

SPRING – SUMMER 2009

2009 UPDATE

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As of today, July 26th, we could not be more fortunate as to the condition of our crops. This growing season has been as close to ideal as we've ever seen it. Near perfect planting conditions, perfect seedling germination, a perfect stand, timely rains, and not one drowned out spot. We feel very fortunate, as you do not have to travel very far from here and you can see the results of a wet and drawn out planting season.

Our Corn planting season started April 17st, with corn only taking about 5 days to plant. An optimum planting date in corn is very critical. The corn plant has a predetermined number of days as to when it will reach physiological maturity. Once the corn reaches its physiological maturity, the plant then starts to shut down and allow the kernels to dry down to allow for a dryer harvest moisture. This spring we planted corn into 2 different tillage systems: Strip Till and Conventional Till. We were very impressed with our strip till program as it provided many benefits that gave the corn seed a great head start. This spring our corn planting populations ranged from 28,000 – 38,000 seeds per acre, and placed about 2" – 2 ½ " deep. *Learn more about our VARIABLE RATE PLANTING rates on Page 6-7 of our newsletter.*

Soybeans were planted after a slight week and half rain delay following corn. Soybean planting took us only 5 days, with good soil moisture and planting conditions. The most important thing for soybeans is a warm seed bed and proper seed depth placement. In both our conventional and no-till systems, our soybean planting conditions were ideal. This spring our soybean populations ranged from 145,000-155,000 seeds per acre and planted about 1 ½ " - 2" deep.

Summer rains and heat have been ideal. We are a little behind on Growing Degree Day Units due to our cool July Temperatures, but the condition of the crop tells us to be very optimistic for record yields.



OUR FAMILY DOING BUSINESS
WITH YOUR FAMILY!

NEW TECHNOLOGY : Precision™ Planting eSet™ Units & 20/20 SeedSense™



As technology continues to grow in the ag industry, so does the implementation and utilization of it on our farm. Each year we evaluate our farming operation and identify the area in which we could benefit the most from implementing new technology. In most cases, the first thing that comes to mind when you hear the phrase "PRECISION AG", you think of Auto Steer and how the tractor can drive itself. To set the stage for how far precision ag has come, the auto steer concept is about 8-10 years old. The current concepts and systems in precision ag today are nothing less than INCREDIBLE! If it can be measured or controlled, it can be done.

This year on our farm, we implemented the Precision™ Planting eSet™ planter corn units and the 20/20 Seed Sense™ Planter System. We understand why seed spacing is important, we understand how to adjust planting depth, and we sure know what skips are. But how do you monitor and correct those planter settings? The Precision™ Planting system allowed us to do just that this spring in our corn planter.

Corn being a very articulate seed and plant in its growth habits. Thus, making it very important to properly place the seed when you plant. Skips in seeds, doubles, erratic spacing, or a compacted seed zone are all things that can increase or severely DECREASE yields.

- **Singulation:** "The ability to monitor and accurately adjust your planter to achieve near 100% perfect seed spacing". The eSet that we installed on our planter allowed us to dial in and adjust for better spacing. A normal planter unit does a good job, but the eSet unit is a new technology allowing us to achieve near perfect spacing. To put it into perspective, one skip in 1/1000th of an acre is equal to 7 bushels per acre. So, in our 30" row, if we can avoid 1 skip or double in 17'5" of row, we can gain 7 bushels per acre. With the eSet™ Units and 20/20™ monitor, we monitored and corrected our spacing to achieved a near 99.8% accurate spacing this spring. This near perfect seed spacing gives each corn seed/plant the ability to achieve optimal growing conditions and the ability to reach its optimum yield.
- **DownForce:** "The amount of EXTRA weight on each planter row unit that is not needed to achieve proper seed depth placement, thus causing seed zone compaction." The corn seed needs just the right amount of firm soil around it to maximize its energy and sprout into a healthy and fast growing corn plant. If the ground is compacted it slows down germination, plant growth, and then relates into yield its potential. This DownForce™ system allowed us to monitor and accurately adjust our planter to reduce against seed zone compaction. Not enough weight on the row unit? That correlates into a negative MARGIN, telling us that the seed is not being placed to its accurate depth and many times leaves it laying on top of the ground.
- **Good Ride:** "The ability to monitor each individual planter row unit and the condition of its "ride" across the field." Each time a row unit jumps or hits a bump, the corn seed that is being released from the row unit or falling down the seed tube is distorted and thrown out of sequence. That results in a spacing error. This goes back to the Singulation portion of the planter that we discussed above. Good ride monitors each row unit helping us to know whether to field cultivate the field again, slow down, or even in many cases, we were able to drive faster, thus covering more acres per hour.
- **BullsEye Seed Tube:** The Precision Planting Seed Tube is designed to allow the seed a direct and error free travel path. As you can see on the next page, the BullsEye seed tube is curved to the shape of a corn seed which reduces the ricochet effect. A ricochet in the seed as it falls down the seed tube causes a defined error in seed spacing and placement. The more you can control the soft and direct release of the corn down the seed tube, the more can achieve the proper seed spacing.

