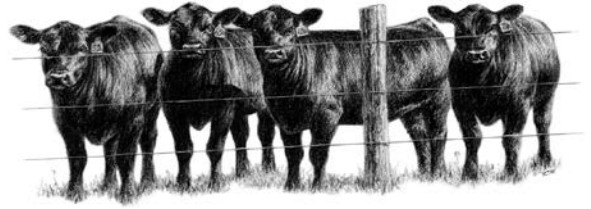


The Cattle Corner



BAXTER COUNTY U OF A COOPERATIVE EXTENSION SERVICE NEWSLETTER

July 2019

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From the County Agent's desk...

We've managed to make it through one of the wettest springs on record, and it certainly is having and will have an effect on the hay crop for the coming year. With uncooperative weather, fescue fields were far delayed in being cut, resulting in stemmy, low

quality hay. Many bermudagrass hay fields aren't in much better shape. The abundance of rain caused lots of winter junk, such as cheat and annual ryegrass, to flourish which really has held bermudagrass back. Couple that with a sporadic night in the 50s here and there, which slows down growth in bermuda, and you've got a good recipe for a tough year.

What this means is that we'll likely have a fair amount of lower quality hay available next winter. Now is the time to get it tested. Know where your supplemental feed needs lie. Plan for stockpiling some fields to make the hay inventory last. There's plenty of winter planning to do now in July. Let me know how I can help you with hay testing, herd ration planning, or how to extend the grazing season through stockpiling or planting winter annuals.

Bermudagrass Hay Yield Trials

Brad Runsick, Baxter County Extension Agent

One big project we're working on this summer is yield trial on bermudagrass hay, measuring different fertilizer sources. We have test plots on a hayfield in Norfolk where we've made eight different fertilizer applications. Sometime in the first couple of weeks in July, we'll harvest those plots and measure the dry matter tonnage for each application. Additionally, we'll attach a value per lb. dry matter to measure the return on the fertilizer investment. The various applications are intended to reflect both what we recommend via soil test and those applications that are just your typical, "that's what we've always put on it" kinds of applications. They also include an evaluation of the foliar applied Q2 Plus foliar treatment.



The different applications and their associated cost per acre are listed in the table below. Plots are 1/2% of an acre and results will be calculate up on a per acre basis. This entire project is being repeated on a bermudagrass hay field in Fulton County, as well. We'll report on this as we get results.

<u>Trt #</u>	<u>Treatment / Name</u>	<u>rate / acre</u>	<u>cost / ac</u>
1	Commercial fertilizer, NPK per soil test	333 lbs. 0-0-60 + 294 lbs. 34-0-0	\$74.09 + \$57.33 = \$131.42
2	17-17-17	250 lbs.	\$54.88
3	17-17-17 + Q2	250 lbs.	\$54.88 + \$6.00
4	Poultry litter	2 tons	\$50.00
5	Q2 only	8 oz.	\$6.00
6	NPK per soil test + Q2	333 lbs. 0-0-60 + 294 lbs. 34-0-0 + 8 fl oz.	\$74.09 + \$57.33 + \$6.00 = \$137.42
7	Poultry litter + Q2	2 tons	\$50 + \$6.00
8	Commercial fertilizer, NPK per soil test w/ 21-0-0 (24)	333 lbs. 0-0-60 + 100 lbs. 21-0-0 (24) + 232 lbs. 34-0-0	\$74.09 + \$18.00 + \$45.24 = \$137.33
9	Control		\$0

