated and implanted. Registered calves should be weighed at birth.
- Cows that have calved need to be on an adequate nutritional level to rebreed. Increase their feed after calving. Do not let them lose body condition. Keep feeding them until pastures are adequate.
- Do not "rush to grass" although it can be really tempting. Be sure that grass has accumulated enough growth to support the cow's nutritional needs before depending solely upon it. Cows may walk the pastures looking for green grass instead of eating dry feed. This lush, watery grass is not adequate to support them. Keep them consuming dry feed until sufficient grass is available to sustain body condition. We've spent too much money keeping them in good condition to lose it now!
- *Prevent grass tetany!* Provide magnesium in the mineral mix until daytime temperatures are consistently above 60°F. Mineral supplement should always be available and contain a minimum of about 14% magnesium. Make sure that your mineral mix also contains adequate selenium, copper, and zinc. You can ask your feed dealer about the UK Beef IRM High Magnesium Mineral.
- Make final selection of heifer replacements. Strongly consider vaccinating with a modified-live BVD vaccine.
- Purchase replacement bulls at least 30 days before the breeding season starts. Have herd bulls evaluated for breeding soundness (10-20% of bulls are questionable or unsatisfactory breeders). Get all bulls in proper condition (BCS 6) for breeding.
- If you are going to use artificial insemination and/or estrous synchronization, make plans now and order needed supplies, semen, and schedule a technician.
- Prebreeding or "turnout" working is usually scheduled for late April or May between the end of calving season and before the start of the breeding season (while cows are open). Consult your veterinarian about vaccines and health products your herd needs. Decide now on the products needed and have handling facilities in good working order. Dehorn commercial calves before going to pasture.

Fall Calving Cow Herd

- Determine pregnancy in your herd now and cull open ones at weaning especially if the open cows are older than 6 years of age.
- Re-implant feeders.
- Consult with your veterinarian about preweaning working of the herd.
- You may let calves creep-graze wheat or rye if it is available. Calves will benefit from extra feed until spring grass appears.
- Plan marketing strategy for feeder calves.

Stockers

- Do not go to pastures too soon, give plants some growing time. Then stock at two to three times the July rate and rotate rapidly.
- "Condition" purchased calves prior to grazing. They should be processed and fed a conditioning diet prior to being placed on pasture. You can also use this time to introduce them to electric fences used in rotational grazing.
- Provide a good mineral supplement which contains a rumen modifier (Rumensin, Bovatec, etc.) along with adequate levels of copper and selenium.

General

- We have made a muddy mess this winter, so be prepared to reseed bare spots. Our forage group has some excellent information on restoring heavy-traffic areas.
- Make plans to improve hay feeding areas to avoid muddy conditions like we have faced this winter. Consider geotextile fabric with gravel or concrete feeding pads.
- Prepare for the grazing season. Check fences and make necessary repairs. Check your corral, too.
- Get everything ready to make high quality hay in May! Have equipment serviced and spare parts on hand. Order baler twine now. Be prepared to harvest an adequate supply of hay when you have the opportunity. Re-supply the extra hay that you fed out of the barn. This past winter caused most producers to exhaust their hay supply, so it is time to re-stock.
- Plan now for fly control ... decide what fly control program that you will use but do not put insecticide eartags on cattle until fly population appears.

Be Aware of Frothly Bloat Risk in Spring Pastures

Dr. Michelle Arnold, DVM-Ruminant Extension Veterinarian (UKVDL)

Ruminant animals produce large volumes of gas through the normal fermentation process during forage digestion. This gas is predominantly belched up (eructated) as it passes through the gastrointestinal tract. If something interferes with gas escape from the rumen, pressure builds up and causes an obvious distension in the left flank of the abdomen, a condition known as “bloat” (Figure 1). The swollen rumen occupies a large amount of space within the abdomen, resulting in compression of the lungs and diaphragm which interferes with breathing and tissue oxygenation, obstruction of blood flow to vital organs, and potentially the rapid death of the animal. Bloat may be classified into one of two types, “free

gas" or "frothy", with both types possible in cattle whether on pasture or in a confinement feedlot setting. Free gas bloat in pastured cattle is most often due to obstruction of the esophagus (choke) with rapid onset of bloat and death if not addressed quickly. Free gas bloat from choke can be relieved by passing a tube down the esophagus into the rumen, simultaneously clearing the esophageal obstruction and releasing the trapped gas. Frothy bloat, on the other hand, results when fermentation gases become trapped within a stable foam in the rumen (like the head of a beer) and the animal is no longer able to belch up the gas. Simply passing a tube into the rumen will not solve the problem because the froth prevents gas from leaving the pressurized rumen. For effective relief, anti-foaming agents must be delivered directly into the rumen to disperse the foam and allow the gases to escape.

