

# OFF THE HOOF

**KENTUCKY BEEF CATTLE NEWSLETTER APRIL 2019**



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

Cooperative Extension Service  
University of Kentucky

**Beef IRM Team**

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## Timely Tips

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

### Spring Calving Cow Herd

- Watch cows and calves closely. Save every calf (you can cull/sell them later). Calves can be identified while they are young and easy to handle. Commercial male calves should be castrated and implanted. Registered calves should be weighed at birth.
- Cows that have calved need to be on an adequate nutritional level to rebreed. Increase their feed after calving. Don't let them lose body condition. Keep feeding them until pastures are adequate.
- Don't "rush to grass" although it can be really tempting. Be sure that grass has accumulated enough growth to support the cow's nutritional needs before depending solely upon it. Cows may walk the pastures looking for green grass instead of eating dry feed. This lush, watery grass is not adequate to support them. Keep them consuming dry feed until sufficient grass is available to sustain body condition. We've spent too much money keeping them in good condition to lose it now!
- *Prevent grass tetany!* Provide magnesium in the mineral mix until daytime temperatures are consistently above 60°F. Mineral supplement should be available at all times and contain a minimum of about 14 percent magnesium. Make sure that your mineral mix also contains adequate selenium, copper and zinc. You can ask your feed dealer about the UK Beef IRM High Magnesium Mineral.
- Make final selection of heifer replacements. Consider vaccinating with a modified-live BVD vaccine.
- Purchase replacement bulls at least 30 days prior to the start of the breeding season. Have herd bulls evaluated for breeding soundness (10-20% of bulls are questionable or unsatisfactory breeders). Get all bulls in proper condition for breeding.
- If you are going to use artificial insemination and/or estrus synchronization, make plans now and order needed supplies and semen.
- Prebreeding or "turn-out" working is usually scheduled for late April or May - between the end of calving season and before the start of the breeding season (while cows are open). Consult your

veterinarian about vaccines and health products your herd needs. Make arrangements now for products needed and have handling facilities in good working order. Dehorn commercial calves before going to pasture.

### **Fall Calving Cow Herd**

- Pregnancy check cows now and cull open ones at weaning.
- Re-implant feeders.
- Consult with your veterinarian about a preweaning working of the herd.
- You may let calves creep-graze wheat or rye, if it is available. Calves will benefit from extra feed until spring grass appears.
- Plan marketing strategy for feeder calves.

### **Stockers**

- Don't go to pastures too soon, give plants some growing time. Then stock at two to three times the July rate and rotate rapidly.
- "Condition" purchased calves prior to grazing. They should be processed and fed a conditioning diet prior to being placed on pasture. You can also use this time to introduce them to electric fences which are used in rotational grazing.
- Provide a good mineral supplement which contains a rumen modifier (Rumensin, Bovatec, etc.) along with adequate levels of copper and selenium.

### **General**

- We've made a muddy mess this winter, so be prepared to reseed bare spots.
- Make plans to improve hay feeding areas to avoid muddy conditions like we have faced this winter. Consider geotextile fabric with gravel or concrete feeding pads.
- Prepare for the grazing season. Check fences and make necessary repairs. Check your corral, too.
- Get everything ready to make high quality hay in May! Have equipment serviced and spare parts on hand. Order baler twine now. Be prepared to harvest an adequate supply of hay when you have the opportunity. Re-supply the extra hay that you fed out of the barn. This past winter caused most producers to exhaust their hay supply, so it's time to re-stock.
- Plan now for fly control ... decide what fly control program that you will use but don't put insecticide eartags on cattle until fly population appears.

### **I Normally Like Ribs....**

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

Jeff, Darrh, and I were chatting the other day and, amazingly, we all agreed on something! Over our many miles of travel this winter/spring, we have seen more ribs on cows than any of us can remember. The wet, cold winter and poor hay quality has really stressed cows and if we don't watch out, it will impact rebreeding.

