

Solutions for Better Seed Department Management at Ceres Solutions.

BACKGROUND

Ceres Solutions is an agricultural retail supply cooperative headquartered in Crawfordsville, Indiana. Ceres Solutions supplies agronomy products, seed, seed treatment, precision farming solutions, custom application, and energy needs to customers in thirteen western Indiana counties.

CHALLENGES



Ceres Solutions LLP came together in the fall of 2008 from three smaller cooperatives with a total of twenty-seven agronomy locations. All locations at the time were selling seed independently with up to four seed brands at some locations. Each location was responsible for ordering, delivering, invoicing and reporting sales. At about the same time seed, manufacturers were beginning to ramp up sales of traited seed products which increased the cost per bag of seed sold. Also at that time we were beginning to invest in downstream seed treatment equipment to treat grower's soybeans as delivered. Our current accounting system wasn't designed to handle the multitude of sku's that seed presented. We knew we needed to manage our seed business better if we were to grow and to be profitable with seed.

The formation of Ceres Solutions brought opportunities for us to focus on management of our seed business. With the three companies coming together it opened up opportunities for the seed leads from the previous companies to take on a more focused and specialized role. Two team members focused entirely on sales while one took on a lesser sales roll and focused more on process management and implementing standard operating procedures. We also decided we would regionalize our seed treating functions at three locations (later expanding to four). That decision started the process of looking at how we could regionalize more of the seed operations. We immediately implemented standardized operating procedures in our seed business starting with how seed was received into inventory, paper work required to deliver or transfer seed internally and externally, how replants were to be handled, how manufacturer financing was to be handled and others. With these implementations in the fall of 2008 we still struggled to get the accuracy we needed in tracking sales and inventory as well with ability to accurately report our sales to manufacturers. The lack of focus from our twenty-seven agronomy locations on seed made it difficult to improve.

Our next step was the fall of 2010 when we implemented a hub structure to our seed business where all corn and soybeans sales, treatments, deliveries, invoicing and reporting was done from four regional seed facilities. This allowed us to focus fewer employees exclusively on seed operations. We used the current agronomy/seed sales team to sell similarly as they did in the past, but where now all seed functions ran through the seed hubs

and agronomy functions through agronomy facilities. We allocated sales expense appropriately between seed and agronomy.

Now we could focus our sales and operations more directly toward seed. It allowed us to implement standard operating procedures with much better results. We also reached out to some of our seed manufacturing partners for ideas to improve what we were doing. One partner brought to us a barcode scanner program which we implemented. It was not tied to our accounting system but it did give us much better accuracy and readability of load out tickets than what we were doing by hand previously. As we made improvements with our operational functions we began to discover the struggle our accounting system had with working with seed. We discovered the need for better data management as we were using Excel spreadsheets to manage many of our daily activities. We also started to see if we had an integrated system which included the barcode functionality how we could gain efficiency.

By fall of 2011 we were getting comfortable with what we were doing when we were informed that the barcode system we were using was going to be phased out and we had to find our own solution... We needed to find a solution.

SOLUTION



Finding a solution was a priority of management of Ceres Solutions and through internal contacts we found out about an organization called AgGateway and a project they were beginning to kick-off that was focused on retail seed e-commerce solutions. I was assigned to attend the AgGateway annual meeting to find out details. After seeing what the project was and how it could help our seed business, we decided we needed to contact our accounting software provider and get their buy in to partner. Several phone conversations followed with explaining the complexities and intricacies of seed sales, operations and reporting after which we got a soft commitment from them to get involved. February 2012 the AgGateway Seed Connectivity II (SCII) project was kicked off and we still didn't have a full commitment from our software company to be actively involved. June of that year our second face to face meeting for SCII was held and our software company participated and began to see the value of the project. The project was focused on using industry standards in communicating data between the retailer and their manufacturer partners. It would allow us to send electronic ship notices for receiving product into our system, electronically load pricing from the manufacturer to our system, communicate invoicing, communicate orders and eventually implement license lookup and direct ordering from our internal system. By implementing industry standards into our system it allowed us to use those identifiers to easily build a bar code system that was incorporated into our accounting system. We wanted a bar code system that would track out going product. We felt the electronic ship notice covered our needs for incoming product at this time.

That summer of 2013 a kick-off meeting was led by AgGateway at our office with our software providers and our staff to discuss our timeline of implementing the e-commerce functionality into our system. During that meeting I shared a diagram of data flow we needed for our seed

operations. I described what the data was, who needed it or where I received it and why it was important. I shared Excel workbooks we used in our operations and how we used them. At the end of this meeting the light came on for our software company that this was an opportunity for them and for us.

