COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF KENTUCKY COLLEGE OF AGRICULTURE, FOOD AND ENVIRONMENT, LEXINGTON, KY 40546

OFF THE HOOF

Kentucky Beef Newsletter December 2016

Published Monthly by Dr. Les Anderson, Beef Extension Specialist, Department of Animal & Food Science, University of Kentucky

Contents

This month's newsletter includes:

Timely Tips

Dr. Roy Burris, Beef Extension Professor, University of Kentucky

Spring Calving Herd

- Divide the herd into groups for winter feeding --
  - weaned heifer calves
  - first-calf heifers, second-calvers and thin mature cows
  - the remainder of the dry cows which are in good body condition
  - herd sires
- Body condition is important, plan an adequate winter program for cows to be at least body condition score 5 (carrying enough flesh to cover the ribs) before the calving and breeding season. This will help them to breed early in the spring. Thin cows should be fed to regain body condition prior to winter. Don't let cows lose weight/condition.
- Begin feeding the lowest quality forage to dry cows which are in good condition during early winter and save the best hay for calving time or for weaned calves.
- Be sure that weaned heifer calves are on a feeding program which will enable them be at 65% of their mature weight before the start of the breeding season. Rations should be balanced to achieve gains sufficient to get heifers from their current weight to that "target" weight.
- Order and number eartags for next year's calf crop this winter. It is also a good time to catch up on freeze branding and replacing lost eartags.

Fall Calving Herd

- Have Breeding Soundness Evaluation (BSE) performed on bulls (even if you used them this spring).
- Get breeding supplies together, if using estrous synchronization and/or A.I.

- The fall breeding season starts. Breeding can best be accomplished on stockpiled fescue pasture; otherwise, cows with calves should be fed 25-30 pounds of good quality hay or its equivalent. Supplement with grain, if needed, and minimize hay waste. DON'T ALLOW THESE COWS TO LOSE BODY CONDITION PRIOR TO OR DURING THE BREEDING SEASON. It is easy to wait too long to start winter feeding. Don't do it unless you have stockpiled fescue.
- Observe performance of bulls during breeding season. Watch cows for return to estrus, if you see several in heat, try to determine the cause and consider changing bulls.

General

- Monitor body condition and increase feed, if needed, for all classes of cattle.
- Complete soil testing pasture to check for fertility and pH.
- Consider putting down geotextile fabric and covering with gravel in feeding areas before you begin hay feeding to minimize waste of expensive hay. Or, perhaps, construct concrete feeding pads for winter feeding areas.

What is "Cow Sense"?

Dr. Roy Burris, Beef Extension Professor, University of Kentucky

There was a time when almost everyone had animals – lots of animals! Folks grew up living with and understanding animals. They had to understand them. They rode horses, plowed with draft animals, hunted with dogs, milked a cow or two and generally co-existed with farm animals. People learned how to understand what an animal was thinking. If a horse has his ears laid back instead of pointing forward, he's trying to tell you something. It's important to be able to tell when a cow is agitated, too. Folks also chose horses that had "cow sense". Their dogs had "cow sense". Cattlemen had "cow sense". What in the world is "cow sense"?

I would say that having and using cow sense can best be described as knowing how to get cattle to do what you want them to, with a minimum of stress on them – and you. As Dr. Temple Grandin has stated, you need to "think like a cow". You also need to understand beef cattle's natural tendencies. Some of those tendencies are:

First, **cattle are gregarious** which means that they have a strong herd instinct and prefer to stay in a group. If you are checking cattle, pause and look over the entire herd before doing anything else. Focus on the isolated animal(s). They are most likely the one that is calving or sick. When you are putting cattle through the chute, put them in as groups and don't isolate one animal. Beware of the lone, isolated animal that becomes agitated. They intend to re-join the herd and may run over you to do it.