A successful breeding season begins with nutritional management decisions made prior to calving but most spring-calving herds are past that now. "Ribs" are best maintained over the winter during the two trimesters of pregnancy. Visible ribs are one component of body condition score. Body condition score (BCS) is a

numerical estimation of the amount of fat on the cow's body. It ranges from 1-9; with 1 being emaciated and 9 extremely obese. A change in a single BCS (i.e. a 4 to a 5) is usually associated with about a 75 pound change in body weight. Evaluation of BCS prior to calving and from calving to breeding is important to ensure reproductive success.

Rebreeding performance of cows is greatly influenced by BCS at calving. Cows that are thin (BCS < 5; visible ribs) at calving take longer to resume estrous cycles and therefore are delayed in their ability to rebreed. As precalving BCS decreases, the number of days from one calving to the next (calving interval) increases in beef cows. Females with a precalving BCS <5 tend to have production cycles greater than 1 year. For example, cows with a precalving BCS of 3 would be expected to have a calving interval of approximately 400 days, while a cow with a precalving BCS of 6 would have a calving interval of approximately 360 days. Thin cows are anestrous for a longer period of time and are therefore more likely to be open at the end of the breeding season. They may also result in lighter calves to sell the next year because the calves from these thin cows will be born later in the calving season.

Management of BCS after calving also impacts rebreeding efficiency. Maintenance requirements for energy and protein increase 25-30% for most beef cows after calving. Producers need to plan their supplementation to match or exceed this increased nutrient requirement. Rebreeding efficiency is enhanced in cows that calved thin if their energy intake is increased. Although the best management plan is to calve cows in a BCS of 5+, increasing the energy to cows that are thin at calving can boost reproductive performance. If you see ribs, increase the energy intake of your cows even if they are on pasture. They need to gain weight or rebreeding will likely be hindered.

Thin cows (on an increasing energy intake plan!), young cows, and late-calving cows have one characteristic in common that will greatly impact their reproductive success; anestrus. After each calving, cows undergo a period of time when they do not come into estrus. This anestrous period can be as short as 17 days but can also last as long as 150 days depending upon a number of factors. Typically, mature cows in good BCS will be anestrous for 45-90 days (avg about 60 days) while first-calf heifers will be in anestrous for 75-120 days.

Let's consider the impact of anestrus and calving date for a herd that calves from March 1 until May 10. Bull turnout is May 20 and the length of anestrus for mature cows (BCS 5+) is 60 days, for thin (BCS <5) mature cows is about 80 days, and for young cows is 90 days. A mature cow with no ribs showing (BCS 5+) that calves on March 1 will begin to cycle on May 1 and is highly likely to conceive early. However, the mature cow that calves on April 20 won't cycle until June 20 and her opportunity to conceive early is less likely. Mature cows with "ribs" showing and first-calf heifers that calve on April 20 won't begin to cycle until July 20 and will have limited opportunities to conceive.

Cattlemen can reduce the anestrous period by fenceline exposure to a mature bull or by treating the cows with progesterone for 7 days prior to bull turnout. Sources of progesterone include the feed additive melengestrol acetate (MGA) or an EAZI-Breed CIDR® insert (Zoetis Animal Health). Both sources induce estrus in anestrous cows and exposure of anestrous cows to progesterone for 7 days before bull exposure and increase pregnancy rate. Pregnancy rates increase in these females because inducing estrus will increase the number of opportunities these cows have to conceive in the breeding season.

Normally, I love "ribs" but not showing in my cows. If ribs are visible then plans need to be made to reduce the anestrous period. Energy intake must increase and estrus must be stimulated to give these cows a chance to conceive and give you a chance at a profit.

## **PVAP – A New Program Offered by UK and KBN**

*Mr. Kevin Laurent, Extension Specialist, University Of Kentucky and Mr. Tim Dietrich, Kentucky Department of Agriculture*

**What is PVAP?** There is a new program, beginning this year, aimed at Kentucky cow-calf producers who have never marketed weaned calves or who have never retained ownership in the feedlot. The program is called the **Post Weaning Valued Added Program** or **PVAP** for short. This program is being offered through support of a grant from the Kentucky Agricultural Development Fund and will be administered by University of Kentucky and the Kentucky Beef Network. The objective of PVAP 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. Two options will be offered: **PRECONDITION-PVAP** - which is an on farm preconditioning program that prepares calves for the feedlot and **FEEDLOT-PVAP** - which allows producers to send cattle to the feedlot for evaluation of performance and carcass merit.

