

## Nitrogen Loss

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. A couple of weeks ago I was talking about how the wet weather we had since late March had likely caused a significant loss of nitrogen in wheat and corn fields. No sooner had I said that and the 2017 wheat quality tour went out across the state. What was one of the common themes reported from the tour when it was all said and done? Nitrogen deficiency! I've seen my share locally and I think it will be real obvious when the combines roll. Why did we see so much this year? I think there are several things going on here. First of all we had a pretty good wheat crop last year. 54 bushels per acre isn't a record for the county, but it's a pretty good yield! When you have that kind of wheat yield you aren't going to have much N left. What was left likely got diluted by excess rainfall last growing season. Then we follow that up with low wheat prices so the wheat that did get planted may not have been fertilized as well as it should have been. Then we have another wet period so what was applied then got leached or volatilized by excess precipitation the past 6 weeks. So where does this leave us? First of all, do a profile nitrogen soil test. We can get a good feel for what's out there with a good soil test. Regardless of commodity price, fertilize it properly. Lowering fertilizer rates may decrease the cost per acre, but if it also decreases yield you may very well have increased your per bushel production cost. The old saying of penny wise and pound foolish really comes into play here. And then there's the concerns I have about this year's corn crop and adequate nitrogen. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Starter Fertilizer in beans

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. I talked about this a few weeks ago and I'm going to talk about it again as we head into actual soybean planting time. Soybean fertility has often been the case of the legume crop gets the left overs. Soybeans make their own nitrogen and beyond that we all too often forget about anything else. First of all, are you inoculating your soybeans? I know that they will tell you that if you've grown soybeans in a field in the past 3 years you probably don't need to. But there are all sorts of reasons to just go ahead and inoculate your soybeans ever year. It's pretty cheap insurance. But beyond that, what I'm most concerned about is phosphorus. Legume crops, like soybeans and alfalfa, need a lot of phosphorus. In the case of beans, figure eight tenths of a pound of phosphorus per bushel of beans. The 2016 soybean crop averaged just over 55 bushels per acre in Geary County. That's nearly 44 pounds of phosphorus that was removed by the crop. If you have 20 ppm phosphorus on your soil test report you probably can get by, for a year, with no phosphorus. If you've got 60 or 80 ppm soil test you can probably go several years. But if you have anything under 20 ppm and you want to target 55 bu/acre or even just 40 bu/ac, it would behoove you to be applying some phosphorus fertilizer every year, likely in the 20 to 30 pounds per acre range. Obviously the preferred action here would be to take a soil sample and let's get it analyzed so we know what we have and what we'll need! This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Drought Tolerant Corn Hybrids

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. When we start talking about disease resistance in crops, we often worry about how those disease resistant varieties yield when we don't have disease pressure. In other words, is there a yield lag. If there is we don't want to plant the disease resistant variety UNLESS we know there is going to be disease pressure so we don't lose potential yield. If there's no difference, it doesn't matter. Which then raises the question of whether the new highly touted drought tolerant corn hybrids would also have a yield lag if drought wasn't an issue in a growing season. K-State researchers looked at these questions under many different environments and plant populations over the past several years. I always enjoy reading the results of this research as sometimes you just want to respond to results with a "well duh" reaction! First of all, the advantage of drought tolerant hybrids became more evident under water stress. There's your "well duh" opportunity. But the second result is the real clincher to me. Across the yield environments of the study, which went from 70 bu/ac to 260 bu/ac, drought tolerant hybrids have the potential to yield with regular hybrids when water is not an environmentally limiting factor. Which means that planting the DT corn won't result in a penalty if it's a wet year. The interesting outcome was that the breakpoint, where the DT hybrids really seemed to shine occurred in yield environments where the non-DT hybrids were yielding less than 170 bushels per acre. So to my way of thinking, if you are growing dryland corn, here, go with the DT hybrids. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

Is the climate changing?

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. If you want to start an argument, just bring up climate change. If you have three or more people present you will have at least four different opinions. You can argue that the data is fake, which is not a valid argument, or that humans aren't impacting it, which I don't think we can argue, it's just how much are we impacting it. But if you look at the hard numbers, and we're talking just for Kansas now, and look at data from 1895 through 2015 we can see some very interesting things happening that do in fact tell us that the climate is changing. Now, we don't know what the future WILL be like, but we do know what has happened since 1895. Researchers looked at average annual temperatures as well as average high and low temperatures over that 120 year period. They also looked at average first and last frost dates across the state. Some of their findings mirror what I've been seeing locally. Naturally there are year to year variations and periods of hot years and periods of cooler years. Average high temperatures have not shown a significant change since 1895. However, average overnight lows show a slow increase which means that annual state mean temperature is also increasing. Not a lot but 2 degrees over 120 years, in climatic discussions, is very significant. They also looked at first frost of fall and last frost of spring and compared 1951 to 1980 and then 1981 to 2010, or two 30 year periods. While the first fall frost is becoming later, in extreme NW Kansas it's a little earlier. The last spring frost is coming earlier everywhere but the extreme NW part of the state. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.

## Unpaid Operator Labor

This is Ag Outlook on 1420 KJCK, I'm Chuck Otte, Geary County, K-State Research and Extension Ag & Natural Resources Agent. One thing that many people often struggle with, including some farmers themselves, is how a farmer can continue to keep farming when there are reports that farmers lost X amount of dollars last year. Or the one I frequently hear - "I don't know how I can owe income tax when I don't have any money." When economists put together cost return projections they break out income from the crop or livestock enterprise and then the expenses from direct variable expenses that include seed, feed, fertilizer, etc as well as a group of fixed expenses that includes depreciation, real estate taxes, land and interest charges and then this category called unpaid operator labor. Many farmers do not pay themselves a daily wage. They hope that the crop does well enough that at the end of the year they can set aside some money for their "salary" if you will. To calculate this, economists monitor how much time the operators spends on a per acre basis for crop production or a per head basis for livestock production and then multiply it by a realistic wage. Economists, and I agree with them, include all these costs when figuring break even prices because no one should be working for free! So how much are we talking about? The average NC Kansas farm last year had unpaid operator labor of nearly \$66,000. Some of those breakouts by enterprise were \$126 per cow/calf pair, \$56 per acre for corn production, \$40 per acre for wheat and \$44 per acre for full season soybeans. On a per bushel basis that's about 50 cents/bushel for corn, \$1/bushel for beans and 88 cents per bushel for wheat. This has been Ag Outlook on the Talk of JC, 1420 KJCK, I'm Chuck Otte.