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Beef IRM Team

KENTUCKY BEEF CATTLE NEWSLETTER MAY 4, 2020

Published Monthly by UK Beef IRM Team and edited by Dr. Les Anderson, Beef Extension Specialist, Department of Animal & Food Science, University of Kentucky

Contents

This month's newsletter includes:

Timely Tips

Les Anderson, Extension Professor, University of Kentucky

Spring-Calving Cow Herd

- Continue supplying a high magnesium mineral until daytime temperatures are consistently above 60 degrees F.
- Improve or maintain body condition (BCS 5) of cows before breeding season starts. If necessary, increase energy intake even on pasture.
- Bulls should have a breeding soundness evaluation (BSE) well before the breeding season (at least 30 days). Contact your local veterinarian to schedule a BSE for your herd sires. They should also receive their annual booster vaccinations and be dewormed.
- Schedule spring "turn-out "working in late-April or early-May; i.e. at the end of calving season and before the start of breeding season. Consult with your veterinarian about vaccines and health products for your herd.

"Turn-out" working for the cow herd *may* include:

- Prebreeding vaccinations
- Deworming
- Replacing lost identification tags
- Sort cows into breeding groups, if using more than one bull
- Insecticide eartags (best to wait until fly population builds up)

"Turn-out" working of calves may include:

- Vaccinate for IBR-PI3, Clostridial diseases and Pinkeye

  - Dehorn, if needed (can be done with electric dehorner and fly repellent during fly season)
  - Castrate and implant male feeder calves (if not done at birth)
  - Deworm
  - Insecticide eartags

- Consider breeding yearling replacement heifers one heat cycle (about 21 days) earlier than cows for "head-start" calving. Mate to known calving-ease bulls.
- Record identification of all cows and bulls in each breeding group.
- Begin breeding cows no later than mid-May, especially if they are on high endophyte fescue. Cows should be in good condition so that conception occurs prior to periods of extreme heat.
- Consider synchronizing estrus in all cows. Exposing late-calving cows and first-calf heifers to a progestin (MGA feed or CIDR device) for 7 days before bull turn out increases pregnancy rates.
- Choose best pastures for grazing during the breeding season. Select those with the best stand of clover and the lowest level of the fescue endophyte, if known. Keep these pastures vegetative by grazing or clipping. *High quality pastures are important for a successful breeding season.*
- If using **artificial insemination:**
  - Use an experienced inseminator.
  - Make positive identification of cows and semen used. This will permit accurate records on date bred, return to heat, calving date and sire.
  - Good handling facilities and gentle working of the cows are essential.
  - Choose AI sires that will meet <u>your</u> goals and resist the temptation to get your cows bigger.

- Observe breeding pastures often to see if bulls are working. Records cows' heat dates and then check 18-21 days later, for return to heat.

<u>Fall-Calving Herd</u>

- Pregnancy check the cow herd. Remove open cows at weaning time.
- Plan marketing program for calves. Consider various options, such as maintaining ownership and backgrounding in a grazing program, or precondition and sell in a CPH-45 feeder calf sale.
- Initiate fly control for the cows when fly population builds up.
- Calves may be weaned anytime now but you can take advantage of the spring grass by leaving them on the cow a while or weaning and grazing.

<u>Stockers</u>

- Keep calves on good pasture and rotate pastures rapidly during periods of lush growth. Manage to keep pastures vegetative for best performance.
- Provide mineral mix with an ionophore.
- Implant as needed.
- Control internal and external parasites.

<u>General</u>

- Harvest hay. *Work around the weather and cut early before plants become too mature. Harvesting forage early is the key to nutritional quality.* Replenish your hay supply!
- Rotate pastures as needed to keep them vegetative.
- Clip pastures to prevent seedhead formation on fescue and to control weeds.

- Seed warm season grasses this month.

New Video Series – I Bought a Farm…..Now What?

