

OFF THE HOOF

KENTUCKY BEEF CATTLE NEWSLETTER FEBRUARY 1, 2022



Cooperative Extension Service
University of Kentucky

Beef IRM Team

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Timely Tips

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

Spring-Calving Herd

Get ready for calving season this month!

- Have calving equipment, supplies and labor ready for the spring calving season. Some supplies that may be needed are: eartags and applicator (put numbers on eartags now), tattoo pliers and ink, record book, scales for calf weights, iodine for calves' navels and colostrum supplement. Calving equipment (puller and chains, etc.) and facilities should be ready and clean. Keep your veterinarians phone number handy!
- Overall condition of the cow herd should be evaluated. Cows losing weight now are more likely to have weak or dead calves. These cows will likely be a poor source of colostrum milk for the newborn calf. Feed cows, if necessary, to keep them in good body condition. Cows need to calve in a BCS of 5, minimum, to expect them to rebreed in a timely fashion. Calve you heifers a little heavier, BCS of 6.
- Heifers may begin head-start calving in early February. Move them to a clean, accessible pasture, away from cow herd and near facilities so that calving assistance can be given. Cows may start calving later this month. Signs of calving are relaxation of pelvic ligaments, enlargement and swelling of the vulva, and enlargement of the udder. Expect calving difficulty if (1) calf's head and two feet are not visible, (2) only the calf's tail is visible, and (3) the cow has been in labor for 1½ hours. Be sure calf is being presented normally before using calf puller. Recognize situations that are beyond your capability and seek professional help as early as possible. Calves that aren't breathing should receive assistance. Try sticking a straw in nostril to stimulate a reflex or try alternate pressure

and release on rib cage. Commercial respirators are also available. Calves should consume colostrum within 30 minutes of birth to achieve good immunity.

- Record birthdate, cow I.D., and birthweight immediately (use your Beef IRM calendar). Identify calf with an ear tag and/or tattoo. Registered calves should be weighed in the first 24 hours. Male calves in commercial herds should be castrated and implanted as soon as possible.
- Separate cows that calve away from dry cows and increase their feed. Increase feed after calving to 25-27 pounds of high-quality hay. Concentrate (3-4 lb. for mature cows and about 8 lb. for first-calf heifers) may be needed if you are feeding lower quality hay. Hay analysis will greatly aid any decisions regarding type and amount of supplementation. Supplementation may have a beneficial effect on date and rate of conception. It's an important time to feed a beef cow after calving. Thin cows don't come into heat very soon after calving. We must have cows in good condition, if we plan to breed them early in the season for best pregnancy rates, especially on high-endophyte fescue pastures.
- Sub-zero weather can mean death for newborn calves. During extremely cold spells, bring the cow(s) into a sheltered area as calving approaches to protect the calf. Be prepared to warm-up and feed newborn, chilled calves. Calving in mud can also cause problems.
- Watch for scours in newborn calves. Consult your veterinarian quickly for diagnosis, cause, and treatment. Avoid muddy feeding areas so that cows' udders won't become contaminated and spread scours. Don't confine cows to muddy lots.
- Replacement heifers should be gaining adequately to reach target breeding weights by April 1st. Be sure that their feeding program is adequate for early breeding.
- Start looking for herd sire replacements, if needed.

Fall-Calving Herd

- Breeding season should end this month – maybe Valentine's Day. Remove bulls and confine them so that they regain condition.
- Consider creep feed or creep grazing (wheat, etc.) to supply extra nutrition to fall-born calves which may have to depend solely on their dam's milk supply for growth. They are not getting much except their dam's milk now (i.e., there is nothing to graze). February/March is the worst time of the year for fall-born calves.
- Provide windbreaks or clean shelter for calves.

