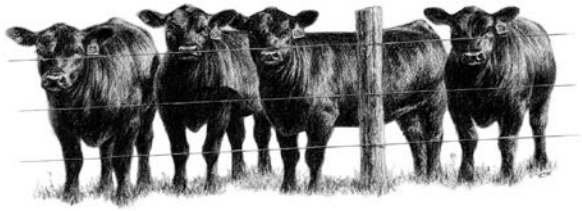
Baxter County Cooperative Extension Service
3 East 9th St. • Mountain Home, AR 72653
(870) 425-2335 · www.uaex.edu/counties/baxter

The Cattle Corner



BAXTER COUNTY U OF A COOPERATIVE EXTENSION SERVICE NEWSLETTER

September 2019

In this Issue.....

From the County Agent's desk…Fall Planning

Overall, this summer hasn't been too bad. Most areas received ample rainfall in the months of June and July, and temperatures have been mostly mild. August proved to be a little different. High temperatures and less precipitation have really cut into topsoil moisture. Don't let that stop you from planning for fall pasture, though. Stockpiling fescue needs to be initiated in the next 2-3 weeks. See the article below on how best to go about doing that. Fertilizing fields for stockpile is necessary for a quality stand of grass to be grazed well into the winter months. In addition, fall is the time to get some fertilization done on grazed pastures, particularly concerning potash. That means soil sampling too. There's plenty to be done once hay season ends. Hay sampling to balance rations for the herd is another consideration. With a hay sample, we'll work out a ration specific to your herd at no cost, but you have to do a hay sample. Without knowing the quality of the base ingredient in the winter diet, ration balancing can't be accurate. Give me a call if you'd like some help with getting a hay sample and formulating a winter ration for your herd.

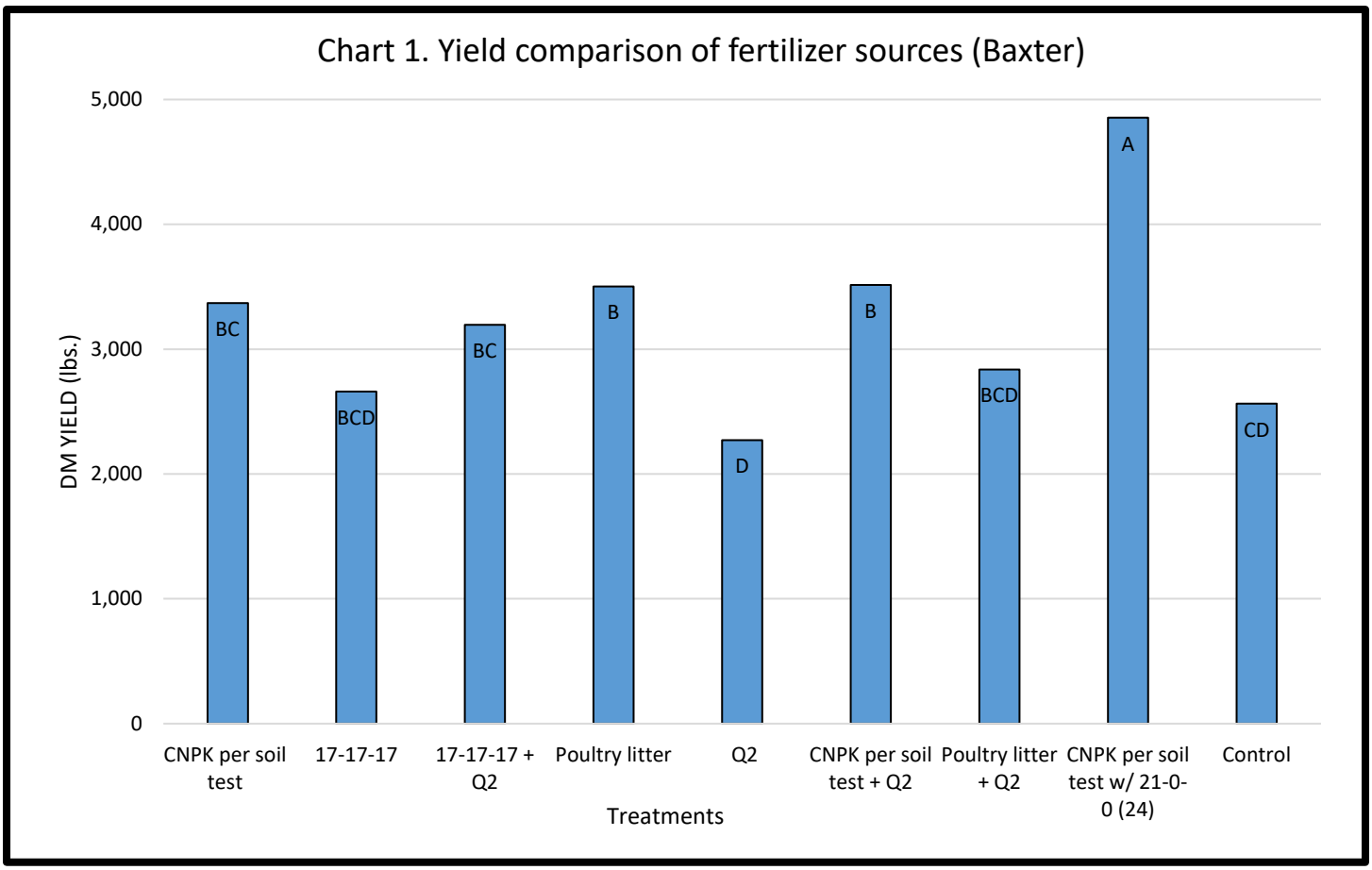
Bermudagrass Hay Yield Trial Results and Summary

