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Beef IRM Team

OFF THE HOOF

KENTUCKY BEEF CATTLE NEWSLETTER FEBRUARY 1, 2021

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Contents

This month's newsletter includes:

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 which 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 eartag 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. Supplementation may have a beneficial effect on date and rate of conception. It's 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 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 degree drop below 15 degrees, add three pounds of hay, two pounds of corn, or six pounds of silage to their rations.
- Provide water at all times. 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 now.
- 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

Beef Minutes	Nutrient Composition of Corn Silage – VanValin
Beef Bits Podcast	Episode . Get Your Hay Here with Dr. Lehmkuhler and Brandon Sears, ANR Agent Madison County

To access this and other excellent beef educational content, visit our Facebook Page (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).

Reaching Out While Locked In Resumes in February

Darrh Bullock, Extension Professor, University of Kentucky

The UK Beef Webinar Series ***Reaching Out While Locked In*** will resume in February and continue through May of 2021. The sessions will be the first and third Tuesday of each month and will start at 8:00pm Eastern/7:00pm Central. We do not have all of the titles and speakers locked down yet, but we are planning sessions on preparing for the calving season, targeted feeding, reproductive management, weed management, forage management, economic outlook and a special Shooting the Bull session with the Beef Extension Team to address your questions and discuss current challenges and opportunities. More information will follow in January, but we wanted to give you the opportunity to hold the dates. As always, if you know of anyone that would benefit from these educational programs have them send their name and county to dbullock@uky.edu with the subject Beef Webinar or you can send me their information along with their email address.

Also, included at the end of this newsletter is a list of links for all the past sessions that we were able to get posted on YouTube; if you missed any, this should keep your busy through January! Feel free to send this information to anyone that you think may be interested.

We look forward to seeing you all in the new year and wish you all the best over the holiday season. Stay safe and enjoy your families whether close or from a distance.

Looking Back at the Big Picture - 2021 Mid-South Stocker Conference

Jeff Lehmkuhler, PhD, PAS, Associate Extension Professor, University of Kentucky

The Mid-South Stocker conference planning committee has opted to host the 2021 Mid-South Stocker Conference virtually. This year's theme is "Looking at the Big Picture – How the Parts Fit Together in your System". The program will take place on February 23 and begin at 12:30 pm EST/11:30 CST. Due to the program being held online, the event has been shortened and will convene at 2:30 pm EST/1:30 CST.

The Mid-South Stocker Conference, though shortened in length, continues to provide some excellent insight for background and stocker operation managers. Dr. John Groves, DVM with Livestock Veterinary Service in Eldon, Missouri, will share a system approach to maintaining health in high-risk calves. This discussion will be of great interest to many of our backgrounders in the region. Virtual tours of Kentucky and Tennessee operations will continue to be a part of this year's conference as they provide a great learning opportunity. Lastly, given the uncertainty in the markets, Dr. Chris Prevatt, Livestock Economist from the University of Florida, will join us again. He will share information on implementing economic risk management tools for feeder cattle. The program is focused on providing fundamental management information. The planning committee is waiving registration costs this year making the program free for those interested.

To register for the online event visit https://midsouthstockerconference.utk.edu/ and follow the links to register. Industry sponsors are welcome as well and sponsorship details can be found at the above website.

We look forward to hosting you this year virtually for the Mid-South Stocker Conference on February 23, 2021. Be sure to register and mark your calendars.

What Does the Increased Grain Prices Mean for Backgrounders?

Jeff Lehmkuhler, PhD, PAS, Associate Extension Professor, University of Kentucky

This time of year, we receive several questions regarding supplementing cows and calves. Often, I must ask what feeds are available and prices as this is rarely included in the original request. I see a wide range in feed prices when this information comes back. However, one thing is certain, feed prices are higher in 2021. What impact will this have on the backgrounding segment?

