

# OFF THE HOOF

*Kentucky Beef Newsletter November 2016*

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*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 – Burris

“One is the Loneliest Number” – Burris

“Scours” Vaccine-Give It Now for Protection in the Spring – Arnold

Why Have a Calving Season? – Selk, Oklahoma State University

Tightening Up the Calving Season – Anderson

Forage Update – Smith

Kentucky Beef Cattle Market Update – Burdine

## Timely Tips

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

### Spring-calving cow herd

- Dry cows in good condition can utilize crop residues and lower quality hay now (but don't let them lose any more body condition). Save higher quality feed until calving time. Keep a good mineral supplement with vitamin A available.
- This has been a good year for fall pasture growth. Extend grazing for as long as possible to decrease the amount of stored feed needed.
- Evaluate body condition of cows. Sort thin (less than CS5) cows away from the cow herd and feed to improve their condition. Two and three-year olds may need extra attention now. These cattle can use the extra grass that has accumulated in this exceptional growing season.
- Culling decisions should be made prior to winter feeding for best use of feed resources. Consider open, poor-producing and aged cows as candidates for culling.
- A postweaning feeding period will allow you to put rapid, economical gains on weaned calves, keep them through the fall “runs” and allow you to participate in Kentucky CPH-45 sales. Consider this health and marketing program which is designed for producers which are doing a good job of producing high quality feeder calves.
- Replacement heifers require attention during the winter, too. Weaned heifer calves should gain at an adequate rate to attain their “target” breeding weight (2/3 of their mature weight) by May 1.
- If you need to replace cows, consider buying bred heifers in some of the Kentucky Certified Replacement Heifer sales which are being held across the state this month.

## **Fall-calving herd**

- Cows that have calved need to go to the best pastures now! Help them maintain body condition prior to breeding in December.
- Continue to watch fall-calving cows. Catch up on processing of calves including identification, castration and vaccinations.
- Vaccinate the cows while they are open and prior to the breeding season. Move cows to accumulated pasture or increase feed now.
- Start the breeding season in late November or early December for calving to begin in September of 2017. If you are using AI and/or estrous synchronization, get your supplies together now. Don't forget Breeding Soundness Evaluations (BSE) on your bulls. Make final selection of replacement heifers now.

## **General**

- This is a good time to freeze-brand bred yearling heifers and additions to the breeding herd.
  - This is a good time to take soil tests and make fertility adjustments (phosphate, potash and lime) to your pastures.
- Have your hay supply analyzed for nutritive quality and estimate the amount of supplementation needed. Consider purchasing feed now.
- Don't waste your feed resources. Avoid excessive mud in the feeding area. Hay feeding areas can be constructed by putting rock on geotextile fabric. Feed those large round bales in hay "rings" to avoid waste. Concrete feeding pads can also be constructed.
  - Graze alfalfa this month after a "freeze-down" (24 degrees for a few hours).

## **“One is the Loneliest Number....”**

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

“One” is a song made popular in 1969 by Three Dog Night and it reminds me how lonely it can sometimes be when you are all by yourself. The UK Beef IRM team was founded on the principle that a “group answer” should be better than any of us going solo. That approach helped us to form the “Master” programs and several other successful ones. But there are many times that you as beef producers and some of us as Extension personnel are on our own...and it can be kind of lonely!

I vividly remember the loneliest feelings in my career as an Extension specialist. That would have to be the early morning hours before daylight when I was driving alone to the early CPH (Certified Preconditioned for Health) feeder calf sales. I was keenly aware that many folks depended on this income for their livelihoods and I would nearly have a panic attack as I worried about everything that could go wrong. What if that snow storm in the Midwest “locked up” the cattle market (it did)? Still, I remember that through the first thirty-three sales that we only had three that didn't meet expectations. Not a bad average. We have a lot of good sales and new preweaning and vaccination programs (all similar to KY-CPH) have become the industry standard.