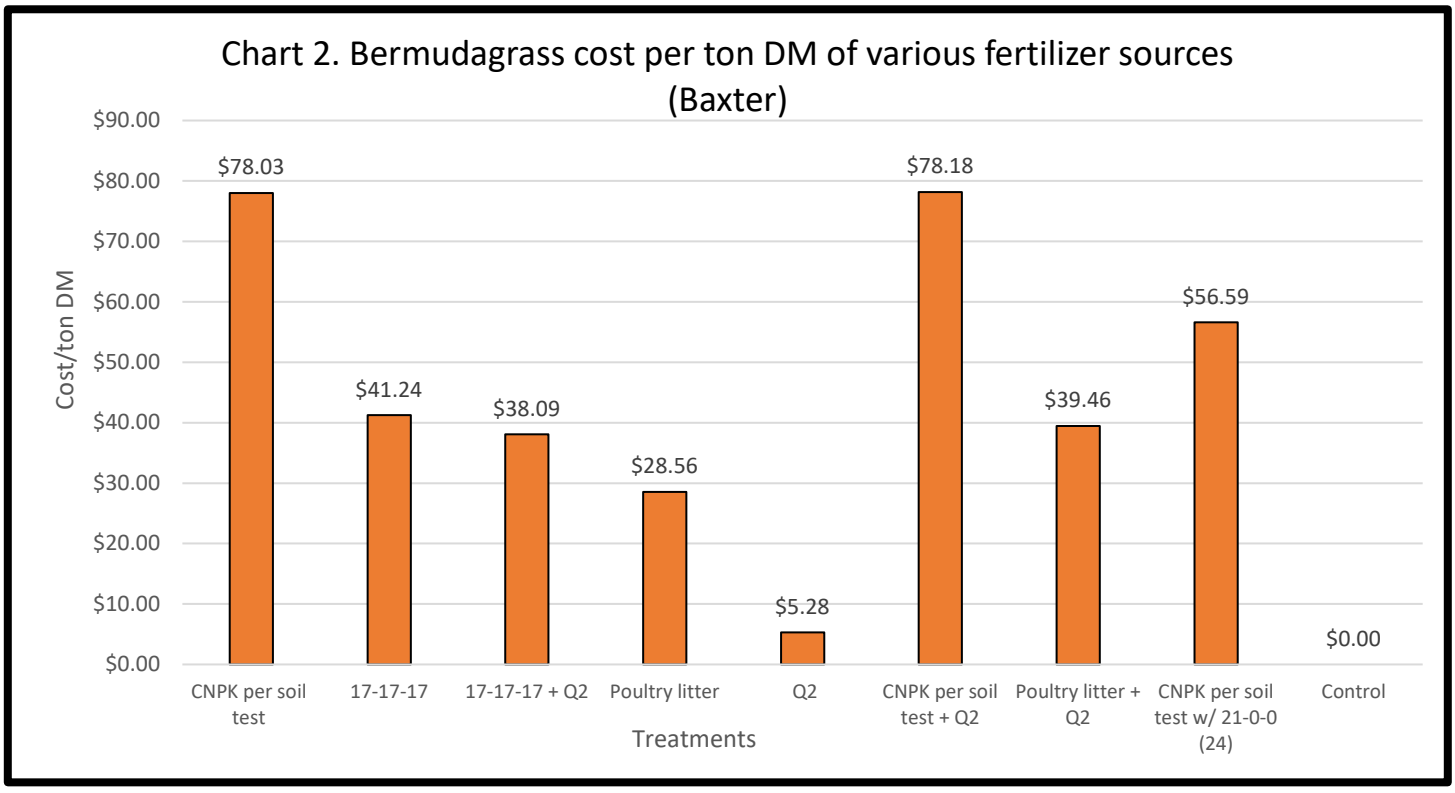
Brad Runsick, Baxter County Extension Agent

