COOPERATIVE EXTENSION SERVICE
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OFF THE HOOF

Kentucky Beef Newsletter August 2017

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

- Bulls should have been removed from the cow herd by now! They should be pastured away from the cow herd with a good fence and allowed to regain lost weight and condition. It is a good time to evaluate physical condition, especially feet and legs. Bulls can be given medical attention and still have plenty of time to recover, e.g., corns, abscesses, split hooves, etc. Don't keep trying to get open spring cows bred – move them to fall calving or sell them when they wean this year's calf.
- Repair and improve corrals for fall working and weaning. Consider having an area to wean calves and retain ownership for postweaning feeding rather than selling "green", lightweight calves. Plan to participate in CPH-45 feeder calf sales in your area.
- Fescue pastures don't generally produce much this month, however rain in July has given us some forage going into the usually dry months. Keep rotating pastures to permit calves to continue gaining weight. Keep minerals available at all times.

Fall-Calving Cow Herd

- Dry cows should be moved to better pastures as calving time approaches. Cows should start calving next month. Yearling heifers may begin "headstart" calving later this month. Plan to move cows to stockpiled fescue for the breeding season, so it will soon be time to apply nitrogen fertilizer.
- Prepare for the fall-calving season (usually September). Get ready, be sure you have the following:
  - record book
  - eartags for identification
  - iodine solution for newborn calf's navel
  - calf puller
  - castration equipment

General

- Keep a good mineral mix available at all times. The UK Beef IRM Basic Cow-Calf mineral is a good choice.
- Do not give up on fly control in late summer, especially if fly numbers are greater than about 50 flies per animal. You can use a different "type" of spray or pour-on to kill any resistant flies at the end of fly season.
- Avoid working cattle when temperatures are extremely high – especially those grazing high-endophyte fescue. If cattle must be handled, do so in the early morning.
- Provide shade and water! Cattle will need shade during the hot part of the day. Check water supply frequently – as much as 20 gallons may be required by high producing cows in very hot weather.
- Cattle may also be more prone to eat poisonous plants during periods of extreme temperature stress. They will stay in "wooded" areas and browse on plants that they would not normally consume. Consider putting a roll of hay in these areas and/or spraying plants like purple (perilla) mint which can be toxic.
- Select pastures for stockpiling. Remove cattle and apply nitrogen when moisture conditions are favorable. Stockpiled fescues can be especially beneficial for fall-calving cows after calving.
- Take soil samples to determine pasture fertility needs. Fertilize as needed, this fall.

Some Thoughts on Mineral Supplementation

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

Mineral nutrition of beef cattle is poorly understood. Or, at least, there are a lot of differing opinions. And, there are major minerals and trace minerals, different form and availability of minerals, antagonists, interrelationships and ratios, additives, expensive and cheap minerals, different mineral needs for various classes of cattle and stages of production which all can be considered. We also have FDA regulations that govern what we can legally do. Don't despair. We can still take what we know about mineral nutrition and meet the animals' needs as economically as possible.

First, individual mineral consumption can be quite variable. The biggest thing that effects consumption is the supply. Minerals should be available at all times. It isn't the end of the world if cattle go a few days without minerals but a pattern of empty feeders will not allow the cows to "level off" their mineral intake. Feeders should be located near shade and/or water so that cattle will come in contact with minerals frequently. Most mineral supplements are formulated for 2 to 4 ounces of intake and are, of course, best if consumed at that level.