General

- Increase feed as temperature drops. When temperature falls below 15 degrees, cattle need access to windbreaks. For each 10 degrees drop below 15 degrees, add three pounds of hay, two pounds of corn, or six pounds of silage to their rations.
- Always provide water. Watch for frozen pond hazards. If cattle are watering in a pond, be sure to keep ice "chopped" to keep cattle from walking on the ice and, possibly, breaking through. Keep automatic waterers working.
- You should be feeding a mineral supplement with adequate magnesium to prevent grass tetany (~ 15% Mg) now. The Hi-mag UK Beef IRM mineral can be used.
- Control lice. Watch for signs such as rubbing.
- Begin pasture renovation. You can overseed clover on frozen or snow-covered pastures.

Recent and Upcoming On-line Beef Education Opportunities *Beef IRM Team, University of Kentucky*

UK Beef Management Series

- January 11, 2022 Milk: Benefit or Burden – Dr. Darrah Bullock and Dr. Jeff Lehmkuhler
- February 8, 2022 Selenium's Impact on Females Reproduction – Dr. Ben Crites, Director of Beef Market Development, ST Genetics
- March 8, 2022 Shooting the Bull: Answering all your beef related questions! – Roundtable discussion with UK Beef Specialists

To access this and other excellent beef educational content, visit our Facebook Page ([facebook.com/KyBeefIRM](https://www.facebook.com/KyBeefIRM)) and/or on the Department of Animal & Food Science YouTube page (https://www.youtube.com/channel/UCu4t18Zo2E_4_DBBELPjPMg). Subscribe to the AFS YouTube page and click the notifications bell to receive a notification whenever we publish new beef education content. Beef Bits can also be accessed on the podcast website (https://www.podbean.com/media/share/pb-meqic-e6f8f1?utm_campaign=u_share_ep&utm_medium=dlink&utm_source=u_share).

Mid-South Stocker Conference Online in 2022

Dr. Jeff Lehmkuhler, Extension Professor, University of Kentucky

Due to continued high infection rates of COVID, the 2022 Mid-South Stocker Conference will once again be offered free of charge as an online program. Last year the conference was held online with good attendance and the decision was made due to uncertainties in meeting restrictions to hold the program online again this year.

The conference will be held on February 23, 2022 beginning at 12:00 pm EST. Topics to be covered this year include baleage production, grazing management, new research on respiratory disease, and a 2022 market outlook. The Mid-South Stocker Conference is a joint effort between University of Tennessee, University of Kentucky, and industry to offer an educational program for the stocker and backgrounding sector of the industry.

To register for the conference, the following online link will be available during the week of January 11th. The link is <https://tiny.utk.edu/22MSSC> for registering. Once registered, an email will be sent to participants to join the Zoom program prior to the event. For additional information go to <https://midsouthstockerconference.utk.edu/> or contact your local county Extension office or email jeff.lehmkuhler@uky.edu. We hope you will join us on February 23 to from a great line-up of speakers.

(Even) More Reasons to Love Red Clover

Dr. Jimmy Henning, Extension Professor, Forage Specialist, University of Kentucky

Clover has been cool in Kentucky for a long time. Clover has long been known to benefit ruminant producers because of its high yields, high yields, biological nitrogen fixation, summer time production and dilution of the negative effects of tall fescue. New research from the USDA-ARS Food Animal Production Research Unit embedded in the UK College of Agriculture Food and Environment is adding even more reasons to love red clover.

Red clover directly counteracts the vasoconstriction caused by the toxic endophyte of tall fescue. The constriction of the exterior blood vessels makes ruminants much less able to regulate their body temperatures, causing heat stress in summer and cold stress in winter. Red clover has been found to contain a natural compound that actually causes these constricted blood vessels to dilate, restoring blood flow and relieving temperature stress. These compounds, called isoflavones, are also present in white clover and alfalfa, but at lower levels than red clover.