Cattle prefer to circle around the handler. That comes from their instinct that tells them they are being preyed upon when something/someone is circling around them. Picture a pack of wolves circling their prey. That is how they may feel. However, if you are in their pasture, they prefer to surround or circle around you. That is one reason why we have circular cattle chutes that goes around the handler. You should also locate the working facility so that the cattle are turning back toward their "home" pasture. They will move better than trying to make them continue to go away from where they want to be. Cattle flow will be better if they think they are returning to their "home".

Cattle like to follow the leader. Once the lead cow is moving the rest are likely to follow. When putting cows through the single-file chute, it is best if cows can only see the animal in front of them so that they will follow it. Try to keep the cattle moving one-after-another. In the old days, packing houses would use a "Judas goat" to lead cattle to slaughter. They like to follow the leader. Use that to your advantage.

Cattle have a flight (comfort) zone. When you approach an animal at some distance they may become uncomfortable and move away from you. In that case, you just got into their zone of comfort. If you invade that space very suddenly they will likely run away from you. However, if you approach them slowly they will just continue to move away from you. Approach them at a 45º angle and they will move in a straight line. Don't climb upon fences or jump into pens of cattle, either. That is a case of both exerting dominance and entering their flight zone too quickly. Stay on the ground and move slowly.

Use their point of balance when moving an animal or group of animals. An animal's point of balance is its shoulder. Move in front of that and they will stop or turn to the opposite direction. Stay at about the 45º angle to the shoulder and they will proceed ahead. Similarly, a group of cows will move about the same way. We don't position ourselves directly behind them because they can't see you there and may just turn around to see what is applying pressure.

Cattle like to feel that what they are doing is their choice. Let them. You can combine cattle working with moving them to a new pasture. Or let them follow the feed truck instead of driving them. And let them think that they are returning to their pasture when they are moving through the chute. Work suckling calves first and then "let" the cows go through the chute to get to their calves.

Finally, **cattle have good memories**. Eliminate bad experiences in the corral. Perhaps, you put them through the chute a few times without catching their heads. Maybe pour-on for fly control as you move them to new pasture. Work them gently and evaluate their behavior. Eliminate those that are easily agitated, and focus your efforts on developing docile cattle. Easy does it!

Don't Wait To Supplement

Dr. Jeff Lehmkuhler, Associate Extension Professor, Beef Extension Specialist, University of Kentucky

The impacts of the fall drought conditions can be seen in some of our cow herds across the state. Cows are lower in body condition as a result of the grass shortage. Fall vegetative fescue grass will often be in the low 60's on TDN and mid-teens for crude protein, much higher in quality than our average hay. The lack of this fall forage growth will necessitate some early intervention.

Many of the hay samples that I've seen this year are lower in energy than normal due to the wet spring leading to over mature forage at harvest. Surprisingly, the protein levels have been decent in many of the hay samples. Knowing the energy and protein levels, one can develop a supplement program for your herd. Step 1 test your hay and find out the nutrient content. Your local Extension office can assist you with this process.

Spring calving cows that have just been weaned will not have the higher plane of nutrition from fall grass this year. Cows will not recover body condition as quickly since lower quality hay is being fed early this winter. To increase the body condition score of a beef cow from a 4 to a 5, an additional 249 Mcal is needed. To achieve this in a 90-day window, the additional energy intake needed is approximately 2.8 additional Mcal/day which is about a 20% increase in maintenance energy needs for that beef cow in mid-gestation.

The maintenance energy needs for a cow is about 12.5 Mcal during mid-gestation. Average fescue hay will often just meet maintenance requirements. To increase the energy needed to gain condition as described above, one would need to supplement the cow. Corn may be the most cost effective energy source this winter. The recent Beef NRC lists corn at 2.17 Mcal/kg meaning it would require 1.3 kg or 3 lbs of supplemental corn daily over a 90-day period to increase the body condition from 4 to 5. Delaying supplementation to late gestation may require higher supplementation levels. Nutritional needs increase in late gestation to support fetal development and often our forage alone will not meet the energy needs of cows during late gestation.

