

Issue 3 Volume 5

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Chris Beyer  
New Richland Area Field Marketer

## Why is Sulfur Important to us?

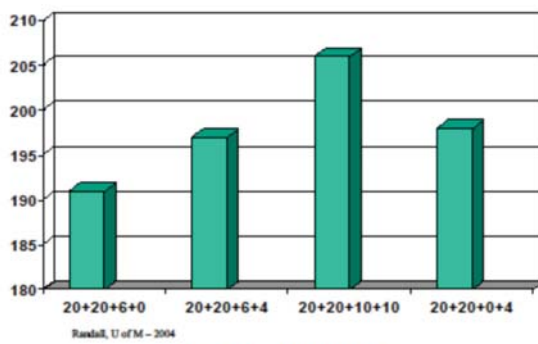
This summer there were quite a few questions regarding corn fields with yellow pockets like those shown in the picture below. These pockets developed in both corn following soybeans, as well as corn on corn. Let's take a look at some of the reasons why this scenario showed up this summer, how to detect and diagnose it, and some of the options you can choose to alleviate these symptoms from showing up next year.

Although we often think of nitrogen shortage when we see yellowing in our corn fields, this summer we saw lots of fields with sulfur deficiencies across southern Minnesota. The picture above is fairly typical of what you might see from the road. Frequently sulfur deficiencies will follow soil types, or soil organic matter changes, as mineralization rates change accordingly.

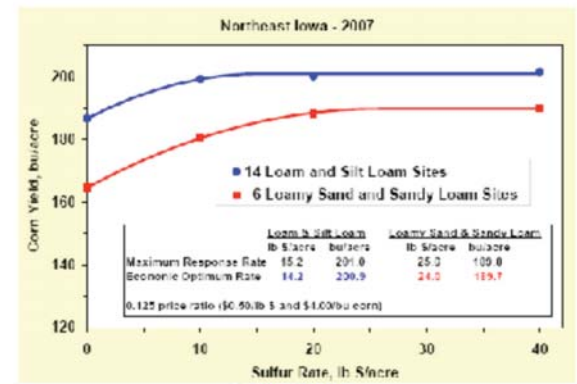
Included in this newsletter is some information for you to review to learn more about sulfur and become aware of the possible benefits and product choices you have. Sulfur use is fairly popular, but identifying need, rate, and timing are very important factors to consider.



Above and right: Sulfur Deficiency at 2 different stages



Sulfur Study - U of M



Sulfur Study  
Source: John Sawyer, ISU

Questions or comments regarding The WFS Agronomic Analyst can be forwarded to:

WFS  
233 W. Ciro Street  
Truman, MN 56088  
507-776-2831  
F 507-776-2871  
wfsinfo@wfsag.com  
www.wfsag.com

## MISSION STATEMENT

Continually work to grow member value and cooperative strength.

### Here are some of the common questions we are receiving:

#### Why is Sulfur important to us?

Sulfur is important in order to obtain a high yielding crop. Sulfur (S) is used by plants to produce proteins, enzymes, vitamins, and chlorophyll. It is also needed for seed formation. Sulfur is important in the development of nodules for nitrogen fixation in legumes. Sulfur is taken up by plants from the soil solution as sulfate (SO<sub>4</sub><sup>-2</sup>). Sulfur is an immobile nutrient in plants and not readily removed from older plant tissue and transported to new growth. Therefore, sulfur deficiency symptoms (chlorosis, yellowing, and stunting) are expressed in the new growth, which is generally at the top of a plant. In small corn plants, mild sulfur deficiency symptoms show up as interveinal chlorosis in the young leaves emerging from the center of the corn whorl. Sulfur deficiency is often mistaken for nitrogen deficiency. However, nitrogen is mobile within the plant and chlorosis will first be evident in the old growth (lower leaves). Sulfur has an uptake relationship with Nitrogen and we saw on tissue tests this summer as sulfur was a limiting factor it limited the uptake of Nitrogen.

