

OFF THE HOOF

KENTUCKY BEEF CATTLE NEWSLETTER JULY 8, 2020



University of Kentucky
College of Agriculture,
Food and Environment
Cooperative Extension Service

Cooperative Extension Service
University of Kentucky

Beef IRM Team

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 Topics – Anderson
Webinar Series Available – Beef IRM Team
I Bought a Farm...Now What? Episodes 13-18 – Anderson
Adapt and Change – Anderson
Supplementing to Stretch Pastures – Lehmkuhler
Enroll Now for the PVAP - PRECONDITION Program – Laurent
Beating the Heat – Tips to Dealing with Heat Stress – VanValin
Let's Talk About Lepto! – Arnold
Kentucky Beef Cattle Market Update – Burdine

Timely Tips

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

Spring-Calving Cow Herd

- Consider removing bulls from the cow herd by the end of the month and keep them away from the cows. A short calving season can concentrate labor during the calving season; group calves by age so that it is easier to find a convenient time to vaccinate, castrate, dehorn, etc.; and provide a more uniform group of calves at market time.
- Mid-July is a good time to deworm cattle, use a product that is effective against inhibited ostertagia. Re-implant calves which were implanted at birth if the type of implant and amount of time indicate. Calves which haven't been vaccinated for blackleg should be. Spraying or using a pour-on for flies while cattle are gathered can supplement other fly control methods. Remember to work cattle early in the morning when it is cool and handle them gently to minimize stress.
- Watch for pinkeye and treat if necessary. Minimize problems by clipping pastures, controlling face flies and providing shade. Monitor the bulls' activity and physical condition as the breeding season winds down.
- Fescue pastures tend to go dormant in July and August, so look for alternatives like warm season grasses during this period of time. Try to keep the young calves gaining weight. Go to pastures which have been cut for hay to have higher quality re-growth when it is available.
- Consider cutting warm season grass pastures for hay, if reserves have not been restored yet.

Fall-Calving Cow Herd

- De-worm calves in mid-July with a product that is effective against inhibited ostertagia.

- Fall-calving cows should be dry and pregnant now. Their nutrient needs are minimal, and they can be maintained on poor pasture to avoid over fattening. Keep a good free-choice mineral mix available at all times. You can use a lower phosphorus mineral supplement now, if you want to save a little money. These cows are regaining body condition after a long winter feeding period.
- Get ready for fall calving and plan to have good pasture available at calving and through the breeding season.

Stockers

- Sell heavier grazing cattle before rate of gain decreases or they get into a heavyweight category. This will also relieve grazing pressure as pasture growth diminishes. They can be replaced with lightweight calves after pastures recover.
- Lighter cattle which are kept on pasture need to be rotated to grass-legume or warm-season grass pastures to maintain a desirable level of performance. Re-implant these calves and deworm with a product that is effective against inhibited ostertagia.

General

- Check pastures for downed wild cherry trees after storms (wilted wild cherry leaves are toxic to cattle).
- Be sure that clean water is always available, especially in hot weather. Make routine checks of the water supply. Cattle need 13 to 20 gallons of clean water in hot weather. Cattle should have access to shade.
- Maintain a weed control program in permanent pastures and continue to “spot-spray” thistle, honey locust, etc.
- Have forage analyses conducted on spring-cut hay and have large, round bales covered. Begin planning the winter-feeding program now. Most of the hay was cut late due to a wet spring.
- Start soil testing pastures to determine fertilization needs for this fall.

Webinar Series Available

Beef IRM Team, University of Kentucky

The University of Kentucky Beef IRM Group has been conducting a weekly Zoom webinar at 8 pm Eastern every Tuesday evening. Viewing is available on Zoom or on the UK Beef IRM Facebook page. Many county offices also share the live broadcasts. These webinars have ranged in topics and have been extensively watched. Our beef research faculty will be highlighted over the next several weeks. Each researcher has provided a brief overview of their research and its relevance to our industry. Extension Specialists have paired with each researcher to demonstrate how the research is incorporated into management practices.