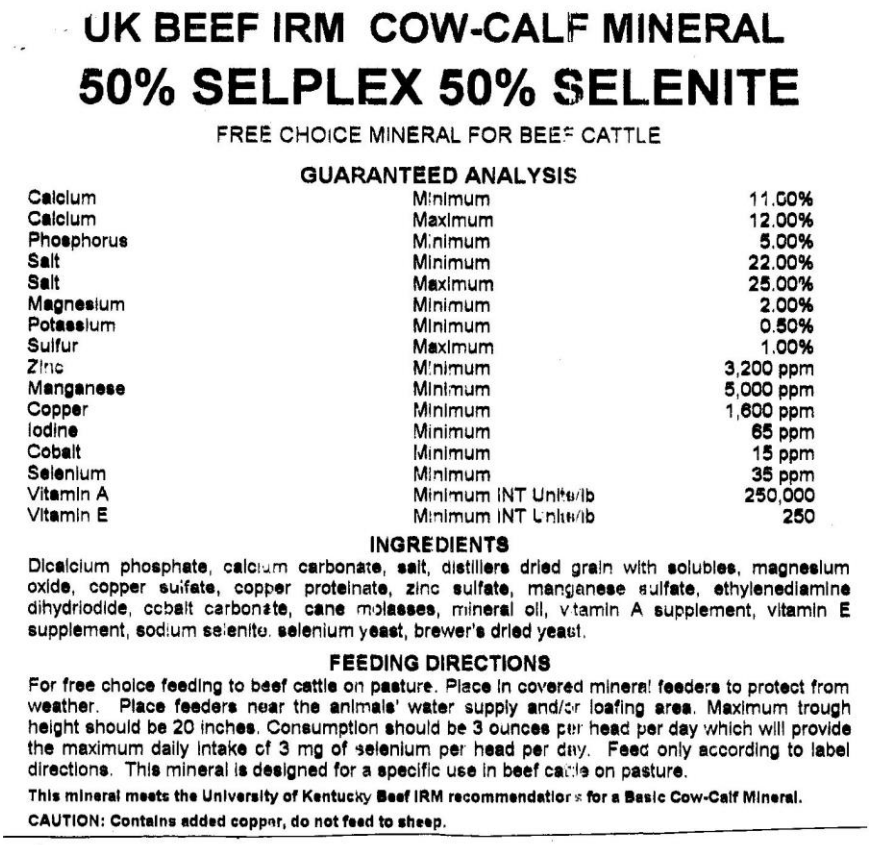
Salt is the primary driver of intake so <u>DON'T</u> add salt to the feeders.

Speaking of feeders – they need to be covered. I heard a presentation recently about looking for the most "weather-fast" mineral supplements. Supplements were being tested for their stability in open feeders. I have a thought on that, too. Loose minerals are too expensive to feed in open tubs. They should be protected from the weather. "Bull proof" feeders, with a flap on top like the one in the picture, work well for this purpose.

Calcium (Ca) and phosphorus (P) are the individual minerals that we think of first. We prefer about a 2 to 1 ratio of Ca to P. Forages are usually high in Ca and need some extra P added. Phosphorus is expensive and Calcium (think limestone rock) is cheap. So this can add to the cost. However, when feeding grain or grain by-products the opposite is true. Phosphorus is high and we need to add ground limestone to raise the calcium level for prevention of "water belly". This is getting more common in this area, with the feeding of grain by-products and some finishing of cattle and sheep.

Trace minerals are important, too – especially Copper (Ca), Selenium (Se), Zinc (Zn) and Manganese (Mn). They should be included at the required levels and in the required form to be most available and beneficial. Interestingly, we got really interested in mineral supplementation in Kentucky many years ago when we found that copper oxide was the primary form used for copper and that it was not available to the cattle, so we started a more active research and education program in beef minerals.

Food and Drug Administration (FDA) regulates how we use mineral supplements and the claims that can be made. For example, there is a huge difference between free-choice and feed mixing mineral supplements. If directions are given for mixing into a feed, it isn't cleared for free-choice feeding – meaning the work hasn't been done to prove efficacy or intake. We shouldn't go off label. We are also governed by the veterinary feed directive (VFD) for antibiotics which are also used for humans.



UK BEEF IRM COW-CALF MINERAL

50% SELPLEX 50% SELENITE

FREE CHOICE MINERAL FOR BEEF CATTLE

GUARANTEED ANALYSIS

Calcium	Minimum	11.00%
Calcium	Maximum	12.00%
Phosphorus	Minimum	5.00%
Salt	Minimum	22.00%
Salt	Maximum	25.00%
Magnesium	Minimum	2.00%
Potassium	Minimum	0.50%
Sulfur	Maximum	1.00%
Zinc	Minimum	3,200 ppm
Manganese	Minimum	5,000 ppm
Copper	Minimum	1,600 ppm
Iodine	Minimum	65 ppm
Cobalt	Minimum	15 ppm
Selenium	Minimum	35 ppm
Vitamin A	Minimum INT Units/lb	250,000
Vitamin E	Minimum INT Units/lb	250

INGREDIENTS

Dicalcium phosphate, calcium carbonate, salt, distillers dried grain with solubles, magnesium oxide, copper sulfate, copper proteinate, zinc sulfate, manganese sulfate, ethylenediamine dihydriodide, cobalt carbonate, cane molasses, mineral oil, vitamin A supplement, vitamin E supplement, sodium selenite, selenium yeast, brewer's dried yeast.