#### Why did we see sulfur deficiency more this summer than in the past?

Sulfur deficiency is becoming more common since smokestack scrubbers have lowered sulfur air pollution. This in turn has lowered the amount of sulfur reaching fields in forms of precipitation (acid rain). Sulfur deficiency is now frequently seen in corn fields, especially during cold, wet springs. As the ground warms, organic matter breaks down, releasing Sulfur. As roots get larger, they can explore a greater area for Sulfur causing sulfur deficiency symptoms to frequently disappear. This year we had cool and dry weather which also causes slow organic matter breakdown. We see early uptake important in corn.

#### How can I predict if I need sulfur?

Crops planted on low organic matter, sandy or eroded soils are most likely to respond to sulfur, especially when soil test sulfur is low. Sulfur soil tests give you an idea of sulfate-sulfur in the soil test depth at the time the sample is taken.

Sulfate (SO<sub>4</sub><sup>-2</sup>) is an anion so it is subject to leaching just like nitrate-nitrogen. Like nitrates, it can be leached out of the rooting zone, especially on sands. You can tissue test for it during the growing season but you have limited correction options at that point. Other high response areas we have seen are corn on corn acres and no-till. Looking at our soil test summaries on sulfur from last summer, over half of the samples are coming back very low or low.

**What has research shown in terms of yield response?**

Included above are yield trials from the University of Minnesota and Iowa State University on sulfur response. Looking at the U of M data you can see a nice response from applied sulfur up to 10 pounds. Looking at the ISU data you can see the response from sulfur on both coarse textured soils (on the red graph) and the same kind of response curve to fine textured soils (on the blue graph) up to 20 pounds. On corn, 20 pounds per acre is the most common rate. At WFS we have seen the same kind of yield results locally in our own testing.

**What choices do I have if I want to use Sulfur in my fertilizer program?**

At WFS, we handle three common forms of sulfur and each have a different application fit depending on when you apply your fertilizer and how you are set up to apply it. Ammonium Sulfate and Elemental Sulfur are our most popular sources of sulfur. Talk to your Field Marketer about which product fits your operation best as each of them has different advantages and management characteristics. Typical application rates of sulfur are 10 - 30 pounds of sulfur per year depending on the crop grown, soil test results, organic matter, sulfur source, field history, etc. Manure is also a good source of sulfur. Manure samples should be tested and application rates calculated so proper sulfur (and other nutrient) credits are taken.

Having an adequate amount of available sulfur in the soil solution is critical to maximizing yield and quality (especially protein content) in crops.



Ask us what is the difference between the ears on left versus the right? Hint: It's the same variety, with the same nitrogen rate, on the same soil type.

# Premier Crop

## Introducing Ndex™

**Introducing Ndex™** - a new Premier Crop attribute – a new “layer” in the Premier Crop database. Ndex™ is the measure of efficiency that we have been looking for: yield divided by #N/bu. Ndex™ is a measurement of productivity (yield) and efficiency (#N/bu).

**The higher the Ndex™ the better!**

Because soil-supplied N is so significant in many areas, Ndex™ provides a benchmark that recognizes there are dramatic differences between regions, parts of states, between fields and even within fields. No more one-size-fits-all N management standards.

**What does Ndex™ look like in 2010?** The top table is a flat rate nitrogen field in northern Indiana.

Dry Yield Range	Avg Yield	Avg N	Avg P	Avg K	Avg Lime	# N/Bu	Ndex™	Acres
169 - 192	186	188	49	95	1372	1.01	184	3.0
192 - 205	200	188	55	95	1348	0.94	213	6.0
205 - 214	210	188	55	94	1435	0.89	235	6.0
214 - 223	219	189	49	98	1500	0.86	255	6.0
223 - 230	227	188	57	94	1600	0.83	274	6.0
230 - 252	237	188	61	92	1915	0.80	298	3.3
<b>Entire Field</b>	<b>213</b>	<b>188</b>	<b>54</b>	<b>95</b>	<b>1500</b>	<b>0.89</b>	<b>242</b>	<b>30.2</b>

The second table is a manured field – an example of high yields but less efficient N use.