Les Anderson, Extension Professor, University of Kentucky

A landowner in Woodford County contacted me about two months ago asking for guidance on utilizing some property that he and his brother own. His family has not been Extension users in the past and he knew I was "in Ag". After several discussions with the landowners, the UK Beef IRM Team has decided to develop a new series documenting the numerous decisions and the process of taking a piece of property and transforming it into a viable beef enterprise. These landowners had cattle when they were kids but are inexperienced. The property is typical of southern Woodford County; rolling hill farm, thin soil in spots, decent fence, no handling facilities, a pond, a cattle waterer on city water, and, of course, a tobacco barn. This series will be a challenge to shoot while being socially distant and will include mainly interviews with Extension Specialists, ANR Agents, and other Ag professionals. We plan to post videos twice a week (Tuesday and Thursday) to the UK Department of Animal and Food Science YouTube page. The next four episodes are:

Episode 5: Developing a Forage Management System – Lehmkuhler and Anderson
Episode 6: Determining Stocking Density – Lehmkuhler and Anderson
Episode 7: How much can I give for heifers? – Laurent and Anderson
Episode 8: Water Quality Management – Amanda Gumbert and Anderson

Upcoming episodes include cattle receiving, setting up the rotational grazing system, and rotating the heifers through our paddocks.

To watch this docuseries, follow this link to the Department of Animal & Food Science YouTube page, subscribe, and click the notification bell. https://www.youtube.com/channel/UCu4t18Zo2E_4_DBBELPjPMg

Beef Improvement Federation Symposium – Online Only This Year

Darrh Bullock, UK Beef Specialist and BIF East Region Secretary

The 2020 BIF Research Symposium and Convention moves to a virtual event scheduled for the week of June 8. Registration for the event will be free! Please take this opportunity to participate in BIF with some of the beef industries national leaders.

The 2020 Beef Improvement Federation (BIF) Research Symposium and Convention will be presented in a virtual format the week of June 8. The BIF board of directors, along with the Florida 2020 BIF event committee, made the decision in early April to transition this year's conference to an online format due to COVID-19.

"Our BIF program committee working with the Florida group has honed the original schedule to work in the new online format," says Joe Mushrush, BIF vice president and program chairman. "Our goal is to provide learning opportunities that will help producers continue to improve their bottom line focused on beef improvement. As our President Tommy Clark said last week, 'Our mission as an organization is intact during this challenging time and we will continue to provide educational programing focused on how the beef industry can enhance value through genetic improvement.'"

The virtual event will be hosted online the week of June 8 starting at noon CDT each day. The conference will be hosted on the Zoom webinar platform. By mid-May, participants will be able to register for the

event, find a detailed schedule and Zoom tutorials on the BIF website — https://beefimprovement.org/symposium/schedule. Look for registration details in an a future OTH article. 2020 BIF award winners, including Seedstock and Commercial Producers of the Year, Pioneer and Continuing Service award winners will be recognized during the online symposium.

While final details surrounding this transition are still taking shape, BIF is committed to providing an easily accessible, robust online conference experience that eliminates the health concerns that come with travel and face-to-face meetings at this time.

For additional details about the conference and for more information about the BIF organization, visit http://www.beefimprovement.org. Prior to and during this year's symposium, be sure to follow the event on social media channels using the hashtag #BIF2020.
Next year's event is scheduled for Iowa and a return to Florida is targeted for the near future.

Feeding Milk to Growing Beef Cattle

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

As we continue to see the impact of COVID impact our agricultural sectors, some dairies have been forced to dump milk. This has led to some questioning if it could be fed to growing cattle. Milk has a much higher nutrient content than you may expect. If I asked you what the protein and fat content of milk is you may have an idea of the fat content. Many would probably answer with 2% fat as this what a lot of you purchase at the grocery. Whole milk is on average closer to 3.5% fat. In Table 1 the composition of Holstein milk is shown both as-fed or as fluid milk and on a dry matter basis. We have a research trial ongoing currently with milk samples from our C. Oran Little Research herd and milk fat ranged between 1.2 to 5.8%. Milk is a protein and energy rich product. Research has reported the energy content of fluid milk to average 314 kcal per pound or 2,532 kcal/lb on a dry matter basis. As a comparison, corn has about 1,725 kcal/lb. If you are thinking about using milk in growing calf diets, there are a few things to consider.

