

# OFF THE HOOF

**KENTUCKY BEEF CATTLE NEWSLETTER MARCH 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 Cows

- Observe spring-calving cows closely. Check cows at least twice daily and first-calf heifers more frequently than that. Be ready to assist those not making progress after 1 to 2 hours of hard labor. Chilled calves should be dried and warmed as soon as possible.
- See that each calf gets colostrum within an hour of birth, or administer colostrum (or a commercial colostrum replacement) with an esophageal feeder, if needed.
- Identify calves with ear tags and/or tattoos while calves are young and easy to handle and record birthdate and Dam ID. Commercial male calves should be castrated and implanted as soon as possible. Registered calves should be weighed in the first 24 hours.
- Separate cows that have calved and increase their feed. Energy supplementation to cows receiving hay is necessary to prepare them for rebreeding. For example, a 1250 lb cow giving 25 lb/day of milk would need about 25 lb of fescue hay and 5 lb of concentrate daily to maintain condition. If you need to go from a condition score of 4 to 5, you will need to add about 2 more pounds of concentrate. Cows must be in good condition to conceive early in the upcoming breeding season.
- Watch for calf scours! If scours become a problem, move cows which have not calved to a clean pasture. Be prepared to give fluids to scouring calves that become dehydrated. Consult your veterinarian for advice and send fecal samples to diagnostic lab to determine which drug therapy will be most effective. Try to avoid feeding hay in excessively muddy areas to avoid contamination of the dams' udders.
- Continue grass tetany prevention. Be sure that the mineral mix contains high levels (~15%) of

magnesium and that cows consume adequate amounts. You can feed the UK Beef IRM High Magnesium mineral.

- Plan to vaccinate calves for clostridial diseases (Blackleg, Malignant Edema) as soon as possible. You might choose to do this at the prebreeding working in late April or early May.
- Obtain yearling measurements on bulls and heifers this month (weight, height, pelvic area, scrotal circumference, ultrasound data, etc.) if needed for special sales. Heifers should be on target to be cycling by the start of the breeding season.
- Prepare bulls for the breeding season. Increase feed if necessary to have bulls in adequate condition for breeding. Obtain Breeding Soundness Evaluation (BSE) on bulls, even if they were checked last breeding season.
- Finalize plans for your spring breeding program. Purchase new bulls at least 30 days before the breeding. Order semen now, if using artificial insemination.

### **Fall-Calving Cows**

- Bull(s) should be away from the cows now!
- Plan to pregnancy check cows soon. You can also blood test for pregnancy as early as 30 days after bull removal.
- Creep feed calves with grain, by-products or high quality forage. Calves will not make satisfactory gains on the dam's milk alone after about 4 mos. of age – since there isn't much pasture in March, fall calves need supplemental nutrition. Consider creep grazing on wheat pasture, if available. Calves can also be early-weaned. At the best least, be sure that feed bunks are low enough that calves can eat with the cows.
- Calves intended for feeders should be implanted.
- Consider adding weight and selling your fall calves as "heavy" feeder calves. Keep them gaining!

### **General**

- Repair fences, equipment and handling facilities.
- If you have a dry, sunny day, use chain-link harrow to spread manure in areas where cattle have overwintered. This may be done in conjunction with renovation.
- Renovation and fertilization of pastures should be completed.
- Start thistle control. They can be a severe problem in Kentucky pastures. Chemical control must be done early to be effective.
- Watch for lice and treat if needed.

### **Mid-South Stocker Conference in March**

***Dr. Jeff Lehmkuhler, Associate Extension Professor and Mr. Ben Crites, IRM Coordinator, University of Kentucky***

The Mid-South Stocker Conference is headed to Clarksville, Tennessee for 2019. Mark your calendars to join us on March 21<sup>st</sup>, 2019 beginning at 8:00 am CT with registration and plan to stay the day with us.

This year's conference will take place at the Quality Inn Exit 4, a location easily accessible off I—24. The facility provides plenty of space for the tradeshow as well as the educational sessions. This area had been identified as a desirable location several years ago. It is near the Kentucky - Tennessee border and between the I-65 corridor and the western Kentucky region that is home to several stocker and backgrounding operations.