There are lots of times that we have attacks of loneliness and it seems like most are in the darkness that precedes the dawn. When, as you lie in bed and wait for the alarm to go off, you can't help but wonder, for example, “Will anyone come to Beef Bash if it rains?” (You did). Or, on those long, late night return trips from meetings and events when I wondered if I did everything that was needed. I still remember the time after our first CPH sale in Owensboro in 1983 when we only had 383 calves (we were expecting 1,000) and I was replaying everything that happened in my mind and then realized that I was somewhere in Muhlenberg County – many miles off my return route. That was when I decided that I could only worry about and be

responsible for those things that I could control. That along with maturity and, perhaps, a heart attack in 1994 helped me to be more laid back and not to take everything personally. I still rely upon something that was written by Reinhold Niebuhr called the Serenity Prayer: *“God grant me the serenity to accept the things I cannot change; courage to change the things that I can; and the wisdom to know the difference.”* That is a good piece of advice.

It is amazing to me that things can seem so much better when you are surrounded by other people. When you get into the middle of sales, field days, meetings, etc. and are surrounded by good folks things just seem a lot more bearable and are, generally, downright enjoyable.

I also remember one particular farm visit several years ago. An older gentleman who had been very successful in his lifetime said this to me: “You have been giving me advice today about farming and raising cattle, now I want to give you some advice.” I replied that I would be glad to hear it and he continued. “Make friends with young people”. I must have looked a little surprised and he quickly added “one day you may outlive your contemporaries and you will need some friends. Make friends with young people”. Think about it.

Here’s the deal. We all need a support system and in the process I think that we can possibly mentor and be role models for young people that really need to see something in their elders that is worth emulating (as opposed to political venom that is being spewed about). Agricultural groups should look for ways to mentor and support young people that want to make agriculture their careers – like the Kentucky Cattlemen’s Association does with their young cattlemen’s program. We’re always stronger as a group and kind of lonesome when we’re going solo.

## **“Scours” Vaccine - Give it Now for Protection in the Spring**

***Michelle Arnold, DVM (Ruminant Extension Veterinarian, UKVDL)***

Have a Question or Topic you would like addressed? Email me at [michelle.arnold@uky.edu](mailto:michelle.arnold@uky.edu)

A scours outbreak in baby calves on a cow/calf operation can be a nightmare in real life. Ask any producer who has been through this ordeal and he/she will tell you it made them want to quit the cattle business. Once the outbreak begins, it spreads quickly throughout all of the youngest calves. Bacteria, viruses and parasites can attack the lining of the calf's intestine and cause diarrhea and dehydration. Without a healthy gut lining, essential nutrients are not absorbed from milk which leads to weakness and weight loss. During a scours outbreak, each day begins with finding and treating the sick calves, recognizing new cases that are just breaking, and sometimes having to find the remains of a calf scavenged by coyotes or buzzards. Those calves that survive may perform poorly for the remainder of their lives when compared to healthy calves. Scours vaccines are expensive yet very effective in preventing this scenario if combined with proper nutritional management of the cow during her pregnancy and a reasonable effort to keep cattle out of a filthy environment. Although there is not much one can do about rain, mud, and manure, the goal is to keep cow’s teats clean and dry to prevent the diarrhea-causing bugs from entering the calf’s mouth. Fortunately, the scours vaccine prepares the calf to deal with many of these bugs in the likely event they do make it inside the calf.

“Neonatal” calf diarrhea is defined as scours occurring within the first 3 weeks of a calf’s life. Rotavirus, coronavirus, bacteria (*E. coli* K99; *Clostridium perfringens* Type C, *Salmonella* spp.) and the parasite Cryptosporidia are the most common causes of neonatal calf diarrhea. Controlling rotavirus, coronavirus, *Clostridium perfringens*, and *E. coli* K99 with vaccines can significantly reduce sickness and death loss due to calf scours. Most beef cows in good body condition produce high quality colostrum but sometimes it does not contain the “correct” antibodies to fight the specific bugs that cause diarrhea. Scours vaccines are formulated to be given to pregnant cows and heifers late in gestation so they will make the correct antibodies as colostrum is being formed.