The backgrounding and stocker enterprises are tight margin industries. By margin, we are referring to the difference in the value of a feeder calf at marketing and the price paid at purchase. If an 800-pound feeder is expected to bring $1,050 and was purchased for $750, the margin would be $300 to cover all costs and hopefully leave a bit of profit. If feed costs increase and all other factors remain the same, then the margin is decreased. To compensate, buyers will have to pay less for feeders if the projected sell price does not march up with the feed costs. Let's compare two scenarios where feed cost is $180/ton versus $280/ton. I'll use a model that includes typical enterprise budget information. I am leaving labor out, though one should value their time. Many enterprise budget tools are available, and you should find one that you like and enter your own values

Additional inputs are necessary and include days owned or fed. Purchase date and expected marketing date to look at the feeder cattle contract closest to your marketing day along with the basis. The diet or ration to be fed and cost is a critical part of this example. We know our feed cost will be either $180 or $280/ton. Animal performance can be assumed to estimate a market date if you are selling based on a pre-determined weight. For instance, many managers call saying they are buying 5 weights to sell at 800. I am using the April feeder contract price of $144 (as of 1/27) with no basis in this example.

The intent of pulling all this information together is to help one determine breakeven prices and at what point after purchasing is breakeven reached. Consider that the first days you own the calf and the costs accrued. The calf lost weight from when it sold to when it arrived at your farm, you have processing

costs, trucking expenses, buyer commission fees, and other expenses. You have to recover this investment with pounds added.

Early in my career I was visiting with Mr. Riechers, a knowledgeable farmer-feeder, discussing closeouts and breakevens. Twenty years later, I still vividly recall our conversation and Mr. Riechers telling me sternly that he does nothing to breakeven. He was trying to drive home the point that a profit margin should be included in your budgeting process. Last year, one of our stocker conference speakers discussed how he tries to realize a set daily profit on the cattle managed. In these examples, I have included a fixed $0.20/d profit "cost".

Running through the model with feed set at $180/ton, the breakeven matches the feeder cattle contract price of $144 after about 70 days on feed. Assuming the calves are held for the projected 90 days, the breakeven drops to $141. Accumulated feed costs are projected to be roughly $148 versus $230 for the 90 days. The increased feed cost equates to an $82 difference or a daily feed increase of roughly $0.90/d. The 55% feed price jump follows directly through as all other factors are assumed to remain the same.

The intent of my ramblings is to have you consider the impact of the current feed prices on your feed cost of gains. This year increased international demand for crops are anticipated with these export opportunities being supportive of increased grain commodity prices. Take the time to sharpen your pencil and see what the breakeven may need to be for calves. Feed costs could represent 70-80% of the variable costs in your backgrounding operation this year. An $80 added production cost would mean the price offered for a 550-pound feeder would be $13-14/cwt less keeping the sell price fixed in this example. Looking at the current market report averages for the state, 500- to 550-pound steer calves fell from $153 to $140 in a week. Do you think someone is figuring the breakevens or just coincidence?

Stay on top of the market conditions, feed costs and think outside the box. Find the opportunities when they present themselves for a profit, even if small. Consider options to reduce feed costs. Is this a year to consider corn silage if you haven't previously? Is this a year to consider a slower daily gain, longer days on feed backgrounding program? Will the market reward you for enrolling calves in certified programs, natural, NHTC or others? Stay warm and dry as we enter the heart of winter and contemplate what you can do a bit different to find an opportunity.

Frost Seeding Clover: Ready, Set, Go!

Chris Teutsch, Associate Extension Professor, Forage Specialist, University of Kentucky

Legumes like red and white clover are essential parts of sustainable grassland ecosystems. They capture nitrogen from the air and convert it into a plant available form, increase forage quality, and help to manage tall fescue toxicosis. We have always thought that the positive impact of clover in pastures on tall fescue toxicosis has simply been a dilution effect, but new research from the USDA's Forage Animal Production Unit in Lexington shows that red clover contains compounds that reverses the vasoconstriction that is caused by the ergot alkaloids in toxic tall fescue. Since red clover is a short-lived perennial, it

needs to be reintroduced into pastures ever 2-3 years. The most efficient way to accomplish this is by frost seeding in late winter. The following tips will help you get off to a good start!