Dry Yield Range	Avg Yield	Avg N	Avg P	Avg K	Avg Lime	# N/Bu	Ndex™	Acres
178 - 201	198	281	147	249	0	1.42	139	7.5
201 - 209	206	281	149	251	0	1.36	152	15.1
209 - 214	212	282	152	263	0	1.33	159	15.1
214 - 217	216	282	152	257	0	1.30	166	15.1
217 - 221	219	281	151	246	0	1.28	171	15.1
221 - 237	225	282	151	240	0	1.25	179	7.8
<b>Entire Field</b>	<b>212</b>	<b>281</b>	<b>150</b>	<b>252</b>	<b>0</b>	<b>1.33</b>	<b>161</b>	<b>75.6</b>

The third table is a northern Iowa field using Premier Crop variable rate nitrogen split-applied recommendation.

**Why should every grower care about their Ndex™?** The first reason to care about your Ndex™ is profit. The higher the Ndex™, the higher the profit. But beyond profits, growers and advisors need to understand that our modern crop production system is on a collision course with the non-farming public that is more removed from farming with each generation. Many outside of agriculture associate high yield crop production with being environmentally reckless. During our 12 years, Premier Crop has been leading our customers to use their agronomic data to make better decisions, producing higher yields as efficiently as possible. We believe in and promote integrated approaches to modern crop production. Ndex™ will help all of us tell our story!

**Ndex™ is part of the answer to avoiding the collision.** One collision is hypoxia - the dead zone in the Gulf – created when decaying plant growth (fed by nutrient-rich water) starves the water of oxygen. The Upper Mississippi Basin is being targeted but in our opinion, there are many in government and elsewhere promoting incredibly simplistic and flawed approaches to nitrogen management that ultimately will needlessly sacrifice our productivity and competitiveness.

“Average is the Enemy” – is the title of one of my new presentations.

Dry Yield Range	Avg Yield	Avg N	Avg P	Avg K	Avg Lime	# N/Bu	Ndex™	Acres
185 - 206	203	145	36	101	0	0.72	287	18.8
206 - 211	209	144	45	108	0	0.69	307	37.7
211 - 214	213	149	51	132	0	0.70	307	37.6
214 - 218	216	154	53	144	0	0.71	307	37.7
218 - 222	220	161	65	158	0	0.73	303	37.6
222 - 244	226	161	55	148	0	0.71	321	19.0
<b>Entire Field</b>	<b>215</b>	<b>152</b>	<b>52</b>	<b>133</b>	<b>0</b>	<b>0.71</b>	<b>306</b>	<b>188.3</b>



Andrew Wolff  
Seed Sales Assistant

# Protecting Your Investment with Seed Treatments

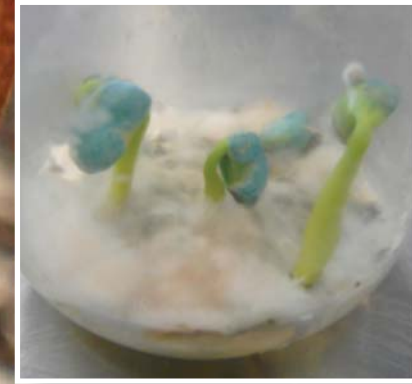
Soybean seed treatments have continued to play a major role in the soybean industry. Have you protected your investment and reaped the benefits of having your soybeans treated? With high cash and future commodity prices soybean seed treatments should not be overlooked. There are a vast number of benefits that soybean seed treatments offer to an operation. Planting populations have been talked about in the industry for a long time. Research has shown that 100 percent yield potential can be achieved while lowering planting population rates if seed treatment is used.

Research has shown that 140K to 150K plant population is optimal for reaching that soybean yield potential of 100 percent. Some producers may be hesitant to lower their plant population in fear of losing plants while the germination process is occurring. With the use of seed treatments you are able to protect the seedling from disease, therefore protecting your investment. Compiled yield data shows that seed treatments have an average yield increase of 3.2 bushels. When treating with CruiserMaxx (fungicide for soybeans) and Primo (innoculant for soybeans) the return on investment needs to be only one bushel to justify the cost.