To watch the archived webinars, follow this link to the Department of Animal & Food Science YouTube page, subscribe, and click the notification bell. Clicking the notification bell alerts users to new videos.

https://www.youtube.com/channel/UCu4t18Zo2E_4_DBBELpPMg

I Bought a Farm.....Now What?

Les Anderson, Extension Professor, University of Kentucky

- Episode 13 - Heifers Turned Out to portion of Paddock 1 – Lehmkuhler and Anderson
- Episode 14 - Fencing Complete and Heifers turned out to full Paddock 1 – Anderson
- Episode 15 - End of May: Heifer Moving Day – Anderson
- Episode 16 – Looking at Heifers - Anderson

Episode 17 – Grass inventory and heifer evaluation – Anderson

Episode 18 – Moving heifers out of paddock 4 - Anderson

Lots of ground covered in these videos. 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

Adapt and Change

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

Well, the last few months sure have been interesting!

COVID. Social distancing. Life this spring reminded me of the summers of my youth. I grew up on a cattle and grain farm in northeast Missouri and social distancing was our way of life. My grandparents lived about a mile down the road but everyone else was quite a bit further. We didn't go out to eat, didn't go to the movies, we went to the store maybe every couple of weeks, and we stayed home and worked. We raised our own beef, bought pigs and chickens from our neighbors, had a huge garden, and canned. The biggest difference between then and our situation this spring was we had a "party line" so kids didn't use phones hardly at all and our social event was every Sunday. We went to church and then my entire extended family (about 60-70 people) went to our local park for a carry-in dinner and to catch up. It was a great way to grow up.

I have often thought of how much I miss those days but, after this spring I'm not so sure! I enjoy my social interactions; I missed my kids, mom, friends, working on farms, going to meetings. As the restrictions are lifted, our methods of interactions are changing; masks, six feet separation, no big crowds, no handshakes, no hugs, etc. Whether we want to or not, some of these changes will be around for a while and we will adapt, and the world will change.

The COVID pandemic created quite an issue in the beef industry. This spring, we should have seen feeder cattle prices rise and the return of some profitability to cow-calf operations. Our industry was at the bottom of the cattle cycle and feeder cattle prices should have begun their cyclical climb. But, brother COVID created supply chain issues and the most unusual situation we have observed in the beef industry. Feeder cattle prices remained low despite a 13% increase in retail meats. This discrepancy could be explained because the packers had to shut down, the feedlots couldn't market their cattle, and the backlog of fat cattle created reduced demand for feeders and a reduced supply of beef because they could not get processed so a "meat shortage" resulted. Beef rushed off the shelves and beef prices at the retailer increased. This incredibly unusual situation created a platform for the industry to reexamine the supply chain. Four major packers control the harvest and distribution of beef putting the rest of the industry in a perilous situation. Congress is investigating so perhaps its possible the industry will see real change.

I have seen already some change in beef production and marketing in Kentucky. Responding to an increased demand from the market, customers have been requesting locally produced beef and more producers are selling freezer beef than ever. But, again, we are having issues with supply chain because we just don't have enough small, local meat processors to handle the sharp increases in demand. I can't help but think how much stronger our industry would be if we had more marketing options that included locally sourced, locally produced, locally processed food including beef. Our stockyards and feedlots do a super job of price discovery, but the entire industry is subject to a few large beef processors and retailers. Perhaps a little diversification would give us more options and get us out from under the thumb of the large meat processors. Perhaps more marketing options could help producers generate more income.

Adapt and change. It's the story of life and it's how we evolve.

Supplementing to Stretch Pastures

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

Drought continues to impact the high plains area stretching down to the pan handle of Texas. The dry conditions will continue to impact pastures potentially lowering beef cattle numbers at year's end. The recent high temperatures and limited rain will dry out pastures and limit forage regrowth on recently cut hay fields here in the Commonwealth. As forage growth slows, supplementation may be needed to provide beef cattle adequate levels of nutrients to support target production levels and limit condition loss of lactating cows.