This year's theme, "Opening Pathways to Profitability," lays the foundation for the 2019 conference. Speakers from several universities across the southeast will provide valuable information to assist the stocker and backgrounding operations in the region to find additional profit margins in their business. An update on the U.S. Roundtable for Sustainable Beef, adding value by reconditioning cull cows, and economic evaluations are topics slated to kick off the morning educational sessions. Participants will have time to view the trade-show and visit with vendors in the morning, lunch, and early afternoon to learn about products and services available. Topics for afternoon sessions include virtual tours of local operations, proper dart use, and pinkeye considerations will round out the program.

Early-bird registration is \$50 and ends March 1<sup>st</sup>. After March 1<sup>st</sup>, registration will increase to \$65. You may register by mailing in the registration form or online. A registration form and program agenda can be obtained from your local ANR extension agent. Additionally, information on how to register and the complete agenda can be found on the Mid-South Stocker website housed by UT at <https://ag.tennessee.edu/midsouthstockerconference>. You may also contact Dr. Jeff Lehmkuhler, [jeff.lehmkuhler@uky.edu](mailto:jeff.lehmkuhler@uky.edu) or 859-257-2853 for additional information. We look forward to seeing you on March 21<sup>st</sup> in Clarksville, TN.

## **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.

## **Weed Management Considerations Following a Wet Winter**

*Dr. J. D. Green, Extension Weed Scientist, University of Kentucky*

Extensive wet weather conditions during the past fall and winter have resulted in pasture fields that have bare soil and thin vegetative cover, particularly in areas that have been used for winter feeding. Fields with thin stands of desirable pasture species are more likely to contain winter annual weeds such as chickweed, henbit, purple deadnettle, and mustard species. As these cool-season weeds die back, warm-season weeds such as common cocklebur and common ragweed will likely emerge this summer and take their place.

The first step in determining weed management options is to do a critical evaluation of pasture fields in the late winter/early spring. Scout fields looking for any developing weed problems. The primary question then becomes – does the existing stand of desirable forages appear to be healthy and potentially competitive against any emerging weed problems? If the forage stand is acceptable and weed pressure is light, then the best course of action may be to wait before making any herbicide applications this spring, but focus on other routine pasture management practices to promote the growth of desirable forage species. However, if you do see developing weed problems then you may want to take action in early spring to begin to correct these problems. In some cases, there may not be any good solutions that will correct all weed problems observed. Highlighted below are some points to consider as you make those decisions.

After evaluating the field, you must decide whether or not to 1) overseed or drill more forages into an existing pasture to improve the stand of desirable forage grasses or 2) spray to control emerging broadleaf weeds. *In most cases you will not be able to do both practices in the spring since most broadleaf herbicides have the potential to injure newly emerging forage grasses and legumes.* For pasture herbicides containing only 2,4-D it is generally recommended to wait 4 to 6 weeks after spraying before reseeding forage crops. Other broadleaf herbicide products may require a 6 month waiting period between application and seeding forage legumes and grasses (consult the label of specific herbicide products used). As a rule of thumb, if you decide to spray this spring you will need to wait until late summer or fall before seeding additional forages. If you reseed first, then it is recommended that you wait until the new seedlings have become well established before making a herbicide application this summer. **It is important to also note that broadleaf type herbicides cannot be used in fields where clovers or other legumes have been seeded.**

Another alternative to consider is the use of a partial pasture renovation technique to control or suppress growth of the weedy vegetation followed by interseeding more forage grasses or legumes. This assumes that the field is not needed for grazing animals until the newly seeded forages become well established. In this approach a herbicide product containing paraquat (eg. Gramoxone) can be applied to kill back winter annual weeds. Leaves of actively growing forage grasses will also be “burned back” by the paraquat application, but established plants are not likely to be killed. Desirable forage grasses and legumes which have a good root system should regrow and resume active growth within a few days after treatment. Since paraquat has no soil-residual activity, desirable forages can be interseeded into the soil immediately after herbicide

application. Paraquat is a “Restricted Use” pesticide, whereby only licensed and certified applicators who have completed training are allowed to purchase and apply it. Weedy plants such as curly dock, chicory, or Canada thistle with perennial roots or other weeds with established taproots (such as musk thistle) will likely survive this treatment.

If your course of action is a “wait and see” approach, keep in mind that smaller weeds are easier to control than after they increase in size. Specific details on herbicides labeled for use on grazed pastures and hay fields and their effectiveness on target weed species can be obtained from your local county Extension office.