Tips for Getting Clover into Pastures

- *Control broadleaf weeds*. Ideally, broadleaf weeds should be controlled prior to seeding legumes. This is best accomplished by controlling weeds the season prior to renovation.
- *Soil test and adjust fertility*. In order for clover and other improved legumes to persist and thrive in pastures, we must create an environment conducive for their growth. This starts with soil fertility. Prior to frost seeding clover, lime and fertilize pastures according to recent soil test results.
- *Suppress sod and decrease residue*. The existing sod must be suppressed and plant residue reduced prior to seeding. The reduction in plat residue allows seed to reach the soil surface where it can be incorporated by freezing and thawing events. Sod suppression and residue reduction is best accomplished by hard grazing in late fall and early winter.
- *Ensure good soil-seed contact*. Good soil-seed contact is required for seed germination and emergence. In frost seedings, this occurs when freezing and thawing cycles form cracks in the soil surface, often referred to as a honeycomb (Figure 1).
- *Seed on Proper Date*. Frost seeding is best accomplished in late winter or very early spring (February and early March). Frost seeding is accomplished by simply broadcasting the seed on the soil surface and allowing the freezing and thawing cycles to incorporate the seed into the soil. Success with frost seeding can be enhanced by dragging your pasture as or immediately after or as you broadcast the seed.
- *Use High-Quality Seed and Adapted Varieties*. Choose clover varieties that have been tested in Kentucky. The University of Kentucky has one of the most extensive variety testing programs in the country. The 2018 variety testing results can be found on the UK Forage Extension website or by visiting your local extension office. Using the 2020 Long-Term Summary of Kentucky Forage Variety Trials, choose varieties that have performed above average (>100%) for multiple site-years. This indicates that they are well adapted to conditions found in Kentucky. Use either certified or proprietary seed to ensure high germination, seed genetics, and low noxious weed content. Do NOT use VNS or Variety Not Stated seed since there is no way to tell how it will perform in Kentucky.
- In Kentucky, a good mixture for renovating pastures with is 6-8 lb/A of red clover, 1-2 lb/A of ladino or grazing white clover. On rented farms or where soil fertility is marginal, adding 10-15 lb/A of annual lespedeza can be beneficial. Annual lespedeza is a warm-season annual legume that was used extensively 50 years ago, before producers had ready access to lime and fertilizer. In general, cool-season legumes (red and white clover) will be more productive under good growing condition.
- *Use correct seeding rate.* Make sure to maintain and calibrate your seeding equipment prior to planting (see video on KYForages YouTube Channel on seeder calibration). Seeding at too high of a rate needlessly results in higher seed costs. On the other hand, seeding at too low a rate results in weak stands and lower productivity.
- *Inoculate Legume Seed*. Most improved clover seed comes with a clay-based coating that contains inoculant. Make sure that the seed is fresh and has not been stored under adverse conditions. If the seed is not pre-inoculated, inoculate it with the proper strain of nitrogen fixing bacteria prior to seeding. This is relatively inexpensive insurance that legume roots will be well nodulated and efficient nitrogen fixation will take place.
- *Control Seeding Depth*. Small seeded forages should never be placed deeper than ½ inch. If using a drill always check seeding depth since it will vary with seedbed condition and soil moisture status.

Placing small seeded forages too deep will universally result in stand failures. Since frost seeding broadcasts the seed on top of the soil, this problem is minimized.

- *Check seed distribution pattern*. When using a spinner type spreader/seeder make sure and check you spreading pattern. In many cases small seeded forages are not thrown as far as you think. This can result is strips of clover in your pastures rather than a uniform stand. Also check your seed distribution pattern. Single disk spinners often throw more seed to one side if not correctly adjusted.
- *Control Post-Seeding Competition*. Not controlling post-seeding competition is one of the most common causes of stand failures. One the best management practices is to leave cattle on pastures that have been overseeded with clover until the clover seedlings get tall enough to get grazed off. Then remove animals from the pasture and allow that clover to reach a height of 6-8 inches. At that time the paddock can be placed back into the rotation. If the existing vegetation is not controlled, the new clover seedlings will be shaded out.

For more information on frost seeding contact your local extension agent or visit the UK Forage Extension Website.

FORAGE MANAGEMENT TIPS FOR

Continue grazing stockpiled tall fescue.
Supplement poor quality hay.
Feed hay on your poorest pastures to improve soil fertility and organic matter.
Soil test and apply any needed lime and fertilizer.
Service and calibrate seeders and no-till drills.
Begin frost seeding 6-8 lb/A of red clover and 1-2 lb/A ladino white clover on closely grazed pastures.
On low fertility pastures, consider adding 10-15 lb/A of annual lespedeza to the above recommendation.
Consider applying 40-50 lb N/A in mid to late-February on some pastures to stimulate early growth.

Being Moderate in an Extreme World

Kevin Laurent – Extension Specialist, University of Kentucky

No this is not about the current political state of our country. So far, I have resisted the urge to join in the numerous ongoing social media conversations. No, this is just some of my personal thoughts and observations about the world we live in and more specifically how it relates to the beef business. We live in a world of extremes. There are extremes in the weather and the markets. Extremes can create changes in the marketplace. Sometimes positive change, sometimes negative. Grain prices go up, cattle prices go down and so on.