Photo: Belinda Walker, NSW DPI

Figure 1: Frothy bloat. From "Bloat in Cattle and Sheep" September 2014 Primefact 416 3rd edition Dr Graham Bailey, Senior Veterinary Officer, NSW Department of Primary Industries

Frothy bloat occurs in cattle when grazing forages high in soluble protein and low in fiber, most commonly pastures with a high percentage of immature legumes (alfalfa, white clover) or succulent, vegetative wheat or rye pastures. This disorder is caused by the interaction of many factors including environmental conditions, the structural and chemical composition of the forages present, and physiologic factors within the animal. Because the disorder is multifactorial, frothy bloat occurrence is sporadic, unpredictable and very difficult to completely prevent. It is most reported when cattle, especially yearlings, graze legume or legume-based pastures (over 50% legumes) in the late winter and early spring. Bloat incidence varies year-to-year depending on the relative presence or absence of clover; years with low residual grass cover in the fall, especially after fall drought, and sufficient moisture in the spring will favor clover dominance. Frothy bloat is also a significant cause of death in wheat pastured stocker cattle. The protein content of wheat forage is influenced by plant growth stage and level of nitrogen fertilization. Vegetative wheat has crude protein (CP) values ranging from 18–34% and low neutral detergent fiber levels of 30–40%. Forage samples from bloat-prone wheat pastures contain less dry matter and total fiber while CP and soluble nitrogen fractions are significantly higher. Death losses from pasture bloat are believed to be approximately 2% annually but are sometimes much higher (10-20%) on individual pastures. Costs of bloat include not only losses of livestock but also decreased productivity from avoidance of the most nutritious pastures due to bloat risk.

Figure 2: Poloxalene treatment for frothy bloat. (Accessed via Google Images 3/6/2025)

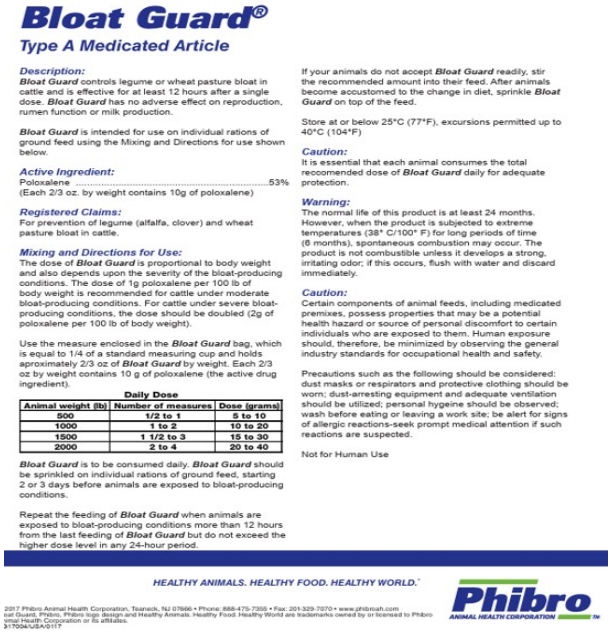
Frothy bloat results when fermentation gases become trapped in a stable foam in the rumen that cannot be released by eructation. Requirements for this foam to form are: (1) consumption of a highly digestible, high-protein forage (alfalfa, white clover, wheat) that results in rapid gas production, promotes the growth of ruminal microbial populations, and increases rumen fluid viscosity; (2) the presence of fine plant particles (from ruptured chloroplasts) that cause gas bubbles to coalesce in rumen contents; and (3) active ruminal bacterial production of an excessive amount of bacterial "slime" (a mucopolysaccharide complex also known as a "biofilm"). The incidence of bloat is variable between animals and depends on the individual animal's rate of forage

fermentation and production of ruminal gas, the digesta passage rate, and the foaming properties of rumen contents. For example, a slower passage rate allows more time for foam formation and a higher chance of bloat. Similarly, the abundance of certain salivary proteins within saliva decreases that animal's formation of rumen foam. Some animals have a genetic predisposition to bloat, and chronic bloaters should be culled.