**Justification:** Demand for weaned calves is growing and the cattle market is placing more emphasis on calves with a known management history. The overwhelming majority of calves in KY are weaned on the trailer in route to the local sale barn. Research has shown that calves preconditioned through programs such as the CPH-45 experience a 74% reduction in sickness and death loss making them more valuable to buyers. By weaning and preconditioning calves on the farm in KY, producers can not only potentially capture a premium at the sale barn, but also add more weight to calves prior to marketing. Summary data from UK and the Kentucky Department of Agriculture have consistently shown positive net returns for participating in CPH-45 sales. Additionally, the quality of KY cattle has improved tremendously over the last 15 years. Progressive producers may also be able to capture more added value and a greater return on their investment in genetics by owning their cattle through the feedlot phase. This will also provide an opportunity for cow-calf producers to gain valuable feedlot and carcass data on their herds.

### **Option 1 - PRECONDITION-PVAP (ownership retained post weaning, preconditioned and sold in KY)**

Program Eligibility:

- For home raised weaned calves retained on the farm for 45-120 days prior to marketing
- Only producers who have never weaned and preconditioned calves on the farm are eligible.
- Producers may only participate in the program one time.

Program Structure:

- Potential producers will be identified by the local UK ANR agent or KBN facilitator.
- **Step 1** - Site visit by the UK ANR Agent or KBN facilitator and UK Specialist to inspect facilities to determine the suitability of weaning pen, on farm feed storage, etc. This visit will also entail planning the weaning process and designing a proper feeding program.
- **Step 2** – 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.
- **Step 3** – Weigh and booster the calves. Evaluate the feeding program.
- **Step 4** – Sell the calves at a recognized preconditioned sale such as CPH-45, Red Tag, Yellow Tag, Farmers’ Elite, etc.
- **Step 5** – Complete required paperwork detailing beginning weights, feed and vet costs, and sales receipts. Producers must submit complete paperwork to receive a PVAP-incentive payment.
- Payment will be \$30/head (maximum \$1,000) for producers completing the program.

### **Option 2 - FEEDLOT-PVAP (ownership retained through feedlot phase and sold in Iowa)**

#### Program Eligibility:

- For home raised calves weaned on the farm using CPH-45 protocol, then enrolled in the Tri-County Steer Carcass Futurity Cooperative, Lewis, Iowa or similar approved program.
- Only producers who have never retained ownership through a commercial feedlot are eligible.
- Producers may only participate in the program one time.
- Producers cannot participate in both **PRECONDITION-PVAP** and **FEEDLOT-PVAP** in the same year.
- An attempt will be made to limit the number of calves an individual producer can enroll to a maximum of 20 head. Exceptions may be made to ensure enough cattle for shipment.

#### Program Structure:

- Potential participants will be identified by the local UK ANR agent or KBN facilitator.
- **Step 1** – Orientation meeting conducted by UK Specialists and UK ANR agents for participants.
- **Step 2** - Site visit by the UK Specialist, UK ANR Agent or KBN facilitator to evaluate the calves and plan the weaning process and design a proper feeding program.
- **Step 3** – Work, weigh, EID tag and wean the calves according to CPH-45 protocol.
- **Step 4** – Weigh and booster the calves. Evaluate the feeding program.
- **Step 5** – Deliver calves to central shipping point. Calves will be graded and valued by USDA personnel using current market information prior to shipment to the feedlot.
- **Step 6** – Upon harvest of cattle and receiving the final closeouts, a wrap up meeting will be held with UK specialists for one on one evaluation and interpretation of each producer's data.
- A \$75/head (maximum \$750) PVAP-incentive payment for producers completing the program.

#### Responsibilities:

##### UK Specialists:

- Provide two site visits per cooperator.
- Assist in designing the feeding program
- Summarize closeouts and report to KADF.
- Provide technical support to both UK ANR agents, KBN facilitators and producers.
- Develop educational material based on results.