Extreme stories also get the most attention, whether it's current events in the media or bragging at the coffee shop about our weaning weights. And although extremes get attention, many times it's the extreme methods, actions or mindset that can get us in trouble. It is human nature to gravitate towards extremes. The most, the biggest, the heaviest, the tallest are all easier to identify than the moderate or optimum. Any of us over the age of 50 can remember the tall cattle of the 1980's. My good friend Terry Burks regularly posts historical pictures on Facebook of prominent sires in the Simmental breed. It's interesting to see that the original sires that came into the US were fairly moderate cattle by today's standards with decent feet and leg structure. But some of the pictures of sires from the 1980's and early

90's are a little tough to look at. We know now that the chase for frame resulted in all kinds of ills, from fertility to feet and leg issues. Realize this is not an indictment of Simmentals, all the breeds were guilty.

So how do we avoid the temptation of chasing extremes? That's a difficult question to answer. It's hard to be consistently moderate in our thinking and our management. By the same token, we cannot use moderation as an excuse for poor management. The analogy of "being in the middle of the road will just get you run over" comes to mind. That said, I don't think we should write off the merits of moderation just because of an old cliché.

One of the best practical examples I have seen of managing for moderation was a presentation by John Genho, of Eldon Farms in Virginia at the 2019 Forages at KCA Symposium. The proceedings of his talk can be found on the UK Forages webpage at the following link: Profitability at Eldon Farms: Guiding Principles (uky.edu). I pulled the following excerpt from the proceedings that I think is quite thought provoking.

"*We realized that in our situation, planning on grazing every day of the year was just as wrong financially as feeding 120 days of hay. Both were sub optimum. Over the course of several years, we ended up varying the number of animals on a particular group of fields from about 90 head up to 235 head. When we had 90 head, we weaned the heaviest calves. When we had 235 head, we produced the most lbs. to sell. But neither of these biological maximums created the financial optimum. That number was at 135-140 head.* ***The economic optimum is always under the biological optimum when it comes to stocking rates. We should always run a few less cows than a field can actually carry to make the most money."***

I encourage you to look up the full copy of the proceedings. It's a great example of using historical data to guide decisions and not just managing for the extremes.

And going back to that middle of the road analogy. Maybe better record-keeping and more importantly, analyzing our records from an historical perspective will provide wisdom to know which lane we need to be in or if we need to switch lanes to avoid the oncoming traffic. Let's just hope the rest of winter 2021 continues mild with no extremes.

Vaccinations for the Feeder Calf Operation

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

Developing effective arrival protocols for feeder calves is a challenge. Size and type of calves purchased, weather, and many other "unknown" factors such as when they were weaned, how far they were hauled, how many farms they came from and length of time without adequate feed, mineral and clean water need to be considered before working feeder calves. Severely stressed calves will not mount a good immune response to vaccines and are far more likely to get sick and die quickly if not given time to rest and recuperate before vaccinating them for the first time. Most feeder calves purchased at auction do not come with a vaccination record available to the buyer so the calves are assumed to have received nothing. The "shots" considered most important for feeder calves to receive to be "fully vaccinated" are often boiled down to "two rounds of live viral vaccine, two rounds of blackleg and one dose of Pasteurella". Although that may sound straightforward, there are so many new combination products on

the market that there are multiple ways to get there. Additional practices such as deworming, castrating bulls, pregnancy checking heifers, and implanting must also be placed in the to-do list.
Consult your veterinarian before instituting any health protocol.

Remember: "Vaccination" (drawing up the vaccine in a syringe and injecting it into the animal) is not the same as "immunization" (the animal mounts an immune response) and "vaccination + immunization" never adds up to 100% protection from infection, even in the best of circumstances. The vaccines must be handled correctly (proper mixing, right temperature) and calves in good health (low stress, good plane of nutrition, trace mineral needs met, few parasites present) in order to get the most response from vaccines. The products listed are in no particular order and their inclusion should not be considered as an endorsement by the University of Kentucky.