Figure 3: Rumen Trocar (above) and Cannula (below). Accessed via Google Images 3/6/2025

The signs of bloat are easily recognized if observed; the problem is an animal may go from normal to dead within an hour. Cattle with early bloat display a distended left flank, they stop grazing, they may kick at their belly and be reluctant to move. As bloat advances, the animal may appear distressed (may vocalize, eyes may bulge), stand up and lie down repeatedly, strain to urinate and defecate, exhibit rapid and open mouth breathing, grunting, staggering, and in advanced cases the animal will go down. Death is rapid at this stage due to compression of the lungs, diaphragm, and major organs by the distended rumen. Animals that are mildly affected can be drenched orally or through a stomach tube with a liquid anti-bloat preparation containing the surfactant poloxalene (Therabloat®, Zoetis; Figure 2). After dosing, it is encouraged to keep the animal moving to allow the preparation to mix with the frothy rumen contents. Severely bloated animals in distress need immediate veterinary attention. This may be achieved by inserting a wide bore trocar and cannula (Figure 3) into the rumen at the highest point on the left flank (where the swelling is greatest). After gas and froth is released, an anti-bloat preparation can be poured through the cannula into the rumen to help break down all remaining froth/foam. If poloxalene is unavailable, vegetable oil (250–500 mL) or mineral oil (100–200 mL) can be used. In most cases of advanced frothy bloat, a trocar and cannula will quickly plug up with foam and will not be adequate to relieve the pressure. In those cases, a 10–20 cm incision will have to be made using a scalpel or clean, sharp knife inserted into the highest point of the left flank. It may be necessary to manually remove the frothy material from the rumen. In these emergency cases there is usually no time to wait for a vet to arrive, so livestock owners will have to do this themselves. Veterinary attention is still necessary to irrigate the abdominal cavity, clean and stitch the wound and begin antibiotic treatment to prevent serious infection.

The anti-foaming agent of choice for prevention of frothy bloat is the feed additive poloxalene (Bloat Guard®, Phibro Animal Health; Figure 4), a surfactant that reduces the surface tension of foam, decreases foam formation in the rumen and releases entrapped fermentation gases. It is important to remember that to be effective, adequate amounts of poloxalene must be consumed daily to reduce foam formation. This may require mixing or top-dressing poloxalene at 2 grams per 100 pounds of body weight in feed and offering it daily during the periods of highest



Bloat Guard®

Type A Medicated Article

Description:
Bloat Guard controls legume or wheat pasture bloat in cattle and is effective for at least 12 hours after a single dose. ***Bloat Guard*** has no adverse effect on reproduction, rumen function or milk production.

Bloat Guard is intended for use on individual rations of ground feed using the Mixing and Directions for use shown below.

Active Ingredient:
Poloxalene 53%
(Each 2/3 oz. by weight contains 10g of poloxalene)

Registered Claims:
For prevention of legume (alfalfa, clover) and wheat pasture bloat in cattle.

Mixing and Directions for Use:
The dose of ***Bloat Guard*** is proportional to body weight and also depends upon the severity of the bloat-producing conditions. The dose of 1g poloxalene per 100 lb of body weight is recommended for cattle under moderate bloat-producing conditions. For cattle under severe bloat-producing conditions, the dose should be doubled (2g of poloxalene per 100 lb of body weight).

Use the measure enclosed in the ***Bloat Guard*** bag, which is equal to 1/4 of a standard measuring cup and holds aproximately 2/3 oz of ***Bloat Guard*** by weight. Each 2/3 oz by weight contains 10 g of poloxalene (the active drug ingredient).

Daily Dose

Animal weight (lb)	Number of measures	Dose (grams)
500	1/2 to 1	5 to 10
1000	1 to 2	10 to 20
1500	1 1/2 to 3	15 to 30
2000	2 to 4	20 to 40

Bloat Guard is to be consumed daily. ***Bloat Guard*** should be sprinkled on individual rations of ground feed, starting 2 or 3 days before animals are exposed to bloat-producing conditions.

Repeat the feeding of ***Bloat Guard*** when animals are exposed to bloat-producing conditions more than 12 hours from the last feeding of ***Bloat Guard*** but do not exceed the higher dose level in any 24-hour period.

If your animals do not accept ***Bloat Guard*** readily, stir the recommended amount into their feed. After animals become accustomed to the change in diet, sprinkle ***Bloat Guard*** on top of the feed.

Store at or below 25°C (77°F), excursions permitted up to 40°C (104°F)

Caution:
It is essential that each animal consumes the total recommended dose of ***Bloat Guard*** daily for adequate protection.

