OFF THE HOOF

Martin-Gatton College of Agriculture, Food and Environment

Cooperative Extension Service
University of Kentucky
Beef IRM Team

KENTUCKY BEEF CATTLE NEWSLETTER NOVEMBER 1, 2024

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

- If you need to replace cows, consider buying bred heifers in some of the Kentucky Certified Replacement Heifer sales that are being held across the state this month.
- Extend grazing for as long as possible to decrease the amount of stored feed needed. The drought is making this difficult for most of the state in 2024.
- Evaluate body condition of cows. Sort thin (less than body condition score 5) cows away from the cow herd and feed to improve their condition. Two and three-year olds may need extra attention now. These cattle can use the extra feed/nutrients.
- Dry cows in good condition can utilize crop residues and lower quality hay now (but don't let them lose any more body condition). Save higher quality feed until calving time. Keep a good mineral supplement with vitamin A available.
- Contact your herd veterinarian to determine pregnancy in your cows if you have not already done so. Pregnancy can also be determined using blood sampling. Several diagnostic labs will analyze blood samples for pregnancy and a chute-side test is on the market. Culling decisions should be made prior to winter feeding for best use of feed resources. Consider open, poor-producing, and aged cows as candidates for culling.
- A postweaning feeding period will allow you to put rapid, economical gains on weaned calves, keep them through the fall "runs" and allow you to participate in Kentucky CPH-45 sales. Consider this health and marketing program which is designed for producers which are doing a good job of producing high quality feeder calves.
- Replacement heifers require attention during the winter, too. Weaned heifer calves should gain at an adequate rate to attain their "target" breeding weight (2/3 of their mature weight) by May 1.

Fall-calving herd

- Continue to watch fall-calving cows. Catch up on processing of calves including identification, castration, and vaccinations.
- Cows that have calved need to go to the best pastures now! Help them maintain body condition prior to breeding in December.
- Move cows to accumulated pasture or increase feed now. If at all possible, try to get animals vaccinated 60 days or longer before the breeding season.
- Start the breeding season in late November or early December for calving to begin in September. If

you are using AI and/or estrus synchronization, get your supplies together now and schedule your technician.
- Make final selection of replacement heifers now.
- Don't forget to contact your herd veterinarian to schedule a breeding soundness exam (BSE) for your bulls. All herd sires need a BSE at least 30 days before the onset of the breeding season. A BSE can be useful insurance that your bull has the physical ability to breed cows. Even though BSE's aren't perfect, they are the best tool we have to identify infertile bulls.

General

- Have your hay supply analyzed for nutritive quality and estimate the amount of supplementation needed. Consider purchasing feed now.
- Take soil tests and make fertility adjustments (phosphate, potash, and lime) to your pastures.
- This is a good time to freeze-brand bred yearling heifers and additions to the breeding herd.
- Graze alfalfa this month after a "freeze-down" (24 degrees for a few hours).
- Don't waste your feed resources. Avoid excessive mud in the feeding area. Hay feeding areas can be constructed by putting rock on geotextile fabric. Feed those large round bales in hay "rings" to avoid waste. Concrete feeding pads could be in your long-range plans.
- Consider bale grazing to decrease damage to your pastures and to more evenly distribute nutrients across your pastures.

Coping with Low Precipitation

Dr. Jeff Lehmkuhler, University of Kentucky, Extension Professor

As the fall continues to provide us with extremely dry conditions, fall growth of forages will be limited this year. Cow-calf producers should be developing a drought plan as we move through the fall and winter. Below are a few tips to consider when navigating these dry fall conditions.
Things to consider during these dry conditions include:

1) Monitor body condition and record – Be sure to record body condition scores of cattle and monitor condition every month. Excessive losses in body stores reflect insufficient nutrient intake and should be corrected. Excessive body tissue loss can reduce milk production, lengthen anestrus and reduce herd productivity.
2) Feed hay early – Total dry matter intake is negatively impacted when forage availability is limiting. Providing stored forages such as hay early in the fall when pastures are not growing from lack of precipitation will help reduce body condition loss.
3) Cull – As market prices remain strong, now may be a time to consider culling opens, cows with structural issues, cows at the bottom of list production-wise, or those with poor disposition.
4) Early-wean – Lactation increases nutrient needs of cows significantly. Weaning calves can be done with confidence as early as 90 days with success but waiting until calves are 120 days will reduce post-weaning management needs. Weaning will lower the nutrient demand for cows and aid in maintaining body condition.
5) Substitute forage with grain – Using low-starch, highly digestible fibrous coproduct feedstuffs such as soybean hulls, wheat middlings, beet pulp and others can be used as means to increase energy intake. When providing coproduct or grain supplements, forage intake is not reduced on a 1:1 ratio. The actual forage intake may only be decreased by about 0.5 lb of dry matter for each pound of supplement dry matter offered.
6) Consider feeding an ionophore – Research has shown providing beef cows with 200 milligrams of an ionophore such as monensin reduces gaseous energy losses associated with rumen fermentation. Research from Kentucky found that feeding an ionophore to beef cows maintained similar body condition and weights when cows were offered 15% less hay compared to cows that were not provided monensin. Ionophores must be mixed in with at least 1 pound of grain for beef

cows but can be offered free choice in mineral mixtures or tubs to feeders and replacement heifers.

7) Have municipal water as a back-up – As limited precipitation continues to linger, ponds, streams, creeks, and springs dry up. Cows need 10-20 gallons of water daily. Limiting water intake will result in reduced dry matter intake and production. Having a waterer that is connected to a municipal water supply will ensure that cattle will have access to clean water. Don't forget to ensure the water supply is turned on, tank floats are working, and the tanks have been cleaned.
8) Consider creep for fall-born calves – Nursing calves will have a fully functional rumen around 6-10 weeks of age. Reduced forage availability and quality will reduce milk production by the dam, but also limit nutrient intake of the calves. Limited forage nutrient intake and reduced milk consumption will reduce weaning weights and prevent calves from meeting their genetic potential for gain. Creep feeding can provide access to additional feed and increase the nutritional plane of calves. Creep feeding may be in the form of higher quality forages or grain supplementation.
9) Control internal parasites – Young cattle are most susceptible to internal parasites. Work with your veterinarian to monitor fecal egg counts and develop a protocol to control internal parasites in cattle.
10) Liquidate – In the event that forage and/or water resources are not available, the best option may be to sell the herd. Starving cattle is unacceptable and not an option. As an owner of livestock, it is your responsibility to ensure cattle are provided access to forage and water. Selling cattle during a high market and waiting for to buy back when prices fall can be a viable option.

I am hoping that we receive some much-needed precipitation before frost to improve pasture conditions. However, the shortened day lengths and lingering frost will limit forage production. Develop your plans and be ready to act rather than hoping for rain next week.

Rethinking High-Risk Stocker Calf Management

Dr. Michelle Arnold – DVM, MPH UK Ruminant Extension Veterinarian

Bovine Respiratory Disease ("BRD") or "shipping fever", also known as bronchopneumonia, continues to be the most common cause of illness and death in postweaned (stocker) calves despite significant improvements in the vaccines and antibiotics available today. Traditionally, disease prevention through vaccination was thought to be the answer to improving stocker health outcomes but the current vaccination recommendations are not meeting the challenge as morbidity and mortality rates continue to rise. There is an increasing amount of research focusing on the importance of the normal, healthy "microbiota" (bacterial population) in the upper respiratory tract to maintain calf health and improve immunity. This normal microbial population modulates, or controls, host immune defenses through several mechanisms including 1) competition with the pathogenic organisms (the bad bugs) for nutrients, 2) through production of compounds toxic to the pathogens, 3) through recruitment of white blood cells to defend the lung tissue, and 4) by stimulating antibody production, specifically IgA, to protect the mucosal surface of the respiratory tract. However, cattle diagnosed with BRD have a significantly disrupted microbiota that instead allows pathogenic bacteria to flourish. Examining ways to preserve the normal microbiota while stimulating the immune system is the new frontier currently under exploration to reduce sickness, death loss and antimicrobial use, especially in the stocker calf sector. Is it time to limit the management procedures and treatments that have a profound influence on the respiratory microbiota to better the health of high-risk stocker calves? The stocker industry is vital to the economic success of cow/calf operations in KY. Calves marketed off the farm through the sale barn are generally in no way, shape, or form ready to enter feed lots to be fed to slaughter weight. These calves often arrive to the yards in small groups, sometimes 10 or fewer calves, that were weaned on the trailer on the way to the sale. Many calves are lightweight (<400#) and in poor nutritional and trace mineral status, unvaccinated, males are intact bulls, and a portion of the heifer calves are pregnant. On arrival at the yards, the calves are commingled with calves from multiple sources, most with unknown vaccination and deworming history, then are weighed, sold and eventually transported to a stocker or backgrounder