Fibrous coproduct feedstuffs that are low in starch but high digestible fiber work well for supplementing cattle on a high forage diet. Soybean hulls, corn gluten feed, beet pulp, distillers grains, wheat midds, and rice bran are a few commonly available feedstuffs that would be lower in starch and high digestible fiber. These feedstuffs would be higher in available energy than most pasture forages that are going or already dormant. Depending on the maturity and digestibility of the forages, supplements could provide twice as much energy on a dry weight basis. Therefore, supplementation would need to be limited and not offered free-choice to avoid over conditioning as well as to avoid digestive upsets.

Cottonseed hulls are lower in digestible energy than the supplements listed above and most cool-season forages. Cottonseed hulls would be deemed as more of a forage replacement than a supplement. The crude protein value is low ranging from 4-6% typically and the protein is relatively low in digestibility. The acid detergent value is reported to be high, near 65%, leading to a relatively low calculated Total Digestible Nutrient (TDN) value ranging 34-42%. Work at North Carolina has shown that self-fed diets containing 30% cottonseed hulls are effective for developing 2-6 month old dairy heifers. Many commercial precondition and creep feeds contain cottonseed hulls as a fiber source. The price of cottonseed hulls can be a limitation for their utilization. Having a nutrient content lower than typical fescue hay, the price paid should be similar or less than what one would pay for hay.

Starch containing feedstuffs such as wheat, barley, corn and oats are available to supplement energy to grazing cattle. Due to negative associative effects in the rumen when feeding starch supplements to cattle consuming a predominate forage-based diet, these feedstuffs should be limited if one wishes to avoid lowering fiber digestibility. Previously, summaries of supplementation research would indicate that offering 0.3% of body weight or less would minimize negative associative effects of starch supplementation. This would be equivalent of approximately 3-3.5 pounds of corn per 1,000 pounds of body weight. Supplementation with starch containing feeds can lead to a decrease in ruminally available nitrogen and amino acids needed by the microbes on low quality forage diets. Therefore, to mitigate negative associative effects protein supplementation may be necessary. Other researchers have demonstrated that providing protein supplementation with starch containing feedstuffs, levels as high as 6-8 pound/1,000 lb of body weight have had minimal impacts on fiber digestion.

Providing supplementation to cattle grazing pastures, the impact on forage intake will be dependent upon associative effects that may occur in the rumen. Providing protein to correct a ruminal nitrogen source deficiency may enhance fiber digestion and increase dry matter intake having a positive impact. Supplementing with excessive starch and reducing rumen pH and limiting available nitrogen sources for microbes will lead to lower intakes. In general, forage and supplement exchanges often average 2-3:1 in which forage intake decreases 2-3 pounds for each pound of supplement consumed at lower levels of

supplementation. There is a wide degree of variability in the actual forage intake response and one should monitor cattle and observe body condition to ensure sufficient nutrient intake to support the desired level of performance.

If you are faced with limited pasture forage or hay, consult with your nutritionist or county Extension agent to develop a feeding program for your herd. There are many feedstuffs that can be utilized to develop the most cost-effective feeding program that delivers the nutrients the cattle need to achieve your desired level of performance. Here's hoping you all get some timely rain.

Enroll Now for the PVAP-PRECONDITION Program

Kevin Laurent, Beef Extension Specialist, University of Kentucky

The Post Weaning Valued Added Program - Precondition (**PVAP-PRECONDITION**) is in its second year. This program is being offered through support of a grant from the Kentucky Agricultural Development Fund and is administered by the University of Kentucky and the Kentucky Beef Network. There are adequate funds available this year for approximately 20 producers. This program is aimed at Kentucky cow-calf producers who have never marketed weaned calves. The objective of **PVAP-PRECONDITION** is to encourage cow-calf producers to retain ownership and capture added value from their investment in beef cattle genetics, facilities, and improved management through diversified marketing strategies.

Following is a checklist of procedures and expectations for producers interested in participating in **PVAP-PRECONDITION**:

Eligibility

- Producers who have never weaned and preconditioned calves on the farm.
- Home raised weaned calves retained on the farm for 45-120 days prior to marketing.