Warning:
The normal life of this product is at least 24 months. However, when the product is subjected to extreme temperatures (38° C/100° F) for long periods of time (6 months), spontaneous combustion may occur. The product is not combustible unless it develops a strong, irritating odor; if this occurs, flush with water and discard immediately.

Caution:
Certain components of animal feeds, including medicated premixes, possess properties that may be a potential health hazard or source of personal discomfort to certain individuals who are exposed to them. Human exposure should, therefore, be minimized by observing the general industry standards for occupational health and safety.

Precautions such as the following should be considered: dust masks or respirators and protective clothing should be worn; dust-arresting equipment and adequate ventilation should be utilized; personal hygeine should be observed; wash before eating or leaving a work site; be alert for signs of allergic reactions-seek prompt medical attention if such reactions are suspected.

Not for Human Use

HEALTHY ANIMALS. HEALTHY FOOD. HEALTHY WORLD.®

Phibro ANIMAL HEALTH CORPORATION

Figure 4: Bloat Guard® Type A Medicated Article. (Accessed via Google 3/27/2025)

risk. Additional poloxalene-containing products are available for use in grazing programs, including mineral supplements, bloat blocks, and liquid feeds. Because of cost, it is generally not economically feasible to feed poloxalene continuously throughout the spring grazing period. Alternatively, feeding the ionophore monensin (Rumensin®) will decrease the amount of stable foam produced during fermentation and reduce bloat risk, along with the added benefits of increasing weight gain and improving feed efficiency. To be most effective, it is recommended to begin feeding monensin products 10-14 days prior to grazing risky pastures.

The current advice to beef producers to prevent frothy bloat is to:

- Avoid grazing cattle on lush, rapidly growing, immature legume or wheat pastures; this is exceptionally important if the forage is wet from dew or rain. Moisture plays a role in a forage's bloat potential. Hungry cattle graze more aggressively when moved to a new pasture, so they should not be moved to new pastures with high legume content until midday—after the dew has dried and after they have grazed or consumed hay in the morning.
- Watch cattle closely for the first few days on new pasture. Bloat onset may be observed within an hour after introduction to new pasture, but cattle more commonly bloat on the second or third day (or longer) following introduction. Observe animals closely following any abrupt change in the weather;
- Slow the movement of cattle to new paddocks when practicing rotational grazing to offer cattle more mature forages in pastures;
- Provide cattle with free-choice access to anti-bloat blocks or offer feed daily that is top-dressed or mixed with poloxalene;
- Ensure cattle always have palatable grass hay available;
- Provide additional calcium to growing cattle grazing wheat pasture. Cereal grains are notoriously low in calcium; ruminal and gut motility is greatly compromised in animals with subclinical deficiencies of blood calcium;
- Always provide a good trace mineral mix to grazing cattle as high potassium and low sodium levels in the rumen are associated with bloat;
- Provide access to a clean water source;
- Grow grass-legume mixtures and/or incorporate bloat-resistant legumes into pastures.

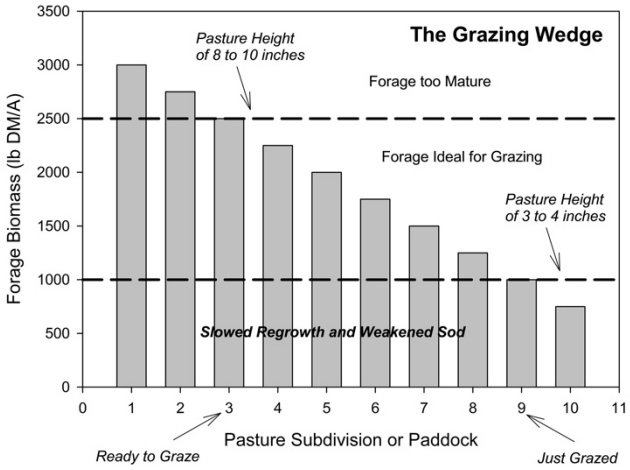
Grazing too early and too closely can have season long impacts on pastures productivity!!!

Dr. Chris Teutsch, University of Kentucky Research and Education Center at Princeton

After a long winter we are eager to get cattle back on grass. However, starting to graze too early can set pastures back. As grass initiates growth in the spring, it mobilizes energy reserves in the stem base and crown. After this initial energy mobilization, it is important to allow the grass plant to develop adequate leaf area (solar panel) to carry out photosynthesis at a rate that meets its energy needs for growth and maintenance and allows for the replenishment of stored energy that was mobilized. Starting to graze too early reduces the plant's ability to accomplish this task.