Shown at the right are pictures from an independent study that compares the effectiveness of treated soybeans as compared to untreated soybeans. The seed treatment that was used to treat these soybeans was CruiserMaxx® for beans. Both jars were inoculated with soybean plant residue taken from a field that had a history of soybean disease. The seed treatment allowed the soybean seed to germinate and emerge while the untreated soybeans struggled to germinate over the exact same time frame and growing conditions.

Seed treatments allow soybean seedlings to stay healthy in unfavorable soil conditions. Seed treatments have allowed us to effectively plant soybeans immediately after finishing corn planting even if the calendar date, soil conditions and weather forecast says it is a bit early. Seed treatments provide the confidence that even if the weather conditions turn for the worse the soybean seed in the ground will have the ability to germinate and emerge because it is protected. In the heavy, clay soil types that we have throughout southern Minnesota, soil conditions play a major role for soil borne diseases and can greatly affect optimal growing condition.

In the agriculture industry, seedcorn comes standard with a seed treatment directly from the supplier. Why then would we not put a seed treatment on soybeans? The benefit is the same. Using a soybean seed treatment protects our investment and maximizes yields. Some of the new changes that have occurred with the new RR2 event are that the ag industry has shifted the packaging of soybeans to 140,000 seed count per unit. It is very crucial to protect that soybean seed to make sure each seed reaches its full potential. Our recommendation is that 1 bag per acre be planted as long as the seed is going to be treated. You can still achieve 100 percent yield potential at this population. When a seed treatment is used you are then able to plant early, right after corn, if conditions are fit. Your seed placement is controlled and "gaps" are avoided, which rob yield. Emergence will be even, your seed will be protected if growing conditions turn poor, and each of your plants is given a healthy start to the growing season.



Jon Barrett  
Welcome/Dolliver Area  
Field Marketer

## CoRoN®: An Excellent supplement or replacement for a conventional nitrogen plan

CoRoN is a highly effective foliar nitrogen that provides plants with a consistent supply of nitrogen over a period of several weeks. As a technologically advanced form of nitrogen, CoRoN has a 5 to 1 nitrogen efficiency over 32 percent Nitrogen. It takes far less volume of CoRoN to achieve nitrogen equivalency from a standard nitrogen source.

I have had several customers that started out by trying just a little and now use it as part of their nitrogen program. I had one grower that sold his 32 percent side-dress machine after two years of side by side comparisons. When he used CoRoN with his glyphosate application he saved a trip across the field and saw equal or better yields. The rates are 3 gallons per acre for corn on corn and 2 gallons per acre for corn on soybeans. The maximum you can use is 5 gallons per acre. The crop safety is excellent. At the 3 gallon rate the only leaf browning is on the ends where it may get doubled up.

With all the nutrient regulations coming down the pipeline this product could become a big part of nitrogen efficiency plans in the future.

We saw nitrogen loss in a lot of fields last summer with all the rainfall. The fields that had a CoRoN application at the correct V5-V6 growth stage stayed green longer.

If you have questions about this product, please contact your local WFS Field Marketer.

### Highlights of CoRoN:

1. Highly efficient source of nitrogen fertilizer.
2. Rapid and uniform movement of nitrogen into plant.
3. Works well with Round-up Ready and Liberty Link acres.
4. Slow release of nitrogen into plant system for 3 - 4 weeks.
5. Provides 5 to 1 efficiency ratio over standard nitrogen.
6. Excellent replacement for other forms at different time.
7. Compatible with most herbicides, insecticides and fungicides.

That is a summary of the technical side of this product.

Now I am going to touch on my five years of working with this product and the lessons I have learned. This product works great if it is used as part of a total nitrogen plan. Put the bulk of your nitrogen needs on with either fall NH3 application or spring 32 percent nitrogen, but save room for the CoRoN to put on with your glyphosate application. That is the beauty of this system; you are taking your nitrogen supplement along for a free ride while spraying your corn. An added side benefit is that the spray seems to do a better job killing weeds when CoRoN is added, as it improves the uptake of the glyphosate. Yes, you still need to add AMS to the mixture even with CoRoN.



