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OFF THE HOOF

Kentucky Beef Newsletter – October 2012

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, University of Kentucky Beef Specialist

Spring-calving herds

- Evaluate the body condition of your cows and improve their condition prior to winter.
- If you have already done a preweaning working, revaccinate (booster) calves as needed. Treat calves for internal and external parasites. If you vaccinate calves yourself, be sure to store, handle and administer vaccines properly.
- Schedule a pregnancy examination of cows if not done previously. Winter feeding costs can be minimized by eliminating open cows prior to winterfeeding.
- Wean calves before cows lose body condition.
- Obtain weaning weights of your calves and enter this in a record keeping program. Keep good records and treat your cow-calf operation like a business.
- Weaning is the time to do your first round of culling and selecting breeding stock. You can eliminate obviously inferior calves, especially those with wild or nervous dispositions. Consider the number of heifers that you will need to save for your cow herd. Bulls which are old, unsound, roguish, etc. can be culled now. It is not too early to begin thinking about replacements now.

Fall-calving herds

- The calving season should be in full swing for fall calvers. Check cows frequently. Identify calves and commercial males should be castrated and implanted.
- Obtain yearling measurements (weight, hip height, scrotal circumference, etc.) on replacement animals—especially for registered ones. The largest measurements for weight, height and pelvic areas aren't what you are looking for. In most cases, you are more concerned with minimums, like eliminating heifers with very small pelvic areas so that you minimize their likelihood of calving

difficulty. Or, you might even want to eliminate some animals when it appears that their size and frame is too large to fit your program and goals.
- Put fall-calving cows on accumulated pasture (if you have any) before the breeding season.
- It is time to get everything ready for the fall-breeding season, too. Line-up semen, supplies, etc. now and get your bulls ready to go (don't forget their breeding soundness evaluation).

Stockers

- If you are purchasing weaned/stressed calves, have your receiving/feeding program in place. Feed a stress ration which contains at least 13% protein and is fairly energy dense.
- Manage to keep newly weaned and/or purchased calves healthy. Calves should be penned in a small lot with adequate feed, water and shade to reduce stress. Careful handling and comfortable, uncrowded conditions can decrease stress.
- When newly-weaned calves are purchased in the fall, sickness and death loss can be a big problem. Work with your veterinarian on a health and receiving program. Consider purchasing CPH-45 feeder calves which are preweaned, vaccinated, bunk-adjusted and treated for parasites.
- Watch calves closely for a few weeks after their arrival. Have a treatment program ready for any health problems. Early recognition of sick cattle improves their chance of recovery. Watch for drooped ears, hollow appearance, reluctance to rise, stiff gait, coughing and dull or sunken eyes. A good "receiving" program is essential to profitability.

General Reminders

- Test hay quality and make inventory of hay supplies and needs. Make adjustments now - buy feed before you run out in the winter.
- Remove fly-control eartags from all animals, dispose of according to instructions on package. Treat for grubs/lice.
- Avoid prussic acid poisoning which can happen when frosts rupture the plant cells in sorghums, sorghum-sudan hybrids, sudangrass and johnsongrass releasing prussic (hydrocyanic) acid. Fields can be grazed after the plants have dried up after a frost. New growth that occurs in stalk fields is potentially dangerous whether frosted or not.
- Take soil samples for soil analysis to determine pasture fertility needs. Apply phosphate, potash and lime accordingly.
- Do not harvest or graze alfalfa now in order for it to replenish root reserves.

Don't Jump to Conclusions

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

Quite a stir was created years ago in the community where I grew up when an oil company started doing some exploratory drilling. All of the land owners hoped they would strike it rich, but not much happened – except for that one oil well. It was on my neighbors' land – Oliver and Sally. They lived up in the hollow on their hillside farm and had always dreamed of a better life. They were good God-fearing folks – even had a dog named "Moreover" because that was scriptural. You know, it says in the Bible that "Moreover the dog licked Lazarus' wounds".

Oliver and Sally felt the need to let folks know that they had arrived. They put aluminum siding on their log house and bought a new Ford pickup with twin I-beam suspension – but that wasn't enough. Sally allowed that they should spare no expense and throw a dinner party – inviting the town folks. Oliver

jumped at the idea of gaining some social status. He allowed that they should even have steak with those little mushrooms on it – just like that restaurant out by the stockyard.