##### UK ANR Agents/KBN Facilitators:

- Identify cooperators.
- Provide technical support on initial site visits along with subsequent cattle working events.
- Secure portable scales for on farm weights or access to nearby truck scales for group weights.
- Assist cooperators with records and completion of paperwork.

##### Producers:

- Commit to following recommendations for the feeding and management program.
- Maintain accurate records on costs and sales receipts.
- Complete BQCA certification.

**How do you participate?** If you are a cow-calf producer interested in participating in PVAP, you should contact your local UK ANR agent or KBN representative. Funding is limited so the sooner you express interest the better chance you have of being able to participate.

#### Udder Quality in Beef Cows - Does it Matter?

*Dr. Michelle Arnold, DVM, Ruminant Extension Veterinarian, University of Kentucky Veterinary Diagnostic Laboratory and Dr. Darrh Bullock, Extension Professor, Breeding and Genetics, University of Kentucky*

Udder and teat quality are two of the most important functional traits for a beef cow. Although much of the focus in selection of female replacements is on milk production, the milk delivery system (udder and teats)

is equally important. It is easy to see that newborn calves have a difficult time nursing oversized teats, especially if hanging very close to the ground, which often results in inadequate colostrum intake. However, there is limited research regarding the occurrence of mastitis in beef cattle and its associated effects. “Mastitis” is infection (usually bacterial) of the milk-producing tissue or “mammary gland”. A cow with a case of mastitis will typically have one or more affected quarters that are swollen and produce abnormal milk. The milk may be thick with clots, thin and watery, or may not look unusual depending on the infecting bacteria. Some cows exhibit signs of illness such as fever and anorexia (off feed) while others show no outward signs. Her calf may become weak and lethargic because of hunger since cows with mastitis do not produce much milk in the unaffected quarters. Once the infection is over, the quarter is usually damaged and produces much less milk (a light quarter) or dries up completely (a blind or dry quarter-see photo 1) for the rest of the cow’s life. Milk production in beef cows is the most important factor affecting calf pre-weaning growth and subsequent body weight at weaning. In fact, each additional



Picture 1: The two front quarters are blind (dry).

pound of milk produced per day may increase calf pre-weaning weight 15 to 30 pounds. At a current market price of \$1.60 per pound for 400- to 500-lb beef calves, producers may be losing \$25-\$40 or more per head due to the presence of mastitis in their dams, which reduces milk production and milk quality (Figure 1).

Figure 1: Average 205-day weaning weight (in pounds) by dam mastitis status. Blue-uninfected; Red-Coagulase-negative staphylococci (CNS); Green-*Staphylococcus aureus* mastitis. Graphic courtesy of Dr. Stephen Nickerson, University of Georgia

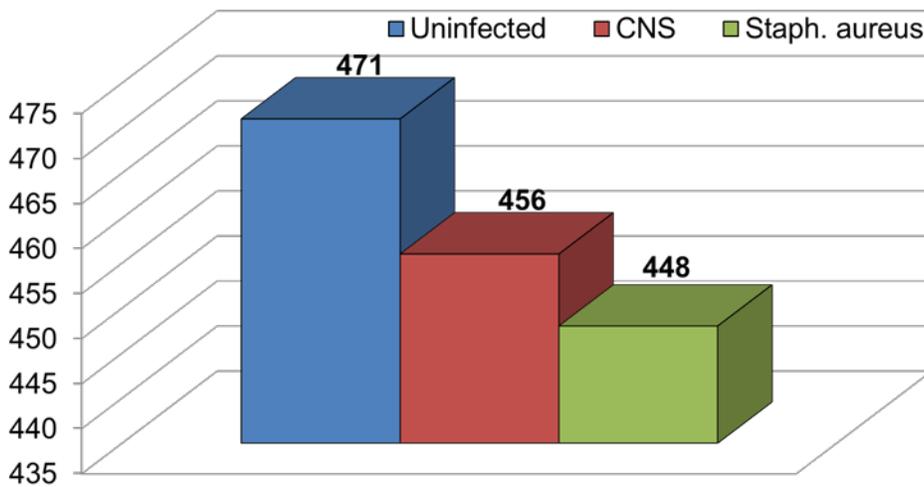


Figure 1: Average 205-day weaning weight (in pounds) by dam mastitis status. Blue-uninfected; Red-Coagulase-negative staphylococci (CNS); Green-*Staphylococcus aureus* mastitis. Graphic courtesy of Dr. Stephen Nickerson, University of Georgia

