



## **The Chem Gro Crop Watch, Issue #6, 12/11/14**

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**December:** Tis the season for reflecting upon what changes need to be made in your farming operation for next year, remembering that *Jesus is the reason for the season* (I have learned this catchy phrase before and am proud to repeat it); and time to decide on your herbicide chemical programs for those who want to prepay before the year end.

Within this Chem Gro Crop Watch I would like to focus on soybean herbicide recommendations and practices that can “make or break” a program. I feel like many of the gray hairs on my scalp that I have earned are not only from raising children, but from learning from the many accomplishments and mistakes that I have seen and taken part in around the country side. I will warn you that these lessons learned are very opinionated for this area in Western Hancock County, IL. Someone 50 miles away might have different experiences based upon weed control success/failures because of different herbicide resistant weeds in their area, and different cultural practices.

**Your first pass soybean herbicide is THE MOST IMPORTANT PASS!!!** Over the years, it seems that seed technology traits push the trends in chemical recommendations. Before the advent of the post emergence chemical revolution (Roundup and Liberty traits), the focus for corn and soybean herbicides was to use full rates of residuals to prevent weed emergence. The post emergence herbicides prior to RR and LL crops were very inconsistent in performance. The best solution to weed control at that time was prevention (high rates of residuals to prevent weed emergence). As RR and LL crops entered the market, the sales and marketing “push” promoted less residual usage in the first pass herbicide and relied on the excellent post emerge weed control with Roundup or Liberty.

As Murphy’s Law would have it, weed control has come full circle again. The post emergent weed control performance of Roundup and Liberty has become very inconsistent for various reasons: (resistant weeds, high chemical tolerant weeds, not using a high enough chemical rate, weeds too tall for good control, environment too hot and dry during spraying, spraying ahead of a rain shower.....did I miss anything???) Using high rates of residuals is now again our best approach to clean soybean fields.

It won’t be long. More soybean herbicide traits will be entering the market once they get domestic and export approvals. Dicamba resistance (Banvel/Clarity), 2-4D resistance, and HPDD inhibitors (Callisto, Balance) will be used to deal with hard to control weeds like waterhemp. If we treat these new soybean herbicide traits the same like we do Roundup Ready crops, we will fall in that same trap of making excuses why the herbicides are no longer effective as they used to be. The best solution is to use the recommended rates of residuals to eliminate as many weeds as possible before they come out of the ground. This will extend the life span of these new herbicide options.

As the saying goes....a picture is worth a thousand words. Below, both pictures were taken this year in Hancock County, and both fields custom applied herbicides by Chem Gro. The left picture is taken 70 days after the first residual application was made from one of our customers who is very open to new ideas when it comes to herbicide recommendations. This field, along with 7,000 + acres of soybeans from open minded customers whom Chem Gro helps manage had similar results. When the time came

for the 2<sup>nd</sup> herbicide application, we were scratching our heads whether to make the 2<sup>nd</sup> pass or not. It was that clean! Don't get me wrong, the outside 30' around the border of the fields where there is high weed pressure had weed escapes. But, the heart of the fields were amazingly clean!

The picture to the right, also managed by Chem Gro, obviously had different results. This customer is more resistant to change, and was limited to his way of thinking of how the timing of his herbicides should be applied. Ironically both pictures utilized a residual herbicide. So why the night and day differences?