Table 1. Composition of Holstein milk.

	Milk Nutrient Composition	
Nutrient	As-fed basis (%)	Dry matter basis (%)
Water	87.6	--
Total Crude Protein	3.1	25.0
Fat	3.7	29.8
Lactose (milk sugar)	4.9	39.5
Ash (minerals)	0.7	5.6
Total Solids	12.4	100

Milk will have a short shelf-life. Fresh milk has not been pasteurized and will contain bacteria that will lead spoiling. Acidifying milk with citric or propionic acid to lower the pH to 4.2-4.5 will slow the protein breakdown and fermentation leading to spoilage. Potassium sorbate or sodium benzoate may also be used to slow spoilage. Milk should be fed with 24-36 hours even if it is acidified.

As with most novel feedstuffs, I suggest limiting the inclusion rate to 10-15% DM of the complete diet dry matter. It could be added to total mixed rations (TMR) as a conditioner when using chopped dry hay. For a 500 pound calf consuming 14 lbs of dry matter, this would be the equivalent of ½ to ¾ of a gallon of whole milk. Whole milk could also be provided to other classes of cattle such as mature cows. Be certain all cattle have equal access to the feed such as mixing into a TMR and having adequate bunk space.

Work with your nutritionist to balance the diet to reach the desired level of performance. Ensure the feed is consumed daily as spoilage will negatively impact intakes. Flies will likely be a nuisance and consider additional control methods. Warm weather will lead to the milk fat going rancid so consider twice per day feeding. Call your Extension office or nutritionist for additional information on including milk into the diets of cattle.

What Was Old is New Again - Parasite Problems Returning in Cattle Due to Dewormer Resistance

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

"Now, we are forced to accept the reality that chemical control of helminths [worms] is not, by itself, sustainable. Strategically and effectively applied chemical intervention, coupled with a raft of non-chemical measures designed to lessen 'economic parasitism' is the recommendation that most parasitologists appear to be advocating." (Yazwinski et al, Proceedings KVMA, 2018)

"Anthelmintic resistance" means the dewormers (anthelmintics) available are losing their effectiveness in the field with no new products on the horizon to take their place. Although new drug "classes" entered the market every decade from the 1950s to the 1980s, it has now been nearly 40 years since ivermectin was introduced in 1981. Basically 'we have what we have' which is 3 major chemical classes or families of dewormers known as the Benzimidazoles (SafeGuard®/ Valbazen®/Synanthic®), the Macrocyclic Lactones or MLs (Ivomec®/ Cydectin®/ Eprinex® & LongRange®/Dectomax®/generic ivermectins) and the Imidazothiazoles/ Tetrahydropyrimidines (Rumatel®/ Strongid®/ Prohibit® or Levasol®). "Resistance" is the term used for the ability of a parasite to survive after treatment with a chemical dewormer given according to label directions. After any dewormer is given, a portion of the parasites in the gut will not be killed by the chemical. Only these parasites that survived treatment will go on to reproduce and pass their resistance genes to their offspring. Resistance is caused by a slow buildup of "resistance genes" in parasites from repeated drug treatment over many years. These genes accumulate undetected over time until the point when so many resistant worms survive there is an obvious treatment failure. Resistant worms are not more aggressive or deadly but they simply survive in high numbers after deworming, causing disease. Resistance issues are mostly seen in younger animals, especially stocker calves and replacement heifers, since adults will develop immunity to the effects of parasites. Calves under a year of age have poor immunity to parasites so production losses are certain from *Cooperia* and *Haemonchus* without proper control. Two-year olds have moderate immunity so clinical disease is less of a problem but production losses likely without good control as more *Ostertagia* (the brown stomach worm) are active in this age group. Three-year olds and above have good immunity with little clinical disease and only slight production losses. Unfortunately, the reliance on what were very effective chemical dewormers has allowed selection of bulls and replacement females with high production numbers but has ignored their genetic inability to resist parasite issues. Additionally, chemical deworming has allowed neglect of husbandry and pasture management factors that keep worm burdens naturally low. For example, overstocking a pasture means more feces, more worm eggs and larvae after egg hatching, shorter grass and more parasites in animals. This is a management problem and not the fault of the animal or the dewormer.