Oliver said that they could get that "Burris boy" to come and help park cars – which is how I got involved in this whole sordid affair. Saturday finally arrived and Sally was getting ready to pan-fry the steaks when she realized that Oliver had forgotten to get the MUSHROOMS! It was too late to go to the store so I commented that I had seen mushrooms in the pasture. Sally wasn't too sure and seemed overly concerned about food safety, especially at that time.

I had a bright idea – let's feed one to Moreover and see if they are okay. Sally sautéed (fried) a mushroom in butter and gave it to Moreover. He scarfed it down and didn't appear to exhibit any ill-effects. A crisis had seemingly been averted.

The town folks arrived that Saturday evening – a lawyer and two doctors were even there. They had just finished that scrumptious meal when I ran through the door and screamed "Moreover is dead!". I went back outside to grieve Moreover's passing but soon noticed a strange smell coming from inside the house. It was a combination of undigested steak and gastric juices because the doctors had everyone lying in the floor and were pumping their stomachs!

All of the guests couldn't leave that place fast enough, but I wandered back inside and found Oliver collapsed in his rocking chair. He just moaned that he hadn't only lost all of his new friends; he had lost the one friend he could always count on. He sighed and said "where is Moreover? I need to give him a proper burial." to which I quickly replied "Why he's laying down there beside the road – right where that truck hit him."

Okay, this story is not true but the moral is that we should gather all pertinent information before we arrive at our conclusions or decisions. That's what we, the Extension Service, do for you – Provide relevant information to aid you in making decisions about your farming operations. Give us a call. Maybe we can save you a little trouble.

UK Beef Cow Forage Supplement Tool – A Web Based App

Kevin Laurent, Beef Extension Associate, University of Kentucky

The UK Beef Cow Forage Supplement Tool is a newly developed web-based app that uses forage analysis results to estimate forage intake and supplementation rates for beef cows. The app which was produced by Kevin Laurent, Jeff Lehmkuhler and Roy Burris in the University of Kentucky Department of Animal and Food Sciences can be accessed on the web at http://apps.ca.uky.edu/forage-supplement-tool/ or downloaded on smart phones for offline use.

Users are reminded that this is not a ration balancing program, but simply a tool that estimates the nutritional needs of a 1250 pound mature beef cow in adequate body condition in three stages of production: mid-gestation, late gestation and lactation. Many variables such as weather conditions, body condition, animal health, palatability of feedstuffs, etc can affect actual intake and animal response to a feeding program and actual feed/forage intake and body condition should be monitored throughout the feeding program.

Preg Check Your Cows……Please!

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

As weaning time approaches, I hope most of you are planning your herd "preg check". If this fall is any indicator, it appears the cost of feed this fall and winter will be very high. If you have not incorporated this management practice in the past, please do so this year so that you won't be feed non-productive females this fall and winter. When it comes time to cull cows from your herd, pregnancy status is one of the first criteria that will determine whether a cow stays in the country or goes to town.

According to the results of a survey conducted by the National Animal Health Monitoring System, fewer than 20 percent of beef cow calf producers used pregnancy testing or palpation in their herd. However, the benefits of this practice are fairly simple to realize. First of all, pregnancy diagnosis allows producers to identify "open" or nonpregnant cows. Compare the roughly $5 per head cost of a pregnancy exam with the $100-200 per head cost of hay alone to feed an open cow through the winter (if you can find hay for $30 per roll). It's easy to see that pregnancy testing quickly pays for itself.

Second, pregnancy testing will provide a producer an estimation of when cows will be calving based on the age of the fetus at the time of the pregnancy exam. An average calving date can be calculated and the producer can use this information to better supplement, the cows through the winter. Remember, the nutrient needs of cows vary throughout their production cycle; cows nutrient requirements are highest immediately before and after calving and are lowest in the second period of pregnancy. Knowledge of the stage of pregnancy can help producers make efficient feeding decisions. For example, most producers will have hay of varying qualities in storage. Since cows in the second period of their pregnancy require less nutrients, producers can target their lower quality feedstuffs for the time when their cows nutrient requirements are the lowest. Alternatively, producers can save their best quality feedstuffs for the post-calving period when a cow's nutrient requirements are the highest. Thus, obtaining the pregnancy status of your cowherd will allow a producer to adjust the supplementation in a timelier manner.

Finally, if the herd needs to be culled and pregnant cows need to be sold due to drought and lack of pasture, knowing the pregnancy status of the cows will be appealing to potential buyers. Buyers will be looking to purchase cows that will calve closely in line with the cows already in their own herds.