# Minnesota Answer Plot Observations



Todd McRoberts  
Regional Product Manager - MN/SD  
Winfield Solutions  
Croplan Genetics - Corn/Soybeans

Conditions across Minnesota varied as far as planting dates, amount of rain, temperatures, and yield potential. We started in early April with planting and progressed throughout the summer with some of the highest yield potential goals ever experienced. The summer brought significant amounts of rain to southern parts of Minnesota, which caused many areas to flood and caused significant water damage to many fields and structures throughout the state. Rain was abundant in many areas, causing nutrients to push deeper into and through our soil profiles. Additionally, this caused the high yield potential to be diminished.

Some of the hybrids exhibited significant tip back and zipper ear syndrome, which could have been caused by shortages of nitrogen at pollination or later throughout the grain fill period from mid July to late August. Southern areas of Minnesota also experienced diseases and insects that haven't been commonly observed in past years. Two diseases that stood out were Goss's Wilt in corn and Sudden Death Syndrome in soybeans. This was also the highest infestation of corn earworms throughout the state that has been observed in years. In a few of the Answer Plots in southern Minnesota, Western Bean Cutworm was also identified in some of the hybrid trials as we scouted throughout the summer.

The fall was very conducive to harvest as the frost date was not reached until about October 5. This was one of the warmest years on record and accumulation of growing degree units far exceeded the fall of 2009. This was right on track with the 5-year average throughout the state allowing harvest to start in early September and continue throughout October without any major weather occurrences to slow down harvest. Corn moistures throughout the state were very low as the grain was harvested throughout many areas. Late August rains provided significantly good pod fill in soybeans from the R4-R6 stage, which was very evident in the yield that were experienced in soybean fields this fall. Minnesota's soybean yields were as high as or higher than yields experienced throughout the past five years. Also in soybeans, with the higher amounts of rain experienced throughout the summer, the levels of Iron Chlorosis were masked and recovery of many of the varieties was very good in the high alkali soils where the iron was tied up.

**Truman** – This site was planted in early May. Conditions at this site are very conducive to effects of iron chlorosis in soybeans. Varieties in late May and early June showed significant effects of the chlorosis. As this site experienced continuous rainfall throughout the summer the recovery of some of the varieties was very good. A drought tent for corn was also positioned at this site. A noticeable difference was observed in genetics of two specific hybrids on the response to water in different genetic backgrounds within the plot. Western bean cutworm was identified here and significant corn earworm pressure was observed at this site. Soil organic matters here are very high with it being a clay loam structure. Significant nitrogen response was observed at this site throughout the summer. Tip back of ears and the zipper look due to lack of fertility was observed within this location on certain hybrids. Sudden Death Syndrome was identified in soybeans within the geography of this site in early planted soybeans also, along with the identification of Goss's wilt in corn in this geography.

**Hayfield** – This site was planted on the April 19. The growing season at this site was very favorable to high yields. Goss's Wilt was identified in corn at this site in certain hybrids. A wind event in mid June caused certain hybrids to gooseneck. A noticeable difference in hybrids was observed in the root structure of the SmartStax genetics to the conventional Roundup Ready genetics in these plots. The insect treated hybrids were significantly better on rooting structure throughout these plots. Very high yields in corn and soybeans were realized at this location. Corn Earworm pressures were also noticeable at this location.

**Henderson** - This location has some of the best water holding capacity of all the sites within the state. Organic matters are very high here with a deep silt loam soil profile. This site overall had some of the best grain fill of all sites in Minnesota in all hybrids that were observed from early maturity to late maturity. A wind event in late June caused some goose necking of corn within this site. The SmartStax technology showed very good resistance to the wind here as it did not lodge as compared to other technologies within this site. No significant disease in corn or soybeans was evident at this site. Late season rains provided extremely good pod fill in soybeans from R4-R6 stages of growth. RR2Y soybeans showed significantly bigger plant structures than their RR1 counterparts in the 2.0 maturity range.



