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

OFF THE HOOF

Kentucky Beef Newsletter April 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 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.
- *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 or you can ask your feed dealer for the UK Beef IRM High Magnesium Mineral.
- 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.
- 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!
- 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.
- Make final selection of heifer replacements. Consider vaccinating with a modified-live BVD vaccine.
- 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.
- Consult with your veterinarian about a preweaning working of the herd.
- Reimplant feeders.
- 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

- "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.
- 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.
- Provide a good mineral supplement which contains a rumen modifier (Rumensin, Bovatec, etc.) along with adequate levels of copper and selenium. The UK Beef IRM Stocker mineral with Monensin will work well in this case.

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.
- 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.
- Prepare for the grazing season. Check fences and make necessary repairs. Check your corral, too.
- 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.

You Folks Are the Best!

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

Watching the political debates and reading Facebook posts leaves me wondering if civility toward others isn't a rare occurrence nowadays. It seems like it is fashionable to be against everything, especially relating to government and science. Maybe everyone is just waiting to hear who you are going to vote for but I doubt it – especially if you call everyone stupid that doesn't agree with you. Let's all take a deep breath and try to see the best in everyone. I'll go first.

I am blessed to be able to meet and deal with the best of society. You folks are the "salt of the earth". Farm families are the best. As I write this, I have just visited the good people in Daviess and Marshall Counties. I've been talking to Royce Vincent of Edmonson County since I'm getting a program ready for their group. Royce is a fine gentleman that works hard for his fellow cattle producers. I told him that I

wanted to try something different and he just said "Let's go for it". Over the years we've built up a level of trust with each other.

I was feeling kind of "brain-dead" one day after driving across the state to do a three-hour Master Cattleman program. I did the best I could anyway and as I was finishing up it started snowing. I explained that I needed to get a move on before I got snowed in. Two separate families asked me to spend the night with them and "don't worry about it". I headed back west but I left feeling really good about the people that I get to work with on a daily basis. Good folks. My kind of people.

A few years ago, a team of us from UK and KCA were visiting some operations in drought-stricken Oklahoma. One farm family invited us inside for some lemonade. As we sat around their kitchen table, the husband told us that he had just turned off the last center-pivot of his irrigation system. It seems that it was being supplied from the nearby river that was up-stream the county seat and was their water source, too. They were asked to turn it off and they had replied "we'll turn it off when you shut down the car washes and quit watering lawns." The town agreed and so they shut off their water. Their corn and beans were drying up but they were true to their word. Farm families usually are.

I've learned over the years to always ask what the families' goals are. Surprisingly, perhaps, maximizing net income is not always first but something related to family usually is. Of course, they have to cash-flow their operations. We understand that, too.

I guess that I will just have to keep reminding myself of the good that I see in everyone and limit my time on the social media where people seem to have no filter and one angry post will spawn a dozen more. I'll focus on my job and my people but I won't be posting my views on politics and/or religion on Facebook. However, I love to hear about your families and cattle operations though. Here's hoping that we treat each other in a much more civil manner during this election year but we're off to a really bad start.

When a cow is called "pregnant" but turns up "open"- Could *Neospora caninum* be to Blame?

Michelle Arnold, DVM (UK Ruminant Veterinarian)

"Neosporosis" is caused by a single celled protozoan parasite called *Neospora caninum* and is a major cause of abortion and weak calves in cattle across the US and worldwide. *Neospora* affects both beef and dairy cattle and abortions may present in clusters (epidemic outbreaks) or as sporadic cases. Due to the greatest risk of abortion occurring in mid to late gestation, cows diagnosed pregnant early in gestation may end up open at calving time. Infected cattle are 3-7 times more likely to abort compared to uninfected cattle.

Neospora has been the most commonly detected and attributed cause of bovine abortion in US in recent years. Economic losses include stillbirth/neonatal mortality, early fetal death, increased calving interval, increased culling, reduced milk production and reduced value of breeding stock. The disease has proven to be challenging to control due to its complex lifecycle within the cow and the fact the *Neospora caninum* oocysts (eggs) may persist for long periods of time in an infectious form in the environment.

Neospora was first identified in dogs, the "definitive" host of the parasite that can reduce *Neospora* oocysts (eggs) in their feces. If a dog eats *Neospora*- infected meat, then the parasite can invade and multiply within gut cells and oocysts will be excreted in the dog's feces a few days later. Shedding is mostly seen in younger dogs, after their first exposure to the parasite. The oocysts can survive in the environment for many months and be a source of infection for many other host species including cattle.