While beef heifers are most susceptible to mastitis in the summer due to horn flies biting the teat ends and introducing bacteria, adult beef cows are prone to mastitis infections when milk remains in the quarter that a calf is unable to suckle, either because the teat is too large or the teats are too close to the ground. A recent study found cows with large funnel-shaped teats, pendulous (low-hanging) udders, and cows with blind quarters are at highest risk for mastitis, especially in dirty environmental conditions. One of the most

effective methods to reduce the risk of udder health problems within a herd is by culling cows with poor teat and udder conformation. On the positive side, udder and teat characteristics are heritable so improvements can be made through proper genetic selection.

Udder scores in beef cattle are considered to be moderately heritable. Two scores are typically taken on beef cows, suspension and teat size. The heritability for suspension is .32 and .28 for teat size. What these values tell us is that females with good, or bad, udders tend to pass that trait to their daughters. From a practical standpoint in your herd, if you have a cow that has an undesirable udder it might not be economically feasible to cull her, but you would definitely want to avoid retaining her daughters as replacements. However, if the udder quality is so poor that it affects the calf’s ability to nurse resulting in reduced performance, culling may be your best option. Also, when purchasing your herd bulls that you intend to retain daughters from, it is a good idea to take a look at his dam and assess her udder quality. In this case it is not necessary to be too selective, but you want to avoid a bull from a dam that has extremely poor udder quality. Of course there is less relationship between a replacement heifer and her grand-dam than between her and her dam.

To date, the American Hereford Association is the only breed to provide Expected Progeny Differences for udder scores which enhances a commercial cattleman’s ability to select bulls that will pass on these qualities to his daughters. For more information on Hereford’s udder quality EPDs please see their fact sheet “Udder Scoring“: <https://hereford.org/wp-content/uploads/2017/02/udderscoringfactsheet.pdf>. Other breeds will

Score	Udder Suspension		Teat Size	
	Description		Description	
9	Very tight		Very small	
7	Tight		Small	
5	Intermediate /moderate		Intermediate/moderate	
3	Pendulous		Large	
1	Very pendulous, broken floor		Very large, balloon-shaped	

likely follow with udder EPDs in the future.

In July 2008, the Beef Improvement Federation (BIF) adopted a two-score system for evaluating udders (see Figure 2). With this system, producers score both teat size and udder suspension and scores for both characteristics range from 1 to 9. The best time to score is within 24 hours of calving and should be performed by the same person throughout the calving season for consistency.

Teat size is scored from 9 (Very Small) to 1 (Very Large, balloon shaped) on the worst teat and size includes both teat length and circumference. Generally, teats of intermediate length, symmetrical and more

Figure 2: Illustration from the Guidelines For Uniform Beef Improvement Programs Ninth Edition ([https://beefimprovement.org/wp-content/uploads/2018/03/BIFGuidelinesFinal\\_updated0318.pdf](https://beefimprovement.org/wp-content/uploads/2018/03/BIFGuidelinesFinal_updated0318.pdf))

centrally located on the quarter are desired. The teats that score from 1 to 3 are long, appear thick, are usually large and funnel or pear-shaped and often hang below the hock. These low scoring teats are difficult for a newborn calf to find, attach, and suckle. Intervention is usually required at calving for the calf to receive colostrum and the cow is at high risk for mastitis.

Udder suspension- Scores range from 9 (Very Tight) to 1 (Very Pendulous) and are actually assessments of her udder support. An udder suspension score of 9 means the udder is high and tight to the body, well above the hocks, with quarters mostly level from the side and rear views. On the other extreme, an udder suspension score of 1 is given when the floor of the udder is below the hocks, the quarters are not level and teats are not perpendicular to the ground when filled with milk. Again, intervention is required at calving for the calf to receive colostrum because of the difficulty of nursing.