Pregnancy diagnosis is a quick and simple procedure. Three practical methods for pregnancy diagnosis can be used in beef cattle: 1) rectal palpation and 2) transrectal ultrasonography 3) blood sampling. Rectal palpation is most common and is an accurate form of pregnancy diagnosis that can be performed after day 45 of pregnancy. Many veterinarians are proficient at rectal palpation, and this procedure requires little time in the squeeze chute. Transrectal ultrasonography, commonly referred to as ultrasound, can be used to detect pregnancy as early as 28 days with a high degree of accuracy. This method can be employed just as quickly as rectal palpation when done by a skilled technician and may provide additional information that cannot be determined by rectal palpation. Using transrectal ultrasonography, the technician is actually "looking" at the fetus and can determine the viability of the fetus and the incidence of twins. It is also possible to determine the sex of the fetus between days 60 and 90 of pregnancy.

The blood test method to determine pregnancy is simple and accurate. First, a blood sampling kit needs to be ordered from the company. The easiest method is to go to goldstandardlabs.lbu.com or biotracking.com and look for their products. Usually, the cost is about $1.50-1.60 per cow for the kit. All the tubes should be labeled according to the instructions in the kit. The most difficult part of this process for most producers will be obtaining the blood sample. Cows must be at least 30 days pregnant and 90 days from

calving for the test to work. Also, producer's who have no experience taking a blood sample will need to schedule this test with their local veterinarian. Once the sample is obtained, the samples are packaged and sent to a laboratory for analysis. The cost for the test is $2.50-3.00 per cow. So the total cost per cow will be the cost of the kit, plus the test cost, plus the cost of mailing and any costs associated with obtaining the sample if you cannot do it yourself. Likely the cost per cow will be about $5 per cow for most producers.

The results are normally obtained with 2-3 weeks and the accuracy of the test is very high. If the test calls the cow open, then the producer is 99+% sure the cow is open. When the test determines a cow pregnant, you can be 93-95% sure they are pregnant. This test will not determine stage of pregnancy (i.e. 90 days versus 120 days).

A final piece of information to keep in mind is to sell cull cows early. The market for cows is usually good through September, and then the price goes south at a fairly rapid pace until it bottoms out in November. So, pull the bulls at the end of the breeding season, schedule to pregnancy check your cows about 45 days later, and get rid of the open cows and other culls before cow prices take a nose dive.

So PLEASE have pregnancy diagnosed in your cows. It will save you money.

Cyanide Poisoning in Ruminants

Dr. Michelle Arnold, Dr. Cynthia Gaskill, Dr. Ray Smith, Dr. Garry Lacefield, University of Kentucky

The primary cause of cyanide poisoning in ruminants is the ingestion of plants containing cyanide-producing compounds called cyanogenic glycosides. These cyanogenic glycosides occur in living plant cells and can be converted to cyanide by enzymes present in the plant when plant cells are crushed, chewed, wilted, frozen or otherwise ruptured. Ruminants are very susceptible to cyanide poisoning because the rumen environment is mildly acidic, usually has ample water content, and the microflora can rapidly convert cyanogenic glyocosides in plants to free cyanide gas. "Prussic acid poisoning" is older terminology for cyanide poisoning. Hydrogen cyanide was first isolated from a blue dye (Prussian blue) and because of its acidic nature, it became known by the common name "prussic acid".

The cyanogenic potential of plants is affected by species and variety, weather, soil fertility and stage of plant growth. Cyanide poisoning of livestock is commonly associated with johnsongrass, sorghum-sudangrass, and other forage sorghums. Choke-cherry or wild cherry, elderberry, and arrow grass are less frequent causes. Young plants, new shoots, and regrowth of plants after cutting often contain the highest levels of cyanogenic glycosides. Application of herbicides such as 2,4-D can increase the cyanogenic potential of plants. There are wide differences among plant varieties. Some of the sudangrasses, such as Piper, are low in cyanide. Drying plants decreases the cyanogenic potential over time. Ensiling plants will significantly reduce the cyanogenic glycoside content.

Cyanide is one of the most potent toxins in nature. As ruminants consume plant materials containing cyanogenic glycosides, hydrogen cyanide is liberated in the rumen, rapidly absorbed into the bloodstream and prevents hemoglobin from releasing its oxygen to the tissues. If large quantities of cyanide are absorbed rapidly enough, the body's detoxification mechanisms are overwhelmed and the animal soon dies. Affected animals rarely survive more than 1-2 hours after consuming lethal quantities of cyanogenic plants and usually die within 5-15 minutes of developing clinical signs of poisoning. Signs may include rapid labored breathing, irregular pulse, frothing at the mouth, dilated pupils, muscle tremors, and staggering. The mucous membranes are bright red in color due to oxygen saturation of the hemoglobin.