Neospora can infect by two main routes: 1) dog or coyote to cattle and 2) dam to calf during pregnancy. An important feature of this parasite is that once it gains entry, it is maintained as a life-long infection. Dog (or coyote) to cattle transmission occurs when cattle ingest *Neospora* oocysts in contaminated feed, water or from pasture. As a result, many animals may become infected simultaneously. This can lead to abortion storms, where many cattle lose their fetus within a short period. Vertical transmission from dam to calf occurs when the parasite is dormant in the cow from a previous infection, but gets reactivated in the dam during pregnancy and attacks the fetus and placenta. In some pregnancies, this fetal infection may result in abortion or weak calves. However some calves born from positive dams are absolutely normal but carry the organism for life. Infected heifers can transmit *Neospora* to their offspring in subsequent pregnancies. This transmission route is very effective and *Neospora* may be maintained within a herd for many generations.

The outcome of new infection or reactivation of infection in a cow depends on her stage of pregnancy. Infection/reactivation in the first trimester of gestation may result in early embryonic death. Infection/reactivation in the middle trimester can result in abortion or the birth of a weak or brain-damaged live calf. Infection in the last trimester will result in a weak or brain-damaged calf or a normal calf. An infected calf may be born alive with neurologic signs, birth defects, and /or born weak and unable to stand. It is important to realize apparently healthy calves can also be born to infected dams. These calves are congenitally infected and will blood test positive for *N. caninum* antibodies.

Life Cycle and Transmission of *Neospora caninum*:

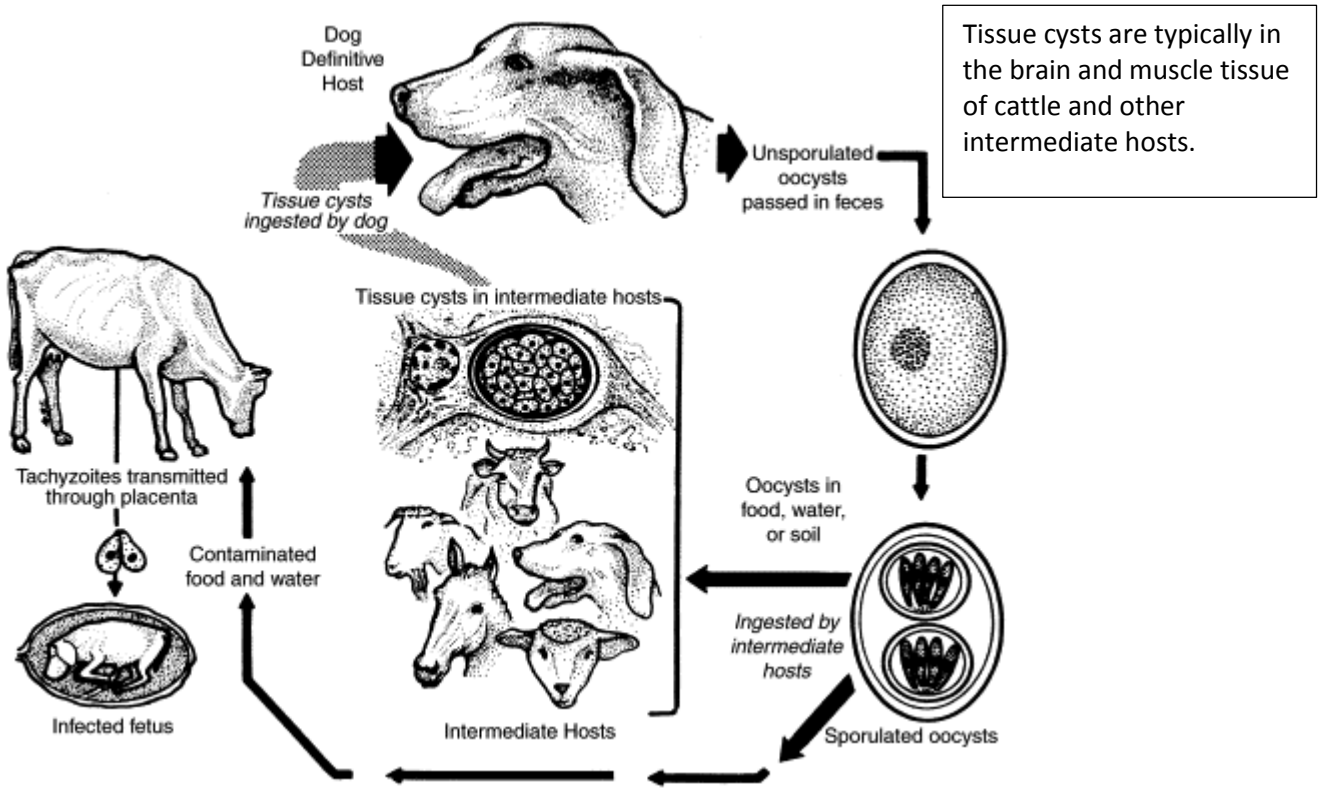

Illustration from Dubey JP: Neosporosis in cattle. Vet Clin North Am Food Anim Pract 21:473-483, 2005.

Key Points:

- Neosporosis is an important infectious disease of cattle worldwide that results in abortion and stillbirth. A majority of abortions occur from 4-6 months gestation (range from 3 months to 8

months) and the fetus is slightly rotten when expelled. The fetus that dies *in utero* may also be resorbed, mummified or stillborn.

- *Neospora* eggs (oocysts) are shed by infected dogs and coyotes in their feces and are a source of infection for cattle. Additional hosts of *N. caninum* also include other wild canids such as foxes, with evidence of infection in raccoons and deer, such that wildlife may be a potential reservoir of infection.
- Infection in cattle is common and may be frequently spread from mother to calf during pregnancy and is often passed unnoticed over several generations. Many calves born to positive dams will be born persistently infected but normal.
- Disease occurs when *Neospora* invades and multiplies within the placenta and fetus causing fetal death.
- Cows that have aborted once due to *Neospora* are less likely to abort again, although the likelihood of vertically transmitting the organism from dam to calf is very high, resulting in persistence within a herd by propagating the infection to successive generations.

Examination of the fetus is necessary for a definitive diagnosis of abortion due to neosporosis. The best tissues to sample include brain, heart, liver, placenta, and also body fluids. Fetal brain is the most consistently affected organ and has the most characteristic lesion. A positive blood test from an aborting cow only shows she has been exposed to *N. caninum* and is not necessarily the reason for her abortion. Several commercial blood tests are available that can detect antibody to *N. caninum* that are rapid, inexpensive and consistent.

Control of *Neospora* is difficult. Knowledge of transmission routes and how the disease develops help form biosecurity and on-farm management strategies. *N. caninum* is efficiently transmitted vertically in cattle for several generations so culling of positive animals is one way to prevent the spread of infection. In herds with a high prevalence of infection, blood testing the herd and selling the offspring of positive cows is more economically feasible to reduce vertical transmission. Embryo transfer from positive cows to negative recipients can preserve valuable genetics safely. Testing of all purchased animals should be considered to prevent entry of positive animals in to the herd.

To prevent horizontal transmission, it is important to prevent exposure of the cows to feed and water contaminated with feces from dogs or coyotes and potentially wild animals which may contain oocysts. Dogs and coyotes should not be allowed to eat aborted fetuses, fetal membranes, or dead cattle. *Neospora caninum* is a protozoan that is becoming more widely recognized as an infectious cause of reproductive problems in cattle. Blood testing for this organism should be considered especially in herds that vaccinate routinely for infectious causes of abortion yet are still experiencing losses, particularly in the second trimester of pregnancy. Definitive diagnosis of abortion is through detection of the *N. caninum* organism in the fetal tissues, usually the fetal brain. No known drug is available to clear a cow of infection. Control is based on culling positive animals, preventing entry of infected replacements into the herd, and preventing likely routes of horizontal infection.

The CPH Report – 2015-16 Summary

Kevin Laurent, Extension Associate, University of Kentucky

The CPH Report expands the analysis of CPH-45 sales by calculating an estimated net added returns per head for all sales across the state. This report summarizes the CPH-45 sales held from April 2015 to February 2016. Sales had to have more than 250 head to be included in this summary. Every attempt has been made to use as much actual data as possible in calculating these estimates (see the column descriptions below the tables for more details). This is the first time we have used weighted averages to combine weight classes to arrive at one average figure per sale for steers and heifers.

The past 12 months were a mixed bag for profitability of preconditioning/short term backgrounding. Estimated net added returns were impressive prior to the huge market correction that occurred this past fall. Profitability for the 50 day preconditioning/backgrounding scenario returned in the late winter sales due mainly to lower calf starting values. Hopefully with the market correction behind us a more seasonal trend will be experienced going forward with lighter calves peaking in the spring and heavier yearlings peaking in the summer.