See the near perfect spacing between plants. Also there are no skips in the stand or double plants growing on top of each other. This technology has been well worth our investment!



Precision™ Planting Technology

Right: Seed the 20/20 SeedSense™ Monitor in the cab of our planter tractor. This monitor helped us accurately monitor and adjust our planter for optimum seed spacing and placement.

Below: Notice the precise spacing between corn plants. This is a result of the Precision™ Planting eSet™ Planter system and the adjustments we made from the information the 20/20 moni-



Precision™
PLANTING

20/20
SeedSense™

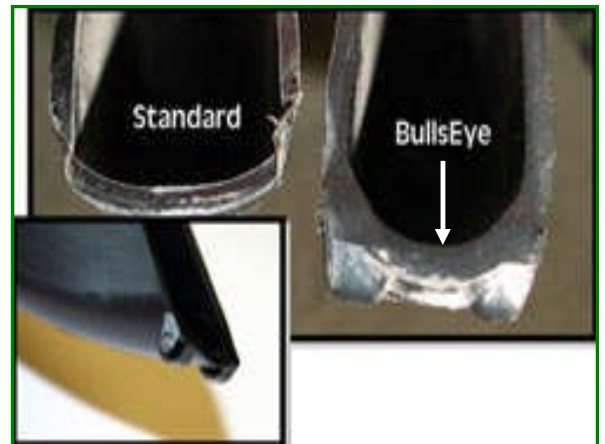


eSET™ = Every Seed Every Time



Above: The Seed Sense 20/20 Controls and Module

Right: Notice the difference in the BullsEye Seed Tube vs. the standard tube.



The Precision Planting system was a large investment. However, after utilizing this technology on our farm this spring, we are confident in the accuracy, performance, and information that it provided us. We made more planter adjustments this year than ever before. **Quite Simply, the value of this Precision Planting Technology is more yield and more profit for both us and our landlords.**

PROJECTS ON THE FARM: '97 KENWORTH T600



This past winter we purchased a semi tractor for our farming operation. This semi will bring us many benefits and efficiencies on the farm, from hauling grain to tending the sprayer for water.

We purchased this semi from a family friend in Hancock, MN, who had purchased it from a farming operation in Illinois. As you can see in the above picture, their name was also NELSON FAMILY FARMS. What a coincidence, huh?! We thought it was our sign that this was the truck for us.

Dave and Aaron Berger, our Field Service Technician at Brokaw, repainted and refurbished the truck. As with any projects, it wasn't suppose to take that long, however, about 3 fun weeks of evenings and Saturdays.

So far Brokaw has put many more miles on the truck than our farm. Its probably got 20,000+ miles on it so far since this spring. When fall hits, plan on seeing it hauling grain on our farm.



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COMMUNITY INVOLVEMENT

Brokaw Supply Company Awarded the 2009 Rookie Business of the Year by Fort Dodge Chamber of Commerce

On May 19th, Brokaw Supply Company was awarded the 2009 Rookie Business of Year award by the Fort Dodge Chamber of Commerce. This award is given to business that are less than 5 years in existence and have exhibited outstanding growth and community involvement. Brokaw Supply Company was purchased by Dave and Gary Nelson in 2008. In the past 2 years of ownership, the Nelsons have taken Brokaw from 6 employee's to 18 full fulltime employees.



Gary Nelson Was Elected to the Iowa Association of County Extension Councils

Gary Nelson was elected to the Iowa Association of County Extension Councils this past 2008. The nomination and election stems from his current role as a Webster County Extension Council Board Member. The role of this IACEC is as follows: 1. Serve as a coordinating organization between County Extension Councils. 2. Serve as a resource to the officers and members of concerning programs and activities 3. Facilitate communication and cooperation among County Extension Councils of Iowa and Iowa State University and government leaders. 4. Promote a general knowledge and understanding of Cooperative Extension with the general public, the State of Iowa and United States departments and agencies directly or indirectly involved in or related to agriculture, families, youth, communities, business and industry, and extended and continuing education. 5. Serve as a vehicle for exploring issues affecting County Extension Councils of Iowa. 6. Provide a means for County Extension Councils of Iowa to have a greater impact and voice for issues being addressed by local and state government.



