



### Corn Rootworm Pressure in Northern IL

Throughout Northern Illinois Corn Rootworm pressure has been high. This is a result of high populations in previous years, and an advantageous fall 2020 and spring 2021 for egg laying and hatching. Because populations are so high, we are seeing damaged roots and lodged plants, even in triple stacked corn. This is common across all brands. More corn is down where wind events have happened; however, we are seeing lodged plants even where there were no wind events.

Without managing this high pressure, we will see further damage in the future and possibly resistance to our Bt rootworm traits. Luckily, we have seen some best management practices already working. If you are worried about corn rootworm pressure on your farm, there are several simple ways to manage it.

1. Put out corn rootworm traps- If you haven't seen much damage yet, it is a good to have traps out. This gives you an idea where populations are at.
2. Rotate Crops- This is the best management practice when pressure is very high. Controlling volunteer corn in these situations is important.
3. Insecticide – Soil applied insecticide has great efficacy against corn rootworm larvae (the root feeders), and aerial applied insecticide works well against corn rootworm beetles (the silk-clippers). Even if you plan to rotate to another crop, in a high-pressure situation, it is still a good idea to control the beetles to decrease the number of eggs laid for the following year.

You may be wondering why there is such high pressure when a lot of corn that is planted in Northern Illinois is triple stacked. Herculex is the Bt trait that carries the most of the efficacy against corn

rootworm larvae underground. When the larvae eat the root, and digest the Herculex trait (Bt protein Cry34AB1/Cry35AB1), they die. This trait is found in most triple stacked corn (across all brands--Corteva & Bayer). This is the trait we need to protect. Corteva & Bayer products both have two underground modes of action, and Qrome products do differ from Smartstax Pro products in the second mode of action in below ground protection. However, the Herculex trait (in both products brands) is carrying most of the efficacy in both products. The other modes of action help to manage resistance to the Herculex trait. To ensure we will be able to continue relying on this trait so heavily, other best management practices need to be applied (monitoring pressure, rotating, and using soil and aerial applied insecticide).

Bayer is bringing another mode of action to the table in their Smartstax PRO line-up. This is RNAi (it is not a protein like Bt traits). This is a very slow acting mode of action (5-12 days for larvae to die once they ingest it). Corteva is studying this and other modes of action for future development.

Below you can see a table comparing the traits in Qrome & Smartstax Pro products. The Herculex trait is Cry34AB1/Cry35AB1. To better understand the traits in the table & what they do, google the "Handy Bt Trait Table".

Trait Category	Qrome® products		SmartStax® PRO technology	
	Event	Protein/Enzyme	Event	Protein/RNAi/Enzyme
<b>Below-ground</b>	DP4114	Cry34Ab1/Cry35Ab1 (Bt)	DAS-59122-7	Cry34Ab1/Cry35Ab1 (Bt)
	MIR604	mCry3A (Bt)	MON87411	Cry3Bb1 (Bt) DvSnf7 dsRNA (RNAi)
<b>Above-ground</b>	DP4114	Cry1F (Bt)	TC1507	Cry1F (Bt)
	MON810	Cry1Ab (Bt)	MON89034	Cry1A.105 (Bt) Cry2Ab2 (Bt)
<b>Herbicide tolerance</b>	DP4114	Glufosinate (PAT)	DAS-59122-7 TC1507	Glufosinate (PAT)
	NK603	Glyphosate (EPSPS)	MON87411	Glyphosate (EPSPS)

Qrome carries the same traits that AMXT products carried; However they are inserted into the genetics of the corn plant with a different method. This allows the traits to work more efficiently in the plant and it makes the traits more compatible with different genetics, giving Corteva a larger germplasm pool to work with. This brings better yield and agronomics to the table. Over the past 2 years, Qrome products have shown a 7.7 bushel yield advantage over competitive products.

## Enlist E3 Soybeans – The Future of Soybean Traits

In 2022, we will have some new Enlist E3 genetics to offer. We are looking forward to having some of our A series soybeans with the Enlist E3 traits. The production of new soybeans products in the next 2-4 years is going to be large. This means quick improvements to agronomics and a lot of new soybean varieties coming for our area. Remember, Enlist E3 soybeans are resistant to RoundUp (Glyphosate), Liberty (Glufosinate), and Enlist (2,4-D Choline). Xtend Flex soybeans are resistant to RoundUp (Glyphosate), Liberty (Glufosinate), and dicamba.

## NISS is Offering Small Seeds

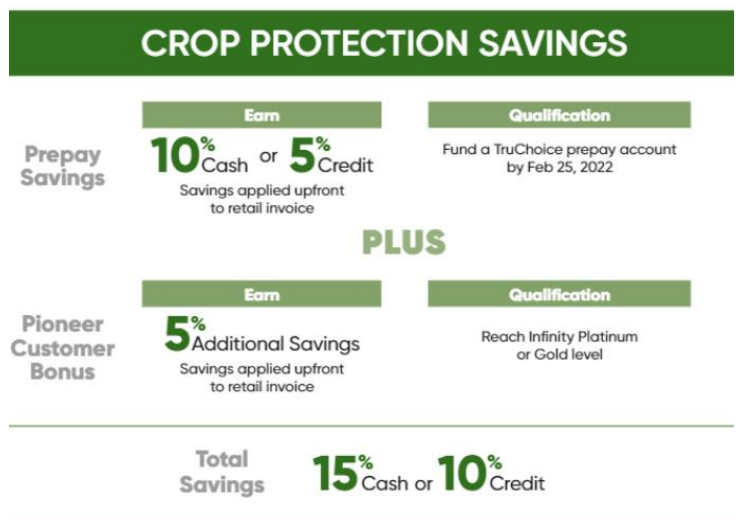
Northern Illinois Seed and Service has a supply of small-seeds through Midwest Grass & Forage. Please reach out to Shannon if you are interested.

- Waterway Mix
- Cover Crops
  - Oats
  - Turnips
  - Annual Ryegrass
  - Radishes

## Upcoming Events & Deadlines

- September 2 – Annual Customer Appreciation Dinner
- TBA (end of sept) – Crop Shop & Organic Crop Shop
- October 29 – Early Invoice Discount Deadline (no \$)
- December 8 – Early Pay Discount Deadline
- February 25 – Deadline to Fund TruChoice Account

## 2022 TruChoice Offer



1. **INVOICE** and pay for Pioneer brand products with your local Pioneer sales rep by **Jan 14, 2022**
2. **FUND** your crop protection prepay account with your Pioneer Sales rep with a minimum of \$5,000 by **Feb 25, 2022**
3. **EARN** savings on Corteva Agriscience crop protection products  
**PREPAY SAVINGS**  
**PIONEER CUSTOMER BONUS**
4. **SPEND** from your prepay account on more than 100 proven crop protection products from Corteva Agriscience at participating retailers **before Sept 30, 2022**