For more information on CPH-45 visit the website at www.cph45.com. If you are interested in selling in a CPH-45 sale, contact your local County Extension Agent for Agriculture and Natural Resources.

Estimated Net Added Returns for CPH-45 Calves (April, 2015 -February, 2016)

Steers

Sale Date	Sale Location	No Head	Starting Wt	Starting Price	CPH WT	CPH Price	State Avg. Price	CPH Advantage	Cost of Gain	Estimated Net Added Returns
4/30/2015	Owensboro	238	539	251.51	669	238.12	231.90	6.22	0.53	141.38
6/17/2015	Lexington	404	505	263.48	635	255.88	246.95	8.93	0.45	192.41
7/6/2015	Guthrie	262	535	258.90	665	241.95	233.98	7.97	0.45	135.16
8/13/2015	Owensboro	386	559	252.70	689	234.76	226.85	7.92	0.48	118.00
12/1/2015	Paris	633	543	184.91	673	164.04	157.54	6.50	0.56	-8.16
12/1/2015	Richmond	382	506	190.72	636	171.12	161.70	9.42	0.53	22.77
12/3/2015	Owensboro	454	592	180.18	722	158.76	155.23	3.53	0.61	-15.67
12/7/2015	Guthrie	764	607	181.24	737	146.34	143.02	3.31	0.63	-125.74
12/9/2015	Lexington	467	580	183.50	710	142.57	143.97	-1.40	0.60	-161.27
1/20/2016	Lexington	425	575	165.28	705	152.63	147.75	4.87	0.58	16.19
1/28/2016	Guthrie	103	626	153.73	756	152.57	151.31	1.26	0.62	82.65
2/4/2016	Owensboro	325	605	148.34	735	155.03	151.78	3.25	0.58	143.96
							Average	**$5.15**	**$0.55**	**$45.14**

Heifers

Sale Date	Sale Location	No Head	Starting Wt	Starting Price	CPH WT	CPH Price	State Avg. Price	CPH Advantage	Cost of Gain	Estimated Net Added Returns
4/30/2015	Owensboro	139	435	246.42	565	237.17	231.49	5.68	0.49	179.07
6/17/2015	Lexington	214	453	246.92	583	244.61	236.68	7.94	0.46	209.46
7/6/2015	Guthrie	94	522	235.46	652	224.90	220.05	4.84	0.49	143.70
8/13/2015	Owensboro	217	535	238.03	665	215.56	210.81	4.76	0.50	69.76
12/1/2015	Paris	267	535	167.73	665	145.19	141.73	3.46	0.61	-42.84
12/1/2015	Richmond	327	468	174.01	598	151.59	147.52	4.07	0.54	-8.40
12/3/2015	Owensboro	313	533	168.17	663	151.68	143.50	8.17	0.61	11.14
12/7/2015	Guthrie	367	521	172.00	651	139.74	133.34	6.40	0.60	-81.83
12/9/2015	Lexington	305	502	173.98	632	139.84	134.92	4.92	0.58	-97.65
1/20/2016	Lexington	321	515	152.52	645	139.51	137.94	1.57	0.57	9.03
1/28/2016	Guthrie	123	519	146.38	649	150.06	146.83	3.22	0.56	113.46
2/4/2016	Owensboro	168	561	137.03	691	145.20	140.19	5.01	0.59	134.20
							Average	**$5.00**	**$0.55**	**$53.26**

Column Descriptions
No. Head – number of calves in the calculations. Only weight classes of 20 or more head were included in the summary.

Starting Weight - represents the pay weight of the cattle 50 days prior to the CPH sale.
Starting Price - the average price of calves as reported on the KDA Market Reports 50 days prior to the

CPH sale ($/cwt).

CPH Weight - the pay weight at the CPH sale assuming an average daily gain of 2.6 lbs/day, for a total weight gain of 130 lbs. for the 50 day period.

CPH Price - the weighted average price of calves at the CPH sale as reported on the KDA Market Reports ($/cwt).

State Avg. Price - the average price of calves as reported on the KDA Market Reports the same week as the CPH sale ($/cwt).

CPH Advantage-the difference in $/cwt between the CPH price and the state average price.

Cost of Gain - the cost of gain using average feed prices (bulk feed-3 ton minimum). Rations are formulated for 2.8 lbs. of average daily gain. An additional 10% was added to calculate heifer cost of gain.

