

# Fence Lines

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## Providing Water for Livestock This Winter

By Katie Pratt & Dr. Jeff Lehmkuhler

As temperatures get colder, most producers begin to focus their attention on getting hay to their animals. It's also a good time to remember available water in the winter is critical to livestock health and survival.

Winter brings challenges of battling frozen waterers and frozen plumbing. Another factor is that animals may consume less water in the winter for a variety of reasons including environmental temperature, feed moisture, body size and level of milk production.

During cold weather, your animals' energy requirements will increase so they can maintain their body temperature. To meet that extra demand, you will likely increase their dry matter intake, if they can physically consume more feed. Water intake will affect their dry matter intake. If water sources are limited or frozen, animals won't be able to compensate for the colder temperatures.

You have several options to deliver clean, fresh water to livestock, even on the coldest days of the year. Think about your actual water source. Are you using natural surface water sources? Do you have waterers installed? Surface water presents challenges that will require more work. You have to make sure the water quality downstream is good and that streambank quality is preserved. You'll also have to check them often to make sure the surface is not frozen.



*Brian Jeffers*

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Large storage tanks are an option, but they still require frequent checks for ice. You could install a continuous flow valve in a storage tank to prevent freezing, but you'll have to have an overflow directing water away from the tank to prevent excessive mud.

If electricity is available nearby, you have a great number of watering options. You can add an electric heater to almost any watering system.

A variety of watering systems on the market also harvest geothermal heat from the ground below the tank, keeping water thawed even in the coldest of environments. Most of these waterers use heat tubes buried deep into the ground, allowing heat to rise and keep water flowing. While these systems do a good job of keeping pipes and floats from freezing they are not ice-free. You may still need to remove a thin layer of ice over the drinking area on very cold days.

Regardless of the method you choose, your animals need clean, fresh and available water this winter.

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# Are You Baling Soil?

As you are considering what equipment to buy for next year's hay making season or are you just looking at your hay test results and wondering why ash content is reported. A recent article by Rebecca Kern-Lunbery (Ward Laboratories) in Progressive Forage showed that many producers bale more soil than they want to. The following is an excerpt of this article:

Make sure your forage samples don't contain too much ash based on your hay quality report (which can mean soil contamination). Ash is the total mineral content of a feed and has two sources. Endogenous ash is from the plant and is bioavailable, providing micronutrients to the animal. Exogenous ash is from soil contamination of the feed. Most forages range between 8%-10% ash with 4%-6% representing the endogenous portion. Extremely soil-contaminated forages could contain as much as 25% ash. So, almost one-quarter of the dry matter in that forage is just dirt. A good goal is to make and feed hay with less than 15% ash.

So what causes soil contamination of harvested forages? One common reason that soil can end up in our stored forages is dry conditions. When field conditions are dryer, it is easier for the rake to pull up soil particles and incorporate them into the bale. And there have been many months with dry conditions in recent years. What can we do to prevent soil contamination of our stored forages? Here are four tips to prevent contaminating stored forages with soil:

1. *Cut forages 3-4 inches off the ground.* This can help optimize forage quality by not incorporating the most fibrous portion of the plant. More importantly, this practice will leave more ground cover and give some protection from soil erosion. It will also allow the forage to regrow faster.
2. *Rake as little as possible.* I have known some producers who live in climates where humidity is an issue, and they rake the windrows to turn them to ensure the hay is completely dry. Avoid this practice unless it is absolutely necessary.
3. *Pay attention and adjust your equipment.* Prior to cutting or baling, ensure your equipment is properly adjusted to prevent unnecessary disturbance of the ground. Also, if you are seeing a trail of dust, stop and adjust things to reduce the amount of soil being incorporated into the bale.
4. *Graze.* Forgoing the harvesting process will ensure animals have the ability to choose the forage they consume and eliminate the possibility of consuming a lot of dirt.

You might ask "What's the harm in my cattle eating a little dirt?" A little dirt is ok, but if there is much dirt it can affect animal health. The problem with soil-contaminated feeds is that the soil could cause impaction within the omasum, abomasum or beginning of the small intestine. An impaction would not allow other digesta to pass through. An impaction could cause cattle to go off feed, if it is serious enough. The more likely issue would be a decrease in performance due to the dry matter intake (DMI) the ash is taking up. Because cattle typically consume 2% of their bodyweight in dry matter, consumption of soil-contaminated feed can result in a considerable amount of the feed having no nutritional value, thereby resulting in decreased performance for the animal.