operation. Either before leaving the yards or on arrival at the stocker facility, calves are administered a modified-live (MLV) respiratory vaccine, a blackleg vaccine, dewormed, and implanted. Additionally, calves commonly receive a long-acting antibiotic to prevent bronchopneumonia, a practice known as "metaphylaxis". The time it takes to move through this critical transition period, from when the calf leaves the farm of origin to arrival at the stocker/backgrounder operation, can vary greatly depending on how long they stand at the yards before *and after* the sale and the distances they are transported. The longer calves stand without rest and with limited access to feed and clean water, the more likely they will arrive at their new facility dehydrated and in a negative energy balance. These stocker procurement decisions to buy unweaned, unvaccinated, intact calves at the sale and then add stress through weaning, transport, commingling and diet change, administration of MLV vaccines and metaphylaxis, profoundly change the normal respiratory microbiota (Figure 1) and set the stage perfectly for shipping fever pneumonia.

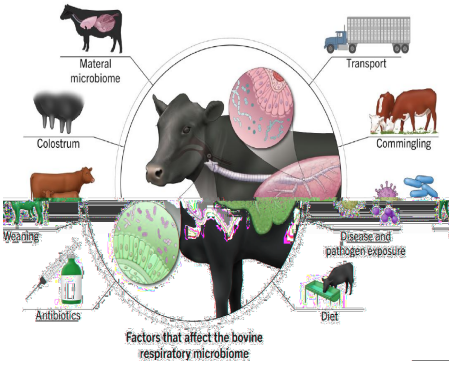

Figure 1: Photo from "High-Risk Cattle Management and Stocker Calf Health", by Brent Credille, DVM, PhD. (Veterinary Clinics of North America, Food Animal Practice vol 38 (2022) page 235).

We have known for a long time that "stress" weakens the calf immune system, allowing viruses to invade and compromise lung defenses, enabling bacterial pathogens to reach areas deep within the lungs and initiate bronchopneumonia. Stress also negatively affects vaccine effectiveness in the field. But is all stress the same? "Acute" or short-term stress that lasts 24 hours or less affects the immune system differently than chronic stress that may last for days up to weeks. A good example of acute stress is vaccinating calves prior to weaning as part of a preconditioning program. Calves experience a short-term stress from being worked through the chute and given the MLV vaccine, but the immune system responds as it should to the challenge and there is adequate time for protection to develop prior to weaning. Chronically stressed calves, on the other hand, administered MLV vaccine have too much immune system suppression from cortisol (the stress-induced hormone), that can result in replication and nasal shedding of vaccine virus, more symptoms of BRD and more antibiotic treatment. Killed respiratory virus vaccines do not have enough antigens to stimulate a timely protective response in stressed calves. So, what is the answer to prevent disease if vaccines cannot do it alone?

To maintain health, the focus should shift towards preservation of beneficial microbiota during the critical transition from the home farm to the stocker operation through stress reduction, nutritional management, strategic vaccine use, and limiting antibiotic therapy to only the individuals that need treatment. Stress reduction and nutritional management at the cow-calf level may be in the form of preconditioning programs that require pre-weaning vaccinations, castrations, weaning, then feeding on the farm for a 45-60 day period to prepare them for sale. At the yards, stress reduction may include allowing calves access to good grass hay and clean water while at the facility, periodically wetting the ground if dust is an issue, not overcrowding pens, regularly cleaning pens and alleyways, and facilitating quick and easy loadout after calves are sold. Strategic vaccine use may be delaying the 5-way modified live respiratory vaccination up to 21-30 days post-arrival at the stocker facility to give high-risk cattle the opportunity to overcome stress-induced immune dysfunction. The impact of chronic stress, dehydration, and lack of energy experienced on arrival at stocker operations has a known, profoundly negative effect on immune function, vaccine effectiveness, and overall health. Similarly, metaphylaxis (administering long-acting antibiotics to calves upon arrival at the stocker facility) disrupts the beneficial bacteria in the upper respiratory tract, resulting in greater colonization of the lungs by bacterial pathogens, namely *Mannheimia haemo*lytica, *Pasteurella multocida*, *Histophilus somni*, and *Mycoplasma bo*vis, as well as increasing resistance in those bad bugs to antibiotic therapy. Limiting treatment to calves showing signs of BRD (depression, off-feed, fever > 104 degrees, increased respiratory rate) will preserve the efficacy of antibiotics when they are truly needed for survival.