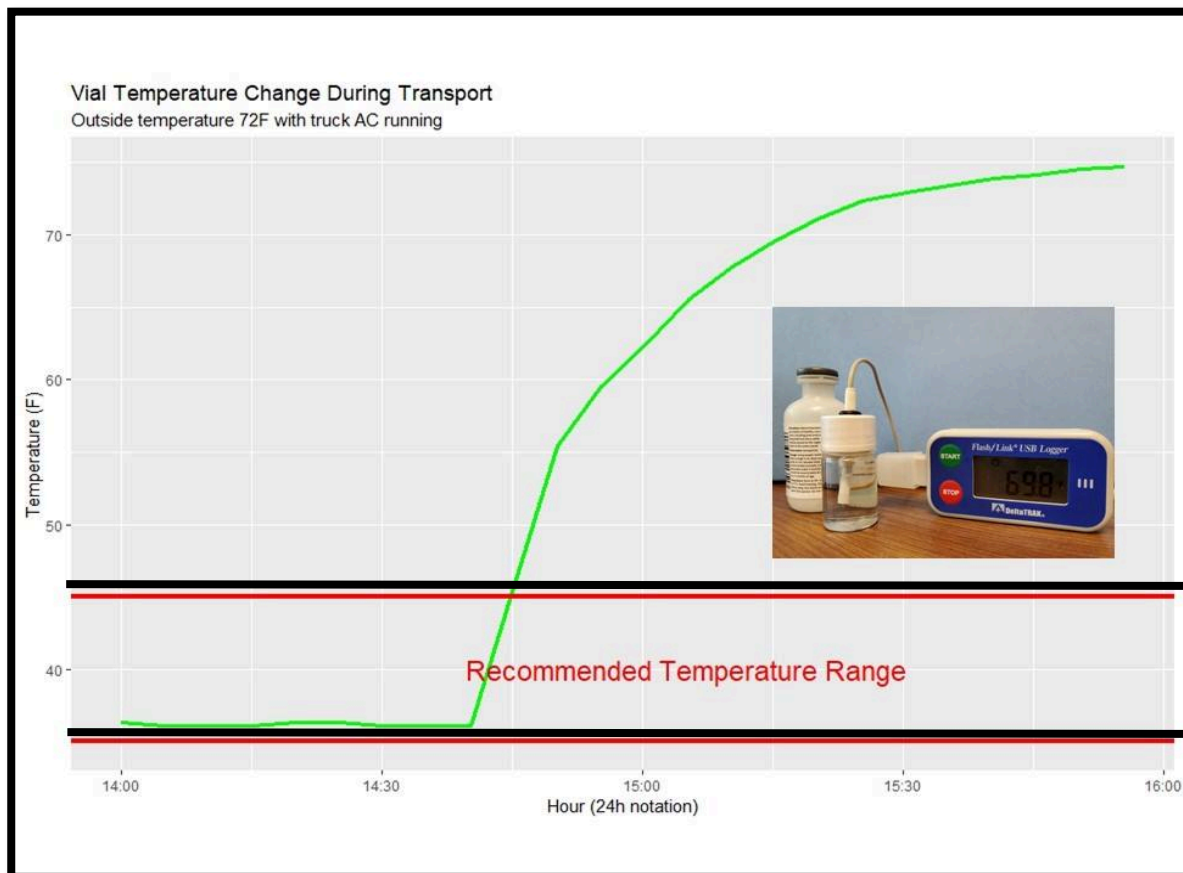
How Good is Your Farm Fridge?

Brad Runsick, Baxter County Extension Agent

It doesn't take long for certain vaccines and drugs to get above their recommended storage temperature once removed from the fridge. Even in the fridge, they're not always kept within the desired range to keep them effective. The reason is that, frankly, many smaller refrigerators don't hold their temperature all that well. Even in large refrigerators like many have in the kitchen where cattle meds are kept, where are they often located? That's right. Right in the door where they're most susceptible to fluctuating temperatures.

The recommended storage temperature for vaccines is 35 to 45F. The line in the picture shows how quick temperature can change in a liquid after it is removed from refrigeration. In less than 10 minutes, vaccine temperature can be above the maximum recommended storage range, even when the truck AC is running. Always take a cooler with ice or ice packs with you when going to the farm store or vet office to buy vaccine.

The blue contraption with the red and green buttons is a data logger that can be put in a refrigerator to monitor the temperature of the small bottle filled with glycol that is similar to a bottle of medication or vaccine. Over the course of several days or weeks, it monitors the temperature. After a pre-determined amount of time, the logger can be hooked up to a computer and tell us what those temperatures were over the course of the measuring period. This summer, I'm working with a few area farm stores and farmers to do a check on their refrigeration units. If you're interested in doing a check, let me know, and we can arrange to get a unit borrowed.



Johnsongrass Problems

Brad Runsick, Baxter County Extension
Agent

Nitrates

Drought stressed johnsongrass isn't a problem right now with as much rainfall as we've had, but we're never far from a drought when nitrate poisoning could become a problem for farmers in the coming weeks. Nitrates tend to build up in stressed plants, especially under conditions where there has been a history of excessive nitrogen fertilization, particularly chicken litter. While nitrates can accumulate in weeds and cool season grasses, such as fescue, johnsongrass is perhaps the most common grass species where we see problems with nitrate accumulation. Problems arise when rapid growth is followed by a shutdown in plant growth, such as during times of drought. For example, if a field gets heavy nitrogen fertilization and is then followed by weeks of drought...that next shot of run that kicks it off again will be when nitrates are rapidly accumulated. Nitrates also tend to be at greater concentrations in the lower portions of the plant, and unlike prussic acid poisoning, it can carry over into hay. Symptoms of nitrate poisoning include difficult and painful breathing, rapid breathing, muscle tremors, weakness, low tolerance to exercise, diarrhea, frequent urination, dark to chocolate colored blood and collapse. Milk production may also be reduced. Poisoning can cause death within half an hour to four hours after symptoms appear. At lower levels, it can also cause abortions, poor appetites, and slow growth. So, what can you do? Pay particular attention to fields that have johnsongrass. If it looks like plant growth was rapid and then just came to a standstill, be aware that nitrate accumulation could be a problem. There are no visible symptoms on the plant of nitrate accumulation. For years, farmers have suspected that the white powder that tends to build up on johnsongrass is a