## SmartStax® is the Future

Helping Customers Understand the Value



Roots of SmartStax® corn plant (left) versus conventional corn hybrid (right) demonstrating superior insect protection

### **SmartStax® WON'T:**

- Increase yield potential
- Guarantee 200 bushel field averages
- Make up for poor management decisions
- Make up for unfavorable growing conditions
- Eliminate all risk associated with farming

### **SmartStax® WILL:**

- Protect yield potential
- Provide better insect protection than VT3 and HXX products
- Provide the broadest spectrum of insect protection of any trait package
- Provide multiple modes of action

# What is the Value of Traits, Genetics and Placement



Shane Freese  
WFS Seed Manager

For the last couple summers we have featured a "Stress Tent" at our Truman Answer Plot. The purpose of the stress tent has been to simulate drought like conditions or stresses within an environment and showcase the importance of genetic selection as well as trait package protection. The hybrids tested within the stress block also compare different genetic backgrounds with different trait packages.

## 2009

In the summer of 2009 when the stress tent was erected (June) our rainfall amounts were plentiful to the point where we had almost a full soil profile of water (moisture probes were placed within and outside of the stress tent to monitor ground moistures during the growing season). Keep in mind that we have very heavy soils present throughout the area, as well as the Truman Answer Plot, that can hold as much water as 2 inches per foot. Throughout the summer we continued to receive ample rainfall, and if you recall, it was one of the coolest summers on record. These cool temps and ample moisture conditions would have led us to believe that our response or differences to our simulated stress would be very minimal if any at all. With that being said, when the corn was evaluated during pollination and ear fill the results were not only surprising but quite compelling. There were significant differences between the genetics, as well as the trait packages reiterating the fact of not only how important it is to have the right trait package, but also to have the right genetics placed in the right environment. Our findings from 2009 were that when the right genetics were placed in the right environment with the full trait package we achieved optimal ear fill. The best being at the 36,000 population (planting populations of 24K, 30K, 36K, and 42K were compared in the study). Hybrids placed in the stress environment with the right genetics and full trait package excelled the best as well.

Basically implementing just a couple of the R7 placement strategies like we have spoken about so many times at the Answer Plot.

## 2010

Well, we thought that we would set up the stress tent again for a second year for the summer of 2010 to see if the same results from 2009 could be achieved. To conduct the study again for a second year was very important to us, not only from a data and visual standpoint, but with the conditions in 2009 being so favorable previous to and during the stress tent simulation and the outcome of our results showing such a dramatic difference, we wanted to make sure that the visual results and data could again be duplicated. In addition, if the weather ended up being more stressful from a moisture standpoint those results would be seen in our simulated "stress" area under the tent and the results should be more favorable.

What were our 2010 season results? To set it up, we again received ample rainfall right up until we put up the stress tent in June. The soil profile was full and the hybrids outside the tent, as well as underneath the tent, were not put under any moisture stress just like in 2009, but as the growing season went on we did receive much more heat than that of a year ago (conditions were again monitored with moisture probes throughout the growing season). We again compared each of the hybrids under and outside of the stress tent and also compared each of the genetics backgrounds with different trait packages under different populations. We focused in on two hybrids, each being a 100-day hybrid with the exact same female, but with different males. One of the males being a N x E on the hybrid Croplan Genetics 421. This male inbred line does better in higher moisture environments and has a more penetrating root for those heavy clay soils. The other male line on hybrid Croplan Genetics 4421 being a N x W can handle lighter soils that are more moisture limiting because of its Western influence and excels in more well drained soils because it has a more fibrous root. However, it can be challenged if placed on the sticky, wet type of clays. Our findings of the two hybrid/inbred line comparisons are as follows: The hybrid Croplan Genetics 4421 that carried the Western influence on the male tolerated the simulated drought like conditions the

best and improved when a full trait package was added to the hybrid when either inside or outside of stress tent area. The Croplan Genetics hybrid 421 that lacked the Western influence tolerated the simulated drought like conditions the worst but when combined with a full trait package the Croplan Genetics 421 was able to tolerate the drought like conditions the best and like the Croplan Genetics 4421 the hybrid performance was improved when outside of the tent as well where there was less stress. Outside of the tent where there was less stress optimal ear fill was achieved at the 42K plant population on each of the hybrids that had full trait packages.