Procedures

- A site visit by the UK ANR Agent or KBN Facilitator and UK Specialist to inspect facilities to determine the suitability of a weaning pen, on farm feed storage, etc. will be conducted. This visit will include planning the weaning process and designing a proper feeding program.
- Work, weigh and wean the calves using CPH-45 or similar approved protocol. Begin the feeding program. Calves will be graded and valued at this time using current KDA market information.
- Market calves at a recognized preconditioned sale or outlet such as CPH-45, Red Tag, Yellow Tag, Farmers' Elite, etc.
- Complete required paperwork detailing beginning weights, feed and vet costs, and sales receipts. Producers must submit completed paperwork to receive a PVAP-incentive payment.
- Payment will be \$30/head (maximum \$1,000) for producers completing the program.
- Producers will receive a closeout report detailing the costs and returns of the project.

How to enroll

- Contact your local county ANR Agent or KBN Facilitator to obtain an enrollment form.
- Upon returning the enrollment form, a farm visit will be scheduled.

Beating the Heat - Tips for Dealing with Heat Stress

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

Heat stress is a problem that can affect cattle throughout the United States. However, in Kentucky and across the southeast cattle are at risk for experiencing more frequent and severe heat stress events than in other regions of the country. Heat stress occurs when cattle cannot dissipate or get rid of excess heat, and there are a multitude of factors that can impact how susceptible an individual animal is to heat stress. These

factors include things such as breed, stage of production, age, and hair coat color which can make it difficult to predict an animal's susceptibility to heat stress. Heat stress results in decreased growth and reproductive performance and in severe cases even death; thus, it is not a problem that should be overlooked.

Cattle can be particularly susceptible to heat stress compared to other species because they are unable to sweat effectively, which means they rely on respiration to try and dissipate heat. Thus, a common sign that cattle are experiencing heat stress is excessive panting and increased respiratory rate. Furthermore, the cattle GI tract features the rumen, a large fermentation vat. While the rumen is what allows cattle to take human inedible protein and convert it to human edible protein in the form of beef or milk, this process also generates heat that the animal must dissipate. It is thought that this might be partially responsible for the decreased feed intake observed in cattle exhibiting heat stress.

Grazing endophyte infected fescue can also lead to more severe heat stress compared to grazing other forages. The endophyte produces ergot alkaloids resulting in decreased blood flow to peripheral tissues and the skin making it more difficult for cattle to dissipate heat. Additionally, the rough or retained winter haircoat can also make it more difficult for cattle to dissipate heat. This means cattle consuming endophyte infected fescue may have to work harder than cattle consuming other forages to regulate their body temperature, and this increased effort can lead to increased maintenance energy requirements.

Unfortunately heat stress is a complicated issue, and there is not a magic number on the thermometer to pinpoint when cattle will experience heat stress. In addition to animal factors, there are a number of environmental factors that affect the likelihood that cattle will experience heat stress. These factors include things such as temperature, wind speed, humidity, and solar radiation. Fortunately, some weather services such as the UK Ag Weather Center use those individual environmental factors to produce a heat stress forecast which categorizes the current conditions as either normal, alert, danger, or emergency.

While we can't control the weather, there are a number of steps that can be taken to help alleviate heat stress in cattle.

- 1) Watch the weather before working or moving cattle - Observe the weather as well as livestock heat stress forecasts and avoid working or moving cattle during times of excessive heat or when heat stress forecasts are elevated. It is best to work cattle in the early morning hours during hot summer months. Avoid moving or working cattle in the evening, because this is the time that cattle are working to dissipate heat accrued during the day.
- 2) Shade - Solar radiation plays an important role in an animal's susceptibility to and ability to cope with heat stress. Ensure cattle have access to shade, each animal requires 20-40 square feet of shade to be comfortable. Shade is especially important to cattle housed in feedlots or dry lots as the surfaces in these facilities can give off more heat compared to pasture conditions. If using an artificial shade structure, ensure that it is at least 8 feet tall to allow ample air movement underneath the structure.
- 3) Ventilation - If cattle are housed in confinement such as an enclosed barn or building, fans can be used to improve circulation of air throughout the building. Ventilation should be an important part of any facility remodeling or design.
- 4) Water - During periods of excessive heat cattle can consume over 25 gallons of water per head per day. If using a stock tank, ensure that there is enough area for multiple animals to drink at once. Ensure that water flow rates are fast enough to keep up with increased water intake. Regardless of water source ensure that the water provided is clean and cool. When water temperature increase above 80°F intakes can be decreased, so ensure water lines are not exposed to direct sunlight.