FEEDING DIRECTIONS

For free choice feeding to beef cattle on pasture. Place in covered mineral feeders to protect from weather. Place feeders near the animals' water supply and/or loafing area. Maximum trough height should be 20 inches. Consumption should be 3 ounces per head per day which will provide the maximum daily intake of 3 mg of selenium per head per day. Feed only according to label directions. This mineral is designed for a specific use in beef cattle on pasture.

This mineral meets the University of Kentucky Beef IRM recommendation for a Basic Cow-Calf Mineral.

CAUTION: Contains added copper, do not feed to sheep.

Here's something to watch for – the FDA regulates (approves or disapproves) label claims that are proposed for products. However, a company can avoid this by naming their mineral supplement as they please. That is a big deal here in the "fescue belt". Since I could name my mineral supplement "Best Fescue Mineral" which implies that I have a label claim for improved performance when I might not. Look for approved label claims and pay less attention to testimonials and names of products. Naming products suggestive names and/or calling them "feed mixing" minerals circumvents the process of getting products approved and labeled properly.

Proper mineral supplementation is important for optimum growth, reproduction and immunity of beef cattle. I have added a feed tag of the mineral supplement that we use at UK-Princeton. You can use it as a guide for free-choice mineral.

Weaning 101 Workshop: "A Hands-on Weaning Program"

Ben Crites, Beef IRM Coordinator, University of Kentucky

UK and KBN are excited to announce that the Weaning 101 Workshop will be offered again this year at the Eden Shale Farm. It is getting close to that time of the year when producers are preparing to wean their spring-born calves. This program is a great opportunity to hear from University of Kentucky Extension Specialists and Industry Experts on a variety of areas pertaining to the weaning period. Topics to be covered during the day

event include: Vaccination Protocols, Implanting Strategies, Developing a Feeding Program for Weaned Calves, Management of Lots for Weaning, Feeder Cattle Grading, and the Economics of Weaning Calves. Participants will have the opportunity to gain hands-on, chute-side experience of processing calves; including proper vaccine handling and injection sites, implanting techniques, and ear tagging. This year's program will take place on September 13th, 2017 with registration beginning at 8:30 a.m. The Weaning 101 Workshop is free to producers but space is limited to the first 30 people. Lunch will be sponsored by Elanco.

To reserve your spot, please call the Kentucky Cattlemen's Association at (859)-278-0899. If you have any questions about the program, please contact Jeff Lehmkuhler (jeff.lehmkuhler@uky.edu), Becky Thompson (bthompson@kycattle.org), or Ben Crites (benjamin.crites@uky.edu).

Capture Value Through Weaning

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

Seems like I am a broken record lately. I keep hearing myself say only worry about what you can control and don't fret over those things you cannot. As fall comes, it occurs to me that these words seem to apply to our beef farms. Everyone wanders when the peak in the market will be. Several ask when is the market going to drop?

Often we worry so much about what the markets will do in the fall, we forgot to focus on what we can control. Many calves make it to the market unweaned, something we can control. Time and time again, the markets show us that weaned calves bring more money than unweaned calves. Let's consider diverting our worries towards factors we can control.

Weaning seems stressful, on the calves, cows and the livestock manager. Planning and preparing will ease this stress. A bit of planning means a bit of thinking about the process. Ask yourself, what makes weaning stressful?

Is it the separation of dam and calf, breaking that mothering instinct? Personally, I think this is minimal. Consider research with Zebu or Brahman-type cattle in which heifer calves were naturally weaned around 9 months of age. Bull calves were naturally weaned older near 11 months of age. In this classical research there was considerable variation with the spread being 7-14 months. The point I'm attempting to make is weaning calves at 7-9 months of age is near the age they would naturally be weaned.

Is there stress from dam vocalization to call the calf to her to relieve discomfort from a full udder? I have watched cows with full udders, milk streaming from the teats while calling to calves across the fence that were bedded down paying little attention. This is a reasonable assumption that udder discomfort induces vocalization of the cow to call the calf to provide relief. However, I know of no research that identifies if the cow answers the calf or the calf answers the cow. I suspect it is a mix of both. What is known is the behavior can be altered.