Table 1: Administration of the various scours vaccines based on calving season beginning March 1st

			Weeks Prior to Calving																
			11/11	11/18	11/25	12/2	12/9	12/16	12/23	12/30	1/4	1/11	1/18	1/25	2/1	2/8	2/15	2/22	1-Mar
	Vaccine	Label Directions	16	15	14	13	12	11	10	9	8	7	6	5	4	3	2	1	Calving Begins
Year One	Scour Bos® 9	2 ml IM 8-16 weeks prior to calving. Revaccinate with Scour Bos 4 four weeks prior to calving	█	█	█	█	█	█	█	█	█				█				
	Guardian®	2 ml SQ 12 weeks precalving. Booster 3-6 weeks after primary dose					█				█	█	█						
	ScourGuard® 4KC	2 ml IM 3 weeks apart, with 2nd dose given 3-6 weeks before calving								█	█	█	█	█	█	█			
Year Two and Beyond	Scour Bos® 9	2 ml IM of Scour Bos 9 at 8-10 weeks prior to calving								█	█								
	Guardian®	2 ml SQ at 5-7 weeks precalving										█	█	█					
	ScourGuard® 4KC	2 ml IM at 3-6 weeks before calving											█	█	█	█			
		Range to Administer Primary Dose																	
		Range to administer Booster Dose																	
		Range to administer Annual Revaccination																	

The 3 most popular vaccines available are ScourBos®9 and 4 (Elanco), ScourGuard®4KC (Zoetis) and Guardian® (Merck). As shown in Table 1, a first or primary dose followed by a booster dose is required the first year any scours vaccine is used (“Year One”). After the first year, just one revaccination is required (“Year Two and Beyond”) every year throughout the cow’s life. Which product you choose often depends on when you plan to work your cattle; generally, Scour Bos® is administered earlier during pregnancy, ScourGuard® is used very late in gestation and Guardian® is in-between these two options. Obviously not all calves will be born the first week of calving season but plan to give the scours vaccine based on when the first calves of the season are expected. If you have a long calving season (greater than 90 days), consider vaccinating the later calving cows closer to their due date.

It takes some planning to vaccinate correctly; timing is critically important with the different products. Using Table 1, the timing of the different vaccines would be as follows for a March 1<sup>st</sup> calving season:

- 1) Heifers (or cows receiving their first dose of Scours Vaccine)
  - If using:
    - Scour Bos®9 –Administer first dose between mid-November and first of January  
Booster dose-Administer Scour Bos® 4 around the first of February
    - Guardian®- Administer the first dose around the first week of December and the second dose during the first half of January
    - ScourGuard® 4KC-Administer first dose within the first half of January and give the

second dose 3 weeks later, either towards the end of January or the first part of February.

2) Cows (Annual revaccination)

If using:

- Scour Bos®9 –Administer during the last part of December (Christmas) to first of January
- Guardian®-Administer between end of December and mid-January
- ScourGuard® 4KC-Administer between mid-January and first week of February

If the cow herd is not vaccinated and calf scours develop, there are vaccines available to administer to newborn calves. These vaccines are given by mouth as quickly as possible after birth, preferably prior to nursing and definitely within the first 12 hours of life. These will provide some immediate protection in the gut but are not nearly as effective as vaccinating the pregnant cows. As seen in Table 2, none of the products for calves protects against all 4 major pathogens ( *E.coli* K99, rotavirus, coronavirus and *Clostridium perfringens* Type C).

Protection Against Scours in Newborn & Unborn Calves												
Calf	E. Coli	Coronavirus	Bovine Rotavirus	Clostridium Perfringens Type C	Immediate Protection	Takes 7 Days to Protect	Cow	E. Coli	Coronavirus	Bovine Rotavirus	Clostridium Perfringens Type C	Clostridium Perfringens Type D
Calf-Guard		X	X			X	Scour Bos 4		X	X		
Bovine Ecolizer	X				X		Scour Bos 9	X	X	X	X	
Bovine Ecolizer+C 20	X			X	X		Scourgard 4KC	X	X	X	X	
Bar-Guard-99	X				X							
Clostratox Ultra C 1300				X	X							

Table 2: A comparison of scours vaccines given to the calf at birth versus scours vaccines given to pregnant cows

Preventing calf scours involves more than jump starting the immune system of a newborn calf. Excellent cow nutrition during and after gestation, an easy calving process, and environmental management factors all contribute to a successful start. On the flip side, an inadequate quantity and/or quality of colostrum, difficulty calving, poor sanitation, cold, wet weather and overcrowding in calving areas all contribute to a higher risk of disease. Once the calf has received colostrum from the dam, it is still important to prevent the “bad bugs” (pathogens) in the environment from overwhelming the calf’s immune system. Generally, calf scour pathogens build up in the environment as the calving season progresses. Calving in the same area that older calves are in greatly increases the risk to the newborn calf, especially in wet or muddy conditions as we often see in the spring in KY. If possible, pregnant cows close to calving should be rotated onto clean pastures while cow-calf pairs remain on the old pasture. If calving in a barn or shed, the calving area should be kept as clean and dry as possible with frequent changes of bedding to remove the build-up of organisms. Make every effort to get the cow and newborn calf out of the barn quickly to lessen the chances of infection. Even

the best calving management practices will have no effect if the first thing a calf ingests is manure from the calving area. Consult with your veterinarian on the best choice of vaccines for your operation.