## **Waiting for Grass**

*Dr. Jeff Lehmkuhler, Associate Extension Professor, University of Kentucky*

As spring approaches there are a few things to keep in mind. Pasture conditions on many farms are going to be less than ideal. Heavy foot traffic combined with excess precipitation has led to a decline in swards. Spring growth could be hampered as a result. In my travels across the state during the first of March I noticed cows already trying to pick on new growth. Cows going to graze when hay supplies are tight is a welcome change to feeding hay in the mud.

However, the pasture forage will benefit this spring from delaying grazing. Much of the early growth will be supported by plant energy stores until sufficient leaf area has developed for photosynthesis. Continually removing this new growth could further weaken stands or slow spring forage growth. Implement rotational grazing management to provide some rest/recovery time for plants this year.

I typically recommend delaying spring turn out on pastures until the new grass growth has reached a height of your boot toe or about two inches. This can help both the forage and cattle. Early spring growth can be upwards of 90% moisture. A cow requiring 30 pounds of dry matter intake would have to consume 300 pounds of actual grass due to the high water content. Short and thin forage stands require cattle to expend a lot of energy walking fields for every blade of green grass to fill the rumen.

Research has shown that grazing activity requires more energy than either walking or standing. Other studies suggest early spring grazing may require nearly twice the energy as grazing in summer months. This is partially due to forage availability and the amount of forage consumed with each bite. Thicker, taller forage stands provide greater intake per bite improving grazing efficiency. Additionally, cows are not as conditioned to grazing in early spring. Cattle may also need 4-6 weeks to acclimate to the physical activity of grazing. This early season grazing energy expenditure could result in cows expending more energy than consumed resulting in lower body condition, not what we want this spring.

Continue to offer some hay even when you turn cows out on grass in early spring. The high moisture content can limit dry matter intake. Cows will not eat much hay but five pounds of dry hay intake is equivalent to approximately 40 pounds of lush pasture forage. Providing access to hay can provide cows an opportunity to increase daily dry matter intake.

Hopefully, spring will be here soon and pastures will be better than we think. Make plans to manage the pasture stands for production by fertilizing, seeding and controlling weeds as needed. Apply some level of grazing management to provide a rest/recovery period for pastures. For more information on pasture management stop in and visit with your local ANR agent at the Extension office.

## **The Sun Will Come Out....**

*Dr. Jimmy Henning, Extension Professor, Forage Specialist, University of Kentucky*

*A dry sunny day would be a welcome site, but not likely soon. Don't be distracted by the immediate problem of mud when thinking about rehabilitating pugged up pastures. Focus on how best to re-establish permanent cover.*

The sun will come out...

...at least I hope so. Our Kentucky Forage and Grassland Council board met yesterday, and they challenged all of us in forage leadership to get as specific as possible about what producers should do about mud. What follows is a synthesis of thoughts about the path forward after what amounts to two years of incredibly wet winter weather.



Henry Ford said ‘Obstacles are those frightful things we see when we take our eyes off the goal. With that in mind, I am going to challenge us all to think beyond the short term problem of a pugged up field to the ultimate goal to be accomplished. We need to get a thick stand of grazing and traffic tolerant grass on these areas before going into the next winter feeding period.

In terms of the type of grass to seed, I think the only hope for holding these feeding area fields together is tall fescue. The choice between a novel tall fescue variety or ordinary KY 31 is perplexing, even for me. The novel fescues are clearly tough, and this is clearly an opportunity to upgrade a field. The decision driver may be whether the field can be well managed for forage growth in the future. The economic returns for novel endophyte tall fescue are significant, but do rely on having multiple years of productivity from that field.

Spring is not the preferred time for seeding cool season grasses, because the seedlings are shallow rooted and often struggle to get through the summer due to heat, lack of water and weeds. However, this is probably the year to take the risk of a spring seeding of cool season grass, especially if the field must be used for winter feeding again next year. A spring seeding of tall fescue that well managed (not overgrazed) during summer has the best chance for generating the significant growth needed for hoof support during the winter. Success rates will go up if these plantings can be made by mid-April.

Success rates of seedings improve with seedbeds that allow for good seed soil contact. Some tillage will be needed, even if the field is to be seeded with no-till drills. Use seeding rates on the high side of the range and drill in two directions with a half rate each time.

Using an interim summer forage like crabgrass or summer annual grass can be helpful if a fall seeding of grass is the goal. These forages can give production, especially grazing from the field prior to the late August/early September seeding windows for fall plantings of grass.