In addition to the risk of impaction, soil contamination can also affect mineral nutrition. Iron from the soil can interfere with copper absorption at 250 parts per million. Also, the bioavailability of minerals from the soil is low. So if you are feeding a forage high in ash, mix it with feeds that have a low ash content to minimize impaction risk and performance losses. Furthermore, if high iron levels are present, increased copper supplementation might be necessary.

In conclusion, ash is an often-overlooked parameter on forage reports. At high levels, it can indicate a soil contamination issue. Soil in forages can reduce forage quality and have a negative impact on livestock health. Monitoring ash levels in forages can be important in identifying areas for forage production improvement as well as ensuring forages are managed and fed out to ensure top-tier nutrition and health for our livestock.

# Timely Tips for Cattle Producers

by Dr. Les Anderson, UK Beef Extension Professor

## Spring Calving Herd

- Be sure that weaned heifer calves are on a feeding program that will enable them to reach about 65% of their mature weight before the start of the breeding season. Rations should be balanced to achieve gains sufficient to get heifers from their current weight to that “target” weight. Heifers should reach their target weight approximately 30 days before the start of the breeding season.
- Body condition is important, plan an adequate winter program for cows to be at least body condition score 5 (carrying enough flesh to cover the ribs) before the calving and breeding season. This will help them to breed early in the spring. Thin cows should be fed to regain body condition prior to winter. Don't let cows lose weight/condition. Supplementation will most likely be needed. Find low-cost supplemental feeds to meet the nutrient needs of cattle.

Divide the herd into groups for winter feeding:

- weaned heifer calves
  - first-calf heifers, second-calvers and thin mature cows
  - the remainder of the dry cows which are in good body condition
  - herd sires
- Begin feeding the lowest quality forage to dry cows which are in good condition during early winter and save the best hay for calving time or for weaned calves.

Order and number ear tags for next year's calf crop this winter. It is also a good time to catch up on freeze branding and replacing lost ear tags.

## Fall Calving Herd

- The fall breeding season has started. Breeding can best be accomplished on stockpiled fescue pasture; otherwise, cows with calves should be fed 25-30 pounds of good quality hay or its equivalent. Supplement with grain, if needed, and minimize hay waste. **DON'T ALLOW THESE COWS TO LOSE BODY CONDITION PRIOR TO OR DURING THE BREEDING SEASON.** It is easy to wait too long to start winter feeding.
- If you haven't turned bulls out yet, have a Breeding Soundness Evaluation (BSE) performed on them (even if you used them this spring). A BSE is a risk management tool as BSE's accurately identify infertile bulls.

Observe performance of bulls during breeding season. Watch cows for return to estrus, if you see several in heat, try to determine the cause and consider changing bulls.

## General

- Complete soil testing pastures to check for fertility and pH.
- Consider putting down geotextile fabric and covering with gravel in feeding areas before you begin hay feeding to minimize waste of expensive hay. Or, perhaps, construct concrete feeding pads for winter feeding areas.
- Another option to consider for winter feeding is bale grazing. Bale grazing helps spread nutrients across the pasture and can have regenerative effects on your pastures.

Monitor body condition and increase feed, if needed, for all classes of cattle. It often gets cold in December and the nutrients needs of cattle increase as temperatures fall below their comfort level. Be especially mindful of cold, wet conditions and increase energy availability. Consult your nutritionist to ensure that your rations are meeting the nutrient requirements during stressful weather.

# Tips to Stretch Short Hay Supplies

*Dr. Jeff Lehmkuhler, PhD, PAS, Beef Extension Professor, University of Kentucky*

Below are a few tips to consider stretching limited hay supplies. Contact the Extension Office before making drastic changes in your feeding program.

Inventory hay – know how much hay you available; weigh a few bales to get an average weight or estimate the weights based on available information from Extension publications.

Minimize storage losses – keep hay off the ground on a surface that will allow water to drain away; keep bales covered or stored inside a barn; if bale grazing limit the number of bales placed in the field to provide 2-4 weeks of feeding to reduce weathering losses.