The UK Veterinary Diagnostic Laboratory has an excellent test to diagnose the cause of calf diarrhea. A small sample of scours (in a leakproof container) from a calf that has not been treated for diarrhea with antibiotics is needed to run the test. This PCR assay tests for bovine coronavirus, rotavirus, E. coli K99, Salmonella and Cryptosporidium. The test is run on Tuesdays and Thursdays with results generally available within 2 days and costs \$60 (\$50 + \$10 Accession Fee). Visit the website at <http://vdl.uky.edu/TestInformation.aspx> for more information or call (859) 257-8283.

## **Why Have a Calving Season??**

*Dr. Glenn Selk, Oklahoma State University Extension Cattle Reproduction Specialist*

One of the most asked questions in the cattle industry in the Southern United States: If I "pull" the bulls out for part of the year, won't I lose an opportunity to get a few calves? Should I leave the bull out with cows year-round?

Here is the answer: A research analysis of 394 ranch observations from the Texas, Oklahoma, and New Mexico SPA (standardized performance analysis) data set provided insight into the age old argument about "leaving the bull out" or having a defined breeding season. Oklahoma State University and Texas A&M Agricultural Economists (Parker, et al) presented a paper at the 2004 Southern Association of Agricultural Scientists. They found a positive relationship between number of days of the breeding season and the production cost per hundredweight of calf weaned. Also they reported a negative relationship between number of days of the breeding season and pounds of calf weaned per cow per year.

The data suggested that for each day the breeding season was lengthened, the annual cost of producing a hundred pounds of weaned calf increased by 4.7 cents and pounds of calf weaned per cow per year decreased by 0.158 pounds. The range of breeding seasons in the data set was from extremely short (less than one month) to 365 days or continuous presence of the bull. The trend lines that resulted from the analysis of the data give us an opportunity to evaluate the economic importance of a defined breeding season. The producer that leaves the bull out year-round (365 days) would sell 45.82 fewer pounds of calf per cow per year on the average than producers with a 75-day breeding season. That same producer would have \$13.63 greater costs per *hundredweight* of weaned calf than the producer that used a 75-day breeding season. In this era of cost/price squeezes, a well-defined breeding and calving season provides a better opportunity to survive the volatility of cattle prices and input costs.

## **As You Tighten Your Belt, Think of Tightening Your Breeding Season**

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

After a few years of record market highs for feeder calves, the markets have suddenly corrected and times have certainly gotten tougher. We can't control the markets but we can control our productivity and our efficiency of production. The primary factor that reduces production efficiency for beef cow-calf producers is a low reproductive rate.

The first step to increasing reproductive rate is establishing and limiting the breeding season. Controlling the breeding season increases revenue and decreases cow costs leading to an increased opportunity to profit. What steps need to be taken to control and shorten the breeding season?

1. Set the dates of the breeding season. Since it is fall, a great example would be to breed over a 70-day window beginning November 22 and ending on February 1.