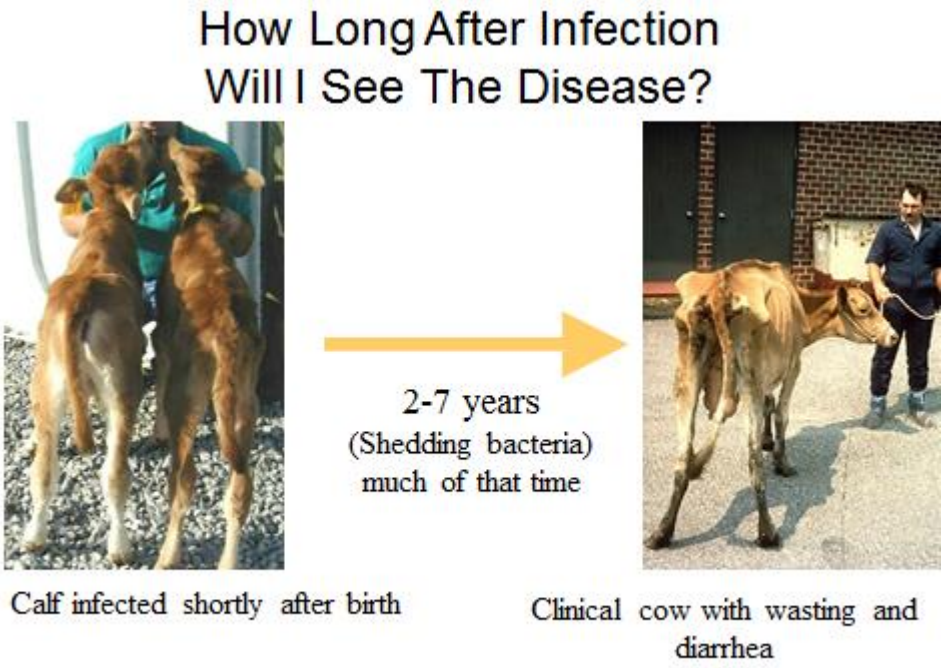
As with all production systems, there will be differences in what one predicts on paper and what is realized in the field. Therefore, cattle managers need to routinely monitor the condition of the cows and make adjustments to the feeding program. Target body condition scores would be a 5 for cows and 6 for heifers at calving to ensure a greater probability of them cycling when the bulls are turned in. For assistance with hay testing and developing a feeding program, visit with your county Extension agent or nutritionist.

Cow-calf Producers: Beware of Johne's Disease

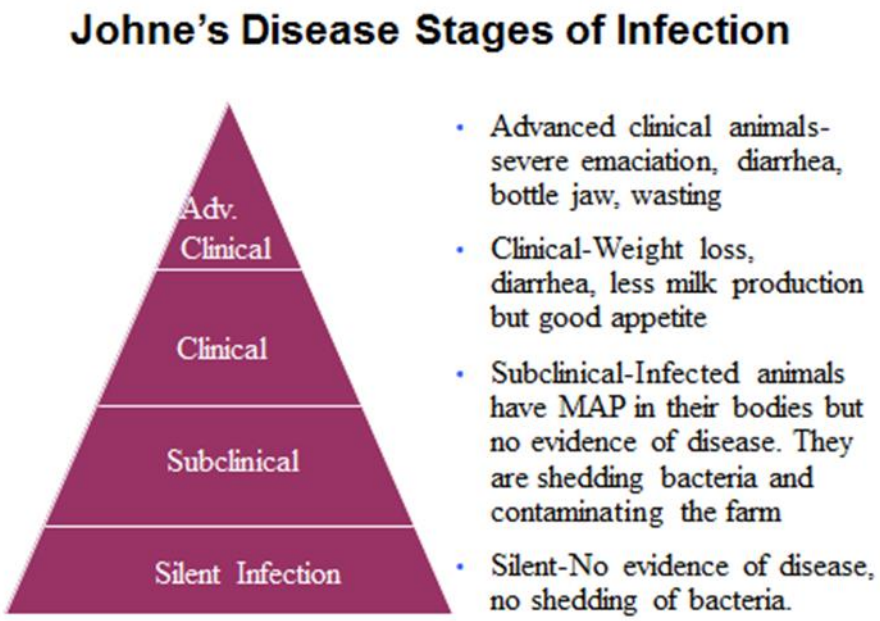
Michelle Arnold, DVM (Ruminant Extension Veterinarian, UKVDL)