Vaccines and Dewormers for Feeder Calves

1. "Two Rounds Live Viral Vaccines"
   The first and second rounds of a "live viral vaccine" contains the respiratory viruses (IBR, BVD, PI3, BRSV) in a modified live (MLV) preparation (List D1A).
   Unlike the killed products, the Modified Live Vaccines (MLV) provide fast, broad immunity, are excellent stimulators of cell-mediated immunity, and have a long duration of action.
   A combination product containing both MLV viral vaccine and *Mannheimia haemolytica* ("Pasteurella") vaccine may also be used (List D4).

   Timing: Traditionally given after calves have rested 12-24 hours after arrival. However, since vaccines usually cause calves to have a slight fever, new research has shown the MLV vaccine may be delayed 2-3 weeks in high risk calves without affecting the morbidity and mortality rate. In other words, if you are concerned the newly purchased calves are at high risk to get sick, delaying vaccination until they are stronger will not result in more sickness and death than you would have had anyway. As a matter of fact, it may help keep them eating and drinking better without the vaccine-induced fever.

2. "Two Rounds of Blackleg"
   These are the 7 or 8-way Clostridial vaccine products (List D5A). Most require a two shot series, administered 2-3 weeks apart for protection. Blackleg vaccine may be purchased in combination with pinkeye (List D5B), with "Somnus" (list D5C) or with "Pasteurella" (List D5D).

   Timing: Usually given at first working and booster according to label. Don't forget the booster.

3. "A 'Pasteurella' shot-calves must get at least one round"
   This is actually a *Mannheimia haemolytica* toxoid (List D3). This vaccine, commonly known as a "Pasteurella shot" or "Pneumonia shot", is given to stimulate immunity against the leukotoxin (a white blood cell killer) produced by the bacteria to protect itself from the immune response. Some of these products also contain a *Pasteurella multocida* bacterial extract.

   A popular option is to use a "Live Virus Product with Pasteurella"

A *Mannheimia haemolytica* toxoid and MLV Respiratory Virus Vaccine Combination product (List D4) can be given to meet the "Pasteurella" requirement and one viral vaccine dose with one injection or one injection plus an intranasal.

Timing: Should be given in first round of vaccines.

4. *Histophilus somni* (formerly known as *Hemophilus somnus*) vaccines-consult your veterinarian. There is no direct proof that "Somnus" vaccines are effective under field conditions but they may help lessen the severity of the disease. Delay this vaccine if possible.

5. Deworming with an endectocide (List D6A) will control internal and external parasites, usually 30 days or longer (LongRange is an extended duration product of 120+ days). A drench anthelmintic or 'white dewormer' is given by mouth and has a short duration but very effective clean-out of internal parasites (List D6B) but a second product is often required for external parasite (lice/flies/ticks) control. Backgrounders frequently use a product from both lists D6A and D6B on arrival at the same time.

6. Steers-Knife cut, banded (at birth or at weaning) or Clamped; Implanted
   Castration method may be either surgical (knife-cut) where the scrotum is opened and the testicles removed; non-surgical banding with an elastrator rubber band placed around the scrotum and above the testicles; or the scrotum is clamped with a Burdizzo Clamp to crush the testicular cords. The question of whether to castrate immediately or delay this practice in high risk bulls does not have an absolute right or wrong answer. Many studies have concluded that castration at first working is best, basically because it gets this inevitable practice finished and the stress over as soon as possible.

   However, in very high risk, lightweight bull calves, waiting a week or two to get them stronger will help avoid some sickness. Steers should be implanted at the time of castration (unless you plan to sell calves in an organic or natural market). Tetanus vaccination is strongly recommended when performing castration on calves, especially if banding. Consult your veterinarian regarding whether to use a tetanus toxoid or antitoxin.

7. If heifers have been allowed to stay with the herd bull until weaning, most likely some are pregnant. A prostaglandin injection (for example: Lutalyse®) can be given to the heifers to induce abortion once they have been away from the bull a minimum of 10 days.
   These injections work best in early pregnancy so do not delay administration if needed; a prostaglandin shot alone will not work well after 75-days gestation. Often "guaranteed open" means pregnancy checked by a veterinarian by rectal palpation or "sleeved by a vet".
8. Test for BVD-PI (ear notch)-Testing all calves is strongly recommended to find persistently infected (PI) animals. Failure to identify and remove PI calves quickly often results in increased sickness and death loss in the group.

Additional Considerations:

1. Cattle with extremely low blood concentrations of the trace elements selenium and copper have difficulty fighting any disease challenge. An injectable trace mineral supplement given on arrival

(such as Multimin 90®) is one option to boost the copper and selenium levels during the initial arrival period.