Estimated Net Added Returns - the net returns per head to labor, management and capital after starting calf value, feed, vet/tag($15.00), mineral ($3.75), commission (varies by sale, some sales have reduced sale charges for CPH calves), mortality (0.5%) and interest (6.0%) expenses.

Cow College Offered in 2016

Ben Crites, IRM Coordinator, University of Kentucky

Cow College is an intensive, hands-on course that is designed to expose producers to the most cutting edge information related to beef cattle production. The program will consist of 5 two-day sessions; combining in-class learning with hands-on situations. Cow College is hosted at the University of Kentucky by members of the Beef IRM team.

Sessions that will take place include: Economics and Management, Nutrition and Forages, Herd Health and Facilities, Reproduction and Genetics, and End Product. In order to participate in the program, it is required to have successfully graduated from the Master Cattlemen Program. Enrollment will be limited to the first 30 people at a cost of $250/person. Please stay tuned for more details on program dates and registration information.

For more information regarding Cow College, please contact the Beef IRM Coordinator, Ben Crites at (859)-257-7512 or benjamin.crites@uky.edu.

2016 Kentucky Grazing School

Austin Sexten, Master Grazing Coordinator, University of Kentucky

This year the spring grazing school will be held on May 17-18, 2016 at Woodford County Extension office and the Oran C. Little Research Center in Versailles, KY. This two-day program will include hands-on exercises, such as building temporary paddocks and watering systems, assessing pasture production, and designing your own grazing systems. Classroom sessions include a variety of topics regarding forages, animal management, and grazing systems. Emphasis will be on spring and summer grazing management for ruminant species.

Anyone interested in this program may apply, but a limited number of applicants will be accepted, so apply early. Past participants have included new farmers to experienced grazers and all have gained new

information and practical skills to implement on their operations. All grazing school participants have indicated that attending this program motivated them to make changes to their grazing systems to improve their operations and increase production.

Pre-registration for the grazing school as enrollment is limited to the first 45 who register. The $50.00 registration fee includes all materials, grazing manuals, breaks, and lunch both days. To register, contact Austin Sexten, Master Grazer Coordinator, at (859) 257-7512 or austin.sexten@uky.edu. A program and additional information can be found at the following link:

http://www2.ca.uky.edu/grazer/Documents/2016-Grazing-School-flyer-final.pdf.

2016 Pasture to Plate Program

Dr. Darrh Bullock and Dr. Jeff Lehmkuhler, Extension Professors, University of Kentucky

The Beef IRM team along with the Kentucky Beef Network and other organizations are once again conducting the Pasture to Plate Program. The Pasture to Plate demonstration/educational program was developed to increase the knowledge base of beef producers on all aspects of cattle production from genetics to consumption. This project is funded by the Kentucky Agriculture Development Fund and is a cooperative effort of the University of Kentucky's College of Agriculture, Food and Environment, Kentucky Beef Network, Kentucky Beef Council, Kentucky Department of Agriculture and the USDA Forage Animal Production Research Unit.

A total of 30 steers and heifers are purchased (approximately 800-850 pounds) from local sale barns to include an assortment of beef breed crosses and a few dairy calves. Ten cattle will be fed out at each of the following locations: the Eden Shale Farm; UK Research and Education Center at Princeton; and the Morgan County Extension Farm. The cattle are fed a concentrate ration for approximately 150 days until finished (1200-1500 pounds). All cattle at a location are harvested at approximately the same time. All carcasses are graded and processed in a typical manner. Sample steaks are collected from each carcass for a sensory taste panel comparison to be done by all participants. Thus, the overall goal of this program is for cattlemen to learn and experience all phases of feeder calf production from weaning through the eating experience. Performance, carcass and consuming preference data is collected throughout the program and reported in the Summary Session at the conclusion.

A total of four educational sessions per location are conducted throughout the course of the program; receiving, midpoint, finish and carcass/consumer/summary. There will be a combination of classroom education and hands on activities.

This program requires a time commitment and to get the most out of it we encourage participants to attend as many sessions as possible. The dates for the first session (Receiving) are:

Princeton Research and Education Center - April 14
Morgan County Extension Farm - April 19
Eden Shale Farm - April 20

For more information please visit the Kentucky Beef Network website at http://www.kybeefnetwork.com/ and find Pasture to Plate under Programs or contact Jake Gankofskie at jgankofskie@kycattle.org or 859-278-0899.