Johne's (pronounced *Yo-knees*) Disease is a chronic disease of severe, watery diarrhea and weight loss in adult cattle caused by the bacterium *Mycobacterium avium* subsp. *paratuberculosis*, commonly referred to as "MAP". These bacteria are very hardy due to a protective cell wall that can withstand harsh conditions and allows survival for long periods in the environment. Once MAP gains entry into an animal, the organism lives permanently within the cells of the large intestine where it multiplies and is then "shed" in the feces in large numbers. Johne's is a slow, progressive disease that calves pick up around the time they are born but the clinical signs of weight loss and diarrhea do not show up until much later, generally at 2-5 years of age or even older.

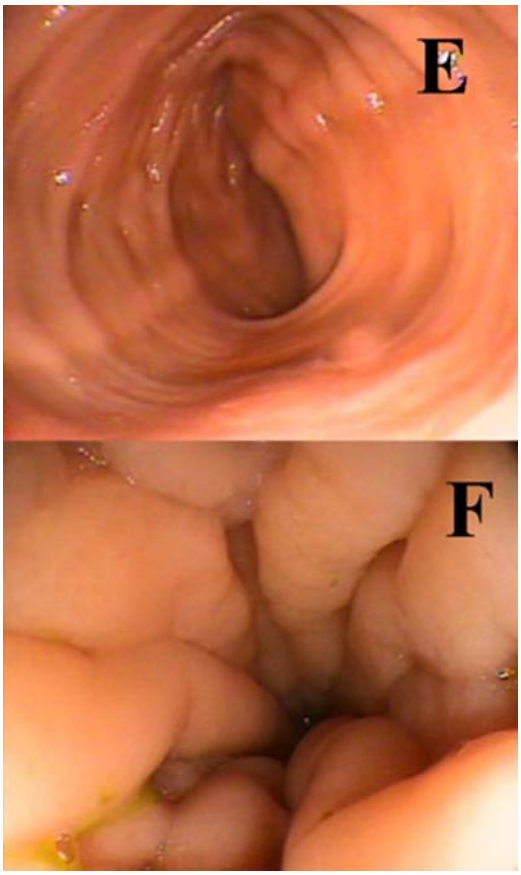
As cow/calf producers, it is easy to buy and sell breeding age animals, especially bulls, with no obvious problems even though they are already infected with the disease. The problem is difficult to detect early in subclinical cattle (subclinical = before symptoms of diarrhea and weight loss develop) but these infected animals often shed high numbers of the MAP organism on the farm. In ideal conditions with moisture and limited sunlight, bacteria can live 8 months in dry feces, 9-12 months in a manure pit/lagoon, 18 months in a water trough, 9-12 months in freezing temperatures and 1 or more years on pasture. This is important because the major route of transmission to newborn calves is nursing teats covered in Johne's-infected manure. A small number of calves may get the disease while still in the uterus of an infected cow or may ingest the organism from infected colostrum or milk. Once infected, there is a long incubation period (2-7 years) then the disease begins its progression from a silent stage to an advanced disease stage. No effective treatment is available.



In a typical herd, for every animal in the advanced or clinical stage of disease, there are often many other cattle in earlier stages of the disease. Control measures center upon preventing exposure of susceptible animals to the infectious agent, identifying and eliminating infected animals from the herd, and preventing entry of infected animals into the herd. With early diagnosis



and prevention of spread, Johne's Disease will not develop into a significant herd problem five to ten years in the future. Buyers of breeding livestock should make every effort to purchase animals that are not MAP infected. Similarly, seedstock producers should anticipate this request and establish a routine of testing and culling any cattle that test positive for the organism. Seedstock herd owners are commonly reluctant to test for Johne's Disease for fear that a positive diagnosis will ruin their reputation. However, a herd's reputation may be damaged much more severely by selling a MAP-infected animal to a customer and introducing this contagious, incurable disease into the buyer's herd. The US Voluntary Bovine Johne's Disease Control Program specifies the testing requirements to officially classify a herd from Test Negative Level 1 (lowest) up to Level 6 (best). The more years of testing following this consistent regimen will yield greater confidence and knowledge of the true Johne's status of the herd.