Furthermore, intake can be decreased if the water source is dirty, so ensure a clean water source free of algae.

- 5) Mineral - Minerals are a required nutrient and a complete free choice mineral should be provided for cattle on pasture 365 days of the year. With increased water intake associated with heat stress, urination will also increase and along with it excretion of certain minerals. Provide mineral in a location where cattle will readily consume it, as intake is key to any mineral program!
- 6) Feeding time - For cattle on feed, heat production will peak 4-6 hours after feeding. So, cattle fed in the morning will have peak heat production from feed intake during the hottest part of the day. Thus, cattle should receive ~70% of their feed 2-4 hours after the hottest part of the day.
- 7) Decrease dietary energy - Again for cattle on feed, research has shown that decreasing dietary energy can lower heat load for cattle during extreme heat. Work with a nutritionist before making dietary changes!
- 8) Pasture selection - If possible, avoid grazing endophyte infected fescue pastures during periods of extreme heat. This may not be feasible for all operations. Cattle should be on pastures that provide ample shade during the hottest parts of the day and allow for easy access to the water source from the shaded locations.
- 9) Fly control - When cattle are battling with flies, they tend to cluster together making it difficult to affectively dissipate heat. Also, fly avoidance behaviors exhibited by cattle, such as foot stomping, tail switching, and head movements require energy and can further exacerbate heat stress.
- 10) Take care of yourself- Last but certainly not least risks to human health are often overlooked when discussing heat stress on livestock operations. The most important part of any beef cattle operation are the people behind it. So, take precautions and be able to recognize the signs of heat exhaustion and heat stroke!

Let's Talk about Lepto!

Dr. Michelle Arnold, UK Veterinary Diagnostic Laboratory

What is Leptospirosis or “Lepto”? Leptospirosis is a complicated bacterial disease commonly associated with abortions, stillbirths and drop in milk production in cattle. However, this bacterium also causes sickness and death in cattle, dogs, sheep and horses worldwide and is an important zoonotic disease affecting an estimated 1 million humans annually. Farmers and those working in meat processing facilities are at highest risk.

What causes leptospirosis? The disease is caused by a unique, highly coiled, Gram negative bacterium known as a “spirochete” belonging to the genus *Leptospira*. These “leptospire” are highly motile due to their spiral shape and, once inside a host animal, they enter the bloodstream and replicate in many different organs including the liver, kidney, spleen, reproductive tract, eyes and central nervous system. The immune system will produce antibodies that clear the organism from the blood and tissues except from the kidney. Leptospire take up residence primarily in the kidney and are excreted in the urine for months to even years after infection. Less frequently, leptospire persist in the male and female genital tract and mammary gland of females and may be excreted in semen, uterine discharges and milk.

How do cattle become infected with leptospire? Transmission of the organism is most often through direct contact with infected urine, placental fluids, semen or milk. However, transmission may also occur by coming in contact with areas contaminated with infected urine, such as stagnant ponds or swampy areas with standing water. The leptospire survive in the environment for long periods of time (approximately 6 months in the right conditions) in stagnant water as well as in warm and moist soils but die quickly when dry or in cold temperatures. Entry into the animal may be through penetration of *intact* mucous membranes

such as through the mouth and the conjunctiva of the eye, or through damaged or water-softened skin. The organism may also be transferred during breeding and also during pregnancy from dam to fetus.