Surprisingly small amounts of red clover in the diet have large effects. Research by USDA-ARS group found that pastures overseeded with red clover as well as hay with 15 and 30% red clover improved growth of steers and relaxed the exterior blood vessels of steers grazing toxic tall fescue. Even more significant, other studies have shown toxic fescue symptoms are alleviated by feeding mineral that contains 20% red clover. Could red clover be the 'silver bullet' for toxic fescue that we have been looking for? It sure seems like it to me.

Addition of clover to toxic tall fescue pastures has long been known to improve conception rates of cattle. It is also known that isoflavones are estrogen-like compounds (phytoestrogens) which can suppress reproduction when fed at high levels, especially in sheep. USDA-ARS scientist Dr. Brittany Harlowe has begun to study the effects of high levels of red clover on the reproductive efficiency in cattle. Her preliminary results found reproductive efficiency was not suppressed in heifers fed a mineral that contained 20% red clover compared to a non-red clover control. The heifers receiving the red clover

mineral shed their winter hair coat better and experienced less heat stress in hot, humid weather than those fed the non-red clover mineral.

Red clover improves rumen fermentation. Rumen microorganisms do some magical things, like converting forage fiber into steak. One of the things you would change about the rumen if you could is the way that the microorganisms digest forage protein. Some rumen microorganisms will excessively break down forage protein and release ammonia. Red clover suppresses some of the rumen bacteria that are especially active in degrading forage protein. This lets more forage protein flow intact from the rumen, improving animal performance.

Better than alfalfa? Alfalfa has long been known as the queen of forage crops for its ability to produce high yields and high animal performance. Red clover has some qualities that in some ways make it superior to alfalfa. Before you burn me at the stake for this bit of forage heresy, hear me out. Both of these legumes are highly digestible, but alfalfa as it matures tends to accumulate more lignin associated with plant fiber than red clover. Lignin in mature forages reduces the digestibility of the fiber. Lower lignin values in red clover give it an energy advantage. Also, when I ran the mobile forage testing lab at the University of Missouri, red clover always testing lower in fiber than comparable alfalfa bales. Comparing red clover to alfalfa may be like comparing Porsche to Ferrari since both are high performance entities. Just remember that red clover brings a lot of nutrition to the table too. With red clover you get all of these benefits plus free nitrogen from the rhizobia bacteria embedded in root nodules. Don't forget that red (and white) clover can be readily introduced into tall fescue pastures by overseeding now. This establishment method is commonly known as frost seeding because the freezing and thawing of winter creates enough seed-soil contact that clover will germinate in late spring. For more information on frost seeding clover, type 'frost seeding uky' into your internet browser or go directly to <https://grazer.ca.uky.edu/content/frost-seeding>.

More than ever, red clover needs to be part of your strategy for managing toxic tall fescue.

Happy foraging.

This article first appeared in Famer's Pride January 27 for February 3 Issue

What to do When Calves Are Born Weak

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

“Weak Calf Syndrome” is a term applied to a calf born alive but lacks vigor, is slow to stand, and may not attempt to nurse. Affected herds may also see an increase in stillborn calves. The known factors contributing to the development of weak calves include inadequate nutrition for the dam during pregnancy, difficult calving (known as “dystocia”) and infectious diseases, especially BVD virus. With excellent management, some weak calves will survive but most will die shortly after birth. Those that survive are prone to develop scours or pneumonia, grow slowly and have lower weaning weights. Although this situation is difficult to correct during calving season, identification and correction of the underlying problems will help prevent this syndrome down the road.

1. Inadequate Pre-Partum Nutrition

Nutrition for the dam is key to preparing a calf for life outside the cow. Not only does the pregnant cow's diet need to meet her own maintenance needs but, in the last 50-60 days of gestation, approximately 80% of fetal growth occurs requiring additional nutrients to support this tremendous growth and to develop the fetal brown fat needed to supply energy to the newborn until adequate colostrum is ingested. The two most important cow nutritional requirements are protein and energy, the exact amounts of each depend on stage of production, environment, and mature cow size. Research has shown that calves born to cows on inadequate diets have less vigor, less brown fat stores, less ability to warm themselves, and it takes a much longer time for them to stand after birth. Heifers and old or thin cows are more likely to have weak calves as they simply cannot compete for hay and feed and should be fed separately to allow them access to the nutrients they need.

