



The Chem Gro Crop Watch, Issue #5, 6/27/11

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Supplemental nitrogen application in tall corn. With our current trend of wet weather, some growers have found themselves in the situation that fields that were planned for sidedress nitrogen with NH₃ or 32% with a liquid bar are now unable to get it done because of too wet field conditions and/or corn has gotten too tall for conventional equipment. Choices in application methods and nitrogen sources become limited in this stage of the game in getting the job done. Below I have listed the possible options in order of “most bang for your buck” to applying additional nitrogen to tall corn (in my opinion).

1. 32% UAN injected into the soil or applied in a band with drops surface applied.
Unfortunately, there are very few high clearance machines on the market that are set up to inject UAN into the soil in tall corn. I have only read and seen pictures of them in farm magazines. Utilization of this type of equipment is going to be very scarce. The next best option is to have a self propelled sprayer that can go through up to shoulder high corn to apply UAN with drop nozzles that squirt the nitrogen on top of the ground in a concentrated band. Having the nitrogen concentrated in a band is important because it gains in nitrogen use efficiency to the corn plant. As rains soak the surface of the soil with the concentrated band of nitrogen, the nitrogen gets pulled into the soil. When corn roots detect this high concentration of nitrogen, the corn plant will grow a large amount of fine root hairs in this area to pull in this food source into the plant. If you have ever used starter fertilizer on your corn planter in a 2x2 placement and have dug corn roots, you will have noticed a huge mass of dense white roots in the area where the 2x2 placement of fertilizer was. Nitrogen and Phosphorus are the only two nutrients that will cause corn roots to proliferate when they are detected by the plant in high concentrations.
2. 46% dry Urea broadcast by ground application or airplane. This ranks #2 in choices because of two reasons. First, it is a broadcast source of nitrogen which is less efficient for the plant to “find” in the soil for the reasons I mentioned above. Second, Urea broadcast over the top of corn will fall into the whorl and cause some leaf burning. This burning is cosmetic only so it is nothing to be alarmed about. If you are deficient in nitrogen, this method and choice of nitrogen fertilizer is better than nothing at all. I attended a field day at the Western Illinois Research Farm at Macomb, IL last week. A professor from the University of MO was there who gave a presentation on this very topic of rescue nitrogen application to corn. His data from last year showed that if the corn was visually deficient from nitrogen, and application of Urea was made of around 50# of



actual nitrogen; the average yield increase was 34 bushel/acre. The low end of the increase was 11 bushels/acre to a high of 50+ bushel/acre. **Urea is extremely tight in availability locally. If you are interested this type of supplemental nitrogen, you had best be speaking for it before there is none to be had, and before the planes switch from dry booms to liquid booms for fungicide application!**

3. **Foliar nitrogen feeding.** This type of nitrogen application ranks 3rd in my opinion. Corn is such a heavy user of nitrogen that trying to supply its needs (if it deficient) with foliar nitrogen becomes difficult because you are very limited in the total amount of gallons that can be applied before leaf burning occurs; and costs gets prohibited at high rates. There are several brands of foliar nitrogen that are labeled for corn out in the market place. There are claims that 1 gallon of foliar nitrogen is equal to 10-12 units of soil applied nitrogen. Mmmm..... I can't totally jump on that bandwagon, again my opinion. I have visually seen foliar nitrogen work. I view it as a band-aid being applied to a deep wound. It slows the loss of bleeding, but it is not the complete solution. As I mentioned earlier, if you are deficient in nitrogen, this method and choice of nitrogen fertilizer is better than nothing at all. The most logical way to applying this source of nitrogen is with an airplane during fungicide application. The nitrogen may also help the fungicide enter the corn plant and get better efficacy as a side benefit.

Soybeans....it is time to burn'em. If you share my belief in soybean management that:

- a). Soybeans are not corn; there for they deserved to be punished and be beaten with an ugly stick to an inch of their lives.
- b). Soybeans will yield more if they are brutally attacked at an early growth stage; unlike corn which deserves the utmost respect and pampering to achieve high yields.

If you agree to these moral fibers of soybean production, then now is the time to unleash your wrath. Soybeans are at the R1 growth stage (beginning bloom) which is an ideal time to be setting them back. If you are worried about damaging or losing the blooms that are on the plant, don't sweat it. Soybeans will naturally abort 60% or more of the blooms that will never develop into pods regardless if it is abused or not. The mindset in punishing your soybeans is to prevent the soybean plant from growing tall and lanky. This will hopefully create a response within the plant to force it to grow shorter with more nodes and branches to develop more potential sites for pod fill. To the right is a picture of one our plots at Chem Gro that I just sprayed last Friday afternoon as an effort to purposely burn soybeans in hopes to create more yield potential. I sprayed 12oz Cobra, 1qt 32% UAN, and 1pt Crop Oil Concentrate/acre. I think I could actually hear the soybeans crying like a little school girl with pain as my spray boom went over the top of them. I loved every minute of it. ☺



That's my 2 cents worth.....the choice and decision is always yours.

Lonne