Which animals carry (“host”) this organism and are responsible for spread of disease? This is where the complicated life cycle of this organism must be explained in order to understand the wide range of disease symptoms that may be observed in cattle. To begin, it is important to distinguish two different types of “hosts”; 1) maintenance or reservoir hosts and 2) incidental or accidental hosts. A “maintenance host” is an animal that can carry the leptospirosis organism but not experience any obvious sickness from it. These are also known as “reservoir hosts” because this animal’s immune system allows the leptospires to happily live and duplicate themselves then be excreted and spread to other animals. Maintenance hosts for leptospires are often wildlife species including skunks, rats, raccoons and opossums but can be domestic animals (dog, cats) or livestock (pigs, cattle), depending on which kind of leptospire (known as a “serovar”) is involved (Table 1). For example, cattle serve as the maintenance host for the *Leptospira* serovar called “Hardjo type hardjo-bovis”. Transmission from one infected cow to another healthy cow with *L. hardjo* is efficient and the infection rate can be very high in an unvaccinated herd. When a cow is initially infected with *L. hardjo*, she may exhibit a few mild signs such as low fever but there will be very little antibody production by the immune system and the leptospires will stay primarily in the kidney and be shed in her urine for a prolonged period of time. In addition, the organism can also localize in male and female reproductive tracts and be shed in semen and uterine discharges.

An “incidental host” or “accidental host” is an animal that gets infected with a *Leptospira* serovar not normally found in that animal (infected “by accident”) that results in clinical disease that may be severe. Incidental hosts are not reservoirs of infection and transmission of the organism is uncommon within a herd. Infection of an incidental host usually occurs in areas contaminated with urine from maintenance hosts. For example, cattle are incidental hosts for the *Leptospira* serovar “Pomona” which is carried normally by feral swine (the maintenance host) and transmitted to cattle from water contaminated with swine urine. Once infected, cattle (especially calves) often show significant signs of disease, the immune system rapidly produces antibodies and there is a short period or no prolonged carrier state in the kidney.

Species	Serovar	Maintenance Host	Incidental Hosts
<i>L. borgpetersenii</i>	Hardjo (type hardjo-bovis)	Cattle	Sheep, goats
<i>L. kirschneri</i>	Grippotyphosa	Racoons, muskrats, squirrels	Cattle, sheep, horses, dogs
<i>L. interrogans</i>	Pomona	Swine, opossums, skunks, racoons	Horses, cattle, sheep, goats, dogs
<i>L. interrogans</i>	Canicola	Dogs	Cattle
<i>L. interrogans</i>	Icterohaemorrhagiae	Rats	Dogs, cattle, swine
<i>L. interrogans</i>	Bratislava	Pigs, mice, horses	Dogs, cattle, horses
<i>L. interrogans</i>	Hardjo (type hardjoprajitno)	Cattle	Sheep, goats

What are the symptoms of leptospirosis? Clinical signs or symptoms of disease in cattle depend on which *Leptospira* serovar is involved and if cattle serve as a maintenance host or incidental host for this specific type. There are over 250 serovars of *Leptospira* but the two most important serovars affecting cattle in North America are Hardjo and Pomona, with Grippotyphosa, Canicola and Icterohaemorrhagiae much less frequently diagnosed. Most bovine leptospirosis is caused by the *L. Hardjo* serovar for which cattle serve as the maintenance host.

Most commonly, infection in pregnant cows results in abortion (usually late term), stillbirth, or birth of premature and weak infected calves. Retention of fetal membranes may follow abortion. Infertility may occur if leptospires continue to live within the genital tract of *L. hardjo*-infected cattle, especially in younger females. Lactating dairy cows may exhibit “milk drop syndrome”, characterized as a drop in milk

production for 2-10 days where the milk has the consistency of colostrum, thick clots, yellowish color, and high somatic cell count, but the udder remains soft.

Severe, rapidly progressing disease may occur in calves infected with incidental serovars, especially Pomona. Symptoms of high fever, extreme weakness, red urine, rapid breathing due to anemia and death are all possible. Cows may experience a loss of milk production with very prolonged recovery.

