



The Chem Gro Crop Watch, Issue #2, 5/2/17

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Let's Talk Second Pass!!!

First off, I would like to thank everybody for allowing us the time to get our burndown and residual herbicides on for this season. If you happen to be one of those individuals who haven't been able to get us out in your fields to spray just remember it's never too late! I would rather see planting be delayed then risk not getting a complete burndown on your fields. My reasoning for this is simple, even at this stage in the game, the yield loss from early season weed competition far outweighs the yield loss associated with delayed planting or planting into less than ideal conditions. At this point in the year there is also one other big reason to really get that burndown done right, that is, the onset of waterhemp emergence. It doesn't matter where I go in the county, I can often find patches of tiny waterhemp plants (like the ones pictured below) emerging from the soils in fields that haven't had a first pass spray yet. It is during this time of the year when the soil temperature reaches that critical 57-degree Fahrenheit mark that waterhemp

germination takes off. For those of you who have gotten that first pass on your fields, your residual herbicides should be doing their job in keeping back any weeds. As our crops progress through their life cycle it is important to know that residual won't last forever so it is crucial to be ready for that second pass. If you were here to discuss chemical plans with me this winter then you have probably heard me mention the concept of overlapping residuals. This concept is crucial in order for you to be consistently



successful in controlling your weeds because as those first pass residuals fade away, weeds which are more tolerant of our herbicides begin to break through and compete with our crops. In the past, we might have waited until we felt that all of that second flush of weeds had germinated and it was time to fall back to our old go to herbicide, RoundUp. Over a period of time, weeds in our fields became more tolerant or even resistant to RoundUp leaving us struggling to keep up. This is where the idea of overlapping residuals comes into play. Instead of waiting for weeds to pop up, we hit it early while the weeds are smaller with a broad-spectrum herbicide such as RoundUp, Liberty, or Dicamba and in that same pass use a residual herbicide to keep weeds from coming back until the canopy has closed. While I am mentioning Dicamba I would like to make a side note for all of those who will be

applying their own dicamba products, whether it be Engenia or RoundUp Xtendimax to their dicamba ready soybeans. Remember to read and follow the label on your dicamba product of choice. That means always using approved spray nozzles, keeping the appropriate buffer from sensitive species, and always check the wind! The EPA has approved these labels for a 6-year period after which it will go under review. That means if we mess this up and are not responsible with this technology we can have it taken away from us! So I cannot stress this enough, **READ AND FOLLOW THE LABEL!!!**

Another thing to consider going along with that second pass is one of the various add on chemicals that we can apply to your fields. While these options can cover a broad spectrum of needs, they can generally be broken up into 4 categories: insecticides, fungicides, foliar fertilizers, and biostimulants.

Insecticides

Insects can cause yield loss to a crop due to the loss of leaf area because either the insect is feeding on leaf parts or the actual reproductive parts of our crops. Secondary to this is the disease can be passed on to a plant directly from the insects. There are a number of insecticides that are compatible with our second pass herbicides, just check your herbicide labels to make sure there are no adverse interactions that might occur. The problem with insecticide usage over the top of our crops tends to be the elimination of beneficial insects (Like the ones pictured below) that may be living in our fields. Beneficial insects like lady bugs, parasitic wasps, and even pollinators such as honey bees are often times killed along with the bad insects. Overall, I believe insecticides are a second pass option that we should scout for before using. That way we can clearly assess how much bad there is out there and how much harm to the good we would be doing.