Summer annuals (sorghum-sudangrass, sudangrass, pearl millet) give us more time to get the ground smoothed, as they are usually seeded beginning in early May depending on soil temperature. These grasses

have the advantage of providing high yields as well as utilizing the fertility provided from the manure and urine in hay feeding areas. Indications are that seed supplies of these products will be tight because of poor harvest conditions last year. So if that is your plan, book your seed early. Consult AGR-229, Warm Season Annual Grasses in Kentucky (Google AGR-229 UKY) to see which one is right for you.

Finally, it is still conceivable that ryegrass (planted right away) can provide some quick cover, and spring oats can actually yield 2 tons plus per acre if planted my mid-March. The likelihood of getting a seeding window in the next two weeks is dwindling, but the option is there.

Summarizing all of this, our goal is a good stand of permanent cover on our winter feeding areas.

Everything we do has to work towards that goal.

Happy foraging.

(First published in Farmer's Pride, February 28, 2019)

## **What To Do When Calves Are Born Weak**

*Michelle Arnold, DVM, Ruminant Extension Veterinarian, University of Kentucky Veterinary Diagnostic Laboratory*

“Weak Calf Syndrome” is a term applied to any calf born alive but is slow to stand and may or may not attempt to nurse. Calves born to dams that experience weight loss during the final 50-60 days of gestation are at high risk of being weak. An energy deficient diet fed to late gestation cows leads to prolonged labor, dystocia (difficult birth), poor quality and quantity of colostrum and decreased milk production. Many of the newborn calves presented to the UKVDL in recent weeks for necropsy have had no milk within the digestive tract. With excellent management, some weak calves will survive but most will die shortly after birth. If they survive, many experience sickness, decreased growth rates and lower weaning weights. The following is a summary of known factors involved in weak calf syndrome and how to best address them.

1. **Inadequate Pre-Partum Nutrition:** As mentioned previously, nutrition in the last 50-60 days of gestation is key to preparing a calf for life outside the cow. Approximately 80% of fetal growth occurs during this time so the dam must have adequate nutrition to support this growth. Additional nutrients are required to develop the brown fat in the fetus that will supply energy for the newborn calf to survive until adequate colostrum and milk are ingested. The two most important cow requirements are protein and energy. Research has shown that calves born to cows on a protein restricted diet have less vigor, less ability to warm themselves, and it takes a much longer time for them to stand after birth. Energy restricted cows (cows losing weight during late gestation or are thin) have calves with lower fat stores and longer intervals from birth to standing.

There is a much higher incidence of weak calves born to heifers and very old cows. First calf heifers are still growing themselves while pregnant so it is easy for them to become deficient in protein and energy. Older cows may have difficulty keeping weight on due to bad teeth, lameness or chronic disease issues. Often, heifers, thin cows and older cows simply cannot compete for hay and feed and should be fed separately to allow them access to the feed they need.

2. **Micromineral or Trace Mineral Deficiencies:** Deficiencies in blood selenium levels of cows (occasionally cobalt and iodine) have been associated with weak calves. A severe selenium deficiency will cause “white muscle disease” in which calves are born with a weak heart and/or weak muscles and die soon after birth. Keep a good trace mineral mix in front of the cows at all times or have it mixed in the feed if offering supplemental feed so calves are born with sufficient amounts.

3. **Dystocia (Difficult Birth):** A calf involved in a difficult birth will have decreased vigor and take longer to stand and nurse. Low levels of oxygen in the blood of the calf (“hypoxia”) may also impair the function of the central nervous system (brain and spinal cord) as well. Signs of dystocia in a newborn calf include a swollen head or tongue, bruising, fractures, excessive fluid in the trachea or lungs, and brown or yellow staining of the hair coat from the meconium. Additionally, a calf may have broken ribs that affect its ability to breathe.

If a calf does not stand and nurse within one hour of birth, the calf must be fed colostrum either milked from the dam or use a commercial colostrum replacement. Colostrum should be given as soon after birth as possible, preferably within 1-2 hours and no later than 6 hours.

4. **Severe Cold or Wet Weather:** Weak calves born during cold, wet weather with little brown fat can quickly develop hypothermia (low body temperature) and are unable to stand or nurse until warmed. A warm water bath, blow dryer, heat lamp or floorboard heat can quickly warm a cold calf. Beware of heating pads as they can cause burns.
5. **Infectious Causes-Bovine Viral Diarrhea (BVD) Virus and Leptospirosis:** Both the BVD virus and the spirochete *Leptospira interrogans* serovar *hardjo* infections have been implicated in weak calves. If the cow is infected with the BVD virus during gestation, there may be multiple congenital defects such as a domed head, cleft palate, cataracts and other eye defects, hydrocephalus and other brain abnormalities in the affected calf. The involvement of *Leptospira* organisms in weak calves is not well understood but they have been isolated and are undergoing further study.