So how do you begin? A screening test of all animals at least 2 years of age, such as the Johne's ELISA test for antibodies in serum (blood), is rapid and low cost but not 100% accurate. Any positive animals on ELISA should be confirmed by detection of the MAP organism in the feces by polymerase chain reaction (PCR). Both of these tests are available at the UK Veterinary Diagnostic Laboratory (for more information, visit our website: vdl.uky.edu). Animals found positive should be removed from the herd promptly. Testing and culling over multiple years along with good herd management will lead to zero or low MAP test prevalence in your herd. Contact your local veterinarian to find out more about the control and prevention of Johne's Disease.

Picture E is an endoscopic view of normal cow intestine. Picture F is an endoscopic view of a Johne's infected cow, showing the characteristic swelling and corrugation of the lining of the intestine that occurs at the clinical stage of infection. Thickening of the intestinal wall results in poor absorption of nutrients and diarrhea in affected animals.

Picture from W.C. Davis, S.A. Madsen-Bouterse, Veterinary Immunology and Immunopathology 145 (2012) 1– 6

Novel Tall Fescue Renovation Workshop to be held in Lexington March 9th

Dr. Ray Smith, Extension Professor, Forage Extension Specialist, University of Kentucky

The University of Kentucky has partnered with the Alliance for Grassland Renewal to host a one day Novel Tall fescue Renovation Workshop on March 9th. The event, a duplicate of successful events in Oklahoma and Missouri, will provide producers with the tools and information to renovate toxic pastures and manage new stands of novel tall fescues. Speakers include local producers, company representatives and researchers from across the country. Classroom sessions will be held at the UK Veterinary Diagnostic Laboratory and hands-on activities will be conducted at the UK Spindletop Research Farm, both in Lexington. Early bird registration ($60) includes refreshments, lunch and educational materials. More information and Registration can be found at www.kyfescue.eventbrite.com.

Forage Update

Dr. Ray Smith, Extension Professor, Forage Extension Specialist, University of Kentucky

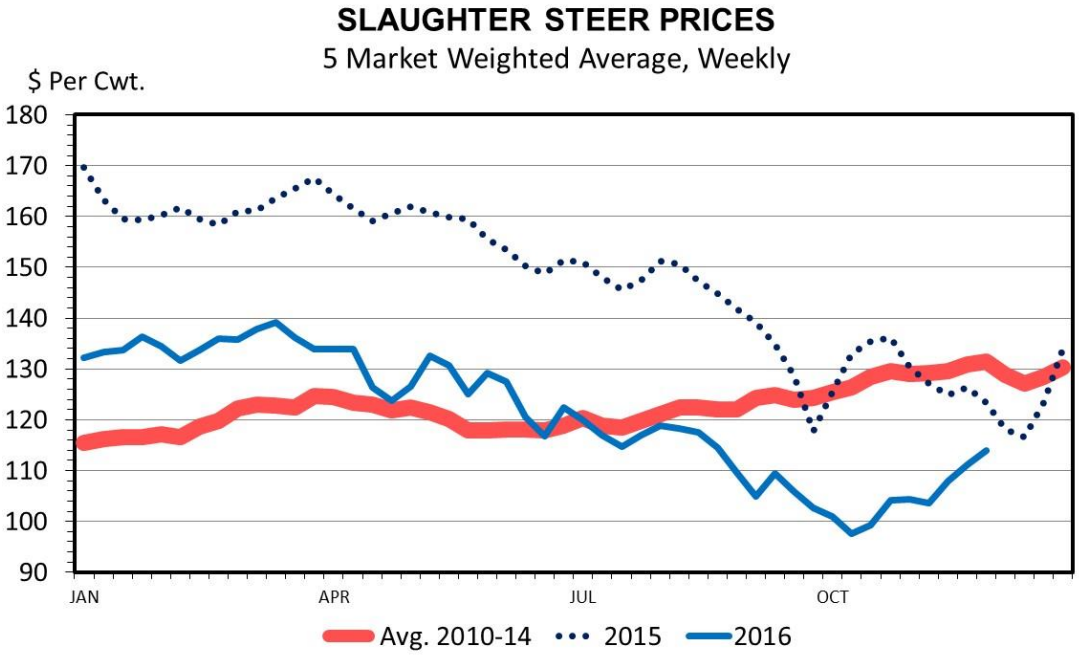
Upcoming Events **(www.uky.edu/Ag/Forage)**