Parasites cause appetite suppression so the <u>number one sign of a resistance problem is lower than expected weight gain</u>. This resistance is potentially costing producers millions of dollars in unrecognized losses from reduced weaning weights, delayed puberty, decreased fertility and pregnancy rates, reduced feed intake, reduced feed efficiency and immune suppression in all classes of cattle. How is it possible to know if dewormer resistance is a problem in a herd? The best way to test is a Fecal Egg Count Reduction Test (FECRT) based on the knowledge that dead worms don't lay eggs. This basically involves taking a fecal sample from an animal (the sample will be sent to a laboratory for a fecal egg count) and then administering

the correct dose of a dewormer. A second fecal sample is taken from the same animal 14 days later that is also sent to the same laboratory for a fecal egg count. If the dewormer worked effectively, there should be at least a 90% reduction in the number of eggs from the first sample to the second sample. "Resistance" is present when the normal dose of the drug fails to give at least the 90% level of control. This test is best applied on a herd basis so it is recommended to sample a group of sufficient size (20 is advised) in order to reduce the sample variation. The test should be conducted in weaned animals under 16 months old and is not as reliable in adult cattle. Work with your veterinarian for sample collection and submission procedures. Once parasites become resistant to a drug family, they never go back to being susceptible. Avoid resistant worms being introduced to the herd by performing a FECRT on any newly purchased/leased breeding stock to avoid contamination of the farm before allowing them to mix with the rest of the herd. How can we slow the development of resistance to dewormers? Reducing unnecessary treatment with dewormers, making sure the dewormers used are effective, and strategic culling all contribute to fewer resistant genes in parasites.

1. Reduce treatment frequency and/or modify treatment strategies.
   In cattle, treat only 80, 90 or 95% of adult population of the herd, leaving heaviest and best-looking untreated. Deworm all first and second calf heifers and adult cows with body condition score less than 5. Deworm bulls pre-breeding. After deworming, do not turn on to fresh or new pasture right away because only the resistant parasite eggs will be shed immediately after treatment. Keep them on a contaminated pasture at least a week before moving to clean.
2. Never deworm all animals in the herd and turn them immediately on to "clean" pasture. In addition, never deworm older cows going into summer in the south. Either of these practices allow resistant worms to survive and build up quickly.
3. Deworm spring-born calves mid-summer or pre-weaning and fall-born calves near or at weaning with effective drug combinations (see #6 below).
4. Avoid using permanent pastures for stockers because they are the biggest source of resistant parasites. Instead, follow stockers with adult cows or goats to vacuum the calf parasites from the pasture. Alternatively, take a cutting of hay or grow a crop to remove parasites.
5. Only use long acting dewormers for stockers going to feedyards. Do not treat replacement heifers with long-acting dewormers and return them to the herd.
6. Ensure the treatments administered are very effective. Use of drug combinations is essential because they kill more resistant worms! An example of this is using a ML injectable (for example, Dectomax® injectable) and using a drench dewormer (SafeGuard®/ Valbazen®/Synanthic®) at the same time. The purpose of the second drug is to kill any worms that survived the first drug, resulting in much fewer worms left to reproduce. Conversely, if drugs are underdosed or administered in a manner with reduced bioavailability or absorption (such as a pour-on), then partially resistant worms are more likely to survive and mate to produce fully resistant worms.
7. Pour-on dewormers are not as effective as drench dewormers or injectables. Without question, drench dewormers deliver the most parasite exposure to active drug in the gut. Injectables reach the parasites through the bloodstream so there is reduced exposure to the drug in the gut where the parasites live. Pour-on formulations rely on absorption through the skin to reach the bloodstream and have consistently under-performed in deworming trials.
8. Culling the "wormiest" animals.

The 80/20 Rule is in effect when it comes to parasites in cattle. Approximately 20-30% of animals in the herd have 80% of the parasites. Culling the wormiest-looking poor doers removes a significant number of parasites and stops the passing of genetic "wimpy-ness to parasites" to their offspring.