If pregnant cows in the herd have been losing weight, especially in late gestation, it is best to prepare for the birth of weak calves. Several measures should be instituted immediately to save as many calves as possible:

1. **Check heifers and cows in labor frequently (at least 2-3 times daily) -** Although producers are accustomed to watching heifers closely for calving difficulty, this recommendation should be extended to all cows. Once the water bag or hooves appear, the calf should be born within an hour. If the cow is not making progress, call your veterinarian for help. If signs of labor are observed for 6-7 hours and the water bag does not appear, the calf may be breech (tail first). Again, call for help quickly for a better chance to have a live calf.
2. **Provide shelter during harsh winter weather -** Unrolling hay on the ground where there are windbreaks or wooded areas provide some protection during times of intense rain and cold. A shed or barn can be beneficial but remember organisms that cause calf diarrhea build up very quickly in those protected areas. Barns should be clean, dry and well-bedded if used for calving. If cows were not vaccinated with scours vaccine prior to calving, there are products available to give the calf by mouth at birth to aid in scours prevention.
3. **Identify the weak calves and institute special care -** If the calf is slow to stand and nurse, intervention is necessary. It is important to dry the calf off, dip or spray the navel with disinfectant, warm the calf, and feed colostrum with an esophageal feeder. Have a good quality commercial colostrum replacement (NOT supplement) on hand and ready to mix and feed. Do not delay because the longer the interval from birth to feeding, the fewer antibodies absorbed by the calf. If you observe a calf frequently attempting to nurse, it is unlikely to be getting enough milk and may need supplementation.

4. Test your hay then evaluate the protein and energy in the ration and address any deficiencies. Body condition score the cows and heifers due to calve in the next 60 days to evaluate their needs. In addition, remember that lactating cows have the greatest need for energy because they are producing milk. If at all possible, separate cows according to their nutritional needs and feed them accordingly. Creep feeding calves will help the older calves continue to grow and lessen the burden on the lactating dams.
5. Do your best to feed in different spots to avoid creating areas of deep mud. Calves and weak cows will get stuck in deep mud and die. Similar to the La Brea tar pits, mud is very sticky and will trap weaker animals until they die of exhaustion or fall prey to a predator. Fields can be fixed when winter is over.
6. Diagnose the cause of unexpected death in newborn calves. Contact your local veterinarian and submit any calves that die due to unknown causes to the UK Veterinary Diagnostic Lab or Breathitt Laboratory in Hopkinsville.

The best strategies to prevent weak calves next calving season are a solid vaccination and deworming program, proper nutritional management, and avoiding dystocias. Not only will calf survival improve but pregnancy rates will increase as well. Keep the following points in mind:

1. Vaccinate cows at least 4-6 weeks before breeding with a 5-way viral respiratory vaccine (IBR, BVD Types 1 & 2, PI<sub>3</sub>, BRSV), with Vibriosis and the 5 strains of Leptospirosis. Consult your veterinarian about testing the herd for persistent infection with BVD virus.
2. Test your hay and plan to provide enough protein and energy for cows and heifers with a balanced ration based on the stage of production (lactation, mid- or late gestation). Ensure a clean, uninterrupted water supply 24 hours a day, 7 days a week.
3. Maintain a body condition score of 5 for cows (up to a 6 for heifers) to ensure adequate condition at calving.
4. Allow cows access to some form of shelter in case of bad weather when calving. However, if unable to keep this area clean, calves are far better off being born outside in a grassy area.
5. Have enough help on hand at calving to watch cows, assist with calving and treat weak calves if necessary. A strong relationship with your local veterinarian is exceptionally important for difficult calving situations and the evaluation and treatment of weak calves.

## **Extension Hay Auctions Help Producers Find Much Needed Hay**

*Katie Pratt, Agricultural Communication Specialist, University of Kentucky*

In a year where hay supplies are tight, hay auctions hosted by the University of Kentucky Cooperative Extension Service have provided an important link for producers wanting to buy forages.