Dave Nelson Was Elected to the Development Corporation of Fort Dodge and Webster County Board of Directors...

Dave Nelson was recently nominated and elected to the Development Corporation of Fort Dodge and Webster County Board of Directors. This nomination came from Chairman of the board, Don Woodruff of Woodruff Construction. The Develop-



*The Development Corporation of
Fort Dodge and Webster County*

ment Corporations mission is to help create a thriving regional business community through marketing, developing, and sustaining an environment that results in economic improvement in the great Webster County area. This board is the first stop to economic development opportunities, resources and business connections. The Corporation began in 1972 with incorporation of the Webster County Industrial Develop Commission. Between 1981 and 2003, the board partnered with the Fort Dodge Area Chamber of Commerce, sharing a director. IN 2003, the board decided recruitment and retention of value added employers to Webster County merited a stand-alone organization and became a completely separate entity from the Chamber of Commerce.

VARIABLE RATE TECHNOLOGY: THE RIGHT PLACE - THE RIGHT TIME THE RIGHT PRODUCT - THE RIGHT RATE

What is Variable Rate Technology and how does it work on our farm? Its quite simple. EVERY INPUT (Fertilizer, Chemicals, Seed) that is applied to our farm is applied accordingly with the "Four R's".

Think of variable rate in terms of your family at the dinner table. Each person takes a different size of helping due to their hunger, stomach size, and their ability to turn that food into energy. A 5 year old child can only eat (hold) so much food at one time, that makes for a need for more interval meals or snacks. That child can also only extend so much energy with the food consumed. Compare that to their 30 year old parent. The parent can eat and store a lot more food at the dinner table, and extend that energy out much longer. This is the same reason we have to VARIABLE RATE our Fertilizer, Seed, and Chemicals. A heavy black soil can hold more nutrients naturally and reduce the need for commercially applied fertilizers. In this situation we can reduce our fertilizer rates in that area of the field. Its already high in fertility. Now think about the lighter soils that have poorer soil types that cannot hold nutrients. Those soils need more fertilizer and many times needs them in smaller portions due to the fact they cannot store nutrients very efficiently.



Take Nitrogen for example. Two years ago we started applying all of our Nitrogen at variable rates. When variable rating Nitrogen you put more of it on the soils with the lower organic matter content. Organic matter simply is the dead plant mass and residue that is being transformed and decomposed back into the soil structure. Areas in the field that have a higher organic matter level takes less Nitrogen to grow a corn crop. A rule of thumb is that for every percent of organic matter, that soil will naturally produce 25# of available nitrogen. On the flip side, higher elevated knolls in the field that are sandier or lighter soil types need more nitrogen applied to them in separate intervals. This is due to much lower organic matter levels and their inability to hold or naturally produce nitrogen, thus requiring more applied nitrogen. These type of soils require "SPLIT" feedings of Nitrogen. This is why we feed our crops 2 times per year with Nitrogen. This is referred to as a Split Application. Unfortunately, many farming operations feed their corn crop only one time per year and expect it to NOT get "hungry". Cont. on Page 7.....

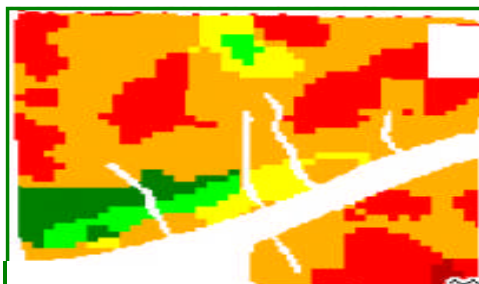
NEW
COOPERATIVE INC.

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MAPS
MODERN AGRICULTURAL PROFESSIONAL SERVICES
NEW COOPERATIVE

Below: An application map of NH₃ (Nitrogen) from this past side dress season. You can see in the red it calls for a much higher rates than the green shaded areas of the field. Green areas are traditionally lower areas with higher organic matter levels.

| NH ₃ | |
|-----------------|------------|
| | 220 - 240 |
| | 200 - 220 |
| | 180 - 200 |
| | 160 - 180 |
| | 140 - 160 |
| | 120 - 140 |
| | 0 - 120 |
| | All Others |



Notice on the screen of our Ag Leader display the color differences on the application map. The differing shades indicate different rates of fertilizer being applied.