Is the stress related to a change in the environment? Moving the calves to a strange location with strange feed, unfamiliar water source, and close proximity to animals such dogs, cats, and humans which they normally can distant themselves from when in open fields are all stressors. This can be remedied by weaning on pasture rather than a drylot. Planning in advance can make weaning on pasture a success.

Spending a bit of time considering where stress can be induced and developing strategies to minimize the degree of stress at each of these points will pay off. In fact, weaning can be a low stress situation with calves gaining well after weaning. I would strongly encourage you to consider stockpiling a field that has good exterior fences. Now is the time to start stockpiling the field. Applying nitrogen with adequate soil moisture will promote forage growth. Ten acres of stockpiled fescue will support about 30 calves for a month assuming there is slightly more than a ton of forage dry matter per acre.

Focus your worries on strategies that add value to your calf crop and less on what the markets will do. You'll

have the peace of mind knowing you did all you could to maximize the value of your calves.

Importance of Water Quality: Part 1

Michelle Arnold, DVM (Ruminant Extension Veterinarian, UKVDL), University of Kentucky

When an unexplained death occurs in a cattle herd, one of the first questions producers ask is "Could it be something in the water?" There is always concern expressed about potential runoff from neighboring crop fields after a hard rain or contamination upstream that has made its way down the creek affecting the livestock drinking water. In most situations, problems with water lead to poor performance and increased health issues but acute poisoning is also possible. In Kentucky, excess sulfur and nitrates in drinking water, blue green algae in ponds and certain microorganisms (bacteria, viruses and protozoans) in water are the most common water-associated problems causing serious clinical disease in cattle. Testing water sources is a good first step to know if they are acceptable for livestock use.

Water is the cheapest and most readily available nutrient but it is often the most overlooked. Consumption varies with age, breed, temperature and humidity, stage of pregnancy or lactation, and level of production but can reach as high as 25-30 gallons per day for a dairy cow during hot weather. Generally speaking, cattle health problems are seldom directly due to what is in the water but rather the decrease in water consumption because of the poor taste and odor. Similarly, cattle prefer water at temperatures between 40-60 degrees F and intake dramatically decreases when water temperature rises above 80 degrees F. It has been shown that steers drinking cool water will gain 0.3-0.4 pounds per day more than those drinking warm water. Another study demonstrated that heifers with access to water pumped from a well or stream gained 23% more weight than heifers drinking pond water. Decreased consumption is potentially as harmful as not having enough water available. When cattle do not drink enough, feed intake and milk production drop, heat stress worsens, and overall immunity suffers.

In Kentucky, sulfur spring water or high sulfate concentrations in water sources are relatively common. The most common form of sulfur in water is "sulfate" (SO_4^{-2}). Elevated sulfate concentrations above 500 ppm will affect water taste and reduce intake resulting in reduced growth and performance. Additionally, elevated sulfate in water will decrease copper absorption and may be confused with the effects of fescue toxicosis. A much more serious risk to cattle is polioencephalomalacia (PEM) due to exposure to high dietary sulfur from sulfate in the water combined with feeds high in sulfur, especially distillers grains. Cattle affected with PEM may be found dead or become "brainers" with neurologic signs of blindness, circling, an off-balance gait, teeth grinding, and muscle tremors. Many of these cases progress to death. The maximum tolerated dietary concentration of sulfur is 0.4% of the diet dry matter (DM) in cattle other than feedlot cattle which should not receive over 0.3%. Total sulfur intake from both feed and water must be determined when investigating PEM in cattle. Water sulfate levels below 500 ppm are considered "safe" and 1000 ppm is the recommended maximum. Cattle can adapt to elevated levels of sulfate if gradually introduced over several weeks.