- **Timing of residuals.** In my opinion, consistently the cleanest fields for waterhemp control is when the first pass residual is applied 1-3 weeks prior to soybean planting in cool soil temperatures. Waterhemp seeds don't seem to start germinating until soil temperatures are on the rise > 55 degrees F. Residuals work by killing the germination process of the weed seeds. Therefore, residual herbicides need to be applied prior to seed germination, **AND** activated by moisture (rain) to get it into the soil water solution to be taken in by the seed as it germinates.
  - The picture to the left was sprayed on April 17<sup>th</sup>. The soils were cool, but warming and received rain prior to planting 3 week latter.
  - The picture to the right was clean tilled with a field cultivator, planted, and then sprayed on June 20<sup>th</sup> with the attempt of a 1 pass approach with Roundup and residual tank mixed together. The waterhemp was emerged when the herbicide application was made, but the Roundup did not provide good control (poor environmental conditions that did not allow the Roundup to work effectively on the waterhemp, but was able to kill the easy to control weeds like grasses and cocklebur.)
    - Consistently, weed control failures that I see come from the logic “*that a clean field from tillage is a substitute for a residual herbicide*”. Yes, tillage can take that initial flush of germinating weeds out as long as the weeds are small, but it creates an ideal seed bed for the millions/billions of seeds that are in the ground to continue germinating after the tillage effect is done.
  - **50/50 chance residuals.** Fields that are sprayed with a residual a few days prior to planting to a few days after planting I give a 50/50 chance that you will be happy with the residual weed control. At this point, the soils are warm and weeds are starting to actively germinate. It now comes down to rainfall to make the residual work. If you get a ½ to 1” of rain within a few

days of your herbicide application, life will be good and weed control will be great. If you don't get rain for a week or longer after your herbicide application, you may feel like you are not getting your money value out of your herbicide. You will have weed escapes.

- **Layering residuals?** The last few years, the University of Illinois has taken the approach with soybean herbicides to apply two residual products at different timings (especially if your problem weed is Palmer Amaranth). The mind-set is to apply the first residual at your normal timing, and then wait roughly 21-30 days and apply a 2<sup>nd</sup> residual herbicide. This timing allows overlapping residual so that when the 1<sup>st</sup> pass begins to breakdown, then the 2<sup>nd</sup> pass can provide another 21-30 days-worth of residual control (which works great in theory). We have tried this layering-residuals approach at Chem Gro with varying rates of success.
  - **30% of the time** this works if you can get a sprayer available to get the job done and you get timely rains to make the residual work.
  - **70% of the time** I feel like this approach is unsuccessful in my area because of the timing that this needs to be done by. At my ag-retail location, we are 99% two pass application in corn. The 2<sup>nd</sup> pass application in corn coincides with the same timing with the 2<sup>nd</sup> pass residual in soybeans. When you get one of those gray hair making seasons when you need to spray corn but you can't (too windy, too wet, and the corn is at crotch level height (that is an unscientific but effective measurement tool) the corn must be sprayed before soybeans because nobody wants to use the most dreaded curse word ever created in ag-retail..... *DROP NOZZLES!!* The very thought of that makes my stomach turnover.

**Herbicide Residual Rates:** "Foundation rate", a term developed when RR corn and soybeans were introduced. This quantity of herbicide amounted to roughly 50% of the full labeled rate. This rate provided up to 3 weeks of residual control. Then, when the new flush of weeds reached about 2-4" tall the sequential application for the 2<sup>nd</sup> pass (Roundup) was to clean up all weeds and life was good. And life was good for about 10 years after that. But..... slowly and surely life became not as good for all of the reasons listed up in page 1 to the point where we are now at in weed control. We can now take that foundation rate term and throw it out the window. Been there...done that. Time to move on and make a change.

- **Multiple sites of action.** Today's key to success in preventative weed control is to use multiple herbicides with different sites of action to kill the same targeted weed. In layman's terms, this would be like taking a shotgun with birdshot and unloading 4 shells onto a waterhemp plant. Then, you take your 6" buck knife and chop that same waterhemp plant up into many small pieces. (I may have watched too many Saw movies). In the above left picture with the clean soybeans, we used 2 different herbicides with 2 different sites of action that provide excellent residual control against waterhemp.
- **Higher use rates.** Again, in the above left picture with the clean soybeans, the 2 herbicides we used were both at a 2/3 rate of the full labeled rate. This combination of higher use rates along with different sites of action created very clean fields and very happy Chem Gro customers. It was a very rewarding experience for me to hear the compliments from several long term customers!

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

Lonne