The takeaway: Hybrids that have a full trait package have the best chance of achieving the highest yield potential when used in combination with the right genetics and placed in the right environment. The genetics of a hybrid and being familiar with the genetic background of a hybrid as well as the placement of a hybrid brings as much value to the hybrid if not more value than the full trait package itself. A hybrids performance can be compromised if placed in the wrong environment even with a full trait package. The same can happen if a hybrid is placed correctly and is lacking the traits. Traits can cover up a lot of stresses and improve the performance of a hybrid greatly but optimal yield potential still cannot be realized if genetic selection is incorrect or not known. To achieve optimal performance the right trait package, with the right genetics, placed in the right environment and practicing a few of the R7 strategies is a great start and an optimal way to achieve the highest yield potential for that particular hybrid that in growing environment.

## 2011

For this upcoming 2011 growing season we will again be putting up a "stress tent" at the Truman Answer Plot and will continue to evaluate hybrids in that environment as well as many other things that we are working on that the Truman Answer Plot and pass on to you what we learn so that you too can implement some of the R7 strategies and reach optimal production on your farm.

See you this summer!

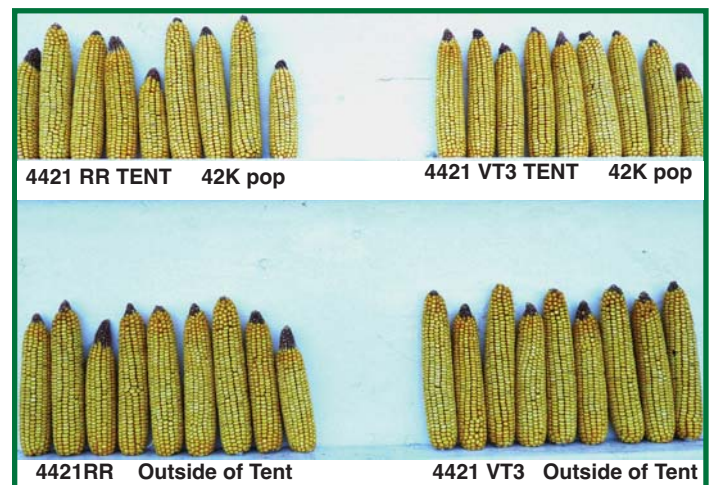
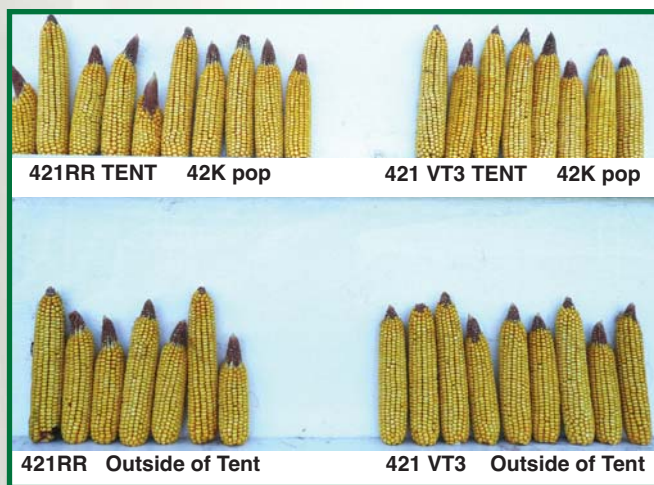
**ANSWER PLOT**  
AgQuest | Croplan

**R7™ Placement Strategy**

R7™

- The Right Genetics for
- The Right Soil Type at
- The Right Plant Population in
- The Right Cropping System with
- The Right Traits fed
- The Right Plant Nutrition defended with
- The Right Crop Protection

WINFIELD



Mark Karlsrud  
507-621-0614



Dean Olsen  
507-327-9114

## Financing the way you Farm

AgQuest Financial services is Working for Farmers' Success by offering products and services that complement the natural cycle of Agriculture. We offer loan products that are tied to a crop year NOT some point on the calendar. We have the experience and processes to help producers understand where they are in relation to a crop that supports the repayment of the loan. Our ability to loan into a crop year helps us separate expenses for a crop by specific loan package. This approach to multi-year financing could provide loans that represent three crop years to an individual or business.