Fungicides

Diseases can be a major contributor to crop stress in season and lead to a plant that has less potential to yield. From my perspective, our main job in agriculture is to reduce the amount of stress our crops are subjected to in the growing season. When a fungus infects a plant, the plant will respond with its own set of defense systems in order to attempt to contain the infection. Unfortunately for us, this defense system is not free and it does require the plant to devote its energy

to preventing a disease from taking over. When the fungus overcomes these defenses, the plant cells in the infected area die and turn brown leaving the signature lesions that we are accustomed to seeing out in the field. Lesions, like the one on the right, represent an area of the plant's leaf surface that can no longer contribute to the plant. The comparison I like to use when explaining this is that our crops' leaves are like solar panels, they are constantly collecting sunlight and converting it to energy. The greater the surface area of solar panels, the more energy we can create and in the case of a corn or a soybean plant, the more photosynthesis that can occur. As far as second pass fungicides, there are no greater products than Priaxor or Stratego YLD for your fields. Both of these products have their pros and their cons but overall what you are looking at with both fungicides is a product that has both curative properties and preventative properties. A byproduct of these fungicides is the "green up" effect they can cause and the reduction of environmental stress to your crops.



Foliar Fertilizers

Every off season we apply Dap and Potash as well as knife in anhydrous on our fields in order for us to maintain a good level of Nitrogen, Phosphorus, and Potassium in our soils. Often times we forget that our crops need more than just these three nutrients in order to make higher yields and we fall short on our micronutrient needs. Spreading dry fertilizer micronutrients can be expensive and often times inefficient but with foliar micronutrients, we are putting on small amounts of nutrients that the plant will take up through the foliage. At Chem Gro, we offer a range of micronutrient products to meet anybody's needs for their crops. This includes United Supplier's Symbol Release which includes a mixture of Sulfur, Boron, Manganese, Molybdenum, and Zinc in a form which is compatible with most of the pesticides we use today. Symbol Advance is yet another foliar product by United Suppliers which contains nitrogen, Potassium, Sulfur, Iron, and a biostimulant for increased nitrogen use efficiency. Like micronutrients, Nitrogen can be supplemented to the plant via foliar application in order for us to boost our crops yield potential. The most common product we will use for this purpose is a slow release nitrogen fertilizer either in a 28% nitrogen form which releases to the plant over time and a 25% Nitrogen form which has a quicker release period than our 28% form and contains a plant available form of Boron. This summer I will be looking to do tissue testing on fields throughout Hancock county Illinois searching for any areas where there might be a hidden hunger for micronutrients that we don't necessarily see but exists all the same. My goal is get as many farmers as I can to try sampling at least one field so we get a better picture of where we are falling short for nutrients in our fields and what we can do to correct these issues.

Biostimulants

The beauty of the modern era of farming is the merger of science and farming techniques that have been around for decades. Biostimulants are one of the products of this merger of science and technology and its usage is becoming more widespread throughout the agricultural industry. As proof of this you can look no further than Monsanto's TagTeam LCO seed treatment which has microbes

as well as an LCO signaling molecule in it. This molecule signals a plant's roots to grow as well as stimulates microbial growth around a plant's roots and is proof of the interest even larger corporations have in biostimulants. For a second pass, we offer Stoller USA's BioForge, which contains an antioxidant that helps to suppress stress hormones in the plant and help a plant kick through adverse conditions such as dry or cold spells. Toggle is yet another United Supplier product which is comprised of seaweed extract. The idea behind this product is that seaweed contains numerous sugars and organic compounds which can help reduce stress and stimulate plant growth. Going back to fungicides, the reduction in stress caused by Priaxor and Stratego YLD can be attributed to the biological effects of their disease preventative agent on the way your crops cycle nitrogen within the plant.

In the end, I just want everybody to start thinking about that second pass through their fields and what you plan to use. Remember, a small weed is a weak weed and is always going to be a lot easier to kill with our herbicides. While you are thinking about what you will be using to take care of weeds in your second pass also keep in mind that idea of overlapping residuals and try to think of ways you can use that to your advantage. Finally, I challenge each and every one of you to try one of these possible add on components to use on your second pass and see if you notice a difference. If science and technology have taught me anything it is that progress has never been made by doing the same thing over and over again, rather it comes from trying new approaches and constantly challenging what we believe is normal. Like always, my job is to give you the best advice possible, what you do with it is up to you.