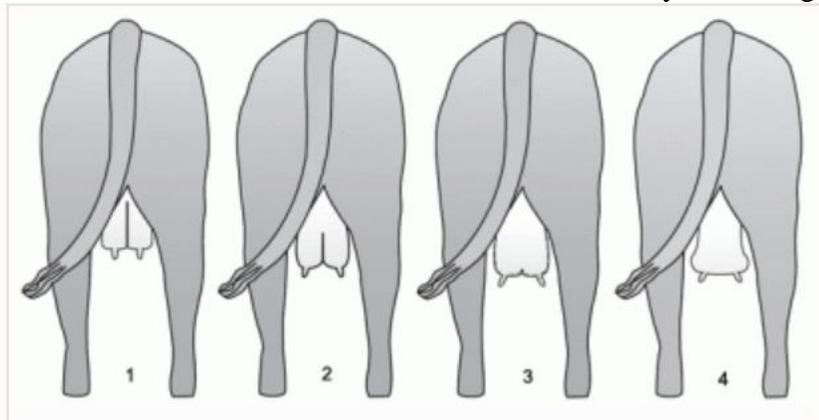


Figure 3: Udder suspension viewed from the rear. Drawing courtesy of Dr. Rick Rasby.

Weak udder suspension is due to lack of support from the median suspensory ligament that “ties” the udder to the cow’s body. Over time and with increasing age, weakness in this ligament will allow the udder to hang down too far from the body, allowing teats to drag in the mud and increase the potential for mastitis and/or teat injury. Figure 3 consists of drawings of different median suspensory ligaments, shown as a line in the center of the udder from the rear view. The median suspensory ligament (line) in Drawing 1 is easy to recognize and would be considered ideal. This type of attachment should allow for the udder to be carried above the hock for many years and teats suspended perpendicular to the ground when filled with milk. As the median suspensory ligament becomes weaker, the udder begins to 'sag' below the hock, the teats hang closer to the ground and splay outwardly as seen in Drawing 4.

Milk production in beef cows is one of the most important factors affecting calf pre-weaning growth and subsequent body weight at weaning. Mastitis will result in decreased milk production, reduced calf weaning weights, and lifelong damage to the quarter. Adult beef cows with large funnel-shaped teats, pendulous (low-hanging) udders, and cows with blind quarters are at highest risk for mastitis, especially in wet and muddy conditions. Culling these cows with poor teat and udder conformation and selecting replacements with better udder traits will make a noticeable difference in calf performance.

For further information, the BIF scoring system is described in a fact sheet written by Dr. Rick Rasby at the University of Nebraska-Lincoln entitled “A Guide to Udder and Teat Scoring Beef Cows” available at the following website: [https://beef.unl.edu/learning/udder\\_score.shtml](https://beef.unl.edu/learning/udder_score.shtml).