2. Metaphylactic treatment (treatment of all calves on arrival or when 10% show signs of BRD) of high risk calves (high risk=lightweight, weaned on the trailer, commingled, green calves) with long-acting antibiotics is a well-established, beneficial procedure that can reduce morbidity (sickness) and case fatality (death) by up to 50% in high risk calves. Calves still need to be watched very closely in spite of having an antibiotic on board.
3. Feed bunks and watering troughs are known areas for disease transmission. Keep sick cattle, especially chronic pneumonia calves, away from healthy calves and manage their feed and water separately. Do not allow nose-to-nose contact between sick and healthy groups. Good sanitation, especially regularly cleaning and sanitizing waterers, feed bunks and working chutes is imperative.
4. Do not pen new arrivals next to calves that were purchased last week! Try to load the farm with calves as quickly as possible rather than buy a load every week for 4 weeks and combine them in same area. This is a sure-fire recipe for disaster.
5. Buying preconditioned calves that have been weaned and vaccinated for respiratory diseases prior to weaning (especially BVD) and dewormed will help decrease, but does not eliminate, sickness and death loss.
6. Management is key. In a recent article by Chad Engle from the US Meat Animal Research Center, he wrote, "I like to think of our feed yards as five-star hotels. Once these calves step into our "hotel", they should be greeted by knowledgeable handlers, fresh feed, clean waterers and clean pens. We never put new calves into pens that do not have fresh hay and ration in the feed bunks. It is our job in the feed yard to show those calves that the feed yard is the best place on earth for them to be." Enough said.

Always read and follow label directions.

Partial List of Vaccines and Dewormers for Calves

D1A Modified Live Virus Vaccines (Often called "Live Virus")

*Pyramid 5 - Boehringer Ingelheim
*Vista 5 —Merck
*Inforce 3 (Intranasal) + Bovishield BVD —Zoetis
*Express 5 —Boehringer Ingelheim
*Bovishield Gold 5 — Zoetis
*Titanium 5 — Elanco
*Bovilis Vista BVD + Bovilis Nasalgen 3 (Intranasal)—Merck
*Labeled for use in pregnant cattle and nursing calves

D1B Modified Live Virus Vaccines + Somnus

*Express 5-HS– Boehringer Ingelheim Resvac 4/Somubac-Zoetis

D2A Killed Virus Vaccines

Triangle 5—Boehringer Ingelheim Cattlemaster Gold FP5 — Zoetis Vira Shield 6 — Elanco
Master Guard 5-contains killed IBR and BVD-Elanco

D2B Killed Virus Vaccines + Somnus Elite 4-HS—Boehringer Ingelheim Vira Shield 6 Somnus—Elanco

D3 Mannheimia (Pasteurella or Pneumonia) Vaccines
Presponse HM—Boehringer Ingelheim Presponse SQ—Boehringer Ingelheim One Shot—Zoetis
Pulmoguard PHM –1– Huvepharma Nuplura PH—Elanco
Once PMH—SQ or IN intranasal—Merck

D4 Modified Live Respiratory Virus Vaccines + *Mann- heimia* toxoid
*Pyramid 5 + Presponse SQ —Boehringer Ingelheim
*Vista Once SQ — Merck
*Bovi-Shield Gold One Shot—Zoetis
*Titanium 5 + PHM—Elanco
*Inforce 3 (intranasal) + One Shot BVD-Zoetis
*Bovilis Vista BVD CFP + Bovilis Nasalgen 3– PMH (Intranasal)- Merck
*Labeled for use in pregnant cattle and nursing calves
—follow directions carefully

D5A Clostridial (Blackleg) 7 or 8 Way Vaccines
Ultrabac 7 or Ultrachoice 7—Zoetis Caliber 7—Boehringer Ingelheim
Alpha 7—1 single dose -No booster-Boehringer Ingelheim Vision 7 or 8 with SPUR—Merck
Calvary 9 or Covexin 8—Contains tetanus-Merck

D5B Clostridial (Blackleg) + Pinkeye
Alpha 7/MB1— No booster—Boehringer -Ingelheim 20/20 Vision 7 with SPUR-Merck
Piliguard Pinkeye + 7—Merck

D5C Clostridial (Blackleg) + Somnus
Ultrabac 7/Somubac—Zoetis
Bar Vac 7 Somnus—Boehringer Ingelheim Vision 7 or 8 Somnus with SPUR—Merck