The 4 R's Continued

This spring we implemented VARIABLE RATE SEEDING. This is the process of varying the rate of seeds we plant per acre. As we mentioned on page 1, our corn seeding rates ranged from 28,000 – 38,000 seeds per acre. The industry standard for corn is about 32,000. So yes, that is right, we planted some acres in the field at a minimal 28,000. Why or how you might ask? Its just like the 5 year old child and the parents eating habits above. Some soils are better performers and can produce higher yields. The heavy black soils can better maximize nutrients and turn them into higher yields, while lighter or poorer soils have only so much potential to start with. So if it cannot produce a 220 bushel corn crop, why waste the seeds there. Put the extra seed from that area over in the soil types that have the ability to produce the 220+ bushel corn crop.



How do you know where to reduce the nitrogen and where to add more? How do you know which area of the field is a higher producing soil and can handle a higher seeding rate? Before you can answer any of these questions you must first sample your soil. Grid Sampling or Zone Sampling is the form of soil sampling in which the area of the field is divided up into 2.2 acre grids. Each of these 2.2 acres are sampled and then sent into the soil lab for their specific characteristics. So after evaluation and interpretation of that areas soil characteristics, we can match the proper fertilizer and seeding rate to maximize its potential. The old way of fertilizing is taking the average rate that the field needs, and spreading it over the ENTIRE field. Just like taking the average amount of food that a 5 year old and the 30 year old parents require and making them both eat the average. The 5 year old would be over full and not able to utilize all the food it took in. The 30 years old would still be hungry and unable to perform to their maximum due to running out of energy. Feed the child smaller portions multiple times and feed the adult much more from the start and they will both be able to produce their maximum energy potential.

Grower : Gary-Dave Nelson

Year : 2009

Operation : Planting Prescription

Crop / Product : CORN

Op. Instance : Instance - 1

Area : 102.05 ac

Total Amount : 3,426.7 ksds

Avg. Rate : 33.58 ksds/ac

Min. Rate : 32.00 ksds/ac

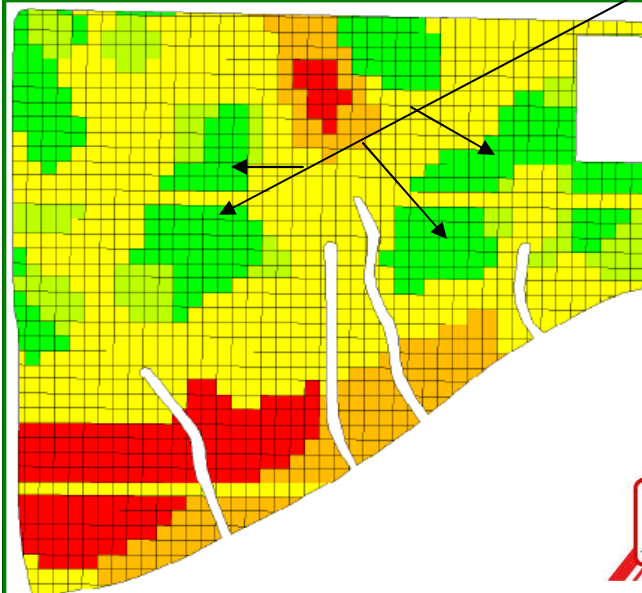
Max. Rate : 36.00 ksds/ac

Count : 1394

Target Rate(Count) (ksds/ac)

| | |
|-------|------------|
| 36.00 | (19.58 ac) |
| 35.00 | (8.99 ac) |
| 33.00 | (50.79 ac) |
| 32.50 | (11.06 ac) |
| 32.00 | (11.93 ac) |

This is a Prescription planter map for the same farm as you see on the left page. The left page shows the NH3 variable rate prescription, and this map shows the variable rate prescription of the corn seeding rate. You can compare back and forth and see many areas in the field that resemble each other. Take for example the center green areas of the field. This area calls for a



seeding rate of 36,000 due to the highly productive soil type in that area. It is capable of producing higher yields than average as long as it has more nitrogen.

You can see from the totals to the top left, the average seeding rate was 33,500 seeds per acre. Slightly above the industry average of 32,500. However with the higher producing soils in this field, you can justify the higher seed input cost.



PHOTO JOURNAL



Gary Field Cultivating and applying Trellan on the Haire North Farm.



