Area Crop Report 10/28 – 11/1

U.S. and Kansas Wide Harvest and Crop Condition Update

While many double crop soybeans in our area have been or are in the process of being harvested, and early planted bean fields are now sown to wheat, soybean progress across America has been significantly higher than our previous 5-year average. Many factors can be at play here; dry, droughty weather, lower farm income predictions, higher market values compared to other cash crops, better yields equaling greater ROI than years previous, more acres planted to beans, etc.

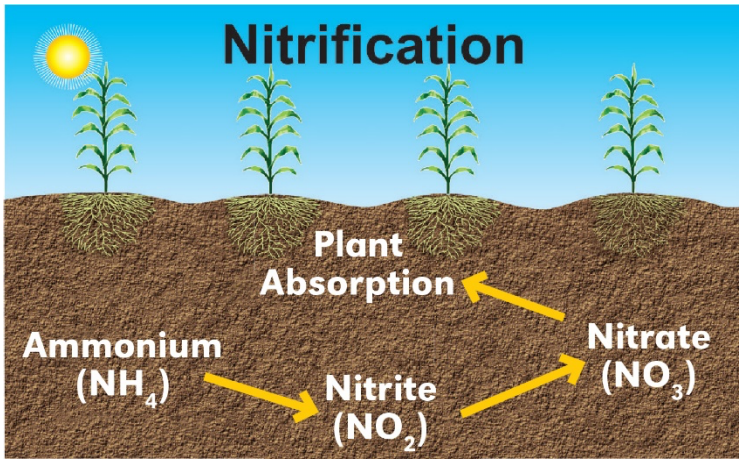
From a USDA news release on October 27th, Kansas soybeans were 84% harvested, ahead of 77% last year, and ahead of a 70% average, which coincides with national trends.

Winter wheat planted was 87%, near 89% for both last year and the five-year average. Emerged was 63%, near 66% last year and equal to average.

Correct Fall Anhydrous Ammonia Application Timeliness

A warmer-than-typical fall coupled with droughty conditions is going to delay fall anhydrous ammonia applications in our area, with regards to efficiency. Typical rule of thumb when looking at NH3 applications is soil temperature, and waiting until we are at or below fifty degrees at a four-inch depth. Looking at K-State Mesonet data, the seven-day average temperate at a 4-inch depth, taken on October 30th, was 64 degrees at the location in Cherokee County and 61 degrees in Bourbon County (there is no mesonet location in Crawford County).

Why is it recommended to wait until ideal soil temperature conditions? The answer is nitrification. This process happens when specific soil microbes convert ammonium [NH4]+ into intermediary nitrite-N [NO2]- then to nitrate-N [NO3]-. Being a microbial reaction, soil temperature will have a direct affect on the process. Delaying the application until weather becomes colder allows most of the applied N to enter winter as ammonium, resulting in minimal over-winter losses of applied N. Nitrification does not stop below 50 degrees, however, the soil will likely become cold enough to limit the process. When anhydrous is injected into the soil, the ammonia gas [NH3] reacts rapidly with moisture in the soil, converting to [NH4]+. Being positively charged, it will bind to clay and organic matter particles in the soil. This now bound ammonium doesn't move readily in most soils, especially with the clay heavy soils and high Cation Exchange Capacity (CEC) levels found in our area. Then, nitrification occurs. Anhydrous ammonia is also hydrophilic, meaning it reacts with water. This nature makes it advantageous when correctly applied as a fertilizer, but is also why NH3 can be dangerous to humans. The amount of water, moisture, needed for this reaction is also quite low. However, when applied into dry soils, make sure injection rows are being closed. Poor closure of the injection furrow and voids, or cracks, in dry soils allows the ammonia gas to escape to the surface, converting it to ammonium. Using a nitrification inhibitor, such as Centuro, can also help reduce N losses when soil temperatures warm up after application.



"Life, with its rules, its obligations, and its freedoms, is like a sonnet: You're given the form, but you have to write the sonnet yourself"

Madeleine L'Engle