Vitamin and trace mineral deficiencies have also been associated with weak calves. If cows are not supplemented with adequate amounts of selenium during gestation, the calf will be born with a severe selenium deficiency. This deficiency results in "white muscle disease", a condition where calves are born with weak heart and skeletal muscles and frequently die soon after birth. In addition, both vitamins A and E are vital nutrients for cows to pass to the fetus but may not be adequate in poor quality forage. Always keep a good trace mineral mix with vitamins in front of the cows or mix it in supplemental feed to ensure calves are born with sufficient amounts.

2. Dystocia (Difficult Birth)

A calf involved in a difficult birth will have decreased vigor and take longer to stand and nurse. A prolonged labor and difficult calving often results in a newborn calf with a swollen head or tongue, bruising, fractures, and excessive fluid in the trachea or lungs. Low blood oxygen in the calf ("hypoxia") from prolonged labor will also impair the function of the central nervous system (brain and spinal cord). Additionally, a calf may have broken ribs that affect its ability to breathe. An easily observed sign of a difficult birth is brown or yellow staining of the calf's hair coat from the meconium.

If a calf does not stand and nurse within one hour of birth, the calf must be fed colostrum either milked from the dam or use a commercial colostrum replacement. Colostrum should be given as soon after birth as possible, preferably within 1-2 hours, and repeated at no later than 6 hours after birth. Weak calves born during cold, wet weather with little brown fat can quickly develop hypothermia (low body temperature) and are unable to stand or nurse until warmed. A warm water bath, blow dryer, heat lamp or floorboard heat can quickly warm a cold calf. Beware of heating pads as they can cause burns.

3. Infectious Causes-Bovine Viral Diarrhea (BVD) Virus and Leptospirosis

Both the BVD virus and the spirochete *Leptospira interrogans* serovar *Hardjo* infections have been diagnosed in weak calves. If an unvaccinated or poorly vaccinated cow is infected with the BVD virus during gestation, there are no good outcomes. The calf may be born weak or born with congenital defects such as a domed head, cleft palate, cataracts and other eye defects, or the calf may be born as a PI (persistently infected) calf. The other possible infectious cause of weak calf syndrome, Leptospirosis, is not fully understood but studies are on-going to determine its importance.

If pregnant cows in the herd have been losing weight, especially in late gestation, it is best to prepare for the birth of weak calves. Several measures should be instituted immediately to save as many calves as possible:

1. Check heifers and cows in labor frequently (at least 2-3 times daily) – Although producers are accustomed to watching heifers closely for calving difficulty, this recommendation should be extended to all late gestation cows. Once the water bag or hooves appear, the calf should be born within an hour to hour and a half. If the cow is not making progress, call your veterinarian for help. If early signs of labor are observed for several hours but the water bag does not appear, the calf may be breech (tail first) or abnormally positioned. Again, call for help quickly for a better chance to have a live calf.
2. Address nutritional needs and account for increased needs during severe weather. Test your hay then evaluate the protein and energy in the ration and address any deficiencies. Body condition score the cows and heifers due to calve in the next 60 days to evaluate their needs. In addition, remember that lactating cows have the greatest need for energy because they are producing milk. If you observe a young calf frequently attempting to nurse, it is unlikely to be getting enough milk from the dam and may need milk supplementation. If possible, separate cows according to their nutritional needs and feed them accordingly. Creep feeding calves will help the older calves continue to grow and lessen the burden on the lactating dams.
3. Identify the weak calves and institute special care – Normal calves should stand within 30 minutes of delivery and nurse within 30 minutes of standing. If the calf is slow to stand and nurse, intervention is necessary. It is important to dry the calf off, dip or spray the navel with disinfectant, warm the calf, and feed colostrum with an esophageal feeder to ensure it gets enough. Have a good quality commercial colostrum replacement (NOT supplement) on hand and ready to mix and feed. Do not delay because the longer the interval from birth to feeding, the fewer antibodies absorbed into the blood stream of the calf.
4. Provide shelter during harsh winter weather – Unrolling hay on the ground where there are windbreaks or in wooded areas provides some protection during times of intense rain and cold. A shed or barn can be beneficial but remember organisms that cause calf diarrhea build up very quickly in areas that stay moist and without sunlight. Barns should be clean, dry, and well-bedded if used for calving. If cows were not vaccinated with scours vaccine prior to calving, there are products available to give the calf by mouth at birth to aid in scours prevention.
5. Do your best to feed in different spots to avoid creating areas of deep mud. Calves and weak cows will get stuck in deep mud and die. Mud is very sticky and will trap weaker animals until they die of exhaustion, hypothermia or fall prey to a predator. Fields can be fixed when winter is over.
6. Diagnose the cause of unexpected death in newborn calves. Contact your local veterinarian and submit any calves that die due to unknown causes to the UK Veterinary Diagnostic Lab or Breathitt Laboratory in Hopkinsville.

The best strategies to prevent weak calves next calving season are a solid vaccination and deworming program, proper nutritional management, and avoiding dystocia. Not only will calf survival improve but pregnancy rates will increase as well. Keep the following points in mind:

- Vaccinate open cows at least 4-6 weeks before breeding with a modified live 5-way viral respiratory vaccine (IBR, BVD Types 1 & 2, PI3, BRSV), with Vibriosis and the 5 strains of

Leptospirosis. Consult your veterinarian about vaccination protocols in pregnant cattle and testing the herd for persistent infection with BVD virus.

- Test all hay and plan to provide enough protein and energy for cows and heifers with a balanced ration based on the stage of production (lactation, mid- or late gestation). Ensure a clean, uninterrupted water supply 24 hours a day, 7 days a week.
- Maintain a body condition score of 5 for cows (up to a 6 for heifers) to ensure adequate condition at calving.
- Allow cows access to some form of shelter in case of bad weather when calving. However, if unable to keep this area clean, calves are far better off being born outside in a grassy area.
- Have enough help on hand at calving to watch cows, assist with calving and treat weak calves if necessary. A strong relationship with your local veterinarian is exceptionally important for difficult calving situations and the evaluation and treatment of weak calves.

Price Risk Management Tools for Cattle Producers

Dr. Kenny Burdine, Extension Professor, Livestock Marketing, University of Kentucky

The last few years are unlikely to be remembered fondly by many cattle producers. Large cattle supplies, a global pandemic, weather challenges, and a sharp increase in feed prices have all impacted feeder cattle values. However, 2022 has brought optimism for a significantly better cattle market. As I write this on January 21, 2022, there is more than a \$15 per cwt increase in CME© feeder cattle futures from the March contract to the August contract. In fact, every contract for August through November is trading north of \$180 per cwt. It has been some time since we have seen those types of price levels, so they have certainly caught my attention over the past few weeks. This article will briefly discuss some tools available to cattle producers should they want to protect themselves from downside price in 2022.

First, producers could consider entering a cash forward contract with a buyer looking to place feeders later in the year. The two parties could agree on a price now for cattle to be delivered at a later date and this expectation of higher prices should be reflected in the contract price. Assuming the contract is binding and enforceable, this strategy eliminates price risk. However, production risk remains a concern if cattle don't perform as expected, fail to reach the agreed upon weight, or if weather conditions necessitate earlier sale of the cattle. While forward contracts are an excellent price risk management tool, they are pretty limited in their use for cattle in Kentucky.