How is leptospirosis diagnosed and treated? Diagnosis of this disease is not necessarily a simple task. Traditionally, a blood sample (red top blood tube) is taken from a cow that recently aborted and submitted to measure antibodies against the most common serovars. Incidental infections (for example, Pomona) will have highly elevated antibody numbers (called “titers”) that are diagnostic. Unfortunately, since cattle are the maintenance host of *L. hardjo*, the antibody numbers remain low even in the face of infection. Vaccination also confuses the interpretation of results because tests do not differentiate antibodies due to infection or antibodies due to vaccine. Therefore, multiple types of tests may be required to rule this disease in or out. Currently, urine samples can be tested for leptospires through a variety of assays to help identify the organism.

Animals diagnosed with leptospirosis can be treated with injectable long-acting oxytetracycline to remove the organism from the kidney. Research is ongoing if additional treatment is needed to clear infections within the genital tract. Consult your veterinarian for detailed advice regarding diagnosis and treatment options.

What methods are used to control and prevent leptospirosis in cattle? New infections are best prevented through vaccination with products containing the most common serovars affecting cattle. The leptospirosis fraction of the vaccine is often denoted as “L 5” in the vaccine name, representing Hardjo, Pomona, Grippotyphosa, Canicola and Icterohaemorrhagiae. In addition, several vaccine manufacturers have added extra protection against *L. Hardjo* type-bovis and this is denoted with “HB” in the vaccine name. It is worth mentioning that cattle already infected with leptospirosis must be treated first to remove the organism before vaccination is effective.

Control is accomplished by prevention of exposure, annual vaccination and treatment as needed. Reduction of cattle exposure to infected urine, especially fencing off stagnant ponds and swampy areas, will significantly reduce transmission of the organism. Personal protective equipment should be used when working with cattle suspected to be infected to prevent human disease.

Kentucky Beef Cattle Market Update

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

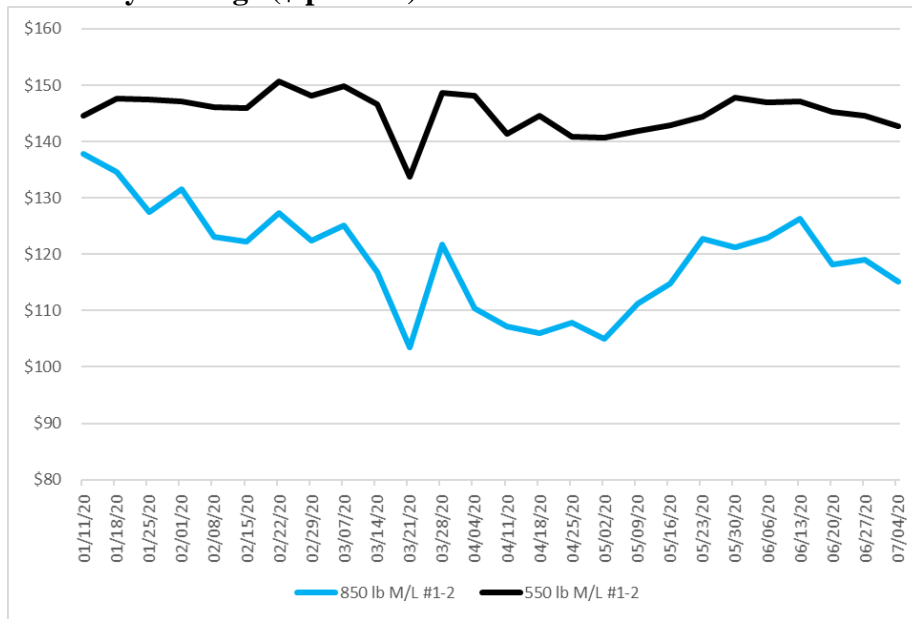
The general negative trend in cattle markets has continued over the last four weeks. For the last full week of June, federally inspected cattle slaughter was estimated above year-ago levels for the first time since early April. This simply has to continue if we want to work through the backlog of cattle in the system that resulted from several weeks of greatly reduced harvest. However, I do want to put this increase in perspective. For the last week of June, slaughter was estimated to be 1.4% above 2019 levels. This compares to slaughter being down 35% from 2019 levels at its lowest point this spring and down more than 20% for five straight weeks from mid-April to mid-May. Simply put, increases in slaughter are encouraging, but it is going to take a lot of time to get caught up.