2. Determine which cows are going to be “problem” breeders. Problem breeders are those cows that are anticipated to be anestrus at the start of the breeding season. These cows include all two-year-old cows (first-calf heifers) and any cow that calves after October 1. Thin cows are also a problem regardless of when they calve. If cows calved thin (body condition score < 5), they need to be separated and fed to gain weight at least through the first 30 days of the breeding season.
3. Determine which cows are going to be “extreme problem” breeders. Extreme problem cows are those that are anticipated to be anestrus for more than half of the breeding season. These are mainly cows that either calve right before or during the breeding season. These cows need to be managed separately from the breeding herd if at all possible.
4. Plan. Create a plan to improve the reproductive performance of these three groups of cows.
  - a. All cows need to be fed to maintain or increase body condition score (slightly) and need to be vaccinated (RDC, leptospirosis, vibrio, etc.) and dewormed. Vaccination against abortifacients needs to occur at least 21 days before the breeding season.
  - b. Early-calving mature cows need no additional management. Just turn them out with the bull on November 22.
  - c. Problem cows need to receive a CIDR® device for 7 days immediately prior to bull turn out. So, November 14-21. Cows need to have calved before November 1. Results from field trial work in over 200 late-calving cows suggests that an exposure of cows as early as 14 days after calving can improve the rebreeding performance in 80% of females treated. The average shift in calving interval was 36 days earlier.
  - d. Extreme problem cows need to receive a CIDR® device for 7 days immediately prior to bull turn out. Group the cows so that they receive a CIDR device at least 14 days after calving. Thus, cows calving in November would receive a CIDR device on from December 14-21 and then taken to the breeding pasture. Cows calving in December will have limited opportunity to breed depending upon their calving date. These cows can be treated with a CIDR® device. If these cows calved by December 20, they could be treated with a CIDR from Jan 3-10 before exposed to the bull. These cows could may still have two opportunities to breed by early February.

Data currently being collected by the University of Kentucky Beef IRM group demonstrates that following this step-wise plan for reproduction can improve pregnancy rate by 6% and increase the pounds of calf weaned per cow exposed to the bull by about 150 pounds. Revenue on these farms increased by 34% even in today's market. Controlling reproduction pays regardless of the market.

## **Forage Update**

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

*Upcoming Events ([www.uky.edu/Ag/Forage](http://www.uky.edu/Ag/Forage))*

DEC 1 KY Farm Bureau Forage Session, Louisville, KY

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 36<sup>th</sup> Annual KY Alfalfa and Stored Forage Conference, Cave City, KY

MAR 9, 2017 Fescue Renovation Workshop. Lexington, KY

## **Dr. Chris Teutsch Accepts Forage Extension Specialist Position in Princeton, KY.**

This month it was formally announced that Dr. Chris Teutsch has accepted the UK Forage Extension Specialist position in Princeton, KY and is expected to begin early next year. Dr. Teutsch earned his BS in

1994 and MS in 1996 in Crop Science from The Ohio State University before completing a PhD in Agronomy in 2000 at the University of Kentucky. He is currently an associate professor at the Southern Piedmont Agricultural Research and Extension Center at Virginia Tech. Ray Smith said recently



*Photo Credit: Virginia Tech*

*“Chris will be a great addition to the forage team in KY. I worked closely with Chris when I was at Virginia Tech. Chris is well liked by agents and producers in VA. He brings to KY an incredible forage expertise and a proven ability to work with producers and county agents.”* On behalf of the UK Forage Extension Program, we would like to thank all of those that have supported filling the position and ask that you join us in welcoming Dr. Teutsch to the team.

## **Kentucky Beef Cattle Market Update**

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

While the word recovery is not appropriate, there are a few encouraging signs in the cattle market. Feeder cattle futures have gained around \$10 per cwt from their mid-October lows. Kentucky calf markets, which usually make their lows around this time of year, have gained ground similarly over the last few weeks. Just the fact that the downtrend has been broken provides some room for optimism.

I have been saying that I thought the cowherd would be larger when the numbers came out in early 2017. I still expect this to be the case, but would also point to some signs that things are changing quickly. Most notably, I would point to increases in both beef cow and heifer slaughter, especially in the second half of 2016. Both signs suggest herd expansion is slowing and I am including both charts this month for clarity.

As always, I want to dig a bit further into the details. When examining these trends compared to year-ago levels, it is crucial to understand that the cowherd grew by 3.5% last year, so simply comparing female slaughter this year to last year, on a percentage basis, is not sufficient to understand what is going on as last year was a year where large inventory increases were seen. Through October, beef cow slaughter was up almost 12.8% from 2015, which is an increase of 228 thousand head. Meanwhile, heifer slaughter was up 2.1%, which is an increase of 171 thousand head. To put this in perspective, USDA’s estimate for the increase in beef cow inventory during 2015 was a little over one million cows. So, while the increase in female slaughter is significant, I don’t think it is yet sufficient to suggest that beef cow inventory is likely to decline.