JAN 18-19 Heart of America Grazing Conference, Quincy, IL
JAN 20, 2017 Forages at KCA, Lexington, KY
JAN 22-24, 2017 AFGC Annual Meeting, Roanoke, VA
FEB 21, 2017 36th Annual KY Alfalfa and Stored Forage Conference, Cave City, KY
MAR 9, 2017 Fescue Renovation Workshop. Lexington, KY

Kentucky Beef Cattle Market Update

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

The most encouraging news in cattle markets the last few weeks has been sustained improvement in fed cattle markets. After testing the waters under $1 per lb, cash cattle markets moved into the mid-$110's per cwt the first week of December (see chart below). During the same time, summer CME© Live Cattle futures moved from the low $90's to around $100, which pulled feeder cattle prices upward. While feeder cattle prices are still off around 30% from last year, the recent trend has been encouraging and suggests the market had become oversold.According to the Kentucky Livestock and Grain Market Report for December 5th, 550# steer calves sold in the mid-$120's on a state average basis, which is up around $15 per cwt from their October lows. Large groups of 5wts steer calves were in the $130's across many KY markets. Heavy feeder steers, 700 lbs and up are also moving at similar price levels. Many have commented that price slides seem to be especially narrow at the present time. I wanted to spend at little time reviewing this dynamic this month.



Source: USDA-AMS, Livestock Marketing Information Center

Price differences for feeder cattle by weight, commonly called price slides, are impacted by many factors. One of the more common factors impacting slides is feed costs. As feed becomes cheaper, as it has over the last couple years, price slides tend to narrow as feed cost of gain decreases. The overall market also impacts price slides. As the overall feeder cattle market decreases, price slides also tend to narrow as the value of cattle per head decreases. This is why price slides were so high during 2014 and 2015 as the feeder cattle market reached unprecedented levels. Clearly, both feed prices and the overall feeder cattle market level are impacting prices slides in 2016. However, I think the primary reason we are seeing little price slide in today's market, has more to do with the expected direction of this market in the future. We will take a look at this from two perspectives.

First, I would point to CME© Live Cattle futures contract values. At the time of this writing (December 6, 2016), there was about an $8 per cwt difference between the April contract and June contract. This is a normal fed cattle price pattern, but does impact feeder cattle prices in the fall. An expected decrease in fed cattle prices from spring to fall tends to support the value of heavier feeder cattle that have the potential be finished by spring, as opposed to lighter cattle that would most likely hit the summer fed cattle market.

This can also be examined similarly from the calf perspective and putting one's self in the shoes of a backgrounder or wheat grazer placing calves today, with the intent to sell those calves as heavy feeder several months from now. These operators look to deferred CME© Feeder Cattle futures to estimate expected selling price for these feeders in the future. A look at the current CME© Feeder Cattle board shows an expectation of declining feeder cattle prices through 2017. So, lighter cattle being placed into these programs, will hit a later market, which is associated with a lower expected sale price. This expected lower sale price makes these lighter calves slightly less valuable relative to the heavier ones. If the expectation of feeder cattle prices through 2017 were flat, this would not be an issue, but clearly this is impacting the value of lighter calves presently and working to narrow prices slides. Like many things in the cattle market, price slides are impacted by many factors and the dynamic nature of our current market is complicating what we know about price-weight relationships.