The importance of the stocker/backgrounder sector to the vitality of the KY cow/calf industry cannot be overstated. These operations provide western feedlots a year-round, steady supply of calves ready to be fed to slaughter weight. Acknowledging the importance of preserving the normal microbiota through stress reduction, better nutritional management, strategic vaccine use, and limited antibiotic use throughout the transition from farm to stocker facility could significantly reduce sickness, death loss and antimicrobial use in KY calves. Talk with your veterinarian about where your operation fits in the beef cattle production system and how you can contribute to calf health and productivity.

Changes to CAIP Beef Bull Cost-share Program

Dr. Darrh Bullock, University of Kentucky, Extension Professor

Significant changes to the CAIP Beef Bull Cost-share program have been approved for 2025. Both Kentucky and Tennessee have similar programs but have traditionally had different Expected Progeny Differences (EPD) requirements. The guidelines committees of the two states met and came to consensus on a set of guidelines that are now uniform across the state line. Some of the major changes are highlighted in this article, however, pay close attention to the full requirements before purchasing a bull for cost-share funding.

- The number of bull categories has been reduced to 3; Balanced Trait/Maternal, Terminal Sire and Carcass Merit. There is no longer a Heifer Acceptable category, however, recommended minimal Calving Ease Direct or Birth Weight EPDs are provided for those that plan to breed the bull to heifers.
- There are only EPD requirements for CED/BW and Growth traits OR CED/BW and an appropriate Economic Selection Index value depending on the breed. The is no longer a milk requirement for Balanced Trait/Maternal, however a range is recommended for producers to consider staying within. There are also recommendations for maximum Mature Weight EPDs and minimum Docility EPDs.
- The formatting has changed. Instead of all breeds' requirements being listed in a table for each bull category, they are now listed by breed with the requirements and recommendations for each category.
- All bulls will still be required to be genomically tested and have Genomically Enhanced EPDs! Contact your breed association for more information on how to accomplish this.

These new requirements will be implemented starting January 1, 2025. Please bear with us as we make this transition, we will try to work through any issues that arise. In the long run this will simplify bull purchases across the KY/TN state line and will improve the program overall.

Observations from 25 Years of West Kentucky Select Bred Heifer Sales

Kevin Laurent, Extension Specialist, Department of Animal and Food Sciences, University of Kentucky

The West Kentucky Select Bred Heifer Sale will be celebrating its 25th Anniversary Sale on November 23 at KY-TN Livestock in Guthrie, KY. To commemorate this milestone, I thought it would be appropriate to share a few observations and a little history of the sale. First the history.

Back in the late 1990's when Dr. Roy Burris gave me the charge of starting a bred heifer sale in Western Kentucky, I knew this could be quite a challenge. Several attempts had been made to start commercial bred heifer sales on our end of the state and none had gained any traction. We sought advice and input from several sources. One being Glen Mackie, County Agent from Bourbon County who at the time was working with the well-established Elite Heifer Sale at Paris and his input was invaluable. As we began to plan the sale, Dr. Burris was of the opinion if we could just find the right consignors who not only had quality cattle, but most importantly were committed to buyer satisfaction and long-term success of the program, we could make this work. Enter Paul Beauchamp and Ova Alexander. Beauchamp & Alexander were well-respected Beefmaster and Angus breeders from Breckinridge County and had a

long history and relationship with Dr. Burris and UK Extension. Paul and Ova took a leap of faith and were the major consignor that first year. That first sale held in November of 2000 sold 112 head for an average price of $968. The following year, Mr. John Bartee, County Agent in Montgomery County, Tennessee brought in another key consignor from "south of the border" in Sammy Bryant of Bryant Brothers Farm, Adams TN. Both of these consignors became vital fixtures in the sale and over the years have served as examples of producers who are committed to quality cattle and customer satisfaction. The final piece of the puzzle that helped establish the sale was the unwavering support of Mark Barnett and KY-TN Livestock Market. With any special sale, whether it be feeder cattle or bred heifers, if the stockyard is not behind the effort, it will not survive. From the very beginning and through the years I never had to question the support from the Barnett family and KY-TN Livestock.