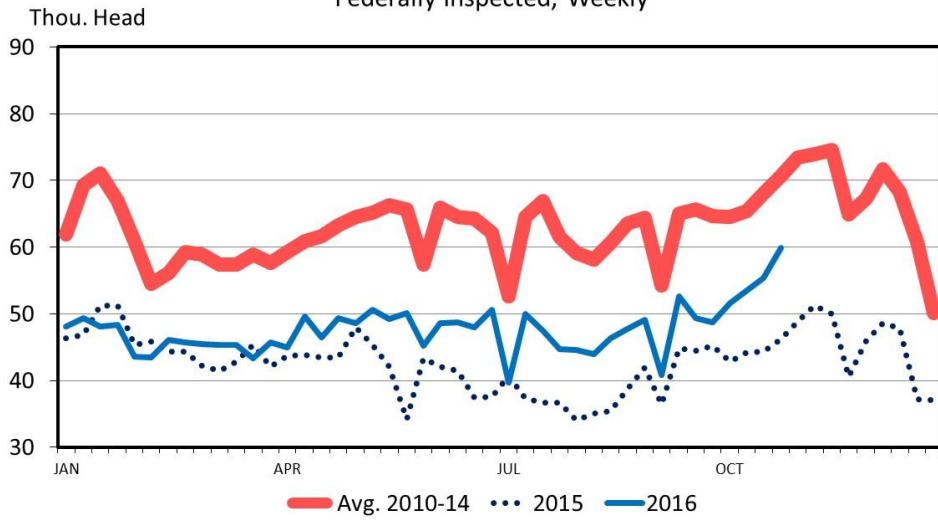
With the lower calf prices, I am getting a lot of questions about heifer development. And, in many cases, I can see where culling hard and holding back more heifers may make good sense. This would start positioning the cow-herd for larger inventory in 2-3 years. Some are also looking at the current bred heifer market similarly. I wanted to make everyone aware of a decision tool that Greg Halich, Samantha Kindred, and myself put together last fall that helps to examine the profitability of breeding stock given the price of bred heifers, their expected productivity, estimated cost of production, and reasonable estimates for long-term calf prices. That excel based decision tool, the Bred Heifer Profitability Estimator, can be found at the link below:

[http://www.uky.edu/Ag/AgEcon/halich\\_greg\\_beef.php](http://www.uky.edu/Ag/AgEcon/halich_greg_beef.php)



### BEEF COW SLAUGHTER

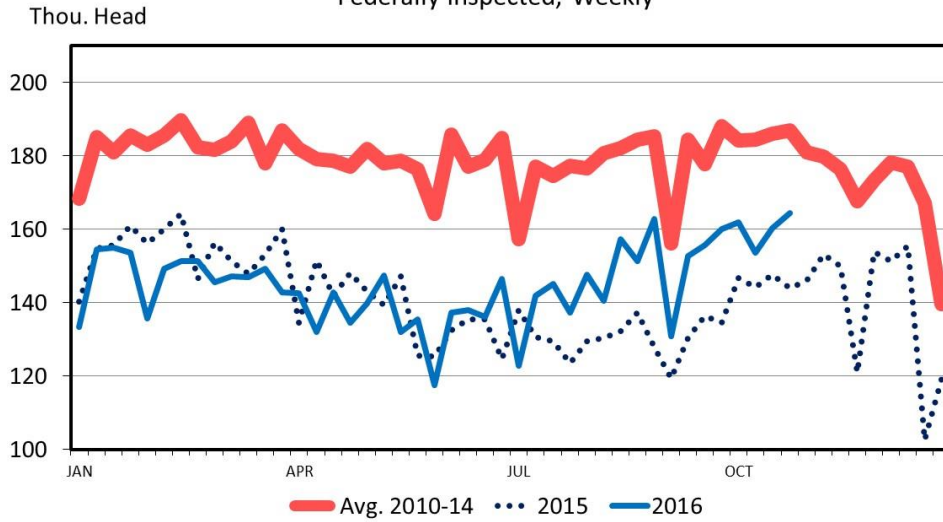
Federally Inspected, Weekly



Source: USDA-AMS & USDA-NASS, Livestock Marketing Information Center

### HEIFER SLAUGHTER

Federally Inspected, Weekly



Source: USDA-AMS & USDA-NASS, Livestock Marketing Information Center