Hedging, through the sale of deferred futures contracts, is another way to capitalize on a strong futures market. As an example, a producer who plans to sell cattle in August, may choose to sell an August CME© Feeder Cattle futures contract now in order to have downside price protection until they sell the cattle. If feeder cattle markets decline between now and August, the producer will gain on their short futures position, which will offset some of the loss in value of the cattle they will sell. Producers who choose to implement this strategy need to be certain they have access to considerable capital for margin calls. If futures prices continue to increase, producers can lose a lot of money on short futures positions before they are able to sell their cattle on the stronger market. For this reason, it is crucial that lenders be fully aware of the plans if this strategy is used. Producers must also consider basis as the value of the cattle they sell will not perfectly match futures prices.

Options on futures contracts provide an opportunity to have some downside protection, but also keep the ability to capitalize on rising prices. For example, if the August CME© feeder cattle futures contract

were trading at \$180 per cwt, the producer might buy a put option with a strike price of \$174. The put option gives the producer the right to sell August futures at \$174, which means their option will increase in value as the market falls. They will pay a premium for this right, which becomes an additional cost. They must also self-insure the first \$6 per cwt drop in the market (the difference between the futures price and the strike price on the put). If feeder cattle prices continue to rise, the producer can benefit by selling their cattle on the stronger market and the only expense is what was paid in premium. Much like hedging through the sale of a futures contract, basis must also be considered with an option strategy as the strike price is based on the futures market.

An additional limitation of both futures based strategies (sale of futures and purchasing of options) is the 50,000 lb CME© Feeder Cattle contract size. The vast majority of Kentucky cattle producers are not large enough to utilize futures and options. Fortunately, Livestock Risk Protection (LRP) insurance provides an opportunity to purchase an insurance product very much like a put option, but that can be scaled for smaller operations. Additionally, the subsidy on LRP has been increased substantially over the last couple of years, which makes it much more attractive from a premium perspective.

LRP is an insurance product that pays an indemnity if the CME© Feeder Cattle Index is below a selected coverage level on the ending date of the insurance policy. The CME© Feeder Cattle Index is used to cash settle open CME© Feeder Cattle contracts at expiration, so this insurance product is very similar to a put option. Consider the option example from before for a producer that planned to sell 800 lb feeder steers in August. Rather than purchasing an August put, that producer could instead purchase LRP insurance with a coverage level of \$174 per cwt and an ending date sometime during the month of August. If the CME© Feeder Cattle Index was below \$174 on the ending date of the policy, they would be indemnified for the difference on every lb they covered. They must still self-insure the decrease until the index reaches \$174 and they must also understand basis – the policy is indemnified based on the CME© Feeder Cattle Index, rather than what they sell their cattle for.

The table below provides a quick comparison of some of the key features of the strategies discussed. Forward contracts are the only strategy described that do not involve basis risk, as an actual price for the cattle can be agreed upon. Potential margin calls are an important consideration for producers that choose to use short futures positions. Put options and LRP insurance both have the advantage of leaving potential for upside price gains, although the downside protection is not as solid as with forward contracts or short futures. Finally, LRP insurance offers the best opportunity to scale price protection to smaller quantities. While forward contracts could be written in any size, they tend to be more available for larger volumes.

Risk management strategies are very much dependent on the risk preferences and financial situation of the individual. The purpose of this article was largely to point out what is being offered by the market and review some price risk management strategies that are available. While these markets certainly have the potential to go higher, it is very likely that attractive pricing opportunities will be available for producers looking to establish some downside price risk protection this year. Price risk management is not about trying to cherry-pick market highs as it is sometimes presented. It is about strategically managing downside price risk and should be part of every producer's marketing plan.

Quick Comparison of Feeder Cattle Price Risk Management Tools

	Subject to Margin Call	Leaves Upside Potential	Subject to Basis Risk	Available in Small Scale
Cash Forward Contract				✓ -
Short Futures	✓		✓	
Put Option		✓	✓	
LRP Insurance		✓	✓	✓