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# Newsletter

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## Nitrogen Stabilizers

As I mentioned in my last newsletter, I promised some comments on the use of Instinct or N-Serve nitrogen stabilizers after attending a seminar where research regarding these products was discussed. The research presented was specific to Instinct, however, being the same product I think some assumptions can be made.

First off let's discuss the actual differences between the products. The active ingredient in both products is nitropyrin; a bacteriacide. These products kill the soil bacteria that convert ammonium to nitrate. Nitropyrin by itself is quite volatile so in order to make it work on urea, the manufacturer encapsulated the active ingredient in N-Serve. That product is called Instinct.

The Instinct project that was done was with swine manure. They treated on manure source for application in early October and left one untreated for application in early November when soil temperatures were closer to 50 degrees. What was found, I think, was no surprise. After sampling for ammonium nitrogen in the treated manure source, a larger percentage of the total nitrogen was kept in the ammonium form six weeks after treatment. This is what these products do and they do it quite well. However, after 5 years of testing swine manure in this fashion, only one year was there any yield increase and that was in the wet spring of 2011.

What significance does this have? Well, I guess it depends on perspective. One can argue that the products work just as they are advertised, but you need to understand the set of circumstances that are required for you to get a return out of them. If nitrogen is in sufficient quantities, regardless of its form, there will be no yield advantage. It is only when nitrogen would potentially go limiting that using a stabilizer may make a difference. Also, for researchers to study a product, they need to have conditions that will allow the product to act. These are conditions that you will not allow in your fields. For example, if they want to know if N stabilizer will increase yields, they need to force the situation where nitrogen for optimum yield will be limited in the control and the treated sources. That way they know what the increased yield was influenced by.

## Nitrogen Stabilizers... continued

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*"Success has a simple formula. Do your best and people may like it"*

-Sam Ewing

That being said, there are good reasons to use these products:

Environmentally, no matter what level of nitrogen is in the soil, keeping as much in the ammonium form is good.

For those of you that have to apply manure earlier than you would like, using Instinct can

be of benefit.

Also, if you have fields, or portions of fields that are predisposed to N loss (sandy soils, poorly drained low areas) using them can increase your odds of keeping the N you applied. This is probably the best use of the products vs. a total

broadcast application.

Keep this in mind as you hear about the benefits of Instinct and N-Serve. If not already, I'm sure you will hear about the one year that a benefit was seen.

## Glyphosate Weed Resistance

You have probably all heard of the major weed resistance problems that they are having in the Missouri, Kentucky, Tennessee areas. These folks have been in the epicenter of Glyphosate resistance.

The same conference that I was at two weeks ago had a discussion from one of the weed specialists from Tennessee. His talk was truly a horror story.

Their weeds have developed resistance to multiple chemistries and they are literally destroying fields with tillage because they cannot control the weeds.

This will happen here!!! We have confirmed giant ragweed and water hemp resistance locally. There is also a new case of resistance to the Callisto chemistry (in Nebraska).

The reason for the increase of resistance is the use of single modes of action to control weeds, whether the chemistry is glyphosate or not. In the Tennessee area, after glyphosate became ineffective, the growers there still used only one chemistry to fight weeds and soon that one was overwhelmed.

Think dicamba resistant crops are the answer? Not if it is the only

herbicide used.

In Tennessee, they went from where we are now, just recognizing that resistance is there, to uncontrollable, with water hemp.

You will hear this again: Use multiple modes of action, not just higher rates.

## Refuge in the Bag

Since I am on a resistance kick, I will give you my opinion on the effectiveness of the Refuge in the Bag concept.

In short, this is the best way to expedite the development of rootworm resistance to the CRW traits.

This is why...

RIB is possible because there are two modes of action for rootworms in

each bag of corn. Because of the multiple modes of action, the refuge requirement is reduced.

The problem begins with the fact that the CRW trait is not as effective to begin with as the other traits; the original 20% refuge was too little and there are already some resistance/tolerance issues developing.

Once those genes are stacked together and one of them is not as effective, there is only one mode of action left,

with a reduced refuge. What a way to ruin a product.

I give it a life span of three years.