

## Smoke Management

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. To say that we smoked up the place last Tuesday is an understatement. To be precise, we likely burned more acres in one day than we burned all of last year. The problem is that the whole region, from Oklahoma north to Nebraska did the same thing. I haven't seen the reports yet but I'm sure that air quality monitors from Oklahoma to Nebraska were going crazy. I understand why so many people burned last week. We'd gone several weeks with very little opportunity to burn so when this one good day came along, I knew what the outcome would be. It does concern me though. It concerns me because we nailed Nebraska hard with smoke and they were and will continue to file complaints with KDHE and EPA. We have a lot of education that we yet have to do with our neighbors to the north! And my brother in Omaha that has lung disease wasn't too happy with me either. I don't know if we'll be able to get this ruled as an exceptional event and get it tossed out or not. If we have very many more events like that we could be in for far stricter regulation. Let me add that KDHE in Topeka and EPA Region 7 in Kansas City understand the need for fire in the tallgrass prairies. They get it. That isn't the problem. The problem will come from regulators that don't understand agriculture or prairie ecosystems. We need more research and that means time and I don't know how much time we have left to find answers. The deed is done now and we're just going to have to see what happens. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## And Still it Rains

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. Just about the time that we thought it was going to dry down enough to get rolling in the fields, it rains again. And at least in the near term it is looking like they are keeping a chance of rain quite regularly in the forecast. So when do we start to grow concerned about running out of time to plant corn? Well, not for a while yet. We know that we seem to get our best corn yield from full season corn planted the last 10 days of April and first 10 days of May. So to my way of thinking, we are just now heading in to prime corn planting season. Now, if we get to May 20<sup>th</sup>, and you still haven't been able to get your corn planted, then we have reason to be concerned. But we can have that conversation in a few weeks. Here is what I feel is a reasonable plan of action. If we get to May 1<sup>st</sup> and we aren't seeing any drying weather in sight, start trying to swap out your longest season corn for something a few days shorter. If you did not get a soil applied residual herbicide applied prior to it getting wet, you probably have a lot of weeds coming in to your fields. Which means that when it does dry up enough to roll, you may be applying a burndown herbicide with your residual herbicide at or just ahead of corn planting. Pay very close attention to what products you are using. 2,4-D and dicamba check the label as many of these have some waiting periods until planting. My other concern is now with wet soils and warming wet soils. I'm afraid we are starting to see some nitrogen loss in fields where nitrogen was applied earlier in March. We may need to take corrective action. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Corn Herbicide options

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. I was talking yesterday about dealing with a compressed schedule with your corn planting and the need to be cautious with burndown herbicides. Burn down formulations MUST have something other than just glyphosate in them. If you include dicamba you need to wait 5 days before planting if you used up to 4 ounces per acre and 7 days if you used 8 ounces. Depending on the 2,4-D formulation label, you may have a 7 to 14 day waiting period. If you have much marestalk you really need to use dicamba or 2,4-D to enhance control so timing is going to be crucial and you may be looking at dicamba. When you get to the soil applied residual control products, I'm just a firm believer that you need to be looking at anything that includes atrazine in it's makeup, but you need to have more than JUST atrazine to enhance grass control as well as kicking up control on some of the tougher broadleaf weeds. In reality you want to maximize pigweed control with your pre-emerge residuals as you won't have many post emerge options. And I'll just tell you right now that the best control is going to come from some of the more expensive combos. Remember that any premix with atrazine is going to may have the letters ATZ in the label. Products that have done well and shown good control include Anthem ATZ, Bicep II Magnum, Lumax EZ or Lexar EZ, Resicore, Surestart II and Zemax. Now, some of these are going to be weak on johnsongrass seedlings or shattercane, but both of these should be well controlled with post-emerge glyphosate. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

Where did the fertilizer go?

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. I mentioned a couple of days ago about my concern for losing part of the nitrogen that may have already been applied. When nitrogen is applied in the fall or late winter, when soil temperatures are below 50, the nitrogen usually tends to stay pretty well put. Most of the injected fertilizer that we use is anhydrous ammonia, an ammonium form of nitrogen. Nitrogen in this form attaches to soil particles and isn't truly leachable. Before something can happen for nitrogen loss to occur, the ammonia goes through a nitrification process. This process doesn't really get started until soil temperatures move above 50 degrees and don't hit high gear until those soil temperatures move above 65. Soil temperatures, at the zone where most of the nitrogen is placed, finally moved above 50 within the past week or so. Ammonia is now converting to nitrate forms but slowly for right now. Plants can take up nitrogen either in the ammonia form or the nitrate form. Unfortunately, while resistant to actions that will cause nitrogen loss, ammonia is very susceptible to nitrification. Once nitrification starts, bad things can happen to the nitrogen. It can start to move readily through the soil as soil water drains down. This is called leaching and can move nitrogen away from the root zone. This problem is worse in coarse soils. Or you can have denitrification, which happens in saturated soil. Bacteria break down the nitrate molecule for the oxygen it contains. This turns the nitrogen into a gas which then can leave the soil. The longer it stay wet, the more nitrogen we can and will lose. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

What do we do about nitrogen loss

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. Yesterday I talked about how we lose nitrogen that has been applied to the soil in a pre-plant setting. Which then comes back to our concern of what happens IF we do lose nitrogen. The best way is to not set yourself up for nitrogen loss.

Nitrification inhibitors can be used to slow the process of turning ammonium forms into nitrate forms. This is very useful in soils that are frequently wet. In our country, it's a toss up every year. The most effective way to minimize the loss of N is to control when it is fed to the plant. Preplant applications in corn are popular because it can be done well ahead of other field work. But if you are applying 150 pounds of nitrogen per acre or more for your total crop use, you really can't or shouldn't apply it all preplant. You simply are setting yourself up for excessive losses. A better way is to apply about half of your nitrogen preplant and then apply the rest at a later time or times through the growing season. If you irrigate through a center pivot, you can apply a fair amount of the nitrogen as you irrigate. But if it's a wet year and you don't need to irrigate, your corn is going to be nitrogen deficient. When I was growing up everyone put on 75% of their nitrogen as a side dress application with anhydrous ammonia when it was a foot or so tall. Many people don't want to do that, although it is very effective, but we may decide to broadcast liquid or granular N over the top of the growing crop. A heavy rate may burn a few leaves but if you can follow with irrigation, it'll be fine. There is no single solution, but options should be explored. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.