Supplies are limited because of the excessive rainfall the state received during the past year. Producers faced wet conditions at all stages of hay production. They cut hay late, or they harvested it on time, but it was rained on before they could package it. The abundant rainfall during this winter is also increasing the energy requirements of livestock, and to compensate, they are consuming more hay than usual.

“We are having a huge hay shortage,” said Brandon Bell, Metcalfe County extension agent for agriculture and natural resources. “Our producers were running out of hay in mid-January where normally they would start running low in mid-March.”

Bell, Chris Schalk and Kevin Lyons, who are agriculture and natural resources extension agents in Barren and Monroe counties, organize the Tri-County Hay and Straw Auction along with the Metcalfe County Fair Board. While the auction has occurred for several years, producers came from across the region and Middle Tennessee to purchase hay this year.

Brandon Sears, Madison County extension agent for agriculture and natural resources, has hosted a similar hay auction with his local fair board since 2008. He said producers typically come to the Madison County auction from about 50 to 60 miles away, but interest was definitely up this year.

Hay at both auctions sold for nearly double the price of a typical year. In Madison County, buyers purchased small square bales of alfalfa/orchardgrass for around \$11 each. Round, 5 feet by 5 feet grass hay bales sold between \$42 and \$75. In Metcalfe County, small square bales of alfalfa went for \$7 on average, and depending upon where they were stored, grass rolls went for around \$40 for outside storage to \$57.50 for inside storage.



*Producers bid on hay during the 2019 Tri-County Hay and Straw Auction in Metcalfe County. Photo by Kevin Lyons, Monroe County agriculture and natural resources extension agent.*

In fact, the agents had trouble finding hay to sell and heavily relied on their connections with local producers to make it happen.

“It really showed me how little hay there was in the region,” Sears said. “A lot of our normal consigners were out when I asked them about selling hay this year.”

Customers received an added bonus when Kim Fields from the Kentucky Department of Agriculture brought the department’s mobile hay testing lab to both locations to test samples from each lot. Agents weighed the hay upon arrival. Before the auctions started, the agents provide a quick educational session on hay quality, the importance of hay testing, understanding the test results and how to supplement the hay to create feed rations that would give the livestock the nutrition they need.

“Farmers are really in a tough spot this year, and we want to help them not only purchase hay but make informed purchasing decisions,” Sears said.

UK Cooperative Extension is part of the College of Agriculture, Food and Environment. Jointly with its land-grant partner, Kentucky State University, UK Cooperative Extension brings the university to the people in their local communities, addressing issues of importance to all Kentuckians.

Contact: Brandon Bell, 270-432-3561; Brandon Sears, 859-623-4072

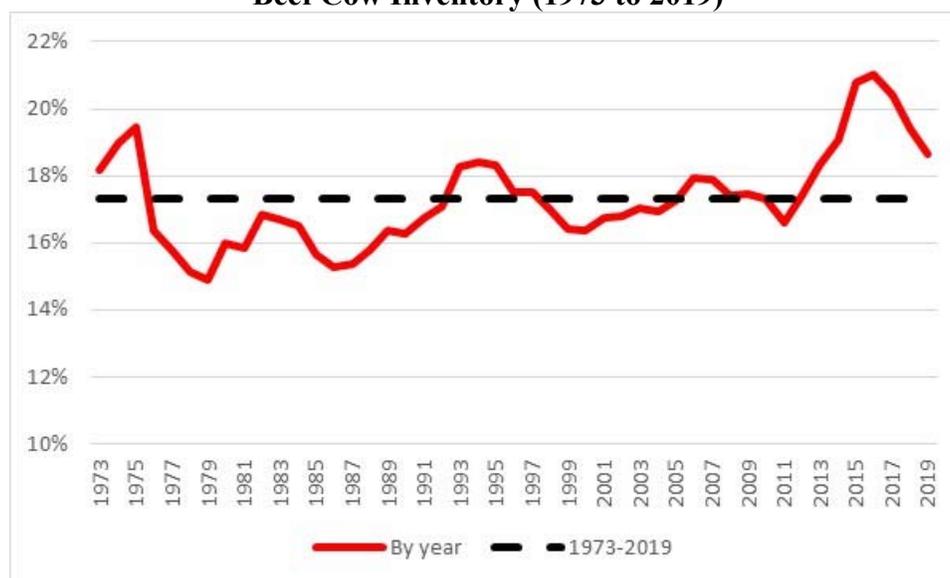
## Does 2019 Mark the End of Beef Herd Expansion?

