



The Chem Gro Crop Watch, Issue #2, 2/25/11

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Big corn yield or bust! As promised, I said that I would follow my last soybean newsletter and write an update solely on ideas to achieve higher corn yields. Many of these ideas you may already be practicing on your own farm operation.

CORN “TWEAKING” IDEAS FOR HIGHER YIELD

I personally believe the big ticket items (drainage/pattern tile, reaching at least the minimal critical soil fertility levels, adjusting pH to optimum levels for your specific crops, preventing and eliminating compaction, etc.) in chasing high yields need to be met first. When those large yield influencers are achieved, then one can begin to focus on the “tweaking ideas” below that have the ability to achieve you smaller incremental yield gains.

- **Beware of the “Voodoo Days”:** Approx. cost: PATIENCE! The “Voodoo days” is a term that I have nicknamed the bad planting dates from over the last 10 years of “learning the hard way.” The first 1-3 days after planting are critical to achieve uniform germination and uniform emergence. One of the first steps to achieving 100% yield potential is the timing of emergence. Ideally, the amount of time from the first kernel to the last kernel to emerge should be within 48 hours of each other. **“Voodoo days” are typically beautiful planting days (warm and sunny) which are then followed by a nasty cold front that brings heavy cold rains that saturates the soil with water and temporarily depletes the oxygen content in the soil within 48 hours after planting.** This poor oxygen environment in the soil then makes very uneven emergence, which is often times compounded with severe soil crusting from heavy rains. The following 2-3 weeks turn into many sleepless nights wondering if you should try to rotary hoe the corn to help improve emergence. However, many times when the decision is made to hoe the field, the ground has gotten so hard that the hoe won’t penetrate into the soil. This leaves you debating whether or not you should replant a substandard final stand of corn that will never achieve 100% yield potential. Long story short, be sure to keep an eye on the extended forecast when planting. If the weather forecast calls for light showers, planting ahead of this very seldom causes any problems. If the forecast calls for HEAVY or SEVERE weather, it may be in your best interest to stop planting 48 hours prior to the front moving in. And yes, if we had more accurate weatherman, this decision would be much easier!
- **Preventative Black Cutworm Control.** Approx. cost: \$3/acre. It seems like West Central Illinois get bombarded with Black Cutworm feeding every year. The challenge becomes are you consistent and diligent enough with your scouting efforts to rescue spray your corn if the black cutworms reach the 3% cutting threshold? If you have scouted for black cutworm in the past, you may have noticed that the feeding is never



uniform across the entire field. Some areas may be 0% cutting, while other areas could easily be above 5% cutting. Cruiser and Poncho treated seed barely provide a weak suppression at best (in my opinion) against black cutworm feeding. Corn plants clipped below the soil line result in stand loss. Corn plants clipped at ground level recover, however they can become delayed in maturity compared to their neighboring corn plants and often have smaller ear sizes due to the competition effect. Although it goes against Integrated Pest Management practices (scouting first, then spraying if needed), a preventative application of a pyrethroid insecticide along with your pre-emerge herbicide will easily cure this yield robbing issue.

- **Sidedress additional Nitrogen.** Approx. cost: Varies with N rate and equipment cost. Last year, according to multiple conversations with growers and side by side comparisons, additional sidedress nitrogen gained 10-40+ bushels of corn/acre. Some areas in these fields that were sidedressed still did not increase yield (too wet is just too wet regardless of how much N was applied). However, generally speaking, if large amounts of nitrogen are lost in the soil profile, sidedressing additional nitrogen (NH₃ or liquid UAN) into the soil will almost always return net profits. Broadcasting dry nitrogen in the form of Urea via airplane becomes a much more expensive cost per nitrogen unit, and in my opinion, should be used only as a last resort as it takes very timely rains to leach the nitrogen down to the root zone to become plant usable. It also requires a urease inhibitor/blocker such as Agrotain[®] or NutriSphere-N[®], which is an extra expense, to delay the urea from converting to ammonia gas. Urea that lies on top of the soil surface will convert to ammonia gas and will be lost into the atmosphere if rains are not timely after application.
- **V5 fungicide application.** Approx. cost: \$6-7/acre at ½ rates. V5 fungicide application has gained a lot of attention the last two years. Under high disease pressure conditions (corn on corn with high amounts of residue), anthracnose leaf blight can spread rapidly and infect young corn at the V5-V7 stage corn. V5 applications of strobilurin fungicides have shown yield responses in the 4-7 bushel range under these high disease conditions. There is even data that suggests ½ rates are as effective as full rates on corn in this young growth stage. Corn yield response on soybean stubble is less consistent as disease pressure is less. These fungicides can easily be mixed with most second pass herbicides, so a separate application is not needed.
- **V5-V7 Micro-nutrient application.** Approx. cost: \$7/acre. The V5 growth stage in corn begins a critical time period in development as the girth in kernel rows is being determined. This growth stage would be an excellent opportunity to submit leaf tissue samples to a lab to see if the nutritional needs are being met within the corn plant. If N, P, K, or micro-nutrients such as Zinc or Sulfur are not sufficient in tissue levels, kernel set in girth and length can be sacrificed. Most micro-nutrient fertilizers can be tank mixed along with most second pass herbicides, so a separate application is not needed.
- **The “Full Monty” VT-R1 fungicide program.** Approx. cost: \$31/acre with application. Over the years, corn yield responses to fungicides applied after tassel emergence has ranged from 0 – 10+ bushel increase depending on disease pressure and individual hybrid responsiveness. Many farmers have also seen fantastic increases in plant standability and intactness compared to untreated sections within the same field. The next step is to add in 1 gallon of foliar nitrogen along with 1-2 qts of foliar fertilizer containing N,P,K and various micro-nutrients including boron, sulfur, zinc, and manganese; along with the fungicide. I do NOT believe in adding in an insecticide with this application. Very rarely are there enough insects feeding on the silks or leaves to warrant any yield loss what-so-ever in our region. We have had Japanese beetles in some corn fields over the years, but they seem to prefer to feed along the field edges on brown silks that have already been pollinated.



Below is a picture of a yield map that one of our customers who applied this “Full Monty” VT fungicide program in 2010. This was his design and combination of products so he definitely gets all of the credit and reward for his forward thinking and the yield gain that he received. The program was 6oz of Headline, 1 gallon Coron (foliar Nitrogen plus Boron), and 1 qt of ENC (foliar fertilizer containing N, P,K, and an assortment of micro-nutrients). The yellow outlined area in the map below increased yield 41.1 to 48.5 bushels more compared to the untreated green outlined areas on either side. I would not expect this type of yield response all of the time, but just proves to show that if corn plants are lacking in fertility or disease tolerance that actions still can be performed to capture more yield instead of just throwing in the towel.

- **High yield experiments at Chem Gro.** This year, we will be conducting replicated, field length, corn on corn experiments in attempt to gain higher yielding corn. The treatments will include: 10 gallon 32% UAN, 10 gallon 32% UAN + 1.5qt Trafix Zn, 10 gallon 32% UAN + 1.5qt Trafix Zn + 2 gallon Hydra-Hume (humic acid) all in a 2x2 starter placement; and Stratego YLD applied at V5. We will also compare Votivo® treated corn seed for corn nematodes on 3rd year corn ground. Come harvest, I will share with you the results.

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