Reduce feeding loss – consider minimizing feeding losses; using hay rings with skirts / metal on the bottom, tapered ring designs, chains to suspend bales, or cone inserts to keep hay inside the feeder has been proven to reduce hay feeding losses compared to hay rings with openings at the bottom; using an electrified temporary poly-wire placed down the center of unrolled hay will reduce losses from cows laying on the hay, trampling it into the mud, and defecating on the hay; feeding processed hay into a bunk or large industrial tire reduces waste compared to feeding processed hay on the ground.

Cull – consider selling less productive females, open cows, and cows with structural/functional issues to reduce the number you must over winter; consider selling the bull as the market may provide the opportunity to sell a mature bull and replace him with a younger bull next spring.

Limit time access to hay – research has shown dry cows in mid-gestation can be maintained on good quality hay when they have restricted access time to only 6-8 hours a day; the hay savings comes from less waste as feeding behavior is altered; all cows must be able to access hay at any given time; this is not recommended young or thin cows, lactating cows or growing animals.

Substitute hay with grain – calories and protein can be provided from supplements; grain/commodity mixes can be used to replace hay; cows can be maintained on a low hay diet by using grain supplementation that balances the nutrient supply and animal requirements; consult a nutritionist before making extreme feeding changes.

Deworm young animals – animals with an internal parasite burden will have reduced efficiency.

Feed an ionophore – if grain supplementation will be used, consider adding an ionophore to increase the energy efficiency of the feed consumed. Consult your nutritionist to discuss inclusion rates and developing a supplement program. Previous work has shown that feeding 200 mg of monensin allowed cows to maintain body condition on 10-15% less hay.

# Is This Hay Any Good?

One of the most important things to understand about hay is that not every bale is created equal. The fact that we have plenty of bales in the barn is only part of the story. If the hay is stemmy and overmature, it will contain very little nutrition, and cattle will not perform well on it. In recent years, the UK Veterinary Disease Diagnostic Lab has actually performed necropsies on cattle that had rumens full of hay but had died of malnutrition because so little of that hay was digestible.

Of course, that's an extreme example, but the idea is the same: A full belly does not equal a well-fed animal. That is why it can be so beneficial to have your hay tested for nutritional quality. A poor result doesn't mean you can't feed your hay, it just means that you will need to supplement it with concentrate and/or a protein supplement to keep your cattle on track to be productive and healthy.

For nearly 30 years, Johnson County has been part of the East Kentucky Hay Contest, which provides free hay testing to producers in our part of the state. This year, congratulations are in order for Buzz and Nolene Younce, who won FIRST PLACE in the summer annual silage division.

We like to say that it's about rations, not ribbons, because the goal of the hay contest is to get information to the producers. For the Younces, they found out that the silage they will be feeding this winter has a Relative Feed Quality of 179. Overall, Johnson County submitted 27 samples that had an average RFQ of 148.

Is that a high number? In other words, is our hay any good? Dr. Jimmy Henning has an article in the upcoming issue of Farmer's Pride that answers those questions. Below is a section of that article.

“There are lots of ways to answer the question ‘Is my hay any good?’ Producers know to look at the crude protein (CP) content and know a higher value means higher quality. Some will go to TDN, or total digestible nutrients, and make a judgement from that value. For some time, we have had a term, Relative Feed Value (RFV), as a useful index for forage quality. The RFV index was an effective way to communicate forage quality, but unfortunately it was designed to work primarily with alfalfa and alfalfa containing hays. RFV discriminates against grasses.

“Now there is a new forage index, Relative Forage Quality (RFQ), that allows one number to describe the value of hay across all types of forages. RFQ is a better index because it uses improved formulas for digestibility and intake that take into account crude protein, non-fiber carbohydrates, the fat content and the digestibility of the fiber component. RFQ also has different intake and digestibility equations for grasses and legumes. The net result is that RFQ is an index that can be used to compare across all forage types. An RFQ value of 140 would mean the same whether it was from an alfalfa or a grass sample. In short, RFQ or Relative Forage Quality provides the best hay quality value to answer the question, ‘Is my hay any good?’

Don't leave yourself wondering if you have good hay. Give me a call at the office when you put up your first bale in 2025. I'll come collect a sample and submit it for testing and, if you want, enter it in the contest. Your results will guide your decisions on feedstuffs as you look ahead to the winter of 2025-26.



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