As mentioned in the July newsletter, we've been working on a couple of soil fertility trials here in Baxter and Fulton County, and we've now collected all of that data and here are the results.

Now, for a brief statistics lesson, which I'm sure everyone is thrilled to hear, but it matters. So, bear with me. The letters on each of the bars in the graph represent the statistical significance of the differences in those DM yields. Statistics allow us to discern whether the differences we see in the yield data are, in fact, due to the treatments themselves. For example, the average yield on the plot that received NPK per soil test with ammonium sulfate (21-0-0-24) is indicated by the letter "A". It was different enough from the others to be able to attribute that difference to the fertilizer that was applied. All of the treatments that contain B's are all "statistically" the same, even though the actual lbs. of DM (dry matter) yield are slightly different. For example, the Q2 Plus® only treatment at 8 fl. oz. /acre yielded 2,271 lbs. DM/acre, and the untreated control plots yielded 2,563. That's a difference of 292 lbs. /acre. That's a difference, for sure, but it isn't enough of one to say that it's a result of the different treatments in this study. It could be different in a different study on a different field. That's why each treatment was replicated four times, and the whole thing was repeated on a different farm in Fulton County under different conditions. You'll see those results a little farther down in the article.

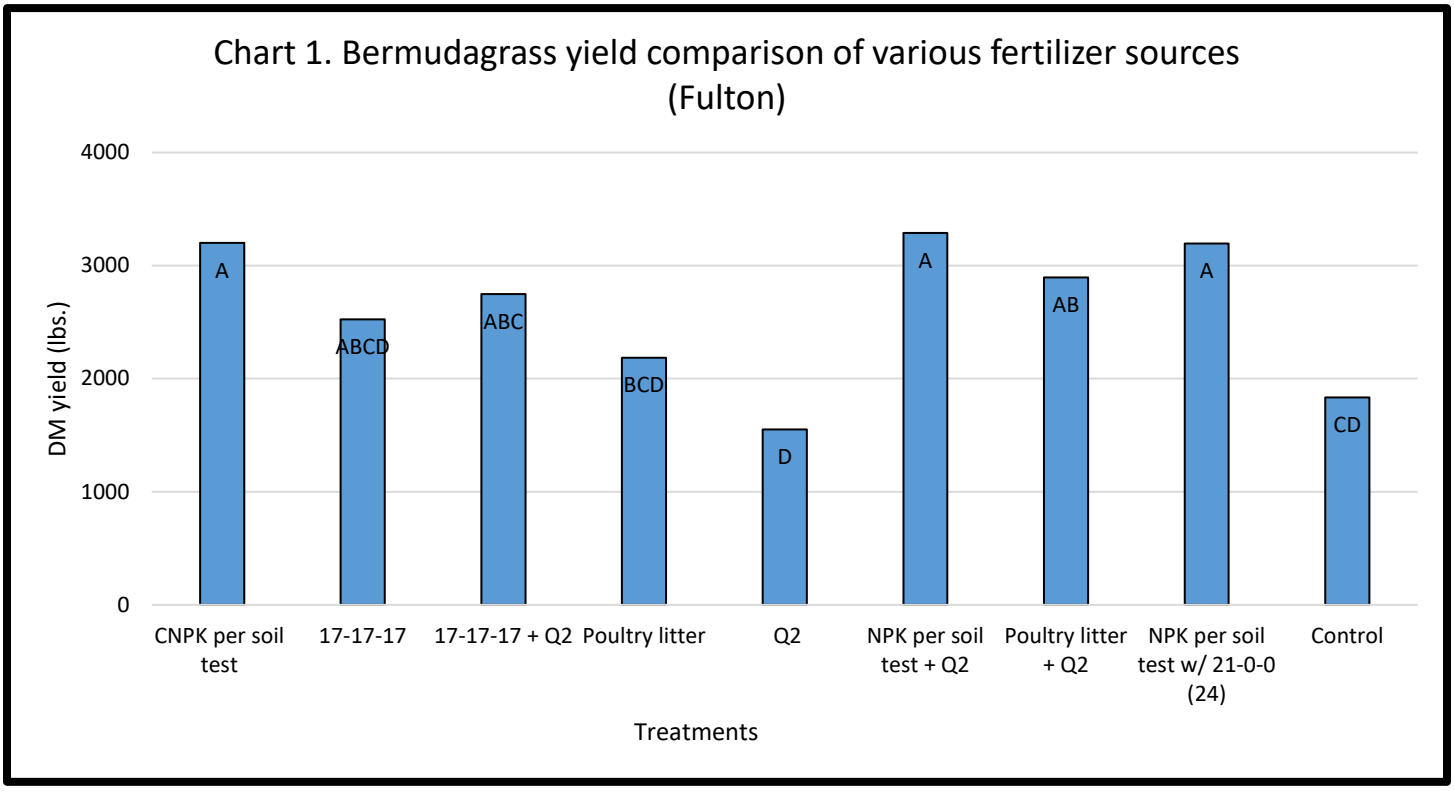
Trt #	Treatment / Name
1	Commercial fertilizer, NPK per soil test
2	17-17-17
3	17-17-17 + Q2
4	Poultry litter
5	Q2 only
6	NPK per soil test + Q2
7	Poultry litter + Q2
8	Commercial fertilizer, NPK per soil test w/ 21-0-0 (24)
9	Control