Tips for Managing Spring Pasture Growth

Implement rotational grazing. To fully utilize the spring flush of pasture growth **YOU** must be in control of grazing. In a continuous grazing system, the cows are in charge. By utilizing rotational stocking, you start to make the decisions. Implementing a rotational stocking system may be as simple as closing some gates or stringing up some polywire.



Feed a little hay in late winter and early spring. It is tempting to just let cattle roam and pick pastures for early grass growth, but this can set pastures back and reduce overall dry matter production. It is important to restrict cattle to one area, feed a little hay, and allow pastures to accumulate 4 to 5" of growth before starting to graze.

Start grazing at 4 to 5" of growth. Another common mistake that graziers make is waiting too long to start grazing. If you wait until the first paddock is ready to graze, 8-10" of growth, by the time you reach the last paddock it will be out of control. Starting a little bit early allows you to establish a "grazing wedge" (Figure 1).

Rotate animals rapidly. It is important to realize that grazing pastures closely and repeatedly as they initiate growth in early spring can reduce production for the entire season. Therefore, it is important to keep animals moving rapidly through the system. The general rule is that if grass is growing rapidly then your rotation should be rapid. This will allow you to stay ahead of the grass by topping it off and keeping it in a vegetative state.

FORAGE MANAGEMENT TIPS

Graze winter annuals.
Flash graze paddocks that were frosted with clover.
Allow calves and lambs to creep graze.
As pasture growth begins, rotate through pastures quickly to keep up with initial growth.
As pasture exceeds the needs of grazing livestock, remove some pastures from the rotation and allow growth to accumulate for hay or silage harvest.
Get equipment ready to harvest hay at the late boot stage to early head stage top optimize yield and forage quality.
Determine the need for and prepare to plant warm-season annuals.

Don't Chase Price per Pound at the Expense of Value per Head

Dr. Kenny Burdine, University of Kentucky

Over the last few months, I have been able to talk with a lot of cattle producers at Extension programs. As you can imagine, the strength of the cattle market is almost always the first topic of discussion. We

are seeing prices like we have never seen before for cattle of all types and weights. But my observation has been that producers tend to become a bit more enamored than they should with price per pound and sometimes don't think as much as they should about value per head.

I see this play itself out in a couple ways. First, I hear some producers talk about selling cattle sooner to capture the higher prices. I don't necessarily think that downside price risk is greater in high priced markets, but I think there is a perception among some that there may be "more to lose". This perception lowers interest in adding value to cattle by taking them to higher weight before sale and leads to more calves being sold off the cow, as opposed to being weaned and preconditioned.

Secondly, I think people get too focused on price per pound differences across weight categories and don't make the mental adjustment to the new price environment. To illustrate this point, I am going to use Kentucky average auction prices from the last week of March. The table below shows the average price for medium / large frame #1-2 steers at 450 lbs, 550 lbs, and 650 lbs. For transparency, I am using the average prices for cattle without a description (not value-added or fancy), which represents most cattle being sold. Also, I am averaging the 50 lb weight ranges to arrive at my average price. In other words, the estimated price per lb for a 450 lb steer is the average of the 400 to 450 lb and 450 to 500 lb weight ranges.

Examine the average prices from Kentucky last week in the table for 450 and 550 lb steers. The price per pound drops by $0.50 on that 100 lb increase in weight. If one looks solely at price per lb, they may be tempted to sell calves sooner and avoid the $0.50 slide. However, in this cattle price environment, those 550 lb steers were still worth $113 per head more than the 450 lb steers. The relevant question becomes whether that difference justifies keeping those 450 lb steers longer. In many cases, the answer to that question may be yes, especially in the spring with pasture starting to grow.

To be fair, cattle prices are extremely high by historical standards. Price slides widen as the overall market gets higher and we have never seen a calf market this high. What may have seemed like a bizarre price slide a few years ago, may make perfect sense now. For example, if 450 lb steers were selling for $2 per lb and we applied the same $0.50 price slide for 550 lb steer, that 550 lb steer at $1.50 per lb is actually worth $75 less than the 450 lb steer at $2. But that is irrelevant in the current market.

The main point is that the spring 2025 feeder cattle price environment is like nothing we have seen before. Given that, we must be careful about using rules of thumb and simple approaches that may have worked in the past. Focusing on price per lb, without consideration of weight impacts, can be very misleading. And one needs to be careful they aren't chasing price per lb at the expense of value per head!