D5D Clostridial (Blackleg) + Pasteurella
One shot Ultra 7 or 8—Zoetis

D6A Dewormers (Injectables and Pour-ons)
Cydectin— Bayer Dectomax — Zoetis
Ivomec or Ivomec + - Boehringer Ingelheim Eprinex—Boehringer Ingelheim
Noromectin—Norbrook
LongRange - (extended duration) - Boehringer Ingelheim

D6B Drench Dewormers Valbazen + (Pour on) - Zoetis Safeguard + (Pour on) - Merck
Synanthic + (Pour on) - Boehringer Ingelheim
("Pour on" for external parasite control—lice, flies)

D7 Pinkeye Vaccines
Maxi/Guard—Addison Labs Vision 20/20—Merck
i-site XP—AgriLabs

Pinkeye Shield XT4—Elanco
Piliguard Pinkeye-1 Trivalent or Triview—Merck SolidBac Pinkeye IR/PR—Zoetis
Ocu-guard MB-1—Boehringer Ingelheim

D8 Scours Vaccines (for nursing calves)
Bovilis Coronavirus (Intranasal, Coronavirus Only)- Merck
Bar-Guard-99 (Oral, E. Coli K99 Only) - Boehringer Ingelheim Calf-Guard (Oral, Rota– and Coronavirus)– Zoetis
First Defense (Oral, E.coli K99, Corona)& First Defense TriShield (Oral, E.Coli K99 + Coronavirus + Rotavirus)- Immucell Corp.

2020 Cow Slaughter and 2021 Inventory Expectations

Dr. Kenny Burdine, Livestock Marketing Specialist, University of Kentucky

Cattle slaughter got a lot of attention in 2020 as the sector raced to deal with labor challenges in the spring that greatly impacted processing volumes. At its lowest point, federally inspected cattle slaughter was down by more than one-third from 2019. But the processing industry showed a lot of resiliency through summer as slaughter levels picked back up, despite the challenges the pandemic created.

While cattle slaughter is often considered as a whole, I want to focus this discussion on cow slaughter for three reasons. First, cow slaughter was not impacted the same as steer and heifer slaughter during the pandemic. Secondly, cull cow prices were relatively strong last year, which created additional incentive for culling. And third, 2020 cow slaughter volumes impact beef cow numbers in 2021. This final point should be reflected in USDA's cattle inventory estimates that will be released on January 29th.

The beef cow slaughter chart that I am sharing this month compares beef cow slaughter in 2019 and 2020. The sharp drop in slaughter levels from March to April is clear in the chart. However, cow slaughter was not impacted as drastically during this time as steer and heifer slaughter. Some have pointed out that cow slaughter plants tend to be smaller in scale, which is generally true. I would make two other points that are likely part of the reason for this. First, processing of cull cows is a less complicated process in the sense that fewer cuts are likely being made. This probably allowed for easier spacing out of workers than at traditional steer / heifers processing plants. Secondly, and perhaps most significantly, cow plants tend to be less regionally concentrated. Since the pandemic impacted different regions at different times, the labor impacts on cow slaughter facilities were more spaced out. The beef cow slaughter chart includes 2020 slaughter data through November. Some may find it surprising that beef cow slaughter was 2.5% higher during the first eleven months of 2020, than it was in 2019.

I also wanted to share the dairy cow slaughter chart for comparative reference. Dairy cow slaughter can be an under-appreciated aspect of the beef production system. Even though there are way fewer dairy cows than beef cows in the US, the higher culling rates in the dairy sector actually lead to very similar total slaughter volumes. The same factors that impacted beef slaughter (labor constraints, demand for ground beef, farm level profitability challenges, etc.) also impacted dairy cow slaughter last year.

USDA will release their January 1 cattle inventory estimates on the afternoon of January 29th. Profitability challenges at the cow-calf level certainly have impacted beef cow number in the US during the last year. And, continued weather challenges in the Western half of the country have had major

impacts as well. But I would also point to 2020 cow slaughter as another indicator. We culled the herd pretty hard during 2019 and actually saw cow slaughter increase from 2019 to 2020. This was the case even though the beef cow herd was a bit smaller last year, and we had to deal with significant labor challenges in the spring. I find this very telling and another sign that we will see another drop in beef cow number in the January report. While it often takes time, this is a necessary step in building strong calf prices.