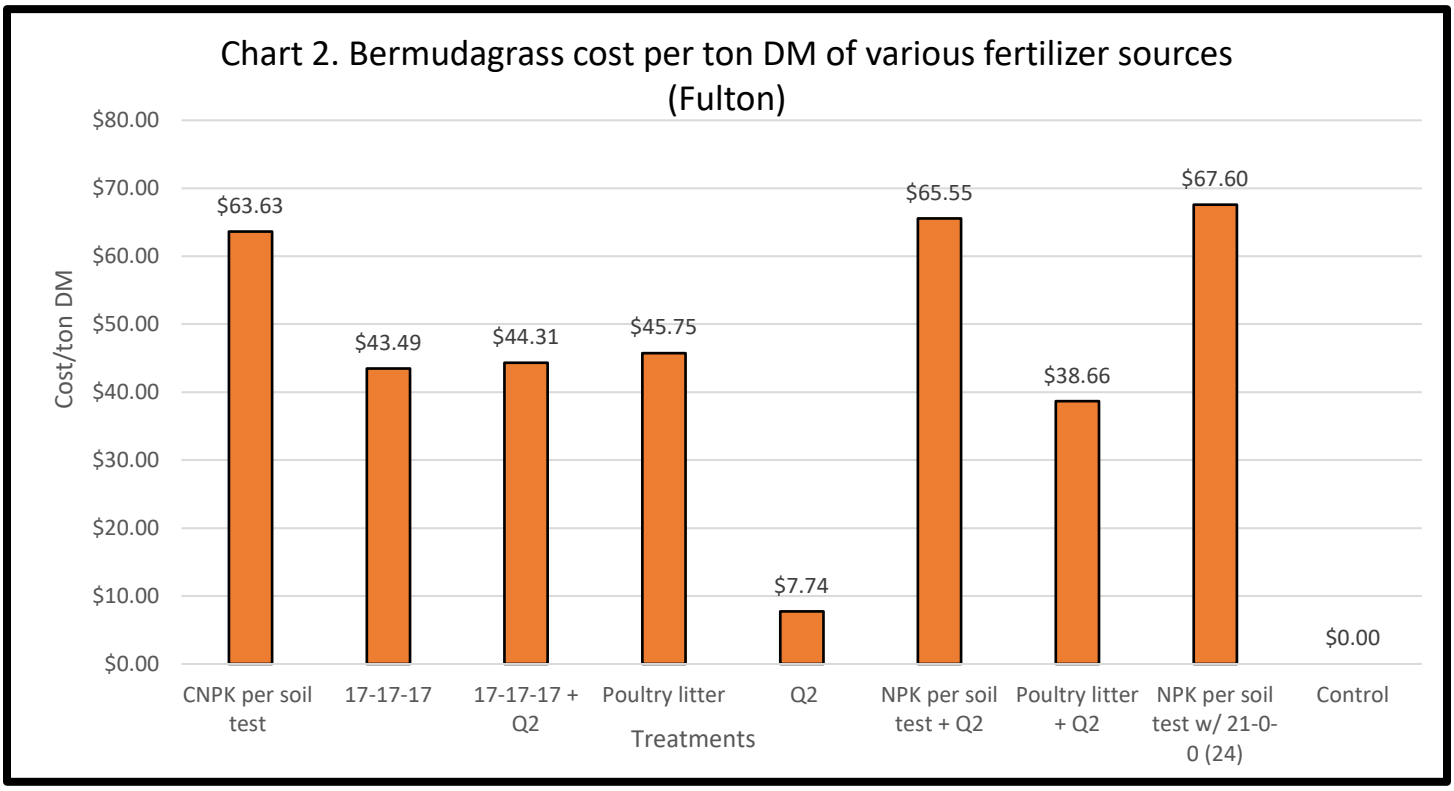




non-uniformity of the forage in the field due to large areas of johnsongrass in the plots. Regardless, here are the results. In this trial, the NPK with sulfur, NPK without sulfur, NPK with Q2 Plus®, triple 17, triple, 17 with

Q2 Plus®, and poultry litter with Q2 Plus® were all “statistically” the same. As is the Q2 Plus® only and the untreated control plot since they both contain “D”’s.





Conclusions

In summary, yields were the same in those plots that were treated with Q2 Plus® only and those that didn’t receive any treatment (control). In both locations, when Q2 Plus® was coupled with a treatment, such as 17-

17-17, poultry litter, or commercial fertilizer at soil test recommended rates, the forage yields did not differ from those treatments by themselves.

Stockpiling Fescue to Save on Hay Feeding

As summer winds down and fall moisture and temperatures appear to be just around the bend (hopefully), now is the time for fall and winter pasture planning. Most cool season forages, such as fescue, orchardgrass, and clovers, can be planted in September. In fact, fall planting is often preferred over spring planting of cool season forages since it gives the plants more time to be well established prior to having to endure their first summer.