During the summer I researched hardware for our software. We wanted a mobile rugged tablet to allow us to be able to work throughout the seed warehouse. It needed to be Windows based to handle the software. I looked at several options and settled on a commercial rugged 10" tablet with built in bar code reader, Wi-Fi and Bluetooth.

We worked with our software provider all summer in trying to define specific functions and needs. Ceres had decided to focus implementation of the majority of the software functionality with a pilot at our Templeton Seed Hub. Templeton brought a level of understanding and commitment to make this project work. Their location was majorly one branded and used the manufacturers seed management system so they had a back-up as well as a comparable to judge success. In late August our software provider came to Templeton to begin implementation of our seed management system which included a barcode system. We loaded the system with our internal data and started down the path of trial and error. We began to load the system with seed orders and continued to make adjustments and improvements to what we were seeing.



In early March the seed hub was ready to begin deliveries to the farm. Our system allows us to view a grower order exactly as it is in our system on a Windows based tablet. We can decide on products we want to dispatch, use a built in bar code reader to read the bar code from the container, repeat dispatch of all products we are dispatching and then complete the transaction. The transaction is captured in the system as a completed work order and is ready to invoice. We discovered opportunities to improve accuracy if the system could flag discrepancies between what was in the order versus what was actually scanned and also if the product we were dispatching was actually in our inventory. Those functionalities were added and we continued our pilot. The main issue that spring was lack of adequate bandwidth at that facility to provide the speed we needed during our busy time. We contracted to have a fiber optic line brought in to handle all of the needs as Templeton is also a very busy agronomy location.

Late summer of 2014 we began implementation at our other three seed hubs. Good internet connection and a good Wi-Fi was still a challenge at some of our locations but we searched out solutions where necessary and implementation went well. The barcoding issue was the easiest part of implementation. Keeping orders updated in the system and staying on top new orders was the most challenging but necessary to have a current inventory and accurate information.

RESULTS



Goals of our project were pretty broad, “we wanted to better manage our seed business”. Now that we have been fully implemented going on our third year, the result has been a definite improvement to our business. Seed department profitability is now contributing significantly to our company’s bottom line. Listed below are results and achievements we have documented.

- Shrink has improved from nearly 2% in 2008 to a slight oversold of 0.06% in 2016.
 - We were near a 2% shrink in 2008 on corn with average price of \$180 would cost us \$3.60 a unit and soybeans at \$30 a unit would cost us \$0.60 unit.
 - Today same shrink on \$280 corn would cost \$5.60 a unit and soybeans with treatment at \$60 a unit would cost \$1.20 a unit.
 - Our initial investment in additional software and hardware was around \$25000. Looking at replacing hardware every 5 years plus our annual maintenance cost on both software and hardware, our per unit cost of our system is \$0.025 a unit annually.
 - Based on our product mix, our ROI against just to shrink improvement is about a 100:1 , barcoding is a fraction of the total cost of the system.
- Improved accuracy in reporting keeps us compliant with manufacturer reporting requirements. Just reporting more units improves our manufacturer’s payments, let alone keeps us within required limits.
- Improved employee cost. With less data entry, we have been able to reduce administrative cost by half an employee, saving an average \$0.083 a unit.
- Inventory Management and Order Management is improved by having real time inventory. We now know instantly what our true warehouse inventory is. We have transparency between locations so any hub manager can see where he can find needed seed.
- Inventory control is improved by tracking lot numbers throughout the system. If we have a seed recall, we can find where the seed is, in a warehouse or on a farm.
- Improved operational functions as it allows us to stage seed prior to delivery either at the hub or at a remote warehouse. We can be more efficient in our deliveries.
- Pricing transparency is achieved by tracking retail price and all discounts promised or given to customers through our order systems and its reporting ability. Communicating with our partners our discretionary spend has been a big plus.

We feel we have made great strides in better managing our seed business utilizing our combined software and barcode system.

Our customer service has improved by being more responsive and accurate. Our ability to invoice customers more accurately and timely has much improved.

We are not complete yet, below are a few of our future objectives.

- Add modules into our system as our seed manufacturer partners make them available. Direct ordering, license lookup and electronic invoice, we still need to work on.
- Synchronize and connect through AGIIS our customer subset so all partners will have the most current customer demographics.
- We have not benefited 100% from our system, as we are still waiting on some manufactures to implement bar codes on their products. In our situation a high percent of our sales was with 1 or 2 seed companies who were offering barcodes and we felt it was enough to make it worth our effort to implement, and it was.
- Study the return of implementing a warehouse inventory program to track products inside our warehouse.
- Move forward working with our partners in how we can implement e-commerce and barcodes in other areas of our company.

* **September 2017** we will begin as a new merged company with North Central Coop as *Ceres Solutions Cooperative*. With our seed management system in place, we are confident the process of bringing the 2 seed departments together will be achieved smoothly and timely.