The risk from potentially dangerous forages may be reduced by following these management practices:

1. Graze sorghum or sorghum cross plants only when they are at least 18-24 inches tall. Young rapidly growing plants or regrowth have the highest concentrations of cyanogenic glycosides, especially in the newest leaves and tender tips. Do not graze plants with young tillers.

2. Do not graze plants during drought periods when growth is severely reduced or the plant is wilted or twisted. Drought increases the chance for cyanide because slowed growth and the inability of the plant to mature favors the formation of cyanogenic compounds in the leaves. Do not graze sorghums after drought until growth has resumed for 4-5 days after rainfall.

3. Do not graze potentially hazardous forages when frost is likely (including at night). Frost allows conversion to hydrogen cyanide within the plant. Do not graze for two weeks after a non-killing (>28 degrees) frost. It is best not to allow ruminants to graze after a light frost as this is an extremely dangerous time and it may be several weeks before the cyanide potential subsides. Do not graze after a killing frost until plant material is completely dry and brown (the toxin is usually dissipated within 72 hours).

4. Do not allow access to wild cherry leaves. After storms or before turnout to a new pasture, always check for and remove fallen cherry tree limbs.

5. If high cyanide is suspected in forages, do not feed as green chop. If cut for hay, allow the cyanide to volatilize before baling. Allow slow and thorough drying because toxicity can be retained in cool or moist weather. Delay feeding silage 6 to 8 weeks following ensiling.

6. Forage species and varieties may be selected for low cyanide potential.

Cyanide is rapidly lost from animal tissues unless collected within a few hours of death and promptly frozen. Liver, muscle (ventricular myocardium preferred), whole blood, and rumen contents should be collected and frozen in air-tight containers before shipment to a laboratory capable of cyanide analysis. Perhaps most important in the diagnosis of cyanide poisoning is to identify plants in the area that the animals had access to determine if they are likely to contain cyanogenic glycosides. Cyanide concentration determinations in suspect plants can be performed if samples are frozen immediately or sent on ice overnight to the veterinary diagnostic laboratory. Treatment can be attempted if affected animals are discovered quickly, but often animals are just found dead. Contact a veterinarian immediately if cyanide poisoning is suspected.

If you have questions concerning testing for cyanide in forages, call your county Agricultural Extension Agent for further information. A field test is now available to screen forages for potentially toxic levels of cyanide.

Cattle on Feed

Dr. John D. Anderson, Deputy Chief Economist, American Farm Bureau Federation

Last Friday, USDA released the monthly Cattle on Feed (COF) report, and the numbers clearly show the effect of this year's drought. As Jim Robb noted in last week's In the Cattle Markets article, August placements generally reflect the beginning of the fall run of seasonally above-average placements. That effect this year has been substantially muted by the relatively large drought-induced placements in July. In the ten years from 2001 through 2010, placements increased by almost 21% between July and August, on

average. The smallest July-to-August increase in that time period was 11% in 2001. Last year with the Southern Plains drought forcing calves into feedlots earlier than normal, placements only increased by a little more than 5% between July and August. This year, the July-to-August increase in placements was even smaller - just 4.2%. USDA noted that this is the second smallest August placement figure since the current COF series was started in 1996.

The weight breakdown of placements this year was considerably different than last year. In 2011, a large slug of lightweight calves was in the placement mix. That was not the case this year. Calves weighing less than 600 pounds made up about 24% of all August placements this year. That compares to a bit under 23% on average over 2006 through 2010. By contrast, in 2011, calves under 600 pounds constituted almost 32% of August placements. Last year's numbers likely reflected more early-weaned calves from Texas and Oklahoma than this year. Also, last year there was in August virtually zero available forage in the Southern Plains or even most of the Southeast and little hope that any would be forthcoming, as conditions were deteriorating throughout the month. This year was notably better over most of Texas and much of the Southeast so that the idea of finding a place on grass for lighter stock - immediately or at least within a few weeks time - did not seem completely hopeless.