One great practice that can save on hay feeding is stockpiling, and specifically for us in northern Arkansas, fescue stockpiling. Stockpiling really just refers to the practice of saving grazing for the future, but there's is a right way to do it and a not so right way to go about it. What stockpiling does not mean is simply holding cows off a pasture until it needs to be grazed. As fall drags on, ungrazed grasses become high in fiber and not readily consumed. This is where the first step of stockpiling comes into play. Fields that you wish to save for winter grazing should be either grazed or mowed closely around the end of August. The purpose for this is to take off that unpalatable, stemmy growth and prepare the plants to put on some new, vegetative growth. Ideally, the field is grazed or mowed down to about 3" stubble height. If you take more than that, you run the risk of a dry fall and harm to the grass stand. Leaving it too tall isn't good either. If you mow it at 7", the regrowth is going to start from there, and cattle are only going to graze down to that clipped or grazed height. Remember, everything below that grazed/clipped height is old growth that is fibrous and unpalatable, and you wind up selling yourself a little short on the potential grazing you'll have for the coming months just because of the cutting/grazing height decision made back in early September. Every 2 inches of nitrogen fertilized fescue per acre is the equivalent of about a bale of hay. On a 10 acre stockpile, that's 10 bales of hay "lost" just because it wasn't taken down low enough when it was started.