Nitrate and nitrite contamination of water, most often from nitrogen fertilizer runoff, can result in death and abortion in cattle. Nitrates are soluble and move with percolating or runoff water. Therefore, ponds with runoff from heavily fertilized or manure-covered fields and water from poorly cased, shallow wells may contain nitrates. Other potential sources besides fertilizer are animal manure, crop residues, human waste and industrial waste. Bear in mind that nitrates present in water must be added to the nitrates in feed and forage to arrive at total amount consumed. Nitrates, when consumed more rapidly than they can be converted in the rumen to protein, enter the bloodstream as nitrite. The absorbed nitrites combine with hemoglobin of red blood cells to produce methemoglobin, making the blood incapable of transporting oxygen from the lungs to the rest of the body. Death occurs as methemoglobin levels approach 80%. Signs include weakness, rapid breathing, staggering, muscle tremors, a brownish color to mucous membranes, collapse and death. If a pregnant cow survives, she will likely abort 3-7 days following recovery from nitrate poisoning. Low doses of nitrate over a long period of time may result in poor weight gain and infertility but this has not been scientifically proven. Nitrate levels below 100 ppm in water are considered safe. Be aware that nitrate levels can be reported a variety of ways and the method of expression can differ between laboratories. Nitrate can be reported as nitrate (NO_3),

nitrate-nitrogen (NO_3-N), or potassium nitrate (KNO_3). These numbers are NOT equivalent, as they represent different chemical structures. Make sure the water reference range used for a particular result match the type of analysis performed.

Harmful algal blooms (HABs) can reduce water quality and intake, and can be deadly to livestock. In freshwater, the majority of HABs are caused by cyanobacteria or blue-green algae. They prefer warm, stagnant, nutrient-rich water so farm ponds contaminated with fertilizer run-off or direct manure and urine contamination are prime places for algae to thrive. Blue-green algae toxins (commonly in the form of microcystins) are released when algal cells are damaged and die in the water (for instance, after water is treated with an algaecide such as copper sulfate), or when ingested water reaches the animal's digestive tract and algal cells are disrupted, releasing the toxins. Some algae produce potent neurotoxins (toxins that affect the nervous system) causing signs in animals such as muscle tremors, difficulty breathing, seizures, profuse slobbering, diarrhea, and rapid death within minutes to hours. Other algae can produce hepatotoxins (toxins that affect the liver) that can cause death quickly or a more delayed onset of death after signs of liver failure develop. Photosensitization, a skin condition causing white (light or non-pigmented) areas of skin to peel, can occur in animals that survive the acute stages of liver damage. Most cattle exposed to blue-green algae toxins die quickly and are often found dead in the pond or very near the water source.

Bacteria, viruses and protozoa can survive and spread in water and cause disease. Coliform count is a measure used by laboratories to indicate the level of bacterial contamination in water. The EPA recommends livestock water contain less than 5000 coliform organisms per 200 ml of water and fecal coliforms near zero. These standards are difficult to reach if cattle drink surface water. Contamination of water by human sewage is a potential source of disease due to Salmonella. Cows allowed to stand and urinate in a pond can easily spread leptospirosis, a bacterial disease caused by an organism in the urine of carrier animals. Problems from leptospirosis may range from infertility, to low milk production, mastitis, to widespread late-term abortion and death of young calves. Viruses (BVD, Rota- and Coronavirus) and protozoan parasites (*Neospora caninum*, Giardia, Cryptosporidia) are just a few examples of known cattle pathogens that can be contracted from water.

So when is it important to test the water? Sometimes the eyes and nose can provide an answer if water is unsuitable for meeting the animal's needs. Stagnant water with excess algae, water that smells bad, or is warm to the touch will not be readily consumed by cattle. If cattle are allowed to stand in water sources, fecal and urine contamination will decrease water quality and disease spread can be expected. When an animal is diagnosed with a disease such as PEM or nitrate intoxication, investigation of the water source is absolutely necessary to see if it is contributing to the problem. If multiple animals are sick or dead and the water source is common to most if not all of the cases as with a blue-green algae bloom in a pond, testing of water is certainly appropriate. But what about issues of poor performance (slow weight gain in calves, many cows found open after breeding season) and increased health problems noted in a herd? Growth, reproduction, milk production, and immunity are all related to access to clean water. Testing the water, especially from wells, makes sense in these circumstances to see if some ingredient is making the water unsuitable. Many different analyses can be performed on water, depending on what the problem is or what the submitter wants to look for. Most routine water quality tests for livestock include pH, a measure of salinity [total dissolved solids (TDS), total soluble salts (TSS) or electrical conductivity (EC)], hardness, nitrate, sulfate, and iron levels. Certain labs report total coliform counts and fecal coliforms as measures of bacterial contamination. If concerned about blue green algae, there are a variety of options that can be done to either identify the algae itself (cheaper) or look for the various toxins (expensive). The UKVDL offers two water screens, "anions in water" that includes bromide, chloride, fluoride, nitrate, nitrite, phosphate and sulfate and "metal panel- water" for arsenic, cadmium, chromium, cobalt, copper, iron, lead, magnesium, manganese, molybdenum, phosphorus, potassium, selenium, sodium and zinc. Further testing is possible to detect organic compounds if needed. A general screen that can pick up a variety of chemical contaminants is the GC/MS screen. Details of all tests may be found on the website (http://vdl.uky.edu/TestInformation.aspx) by selecting "Toxicology" under the "Laboratory Section" drop-down menu. Depending on the tests selected, the laboratory performing the tests will specify how the sample should be collected, the type of container to use, what forms to complete, and how to pack and ship the