When You're Hot, You're Hot!

Dr. Les Anderson, Beef Extension Professor, University of Kentucky

Last summer was a challenge for livestock. Kentucky recorded over 35 days with temperatures that exceeded 90ºF and our temperature-humidity index was in the dangerous category for livestock for most of June and July. The impact of heat stress on livestock has been extensively studied over the last several decades. Heat stress reduces growth rate, can shorten gestation, increase lameness, disease, and

death rates. Perhaps the most dramatic impact of heat stress is the marked reduction in reproductive efficiency.

Now is the perfect time to start planning to overcome heat stress. When I first got to UK, our Angus cows were involved in a variety of trials examining the impact of consuming endophyte-infected fescue on reproductive rate. For several years, these cows were synchronized for AI around June 10 and then exposed to a bull for 70 days. Cows consuming only endophyte-infected fescue had 55-62% pregnancy rates at the end of the breeding season. Similarly, Dr. Burris at Princeton demonstrated that the conception rate of cows decreased from 70% in early spring (April 1 – June 1) to 35% in the summer (June 20 – August 1) resulting in a pregnancy rate decrease from 90% to 58%. Heat stress reduces pregnancy rate by increasing the abortion rate of young, developing embryos and fetuses. Extreme heat stress results in embryonic/fetal loss for at least the first 45 days of pregnancy. If you are a spring calver and your cattle are consuming endophyte-infected fescue, your cows may have struggled to get pregnant this spring/summer. Plan now to determine pregnancy and hope for the best. Fall-calving cows are not immune to issues with heat stress. Heat stress and consumption of endophyte-infected fescue can induce early parturition (30-40 days premature labor), increase the thickness of the placenta, and increases calf death loss.

How can we manage heat stress? Are there management protocols that can help? Understanding solutions begins with understanding the problem. Cattle have difficulty dissipating heat effectively because they don't sweat as well as other animals. Since they don't sweat well, cattle dissipate heat by increasing their respiration rate, decreasing their activity, dilating their blood vessels near their skin so they can more effectively radiate the heat from their body, and eating less. Eating and digestion generates heat so they intake less feed to reduce the internal blood temperature. In Kentucky, and the rest of the "fescue belt," heat stress is heightened by consuming endophyte-infected fescue. Endophyte is a fungus that grows in fescue plants and this fungus produces chemicals, generically called alkaloids, that have a variety of negative impacts on animals. One of the main impacts of consumption of endophyte-infected fescue is the alkaloids constrict the blood vessels of the animal which reduces the ability of the animal to dissipate heat via radiation. So, if we want to alleviate issues with heat stress, we need to find management protocols to help cattle dissipate heat.

Fortunately, we have options! Logically, the first place to start is simply do not graze endophyte-infected fescue during the summer but this is often not a viable option for many cattle producers. The breeding season can be shifted to earlier in the spring (April – June vs May – August) but this will lead to cows calving earlier in the winter, which may not be an acceptable option either. Cows supplemented with high fat supplements (ex. whole soybeans, liquid fats supplements, distiller's products) during heat stress can increase pregnancy rates in beef cows. Providing a complete mineral mix containing a blend of sodium selenite and selenium yeast, like the UK Beef IRM mineral has been shown to increase hormone concentrations necessary to support early gestation. Also, the USDA-ARS research group in Lexington has demonstrated that consumption of red clover can aid cattle during heat stress. Red clover leaves contain chemicals called isoflavones that dilate peripheral blood vessels, reduce heat stress, and can increase pregnancy rates. Most legumes have these isoflavones but the chemicals vary in the bioavailability and concentrations of the isoflavones. Whole soybeans and soyhulls also contain isoflavones and can be used to help reduce the impact of fescue toxicosis.

We cannot control the temperature, but we can plan to help our cattle withstand heat stress. Develop a heat mitigation plan by limiting cattle access to endophyte-infected fescue and/or providing access of cattle to supplements or pastures that contain fat or isoflavones. Contact your veterinarian and set dates to determine pregnancy in our herd. If you have several open cows, adding a short fall-calving season is an option. We can also use this experience to help develop a plan for heat stress in the future. This cattle market is hot, and producers need to maximize their pregnancy rates and heat stress is the main factor that reduces pregnancy especially in the summer. A little planning, a little tweak to your management plan will pay huge dividends.

For more information, contact your local county ANR Agent.