The next step is to fertilize it, primarily with nitrogen to the tune of 50-60 lbs. /acre. That's approximately 150-175 lbs. /acre of ammonium nitrate (34-0-0) or 110-130 lbs. /acre of urea (46-0-0). Just beware of nitrogen losses with urea. Hot weather, damp ground, and no rain after application is a recipe for big nitrogen losses due to gassing off. This isn't a problem with ammonium nitrate or ammonium sulfate. Also, if you have phosphorus and potassium needs, those can be taken care of as well. Of course, you'd need a soil test if you want to make an accurate application for the field's needs.

Most folks don't think of fertilizing in the fall, but with a stockpiling project, the added nitrogen is necessary. The goal is to extend the grazing season. Unfertilized fescue might produce another ½ ton of forage per acre in the fall. The additional nitrogen should produce at least another full ton of grass per acre. Alternatively, look at this way... another 2.5 bales of hay per acre. That 150 lbs. of ammonium nitrate is going to cost roughly $25 per acre. Those 2.5 bales of hay are going to run closer to $100. Not to mention it takes more time to make the hay than it does to graze it off and make a fertilizer application. Cattle are much more economical harvesters than a disc mower and baler will ever be.

The last step of stockpiling is to stay off it until late November, so the growth will have time to accumulate. Ideally, you have other fields to graze in the meantime. Once those run out, it's time to turn in on the stockpile. A movable electric fence is your friend here. Strip grazing across it will make much more efficient use of the grass that's there. Start at the water source, and work your way across the field until it's gone. However, if you don't have the means to manage the grazing that way, then stockpiling is still beneficial over

feeding hay. The quality of stockpiled fescue will often maintain TDN (energy) and crude protein levels above the needs of a lactating cow through December and for a dry cow throughout the entire winter. Coupling practices like stockpiling fescue with planting winter annuals, like wheat or ryegrass, can really extend the grazing season deep into winter, greatly reducing hay reliance except for the periods of snow coverage or damp, bitter cold when cattle energy needs increase.

For more information on this or other forage related questions, feel free to give us a call sometime at 870-425-2335 or come by the Baxter County Extension Office at 3 East 9th St. in Mtn. Home.

Private Applicator Training (PAT) for Restricted Use Pesticides

Local farmers, ranchers, and other agricultural producers who wish to renew an expiring pesticide license or receive a first time private pesticide applicator license will have the opportunity to receive the required training. Some of the folks that are up for recertification will have gotten a letter from the State Plant Board notifying them that their certification is up. If you are receiving this letter, then according to our records and the Arkansas State Plant Board, your license is about to expire.

The training will be held in Mtn. Home on ***Tuesday, November 12th, 2019 at 6:00 p.m.*** at the Baxter County Fairgrounds. This training is **NOT** for certification of commercial (for-hire) pesticide applicators!

There is a $20 per person fee that *must* be paid at the door at the time of training. This fee is not related to the licensing fees charged by the State Plant Board. It is only for the training. The fee for the license is $10 for one (1) year or $45 for five (5) years. That amount you will pay in later to the State Plant Board, not the Baxter Co. Extension Office. Checks or exact cash preferred. Checks can be made to "UACES"

Sulfur Fertility in Hayfields: Does it Matter?

Brad Runsick, Baxter County Extension Agent

When it comes to soil fertility, oftentimes we're only concerned with the big three: nitrogen (N), phosphorus (P), and potassium (K)…and rightfully so. They are the primary macronutrients needed by plants. However, farmers (and county agents) sometimes might overlook a secondary macronutrient: sulfur (S).