A lot has changed over the last 25 years from those humble beginnings. In 2006 a spring sale was added for fall calving heifers, and since 2000, there have been 43 sales, and 8183 heifers sold. Some of our management requirements have also been changed or tweaked to keep up with current technology. We went from using Birth Weight EPDs to Calving Ease Direct (CED) EPDs to genomically enhanced EPDs for our service sires which resulted in higher accuracy and less change in the CED numbers. We began testing for PI-BVD. We implemented a mineral requirement for better immune response to vaccines and added a Lepto booster prior to sale. And somewhere in the future we may add some form of genomic testing of the heifers.

Since the beginning, our consignors have been the backbone of the sale. They have always embraced recommended changes to make the sale and the heifers better and their commitment to customer satisfaction has been second to none. But obviously no sale can be successful without the support of the buyers. What is most satisfying is seeing the number of repeat buyers in the seats at every sale. Over the years, what the buyers put priority on has in some ways remained consistent but, in some ways, has changed a bit. High quality, docile, early bred, heifers will always be in demand. What seems to be changing, however, is more buyers are wanting to know more about the background and breed makeup of the heifers. Crossbred heifers with known breed compositions seem to be in more demand. I crunched a few numbers to see if this could be born out in real dollars from past sales. The table provided shows data from the 23 sales held since 2013. The first line of the table is data from 11 sales beginning in May of 2013. The second line includes data from the more recent 12 sales from November 2018 through November of 2024.

Table 1: Price Comparisons of High Percentage Angus vs. Crossbred Heifers (2013-2024)

	No. Head	Overall Average	High % Angus Price	Crossbred Price	Difference Cross vs Angus	F-1 Cross vs Sale Avg	AI Bred (all breeds) vs Sale Avg
2013-2018	2138	$2171	$2149	$2211	$62	$178	$62
2018-2024	2439	$1998	$1958	$2058	$100	$294	$101

These numbers seem to support the notion that buyers are placing more emphasis on crossbred replacements. If this is the case, this is good news since having a crossbred female with maternal heterosis is one of the most profitable breeding strategies cow calf producers can implement. Additionally, it seems the value of an F-1 female (a female with 100% maternal heterosis) is starting to be more readily understood and appreciated as well by heifer buyers.

Realize when looking at raw data and averages such as these, that there may be confounding factors affecting the numbers. Consignor reputation, overall appearance and quality, disposition in the sale ring, along with a multitude of factors could be affecting price. So, it can be hard to definitively determine the effect of one trait or management practice on price.

I do know looking back on 25 years of heifer sales, the success of the program has a human or people element that can't be quantified. Many folks have had a role in the continued success of this sale, from

the consignors and buyers to the extension and stockyard personnel. I only have to think back of the days riding through the Tennessee countryside with Mr. Bartee screening heifers and watching his example on how he encouraged and related to producers, to remind myself that having a successful heifer sale, like most extension programs, is more about people and relationships than just the dollars and cents. Here's to 25 more years.

Beef Cattle Management Webinar Series Resumes

Dr. Darrh Bullock, University of Kentucky, Extension Professor

The Beef Cattle Management Webinar Series, formerly known as Reaching Out While Locked In (ROWLI), will resume November 12th and continue the second Tuesday of each month until April 8th. We have an exciting agenda that includes many of the UK Specialists, as well as some nationally recognized experts. The schedule for the series is:
November 12, 2024 – **Shooting the Bull: Answering all your Beef Related Questions!** – Updates and Roundtable discussion with UK Specialists

December 10, 2024 – **Winter Feeding Strategies to Extend Short Hay Supplies –** Lawton Stewart, Professor, University of Georgia

January 14, 2025 – **Important Traits for Bull Selection in Kentucky –** Matt Spangler, Professor, University of Nebraska

February 11, 2025 – **Marketing Opportunities for the Spring –** Kenny Burdine, Professor, and Kevin Laurent, Extension Specialist, University of Kentucky

March 11, 2025 – **Preparing for a Successful Spring Breeding Season –** Les Anderson, Extension Professor, University of Kentucky

April 8, 2025 – **Health Update and Internal Parasite Field Study Results –** Michelle Arnold, Extension Veterinarian, and Jeff Lehmkuhler, Extension Professor, University of Kentucky

If you have registered in the past, you do not need to re-register! If you have never received a Zoom invitation for the series, then please register: send an email to dbullock@uky.edu with the subject of Beef Webinar Series and your name and county in the message. The Zoom invitation will come via email the morning of each presentation. You will continue to get invitations until you send me a request to be removed from the list.