sample. Typically water samples should be taken in clean plastic or glass jars of at least 1 liter in volume and sealed with a plastic cap (non-metal). Samples should be delivered as quickly as possible to the laboratory and usually need to be chilled if shipping.

For further information on water quality, see UK Extension factsheet ID-170 "Drinking Water Quality Guidelines for Cattle" at http://www2.ca.uky.edu/agcomm/pubs/id/id170/id170.pdf .
Next Month: Part II: Interpretation of Water Quality Reports and How to Address Common Water Problems

The Forage Doctor

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

Drill calibration is a key step to forage establishment. Taking the time to get it right will save money by getting fields back into production sooner.

You always find time to do it over.

My father used to tell me, "You never have time to do it right, but you always find time to do it over". You can imagine the context. In defense, it is human nature (at least my nature) to be in a hurry, to skip steps in a process that seems to be less than absolutely necessary. Few processes on the farm provide as much temptation for this 'skip a step' thinking as forage establishment.

The following is a typical exchange (modeled after an actual conversation).

Farmer: "How soon can you plant alfalfa behind alfalfa? I had a thin stand this spring that I sprayed out to plant soybeans."
Me: "A year is what we usually recommend; it depends on how thin the old stand of alfalfa was. The autotoxicity factor is water soluble and with all the rain we have been having, planting this fall is an acceptable risk."
Farmer: "OK. Now how late can I plant alfalfa this fall?"

Me: "Boy that is a little tough. We usually say by September 15. Why?"
Farmer: "Well I want to get the soybeans harvested first."
Me: "When will that be?"
Farmer: "October."
Me (thinking): Time out, game over, risk has just gone off the charts. Time to get a new plan.
What I said: "Let's just wait until spring for the alfalfa."

Sometimes, we just try to do too much. In this case, the risk of poor establishment due to autotoxicity of alfalfa was compounded by the high probability of failure for an overly late fall seeding. I can almost hear my father saying, "This is sure fire way to get to do it over".

Right now, we find ourselves in the slump period of Kentucky cool season pasture fields. Cool season pastures especially are crunchy with drought, or seemingly overtaken with crabgrass (actually a good pasture plant) or johnsongrass or other more troublesome weeds. The more you look at these fields, perhaps the more you want to clean them up, renovate them or completely re-establish them.

It is a good time to remind ourselves of the basics of establishment. Even though we can and sometimes do bend these principles, following them remains the best way to ensure success.

1. Pay attention to the soil resource. Make sure the soil is fertile enough with the right depth and drainage to produce. Having a current soil test is essential and apply needed fertilizer. You may have to wait for another rain to get a soil probe in the ground, but get the sample taken and put out the fertilizer.
2. Address the weeds. The older I get, the less risk I like. Get aggressive with weeds. If you need to use two applications of a broad spectrum herbicide like glyphosate (Roundup® is one trade name), do it. If you are trying to deal with problematic broadleaf weeds in grass pasture, use one of the new chemistries that are available now. If there is a planting restriction for replanting of clover, don't fight it, work with it. Plan to use this period to thicken up the stand with nitrogen management. Add clover when the replant interval has been satisfied.
3. Understand the seeding implement. No-till drills are commonly available, but they need proper calibration, especially for seeding rate and depth. Even if you are renting the drill by the acre, strongly consider cross-drilling the field. You will pay a little more in drill rental but will get quicker ground cover from the cross-seeding.
4. Use good seed and use enough of it. Perhaps this is the easiest principle to follow because of the extensive amount of information about forage varieties on the UK Forages web site (http://www.uky.edu/Ag/Forage/ForageVarietyTrials2.htm). Seed placement is very imprecise with forage crops because they are so small, so do not skimp on pounds of seed per acre.
5. Plant on time. The late planting window for the example above is what made this scenario unlikely to succeed. Plan ahead, start now for a late summer seeding.
6. Plan for some stand maintenance in the first year, such as weed control. We commonly experience a flush of weeds in many new seedings, so plan for it. Keep an eye on the field, as weeds are much easier to control when they are small. Even if the only tool is timely mowing, be ready.

