

Nitrogen Fertilization Options

This is Ag Outlook, I'm Chuck Otte, Geary County Extension Agent. For corn production fall nitrogen application with anhydrous ammonia is the most effective and cheapest way to get much of that nitrogen requirement met. But weather has not been good for fall anhydrous knifing leaving producers to look at surface applications of dry urea or UAN solutions. These can be effective BUT - never apply fertilizer to frozen soils. We need soils that can take in at least some water and the nitrogen. Surface volatilization losses will usually be low through mid March assuming at least a tenth inch of precipitation within a week or two of application. Nitrogen stabilizers can be used but will have a better chance of being effective if used on nitrogen applications made in the spring. The other option to consider is side-dressing applications in late spring but this requires specialized equipment. I'm Chuck Otte and this has been Ag Outlook.

Why stress impacts bean and corn yield differently

This is Ag Outlook, I'm Chuck Otte, Geary County Extension Agent. It was very interesting to see how corn and soybeans reacted to the drought this summer. Naturally we know that corn is going to have one shot at setting grain. There's one tassel and one or two ears with a narrow window of opportunity. Soybeans, as long as the plant stays alive, can keep blooming until it starts setting pods. But physiologically even grain fill impacts are different. Stress the first week of flowering can reduce yield of corn 40 to 50%. Stress the first week of flowering on soybeans will reduce yield only 8%. Stress the second week of flowering can reduce yield an additional 30 to 40% in corn but only 19% in beans. Essentially, 80% of the potential corn yield is determined in the first two weeks of flowering but for soybeans it's only 27%. The critical time for soybeans is later, the 2nd to 4th week of seed filling. I'm Chuck Otte and this has been Ag Outlook.

Do I Need Potassium Fertilizer?

This is Ag Outlook, I'm Chuck Otte, Geary County Extension Agent. I had a producer the other day tell me that he'd gotten a soil test result back from a commercial firm and they indicated that he needed to add potassium or potash. He rather incredulously asked me if that was necessary because we so seldom need to add potash. I asked what the soil test level was and it was on the edge of what I would consider needing potash. We have historically said that we never need to add potash because our soils have so much. Well, they used to have plenty and some still do. But we're now growing 200 bushel corn and 70 bushel beans, not 35 bushel wheat. We ARE mining the potash out of the soil and over the next 20 years we will find a lot of fields that will be needing potash fertilizer. I try to warn producers when I see levels dropping and most fields aren't quite needing it, yet, but it's coming! I'm Chuck Otte and this has been Ag Outlook.

What Can You Do to Impact Yield?

This is Ag Outlook, I'm Chuck Otte, Geary County Extension Agent. If you aren't a farmer it may be hard to understand the challenges of crop production. One physiologist once said that basically 2/3 of the factors, perhaps more, that are going to influence yield are out of the crop producers control. We can put weather at the top of the list. The things that the crop producer can control include things like fertilization, tillage, rotation, planting date, row spacing, seeding rate, hybrid/variety selection, herbicide selection and timing of herbicide applications. These are all management decisions that the farmer has to make each and every year. Most of these have to occur prior to planting. Some of these choices may not impact yield in any given year, but they still have to be made. The bottom line comes down to the fact that 80% of the management is complete once the seed is in the ground. I'm Chuck Otte and this has been Ag Outlook.

Soybean Fungicides for Purple Seed Stain

This is Ag Outlook, I'm Chuck Otte, Geary County Extension Agent. A lot of soybean producers got hit hard with purple seed stain issues in their beans this year. Purple seed stain is caused by a disease, *Cercospora*, that overwinters on soybean residue and then splashes onto plants with rain or sprinkler irrigation. It often doesn't impact yield and we have some at low levels every year. It can show up as slight leaf bronzing in late summer. This year's heavy rains in August and September allowed the disease to explode. Fungicide applications at R3 to R5 are very effective at stopping *Cercospora* and thereby purple seed stain. The problem is that there are no visual symptoms of *Cercospora* infection at R3 - R5. How long will it be before we have another summer like we just had and the problems it may cause? Maybe 30 years. But if you want to be protected just spray fungicide at R3 - R5. I'm Chuck Otte and this has been Ag Outlook.