I am writing this on July 3rd, and it appears that fed cattle are going to trade around \$95 per cwt for the week. Current fed cattle prices shouldn't fundamentally impact current feeder cattle prices, but I do think

the sharp drop over the last several weeks is putting a damper on prices across the board. Winter CME® live cattle futures should be driving current feeder cattle prices and they have dropped way less than cash prices, which does give me some reason for optimism as we move towards fall.

Stockyard receipts were light this week, probably due to the holiday week. But Kentucky cattle prices were down across the board. Calf prices were down again, but not by a great deal. Over the last four weeks, the state average price of a 550 lb M/L #1-2 steers is down \$4-5 per cwt. This is not good news, but not all that unusual by mid-summer. Heavy feeders are a very different story and seem to be bearing the brunt of the weakness in fed cattle prices. Over the last four weeks, the state average price of an 850 lb M/L #1-2 steer has dropped by more than \$10 per cwt. This is against the typical seasonal pattern making it more concerning (see Figure 1).

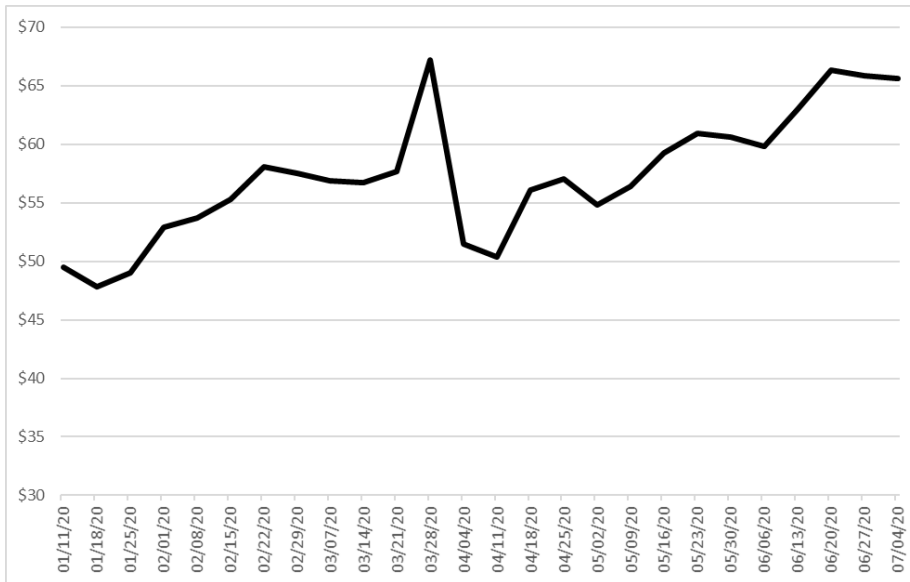
**Figure 1: Feeder Steer Prices since the First Week of January
Kentucky Average (\$ per cwt)**



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

The cull cow market was also called bit weaker this week, but prices were off by a very nominal amount. Average dressing 80-85% boning cow prices have decreased by less than \$1 per cwt over the last two weeks and remain north of \$65 per cwt (see Figure 2). These prices are still running about \$10 per cwt above last year.

**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

As I was writing this report today, I was thinking about what short-term market signals would suggest likely improvement in our feeder cattle markets and I came up with two main indicators. First, I want to see the fed cattle market make its seasonal lows. Over the last five years fed cattle prices have made their lows in the fall, but current futures prices are pointing to a summer bottom this year. Whenever this bottom is made, I do expect a boost to the feeder cattle market. Secondly, I am looking for a clear decreasing trend in slaughter weights. Slaughter weights have been increasing counter-seasonally since spring due slaughter reductions. A reversal of this trend would be a sign that we are putting a dent in the backlog of cattle in the system.