Spring Strip Tillage with NH₃ into Standing Corn Stalks.



Gary Applying NH₃ to the Haire South Farm. We use our Strip Tillage machine to also Variable rate our NH₃.



Above Pics: Planting into Strip Tillage. Notice the strips are planted, but the rest of the field is left untouched.

Below: See the Yetter residue managers cleaning off the strip ahead of the planter row unit.



Planting Corn into strip tillage. This was our first field to plant, and was a little nerve racking, but the auto-steer worked like a charm.



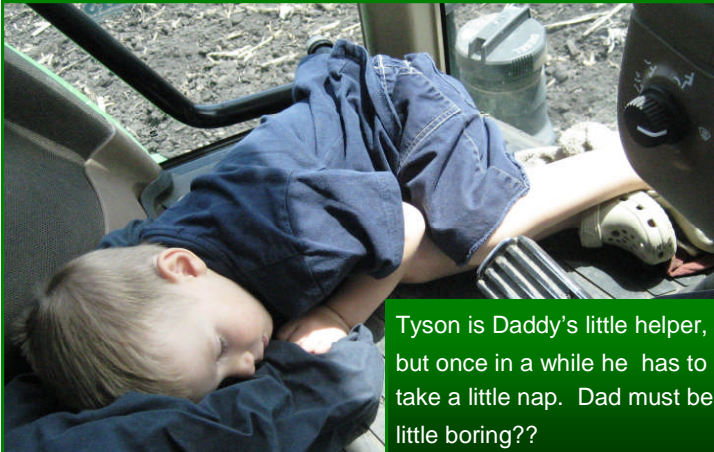
PHOTO JOURNAL



Dave Adjusting the Yetter Residue Managers to go into Strip Tillage



Fonda and Morgan bringing corn out to the field.



Tyson is Daddy's little helper, but once in a while he has to take a little nap. Dad must be a little boring??



Below: Gary planting into Strip Tillage

Below: A 24" Main Tile being installed on the Smeltzer #1 Farm. Notice the Natural Gas Pipeline exposed that they had to dig around.

Below Right: Side by Side of Strip Till next to Conventional Corn on Smeltzer #1. See next page



Pipeline



Strip Tillage

Conventional Tillage

PHOTO JOURNAL



Can you see the line above where the side by side is of Strip Tillage vs. Conventional Tillage? This is on the Smeltzer #1 Farm. Even with equal yield, the Strip Tillage will win due to "Zero" application and equipment charges of NH₃ and Dry Fertilizer. In the Strip Tillage program, no longer are we paying for NH₃ or Dry Spreader Application Charges. A win for both us and the landowner.



Planting into the Strips. Notice the Yetter Residue Manager cleans the strip, then the planter unit plants into the mellow fertile soil.



Karma helping fill the planter with Beans on the Mennonite Farm.



See the nice black "strip" the corn is growing in. Strip tillage offers a lot of advantages for both us and the Landowner. NET INCOME...



Side by side of Strip Till Beans into Corn Stalks. Strip Till Beans on the Left and No-Till Beans on the Right side.

This is the proto-type toolbar that Brokaw is manufacturing for "High Speed Nh₃ Injection". Brokaw worked with Yetter Mfg on our farm to further develop and perfect the Magnum 2987 Nh₃ row unit.



PHOTO JOURNAL



With the addition of the new 24 row planter, we could plant around 40 acres per hour. Gave us great flexibility to cover the corn acres



The Corn is looking great on the Marlys Smith Farm.

Above: Gary loads the sprayer out of the back of our new enclosed sprayer semi trailer. The semi has been a great addition to our farm.

Right:: The beans on the Mennonite farm are looking great. 1/2 the farm was strip tilled, the other 1/2 was Conventional Tillage. Great Side by Side.



OUR FAMILY DOING BUSINESS WITH YOUR FAMILY!

With your help, our Family Farming Operation continues to grow! As the fall of 2009 quickly approaches, we would like to thank all of our farming & business partners. Without your help and assistance we could not be where we are today!

If you or anyone you know is looking for a long term tenant, we would be excited to share more details about our Nelson Family Farming Operation. We pride ourselves in our relationship and open communication with everyone that we do business with. We look forward to including you in our 2010 operation!



Our Century Farm Since 1889

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Decisions are a choice....And our thinking dictates our decisions....Then we are where we are because of our thinking.... *President Harry S. Truman*

Nelson Family Farms Newsletter

Nelson Family Farms
EST. 1889

Summer 2009



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