Kentucky Beef Cattle Market Update

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

Slaughter volumes have continued to be an issue and concerns over short-term meat supply have grown. Last week, I discussed heavy slaughter volumes in March and how that had led to increased quantities of beef in cold storage. While this is a significant development, the decreases in slaughter that we saw starting the second week of April have been large enough that they will lead to noticeable differences at the retail level.

Markets did react somewhat to President Trump's announcement that meat processing facilities would be considered critical infrastructure under the Defense Production Act. This definitely has the potential to increase slaugther. And, margins in the meat packing sector are high enough that processors have a lot of incentive to do that. I would point out that while this may bring some processors back on line, I still expect many to operate at lower capacity due to safeguards they have put in place. So, while I think there is potential for this to help us work through mounting cattle supplies, I still think it is going to take a long time for us to get caught up.

For the week ending May 1st, marketings continued to be light and Kentucky prices had a slightly a softer undertone. On a state average basis, 550 lb M / L #1-2 steer calves stayed in the very low $140's per cwt, which is almost exactly where they were last week. The price of an 850 lb M/L #1-2 steer at Kentucky auction markets decreased by $2-3 per cwt, but I don't see that as indicative of the overall market. It was primarily due to a decrease in prices on the upper end of that weight range from the previous two weeks. And, this decrease was not noted in auction-by-auction market reports throughout the week. Figure 1 shows updated weekly charts for both feeder steer price series for 2020.

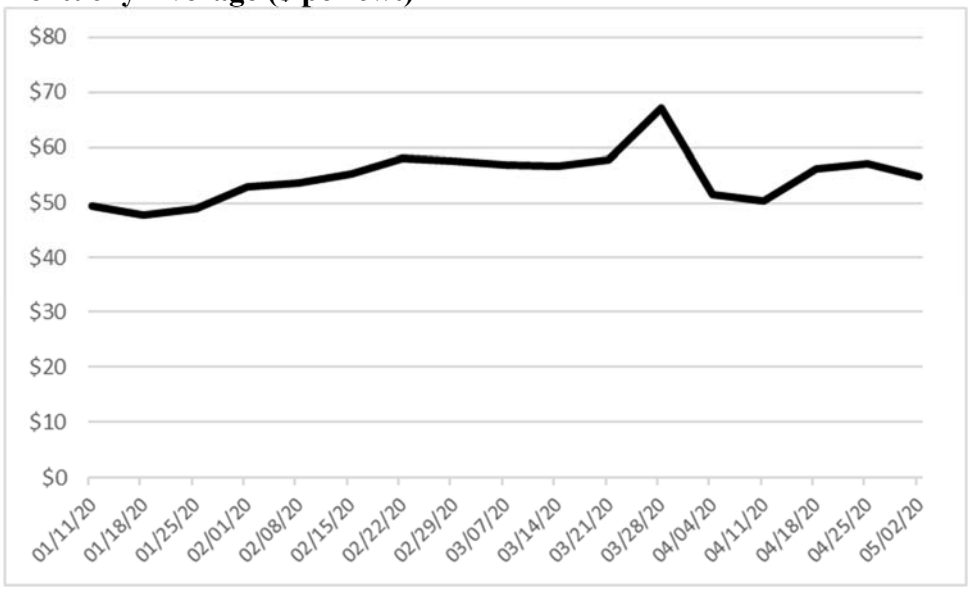
Figure 1: Feeder Steer Prices since the First Week of January
Kentucky Average ($ per cwt)

Source: USDA-AMS, Livestock Marketing Information Center, and Author Calculations

Some individual market reports throughout the week referred to slightly lower cull cow prices, but steady slaughter bull prices. On a state average basis, this was reflected as cull cow prices fell $2-3 per cwt. While I am showing average dress 80-85% boning cows below (see figure 2), I would also point out that the upper

end of the cull cow market was also lower this week. Still, a market where most cows are in the mid-$50's is considerably above 2019 levels.

Figure 2: 80-85% Boning Cow Prices since the First Week of January
Kentucky Average ($ per cwt)



Source: USDA-AMS, Livestock Marketing Information Center, and Author Calculations