symptom. This is the fungal disease, powdery mildew, which is harmless and not related to nitrate accumulation. That's not to say that the plant can't have powdery mildew and nitrate accumulation at the same time. Here are a few tips to avoid nitrate poisoning:

1. Follow recommendations for nitrogen fertilization, and be careful not to exceed 4 tons of poultry litter yearly per acre on cool season grasses. The risk will be minimized by spreading litter uniformly and limiting application to 2 tons per acre per application.
2. When a crop is grown under conditions that cause nitrate accumulation, delay harvest of the crop until conditions improve to permit nitrate content to drop to a safe level.
3. If high levels of nitrate have accumulated in plants, raise the cutter bar and leave more stem, the portion of the plant with the highest concentration of nitrate, in the field.
4. Have suspected forage tested before feeding to cattle.
5. Dilute toxic forage by mixing it with nontoxic forages and/or energy feeds such as molasses or corn. Use forage nitrate analysis to determine dilution rates. Energy feeds, such as shelled corn, when fed daily at a minimum of 2 pounds per head, will offset production losses as long as the average forage nitrate concentration does not exceed 1,500 ppm.
6. Feed a nutritionally balanced ration. Iodized salt and vitamin A or green feed supplementation lessens the toxicity of nitrates.
7. Adapt cattle slowly to elevated levels of nitrate. Don't give hungry animals a full feed. Never exceed maximum recommended levels of nitrate intake.
8. Feed suspect forage in small amounts several times a day rather than all at one feeding.

9. Be aware that forage re-growth and volunteer plants are highly suspect following nitrate fertilization and drought.
10. Observe animals closely for signs of toxicity, and call a veterinarian immediately if symptoms are observed. If you suspect a problem, it'd be worth not losing a cow to have it checked. Nitrate forage testing is a \$5 service offered by our office. If you have questions or need it checked, feel free to give me a call at 870-425-2335.

Prussic Acid

Nitrates aren't the only problem that can arise with drought stressed forages. As it gets drier and drier, oftentimes, johnsongrass is one of the few grasses remaining in the field with some forage capacity available. Fescue has long since dried up. Bermuda may still be kicking somewhat, but with prolonged drought and high heat, it too will slow down considerably. Therefore, many producers' fields are left with not much besides johnsongrass and few drought tolerant weeds, and that can be a recipe for problems. The previous article mentioned nitrates, but there is another potential problem. Prussic acid, also known as hydrocyanic acid, can build up in stressed johnsongrass, much like nitrates. It can be occur in all sorghum type grasses, as well as wilted wild cherry leaves. However, unlike nitrates, prussic acid will usually concentrate in the upper portions of the plant, whereas nitrates tend to accumulate in the lower portions. Also, unlike nitrates, prussic acid doesn't carry over much into hayed forages. The process of curing forages through haying decreases prussic acid levels. There are no reliable test for prussic acid in forages because the levels can change so rapidly after taking a sample. The symptoms of prussic acid poisoning may be labored breathing, weakness, increased

heart rate, and twitching. The symptoms of nitrate poisoning may be very similar, and the cause of the symptoms may be confused between the two. Here's a list of a few things you can do to try to avoid problems with prussic acid.

- 1.) Do not allow animals to graze fields with succulent, young, short growth. Graze only after plants reach a height of 18 to 24 inches.
- 2.) Do not graze drought damaged plants in any form, regardless of height, within four days following a good rain. It is during this period of rapid growth that accumulation of prussic acid in the young tissue and of nitrates in the stems is most likely to occur.
- 3.) Do not graze wilted plants or plants with young regrowth.
- 4.) Do not rely on drought damaged material as the only source of feed. Keep either dry forage or green chop from other crops available at all times. Uneven growth as a result of drought can best be utilized as silage or hay.
- 5.) Do not use frost damaged sorghum as pasture or green chop during the first seven days after the first killing frost.
- 6.) Delay pasturing for at least seven days or until the frosted material is completely dried out and brown colored. Do not rely on frosted material as the only source of feed. Do not graze at night when frost is likely.
- 7.) Do not turn hungry cattle onto a pasture of sorghum, sorghum sudan hybrid or johnsongrass. Fill them up on hay or other forage first, and begin grazing in the late afternoon.
- 8.) An option for using potentially toxic forage is to harvest it as hay or silage. Prussic acid levels decline in stored forages. Well cured hay is safe to feed.