Next Month-Part II: Preventing Summer Mastitis

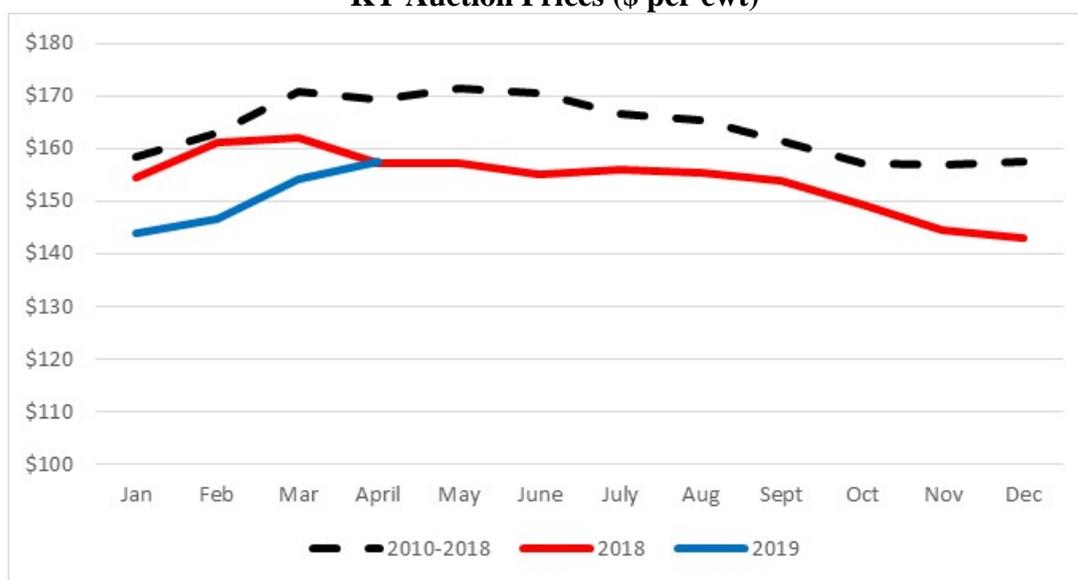
## Kentucky Beef Cattle Market Update

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

Spring is here and pastures are growing, which is exactly what our calf market needed after coming through such a tough winter. As I write this article (April 10, 2019), we are at our typical seasonal highs in the calf market, but I expect this market to hold well through summer. For the first week of April, 550 lb M/L #1-2 steers were selling in the mid-upper \$150's on a state average basis (see figure 1). At the same time, larger groups of calves were moving in the \$160's.

While the calf market has risen by roughly \$15 per cwt since its December lows, I'm actually surprised that calf prices aren't higher. As I write this article, fall CME® feeder cattle futures are trading in the \$158-\$160 per cwt range. Using this to make a Kentucky price estimate for fall and subtracting estimated costs for a stocker operation between now and then, suggests higher than normal profit levels for a summer grazing program. Greg Halich and I discussed this in our summer stocker outlook last month in the Economic and Policy Update at <http://www.uky.edu/Ag/AgEcon/pubs/extbluesheetMar1920.pdf>. And, it's worth pointing out that futures are actually higher now than they were when that article was written last month. I definitely think that the challenging conditions this winter have had an impact on our forages this spring and may partially explain why stocker operators have not bid the price up calves up as much as usual this spring. Regardless, I see some opportunity there for stocker operators looking to place calves now.

**Figure 1. 550# Medium & Large Frame #1-2 Steers  
KY Auction Prices (\$ per cwt)**



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

It's impossible not to think about the devastation that many cattle producers in the Midwest and plains continue to deal with. The economic losses incurred by many individuals are hard to fathom. Naturally, I have been getting a lot of questions about the potential market impact of the flooding. To understand this, we have to have understand the supply impacts and there is no way to know those at this point. There have been some numbers tossed around about cattle losses, but there is nothing definitive.

Typically, the overall market impact of localized natural disasters is small because natural disasters usually impact a small percentage of the total US cattle supply. However, the flooding has appeared to be very widespread and has had the potential to impact a lot of confinement-type operations. Both of those factors

will increase the potential for market impacts. Darrell Peel, my counterpart in Oklahoma recently discussed the impact on feedlot performance, which is another supply impact that often gets overlooked.

The futures' market likely provides our best estimate of the potential market impact at this point. There was a pretty clear increase in CME© feeder cattle futures starting around March 15<sup>th</sup> and lasting for about ten days. In my opinion, this is primarily due to the markets trying to incorporate this impact into feeder cattle prices. Both spring and fall contracts were affected and increased by about \$6-7 per cwt. However, the spring contracts (using May as an example) have given back nearly half of the increase for a net change of \$3-4 per cwt. Conversely, fall contracts (October for example) have largely held this increase, suggesting a price impact of \$6-7 per cwt.

As I write this, the October CME© feeder cattle futures contract is trading at a \$13 premium over the April. Part of this is seasonal, but I also think the impact of the flooding is adding to this seasonal expectation. Put simply, the board is suggesting that heavy feeder cattle prices are going to increase significantly throughout the summer. I think this is another reason why calf prices have not reached levels that I would have expected this spring. It is very likely that feeders coming off of grazing programs this fall will sell at higher prices than those same feeders in the current market. So, producers need to be aware of this as they make management decisions over the coming months.