

### Why Do Soils Become Acid

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. It never ceases to amaze some producers that we can sit here on soils that developed over limestone and we still need to lime soils because they are so acid. Of course we also then have gardeners move here from the eastern US and can't understand why we don't HAVE to apply lime every year. The acidification of soils is the byproduct of several things, but generally, it's the breakdown of organic matter, weathering and nitrogen fertilizer use that cause soil pH to drop. As we apply higher rates of nitrogen fertilizer, soils will acidify faster, directly proportional to the amount of nitrogen that we are adding. Our soils do have some natural buffering, unlike more weathered soils in wetter climates. And not all nitrogen fertilizers have the same acidification capability. We classify the acidification potential by how many pounds of lime it takes to neutralize one pound of nitrogen. Not pounds of product, but pounds of nitrogen. Ammonium nitrate, anhydrous ammonia urea and UAN solutions all require 3.6 pounds of lime. If you apply 200 pounds of N as anhydrous ammonia or urea, it would take 720 pounds of lime to neutralize it. Diammonium phosphate, 18-46-0 requires 5.4 pounds of lime per pound of nitrogen and monoammonium phosphate, 11-52-0 and ammonium sulfate both require 7.2 pounds of lime. And that is why we are seeing more fields needing lime than we used to. The best way to know though, is to soil test every two to three years! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Bromegrass Fertilization

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. Even though I pleaded with bromegrass producers to fertilize last fall a lot of brome has not been fertilized yet. Given the uncertainty of rainfall I can understand the hesitation, but we need to be getting brome pastures and hay meadows fertilized as soon as possible so any precipitation we have can get it into the soil. We actually had a great January to carry fertilizer that had been applied in November or December down into the root zone. But anyway, how much fertilizer should you apply? Let's start with phosphorus because it is often the most limiting. In the absence of a soil test I would apply 30 pounds of phosphorus every year. Hay harvesting, or any full plant removal, takes a lot of phosphorus out of the soil. You may also want to consider 10 to 20 pounds of sulfur at least every other year. We are slowly getting a better understanding of sulfur in our soils and grass plants seem to respond well to sulfur. Now the big one - nitrogen. Recently there was an effort made to look at the data from over 100 bromegrass fertilization trials. Without exception, bromegrass yield increased with increasing rates of nitrogen up to 140 pounds of applied nitrogen. But when we take into account the cost of nitrogen, the incremental increase in yield and the value of the hay, With the current dynamics it looks like 120 pounds of nitrogen would be the upper limit and 80 to 100 pounds may be the optimal rate to be aiming for. So without a soil test I would recommend 90 pounds of Nitrogen, 30 pounds of phosphorus and 20 pounds of sulfur on your brome fields this year! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

Leases, one last time

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. One last time this winter I'm going to talk about leases. The deadline for terminating leases has passed. It was 30 days prior to March 1<sup>st</sup> which made it January 30<sup>th</sup>. If you did not give notice, in writing, prior to that date, and setting the termination date as March 1<sup>st</sup>, the tenant can farm the property for another year. Or as a tenant, if you did not receive notice, in writing, by midnight on the 30<sup>th</sup>, you can continue to farm the property. Verbal notification does not count if the tenant wants to be resistant to the termination. Or, as a tenant, if notification was given late, but you just don't want to make a scene, you can agree to the termination and move on. Keep in mind that if the termination was done legally, the tenant still is the tenant until March 1<sup>st</sup> AND they still have right to harvest the wheat crop on those acres. The law states that on acres planted to wheat, actually to any fall seeded annual crop, the lease on those acres terminates the day AFTER the last day of harvest or August 1<sup>st</sup>. So what about the wheat straw left after harvest? Does the current tenant get that? If they can get it baled and removed by the day AFTER the last day of harvest, they are entitled to it. So if you didn't get noticed served in time, what do you do? As a landlord you can serve notice NOW for 2014. Keep in mind the termination date still has to be March 1, but in 2014. The advantage of serving notice NOW is that it's done and by serving notice now, before wheat planting time or even preparation for wheat planting, the outgoing tenant does not have the right to plant wheat this fall. Call me if you have questions! This has been Ag Outlook on the Talk of JC, 1420 KJCK,

I'm Chuck Otte.