Grass Growing Strategy for the Rest of the Year

Dr. John Jennings, Extension Forage Specialist

We've had plenty of rainfall lately, but we all know that that can change in a matter of just a couple of weeks. Here's a good plan from Extension Forage Specialist, Dr. John Jennings on planning for grazing as the season drags into summer.

The highs and lows of pasture growth over the past three years have shown one thing is for certain. Producers following a good pasture management strategy have a more consistent supply of forage than those that rely only on Mother Nature. With rising costs, controlling inputs is important. But the main input of pasture planning is strategy and that doesn't cost anything. How you manage pastures in this season or this month greatly influences pasture performance in the next season or next month. For example, grazing a fescue/clover pasture early in April promotes more leafy grazing thirty days later and less seedstalks. Cutting fescue hay down to a 2-inch stubble in late June just as high temperatures hit in July stops growth and causes a lot of stand damage. The key to good pasture strategy is to stay on schedule. So, this article will give some grass growing points and details for the remainder of summer into fall. Our experience on the research stations at Batesville, Fayetteville, and Hope and with many producers across the state, north to south and corner to corner, shows that all these practices work (or else I wouldn't be recommending them).

July: Plan for a last hay crop and for grazing through the rest of summer

- *Rotate pastures on a weekly basis to keep grass in a growing stage. This will be worthwhile when drought occurs. (Savings from improved grazing management = 2-3 weeks more grazing when drought hits)*
- *Fertilize for the last summer hay cutting and then cut and put it in the barn. Don't plan on feeding it until late winter because you will be planning to grow lots of fall pasture. Barn stored hay will keep through next year and longer. (Savings from reducing hay waste with covered storage = 15% to 25% of your crop).*

August: Plan for fall pasture

- *Pick one or two bermudagrass or bahiagrass pastures to stockpile for fall grazing. These could be where you cut that hay in July. Clip or graze the stubble to about three inches tall and apply 50-60 lbs/acre of nitrogen fertilizer between August 1 and 15 (August 15 and 30 for far south Arkansas). Then let it grow until October just as you would for a hay cutting. But you will plan to strip graze it using a single temporary electric wire to make it last longer. The level of quality in this forage will support your cows until late December if enough forage is available. (Savings from grazing stockpiled forage instead of feeding hay = \$25-\$50 per animal unit or \$50-\$75 per acre of forage stockpiled).*
- *Pick a bermudagrass field or a field to be renovated and plant forage brassica and ryegrass. Brassica planted in late August or early September on a lightly disked pasture will be ready to graze by mid to late October or can be deferred to graze in late November to December after the stockpiled bermudagrass. This option gives fescue/clover pastures more growing time in fall for grazing in November and December. The companion*

ryegrass in the mixture will be ready to graze in March and April. (savings from forage brassica/ryegrass = \$25 to >\$100 per animal unit)

September: Plan for winter pasture

- *Pick a fescue field to stockpile for winter grazing. Clip or graze off old fescue forage to a 3-inch stubble and apply 50-60 lbs/acre of nitrogen fertilizer between September 1 and 15. Let it grow until early December or defer until January 1 if you have brassica to graze in December. Strip graze it with a single temporary electric wire to make it last twice as long as it would without strip grazing. The level of quality in this forage will support cows until spring greenup if enough forage is available. (Savings from stockpiled forage instead of feeding hay = \$25-\$50 per animal; Savings from strip grazing = an additional \$10 per animal unit)*
- *In bermudagrass-based systems, interseed wheat and ryegrass for winter and spring grazing. Plant in a disked pasture in September and apply N fertilizer after emergence for grazing by December. Planting in October/November delays grazing until late winter or spring.*
- *Test all hay to determine quality levels. Producers had lots of hay last winter, but many complained at the poor performance of their animals being fed. Hay tests help you feed the best hay when livestock need the best quality. You can also limit feed hay to animals grazing winter annuals or stockpiled forage. This makes the pasture last longer and supplements hay quality.*

With all this winter grazing, maybe you didn't need to harvest that last summer hay cutting after all. Good thing it's stored in the barn.

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