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

After some delay due to the federal government shutdown, USDA released their January 1 estimates for cattle inventory on February 28<sup>th</sup>. At the national level, beef cow numbers were estimated to have grown by 1% from 2018. This is a lower rate than was seen last year, but growth nonetheless. Going back to 2014, the beef cow herd has grown by almost 10%. Heifer retention estimates provide further evidence that herd growth is slowing as the number of heifers held for beef cow replacement was down by 3%.

My preferred way to consider heifer retention is to look at it as a percentage of beef cow inventory. Based on these most recent estimates, heifer retention is running at 18.7% of beef cow inventory, which is slightly above the average going back to 1973 (see figure 1). Figure 1 really illustrates how high heifer retention was during the 2015-2017 time period, running above 20% in each of those three years. When one considers recent cow slaughter volume, and the likely age of this cow herd, it is my opinion that this level of heifer retention is probably about at replacement level for the current level of beef cow inventory.

**Figure 1: Jan 1 Beef Heifer Retention as a % of Beef Cow Inventory (1973 to 2019)**



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

Last year's report was a bit of an oddity as total cattle-on-feed numbers were estimated to be up 7% from 2017. Much of this was due to poor winter grazing conditions, which led to unusually high feedlot placements in fall 2017. The 2% increase in cattle-on-feed seen in the 2019 estimate is largely in-line with the increase in the size of the 2018 calf crop. There was also a sizeable increase (+27%) in cattle grazing small grains in Kansas, Oklahoma, and Texas, which serves as a gauge of winter grazing programs. While this percent increase looks incredibly high, it is really just a return to normal, after the huge drop last winter.

It is also interesting to look at Kentucky beef cattle numbers as compared to the national average. USDA estimated Kentucky beef cow inventory down 1.5% from 2018, placing our cowherd at just over 1 million head. There is no question that calf prices have not encouraged expansion in Kentucky, but I really feel like weather challenges are the primary factor behind this decrease. It was a very challenging fall / early winter and we also know that things haven't improved since January 1<sup>st</sup>. I would not be at all surprised to see more cows move if weather conditions improve and cull cow prices increase this spring.

Thinking ahead, I expect US beef cow inventory to remain pretty stable during 2019. Obviously, weather can completely change this and some will argue that cow-calf returns are too low and producers should be running fewer cows. I can't argue with this logic, other than to say that producer profit perception drives inventory decisions and we are still seeing growth in a lot of major cattle producing states. Texas, Oklahoma, Nebraska, South Dakota, and Kansas, (five of the top seven cow-calf states in the US) saw increases in beef cow numbers during 2018. My guess would be that expansion will slow in these areas and some liquidation will be seen in other areas such that the size of the cowherd is roughly the same when the 2020 estimates come out.

The USDA report is summarized in table 1 and the full report can be accessed at: <https://downloads.usda.library.cornell.edu/usda-esmis/files/h702q636h/765377121/bc386r54d/cat10219.pdf>

**Table 1: USDA January 1, 2019 Cattle Inventory Estimates**

	<b>2018 (1,000 hd)</b>	<b>2019 (1,000 hd)</b>	<b>2019 as % of 2018</b>
<b>All Cattle and Calves</b>	94,298.0	94,759.7	100
<b>Cows and Heifers That Have Calved</b>	40,898.3	41,119.1	101
<b>Beef Cows</b>	31,466.2	31,765.7	101
<b>Milk Cows</b>	9,432.1	9,353.4	99
<b>Heifers 500 Pounds and Over</b>	20,217.8	20,230.0	100
<b>For Beef Cow Replacement</b>	6,108.2	5,924.9	97
<b>For Milk Cow Replacement</b>	4,768.3	4,701.5	99
<b>Other Heifers</b>	9,341.3	9,603.6	103
<b>Steers 500 Pounds and Over</b>	16,528.2	16,632.7	101
<b>Bulls 500 Pounds and Over</b>	2,252.3	2,263.0	100
<b>Calves Under 500 Pounds</b>	14,401.4	14,514.9	101
<b>Cattle on Feed</b>	14,146.0	14,370.9	102
	<b>2017 (1,000 hd)</b>	<b>2018 (1,000 hd)</b>	<b>2018 as % of 2017</b>
<b>Calf Crop</b>	35,758.2	36,402.7	102

Source: NASS, USDA