The COF's bullish news on placements was blunted by bearish news on marketings. August marketings were considerably lower than expected - below even the most pessimistic pre-report forecasts. Marketings were down 4.5% from a year ago. Despite soaring feed costs, marketings in August did not look terribly aggressive. This comports with data in last week's Livestock Slaughter report, which showed an 18-pound increase in steer dressed weights for this August compared with a year ago. Despite the slower pace of marketings, the total on-feed number was about in line with expectations: down just a touch year-over-year. On balance then, the marketing figure may keep some pressure on front-month futures, but the overall story coming out of the COF is still one of further tightening of cattle and beef supplies.

Drought Strategy: Wean the Calf, Salvage the Cow

Kris Ringwall, Beef Specialist, NDSU Extension Service

*****Note from Les. I know most of Kentucky is not experiencing drought after some much needed late summer and fall rains. However, I would guess that many of our cows have not yet recovered from the early heat and drought this summer. I thought the concepts in this article were worth the read.*

Everyone is tired of hearing about drought. The skies are stark blue, usually considered nice, but most would appreciate some clouds and rain.

The point is this: The weather is nice and the cows are thin, so we need to feed them. Do not put off what is inevitable. Thin cows must be fed, and fall is a good time because the cows' nutritional requirements are low, especially if the cows are dry, and the requirements are easier to meet. Skimping on feed now is not a good plan.

If you want to stay in the cow business, wean the calf and salvage the cow. Wean the calf early, even if that means selling the calf. Add up the good cows and wisely stretch the feed.

If one needs to buy hay, why not plan on feeding when the cow can better use the hay? The longer one waits to add condition back onto a thin cow, the greater the battle.

The cow advances daily in fetal growth, and soon the third trimester will be here and the cow will need to be eating to support the accelerated growth of the calf. Plus, the harshness of winter will demand more thermal output to survive. Her daily feed intake will be needed to keep the calf growing and stoking her internal furnace.

To make matters worse, as soon as she calves, all hands will need to be on deck because milk production kicks in as the cow turns into a perpetual milking machine. Feed in, milk out.

So when hay is expensive, one should feed it when it will do the most good. Thin cows need to gain weight, and now is the time to do it with less feed. The cow is pregnant, but the fetus is not quite so demanding. She still feels good, not like in late pregnancy, when she has to carry well in excess of 100 to 200 pounds of extra weight balanced on legs and a pelvis meant to come apart on short notice. And the weather is still nice, so she does not have to set aside some of what she eats to simply keep warm.

The bottom line: Now is a good time to be nice to the cow and let her gain a little weight and put on some flesh. But in the traditional timing and business of fall work, missing this point is easy.

Skimp, skimp, and skimp some more and hope the cows will make it until grass in the spring is poor planning. I was reminded of this the other day as I witnessed some cows short on feed. Thin cows always have that same look: cows, single file, looking for feed where there is none, cautious, with slight anxiety.

Early weaned, those thin cows have a chance to gain some easy weight now. Contrary to the tendency to let the cows rough it a little more in the nice weather, saving feed for winter is not a good idea. Next spring will get here and the cycle will start again, but for now, get some gain on those thin cows.

Thin cows need a nutritionist, as always, and every manager of a producing cow herd needs to understand the annual requirements of a cow and be prepared to have the appropriate feed available.

An often overlooked time period is right now. The cows are thin, and where does one see the cow herd wandering? Oftentimes, it's on very short pasture or barren cropland, none of which actually is growing anything. So what are they supposed to eat?

The ranch crew is busy managing all the newly weaned calves and getting ready for winter. A common thought is that the cows are not nursing calves anymore, so they simply can survive until we need to feed them. But that need usually is triggered only once the ground is white. I guess white equals feed and brown equals survival. After all, every week of saving feed is money in the pocket.

Well, that is not exactly true because once winter gets here (let's say early January), the cows are further along in pregnancy, many in their third trimester if they are going to start calving in April, and if they are going to start calving in March, well, by the first of December, they are already in their third trimester.

If one gets the gist of this conversation, yes, one can feed to the nutritional requirements of the beef cow; however, the many extenuating circumstances in late pregnancy and winter simply may not allow the replenishing of condition and muscle for her own well-being.

This process starts a vicious cycle in which the cows are calved too thin, the calves may be deprived of adequate colostrum, calves get sick and the cow does not rebreed in time to maintain a 365-day calving

interval. If this cycle repeats itself for a year or two, the culling rate goes up and the overall health of the cow, and particularity the calf, is put in jeopardy.

So do not skimp in hopes of saving a few dollars, but rather reduce the cow numbers to meet the current appropriate feed inventory. Visit your nutritionist, and remember the weather is nice and the cows are thin, so feed them.