Are Growth Promoting Technologies Becoming a Lost Art for the Cow-calf Sector?

Dr. Katie VanValin, Assistant Extension Professor, University of Kentucky

Growth promoting technologies, when used correctly, are valuable tools that improve efficiency and increase weight gain in growing cattle. In the cow-calf sector, these include ionophores and implants. Although "technology" often implies new, these tools have been in the beef industry for decades. Yet, adoption seems to be stagnant or even declining – why?

Ionophores

Ionophores are antimicrobial feed additives, including monensin (Rumensin®), lasolicid (Bovatec®), and laidomycin propionate (CATTLYST®). While ionophores antibiotic-like, they are not considered medically important for humans, so they do not require a veterinary feed directive (VFD) his means ionophores do not fall under the veterinary feed directive (VFD) and can be purchased without a prescription. However, as they are classified as a medication, they must be bought premixed from a feed dealer.

The rumen hosts a multitude of microorganisms that digest feed and produce volatile fatty acids (VFAs), which the animal uses for energy. Acetate is the most common VFA, but propionate is more energetically efficient. Feeding ionophores shifts production towards propionate, leading to increased average daily gains, improved feed efficiency, and reduced methane production! Ionophores also help prevent bloat, acidosis, and coccidiosis! It is no surprise that ~90% of cattle on feed in the United States consume ionophores.

While ionophores are typically used for growing cattle, they can benefit replacement heifers and cows by decreasing the age of puberty, and shortening the post-partum interval, thus benefiting reproductive performance.

Ionophores can be mixed into feed, and there are also some pre-mixed products like free-choice minerals and tubs. Always read and follow all label directions, as toxicity can occur when feeding at high levels. Horses are particularly sensitive to ionophores, so avoid accidental feeding.

Implants

Implants are small pellets containing hormones, that are inserted into the back of the ear. Over time the implant is absorbed and utilized to increase the secretion of growth hormone, promote protein synthesis, and decrease protein degradation, resulting in increased average daily gain. Implants have been around for decades and are arguably one of the most consistent practices we have in all of agriculture. Suckling calves implanted at around 90 days old often have weaning weights 10-20+ lbs higher compared to non-implanted calves.

However, a recent survey of Kentucky beef producers noted that only 21% implant their calves. This means potential revenue is left on the table. My rule of thumb is that unless we receive a premium that covers the money we are leaving on the table, we should absolutely be implanting calves.

Implanting is quick, taking less than 1 minute. With calves at $2.70/lb. and an added 20 lbs. from implanting, a 500 lb. calf is worth$1,350 vs. a 520 lb. calf $1,404. The cost of calf-hood implants is less than $2.00 per head. For a 30 head heard, an extra half hour of work yields an additional $1,600.

Implanting suckling steer calves can also lead to similar gains as an intact bull calf, allowing for early castration without growth and avoiding discounts from the sale of bulls. Research shows that early castration is less stressful vs. castration at or after weaning. Implants are an effective strategy to capture growth, but also reduce stress on the animal.

For heifers, timing is key. Some research shows that implants negatively impact fertility, depending on when they are administered. The general recommendation is not to implant replacement heifers; however, heifers marketed as feeders can and do benefit from implants.

Be mindful of the implants pay our period- or the time it is effective. To get the full benefit be sure that implants are administered far enough in advance to capture the full pay our period. For example, is an implant has a payout period of 100 days, implant at least 100 days prior to marketing.

If ionophores and implants are not part of your management, consider how they could benefit your operation. If you are not using ionophores or implants as part of your management strategy. Regardless of market conditions, these technologies are safe, proven, and effective ways to increase revenue in the cow-calf sector. For questions on ionophores or implants, reach out to your local extension office.