An example would be: a producer has 1200 acres. We currently have an operating loan for the 2010 crop year. The producer has sold some grain right out of the field; the rest has been forward contracted for July 2011. Our producer would like to carry an inventory loan until July 2011 to repay his 2010 operating loan. Once the analysis has been done using post harvest and year-end numbers we can extend the inventory loan AND establish funds for his 2011 operating loan. In addition, we can "open" up a loan for retailer purchases only for the 2012 crop year. This

financing program offers the producer the opportunity to lock-in pricing when it becomes available for goods and services related to a specific crop year. As a producer you can easily track "where you are" in relation to a specific crop year.

We have all witnessed the earlier start to pricing for the next crop year; soon we will be able to lock-in inputs for more than one year. We can already set prices for grain that has not been planted; soon we will be able to lock inputs for those "out" years. Making a margin is our business! Having the tools to take the action necessary to take margins when they are available is what AgQuest brings to our relationship through WFS.

Please contact your Field Marketer or a WFS representative so we can review this Finance like you Farm program. We are a full service Agricultural lender, our products include; operating loans, equipment loans, crop insurance, property and casualty insurance, real estate loans and leasing programs.

Wishing you a prosperous year in 2011!

Premier Crop continued from Introducing Ndex™

Real solutions to managing nitrogen as efficiently as possible mandate that we move away from using “averages” and move toward solutions that match the complexity of the biological organic nitrogen system. If we are going to continue to produce higher yields, more nitrogen will be required. And while we know that in the Midwest a significant portion (up to 70%) of the nitrogen that grows our crop is soil-supplied, simply reducing applied N rates to a statewide or even a regional “average” rate will limit our productivity. Why does that matter? There is no place in the world that is blessed with our resources. We are rainfed, which means we aren’t competing for water – rather we’re working to slow excess water and its runoff. We have the very best soils; soils that much of the world craves. Limiting the Upper Mississippi River basin’s productivity by applying answers based on “averages” while the world ramps up crop production in water-starved, ecologically-vulnerable geographies makes no sense. But we have to prove to an ever more skeptical public that we are responsible. We have to prove that we can produce high yields and still be environmentally responsible. Can we squeeze more bushels out of the nitrogen we do apply?

**Ndex™ uses** – Because Ndex™ is a number, we can map it at the field level. We can use it as a benchmark – to measure our successes and failures within a field, between fields and across a grower’s operation, or use it as a benchmark within a geographic area. While we want our Ndex™ to be as high as possible, some part of the country and some fields will achieve an average Ndex™ of over 300 while others will be reaching their maximum potential at an Ndex™ of 200. No matter how we use Ndex™, we’ll make sure that it is never used as a one-size-fits-all number! **So, here’s the question, “What’s your Ndex™?”**

To find out more about Ndex™ and other Database Services WFS has available, please contact your WFS Field Marketer.

Ndex™ concept, computation and name is a trademark of Premier Crop Systems, LLC. All rights reserved

*“There are many in government and elsewhere promoting incredibly simplistic and flawed approaches to nitrogen management that ultimately will needlessly sacrifice our productivity and competitiveness.”*



## Answer Plot Knowledge Event dates for 2011 will be released soon!

Thank you for making 2010 a success!

Please send us suggestions for topics you would like to see covered in 2011.

***We look forward to seeing you!***



## Answer Plot e-newsletter

Sign up for the **ANSWER PLOT ADVISOR**. It’s loaded with crop management tips, Answer Plot® program updates, and assessments of current and future growing seasons that will provide you with the answers for your toughest acres.

Many of our patrons are currently receiving the Answer Plot Advisor via e-mail. To get signed up, please send your email address to [cstuder@wfsag.com](mailto:cstuder@wfsag.com)