Being a little more focused and (for me) a little less in-a-hurry can pay big dividends in forage establishment.

Happy foraging.

Kentucky Beef Cattle Market Update

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

The overall tone of the feeder cattle market has not been encouraging over the last month. CME© Feeder cattle futures have moved into the low $140's. We were around these levels in late April, late June, and early July.

I'm not a technical analyst, but I think holding this level is pretty important. Local basis has actually been quite strong with a lot of groups of 9wt steers selling in the upper $130's and low $140's. A few groups on the lighter end of the 8wt range reached the $150's. Smaller groups of 5wt steer calves have been selling in the mid $150's.

I want to spend the rest of the column this month talking about USDA's mid-year cattle inventory report, which was released in late July. This report estimated the number of cattle in the United States as of July 1, 2017. This mid-year report was not conducted last year due to budgetary constraints, so year-over-year comparisons are not possible. Rather, July 2017 estimates are compared to July 2015 in the table below. While state-by-state numbers are not estimated mid-year, the report did confirm significant expansion of the beef herd over the last 24 months at the national level and was largely consistent with what was seen in January.

USDA July 1, 2017 Cattle Inventory Estimates

	2015 (1,000 hd)	2017 (1,000 hd)	2017 as % of 2015
Total Cattle and Calves	98,200	102,600	104
Cows and Heifers That Have Calved	39,800	41,900	105
Beef Cows	30,500	32,500	107
Milk Cows	9,300	9,400	101
Heifers 500 Pounds and Over	15,700	16,200	103
For Beef Cow Replacement	4,800	4,700	98
For Milk Cow Replacement	4,200	4,200	100
Other Heifers	6,700	7,300	109
Steers 500 Pounds and Over	14,100	14,500	103
Bulls 500 Pounds and Over	1,900	2,000	105
Calves Under 500 Pounds	26,700	28,000	105
Cattle on Feed	12,100	12,800	106
	2015	**2017**	**2017 as % of 2015**
Calf Crop	34,087	36,300	106

Source: NASS, USDA

As expected, beef cow numbers were up about 7% over the last two years. It is well established that this herd has grown rapidly since 2015. This was partially in response to extremely high calf prices in 2014 and 2015 and also because weather has been favorable. This general expansion can be seen across the board in the report as one looks at breeding stock, cattle on feed, and the size of the calf crop. The one number that looks odd is the 2% decrease in heifers held for beef cow replacement and I thought it might be worth looking into that a bit more.

First, we have to remember that this is making a two-year comparison, rather than the single year comparison that we are used to seeing. Second, we have to consider the base year, which in this case was 2015. On July 1 2015, USDA estimated there were 4,800 heifers being held for beef cow replacement, which was the largest beef cow replacement number since 2006. So, we are comparing the 2017 number to a very large 2015 number. Remember how strong calf prices were in the summer of 2015 and how intense the interest in expansion was that year.

Another way that I like to look beef heifer retention is to consider it as a percent of beef cow inventory. Beef heifer retention at mid-year, as a percent of beef cow inventory, was above 15% in both 2014 and 2015 (remember there was not mid-year 2016 report). Clearly, both of these were expansion years. Beef heifer retention as a percent of beef cow inventory was 14.5% in July 2017. While less than what was seen in 2014 and 2015, this is still not a small number. In fact, with the exception of 2014 and 2015, we would have to go back to 2006 to find a larger percentage than the 14.5% seen this year. So, it is very likely that the growth rate of the US beef herd is slowing, but I do think it is still growing.

The USDA report is summarized in the table below and the full report can be accessed at:
http://usda.mannlib.cornell.edu/usda/current/Catt/Catt-07-21-2017.pdf