Plant nutrients are designated with names like primary, secondary, macro, or micro not because of their importance to the plant but instead because of how much the plant uses. For example, a plant may be comprised of 5% nitrogen but only 0.0001% molybdenum, a plant essential micronutrient. This doesn't make nitrogen any more or less essential than molybdenum. It just means that it needs more of the nitrogen. The plant has to have both to carry out its biological processes.

Sulfur is categorized as a secondary macronutrient, along with calcium and magnesium. In regards to how much a plant utilizes, sulfur content in the plant typically falls somewhere between 0.1 – 0.5% of the total plant weight. Again, this doesn't sound like much, but when we're talking on a tonnage basis, that's the equivalent of around 5 lbs. of sulfur removed for every 1 ton of hay taken off the field.

Let's say that we remove 2 tons of hay each year from that field over the course of 5 years. That's 50 lbs. of sulfur taken out of the system. It'd be wrong to make no mention that sulfur is also replaced in the soil chemistry by the breakdown of organic matter over time and sulfur present in precipitation. However, in soils

that are low in organic matter, as ours are, that mineralization of sulfur, as it's called, isn't occurring as fast as it's being removed as hay.

Deficient or not?

Soil testing is a good indicator of sulfur levels in the soil, but that raises a few questions.

- At what level are sulfur levels low enough to limit forage yield?
- If sulfur is limiting yields, how much actual production is being lost?
- What's the economics of making up that deficiency a sulfur application?

Those are the real questions. University of Arkansas soil tests have always recommended a sulfur application of 20 lbs. of sulfate (SO_4-) if that level test below 12 parts per million (ppm) on a soil test. This is the equivalent of approximately 100 lbs. /acre of ammonium sulfate fertilizer.

So, what does it matter?

Consider this. In the two fertility projects in southern Baxter and Fulton County mentioned in the previous article, the soil test sulfur level of bermudagrass hayfields was at 9 and 13 ppm, respectively; therefore a sulfur application was warranted for the Baxter County field. The Baxter County plots that received ammonium sulfate as a part of their nitrogen need yielded an average of 4,854 lbs. dry matter per acre at a resulting cost of $56.59 per ton. Those that received the same level of N, P, and K without the sulfur yielded 3,369 lbs. /acre at a cost of $78.03 per ton. Or, think of it this way: roughly 7 round bales at about $20/bale vs. 5 round bales at about $27 per bale in fertilizer input cost.

In the Fulton County trial, where sulfur levels were at 13 ppm and therefore above the threshold for a sulfur application, we saw essentially the same yields between the N, P, and K application that contained sulfur and the ones that did not. With sulfur, yields were 3,196 lbs. DM/acre. Without, they were 3,201 lbs. / acre. Essentially, there was no statistical difference. Of course, the difference between 9 ppm and 13 ppm sounds negligible, but that's the difference in approximately 8 lbs./acre or close the removal rate for 2 tons of hay.

So, in short. If sulfur is recommended, it is generally economical to make that application. Bermudagrass does tend to be a heavier user of sulfur than fescue. In addition, sandier more leachable soils tend to be more deficient than those with more clay content. Regardless, it's worth paying attention to when getting a soil test report back. Since ammonium sulfate is the primary fertilizer source for sulfur in our area, it must be taken into account that it also contains 21% nitrogen. If a soil test recommends 100 lbs. of nitrogen per acre, an application of 100 lbs. of ammonium sulfate will take care of 21 lbs. of that. Since it's also 24% sulfur, 24 lbs. of sulfur is provided from that application. That's the equivalent of about 12 ppm on a per acre basis. The remaining 81 lbs. of N need could be satisfied with either 175 lbs./acre urea (46-0-0) or 240 lbs./acre ammonium nitrate (34-0-0). Then, remember that roughly every ton of hay is taking out another 5 lbs. /acre.

Hayfield soil sampling for this fall isn't far off. For more information on soil sampling for hay yield or assistance with interpreting soil test results, give us a call at 870-425-2335.

Brad Runsick

Baxter County Extension Agent

870-425-2335

brunsick@uaex.edu

“Like” us on Facebook at Baxter County Coop Extension Service - Agriculture