

AgState[®]

HELPING PRODUCERS PROSPER.



FALL 2023



Leadership Team

Chief Executive Officer
Troy Upah

Chief Financial Officer
Cindy March

Chief Operating Officer
Marc Mears

Vice President Energy
Marty Lau

Vice President Feed
Scott Lovin

**Vice President Agronomy
and Corporate Marketing**
Brent Low

Vice President Grain
Aaron Meyerle

Vice President Human Resources
Elissa Barrick

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Steve Recker

Jim Wagner

Brian Wells

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MESSAGE **FROM OUR CEO**

2023 has proven itself to be a year of continued volatility and change.

Railroad mergers, Ukraine/Russia headlines, droughts, floods, heat waves and another season of political campaigning has made this year another interesting one. I am grateful for the moisture we have received so far in most of northwest Iowa and how good the crops look as I write this article; but, higher temperatures are in the forecast. Opportunities to sell rail have been a mixed bag so far this year. A tempered export program kept the Alta/Fonda rail line less competitive most of the year compared to our other shuttle loaders. The ups and downs of the corn and bean markets have created both opportunities and challenges. I am proud of the job the team has done managing the increased risks of fertilizer, grain, feed ingredient and energy markets. Our location personnel have also done an incredible job of servicing customer needs while cleaning out bins, preparing equipment for the fall and continuing to update equipment at locations. While still a month away from getting a final year-end number, AgState is poised to have a very positive year-end.

I want to welcome Cindy March to the AgState team as our new CFO. Cindy joined us in May replacing Bob Dobson who retired in December. Cindy is already hitting the ground running with one of our key projects focused on improving connectivity with customers. She will initially be collecting feedback on our accounting statements, grain app and other communication or information you want to see from AgState. The goal is to make it easier to do business with AgState.

As fall harvest approaches, AgState will be prepared to meet your harvest needs. After last fall's drop in yields, we are hopeful to see bushels closer to trend-line yields for Iowa. The team has worked hard to make necessary facility repairs, updating equipment, maintaining grain dryers and hiring seasonal help to ensure AgState facilities are ready when you start harvesting this fall. Our 10 Marketing Service Reps (grain originators) are prepared to help you with your grain marketing plans and provide different marketing alternatives to help drive higher profits (or limit risks) in your farming operation.

Thank you for continuing to choose AgState for your grain, agronomy, feed and energy needs. I hope you and your family have a safe and successful fall harvest.

Troy Upah, Chief Executive Officer

- 1900** • Skewes Moan Grain Company.
- 1905** • Farmers Elevator Company formed in Albert City and purchased the Skewes Moan facility.
- 1925** • Albert City stockholders voted on taking over Farmers Elevator Chapter. Thus, Farmers Elevator company reorganized as a cooperative.
- 1935** • Quaker Oats Elevator on south side of street was purchased.
- 1936** • Feed mixer installed in North elevator.
- 1938** • Elevator constructed to handle barley (At this time Albert City was the barley capital of NW Iowa).
- 1949** • Construction of new north elevator and feed mill.
- 1954** • New concrete elevator built.
- 1959** • Pole shed and 12 feed bins added to Albert City.
- 1965** • Purchased ready mix plant.
- 1967** • Built new elevator & purchased anhydrous plant.
- 1969** • Added petroleum department and built annex to new elevator (460,000 bu).
- 1970** • Two new concrete silos built (520,000 bu).
- 1972** • First trainload of grain with Milwaukee Railroad System.
- 1973** • Two new concrete silos built (620,000 bu).
- 1975** • Hey, Hey, Hey....It's "Fat Albert" - a million-bushel concrete silo built & Farmers' Cooperative was renamed Albert City Elevator - A Cooperative.
- 1976** • "Big Bertha" moves in - added a 1 million bu concrete silo.
- 1977** • Built new ready-mix plant and purchased Varina Grain facilities.
- 1979** • Purchased Standard Oil bulk plant and built new Key-trol service station.
- 1980** • 3 additional concrete grain silos built, and new 70 ft scale purchased Sohigro Fertilizer Plant - sold lumber yard.
- 1981** • Service expands to Rembrandt - 1st 75 car unit train sold and delivered to the West Coast.
- 1982** • Built three new concrete tanks 1.6 million bus capacity - Expanded to Hartley location.
- 1984** • Ready mix plant sold to Storm Lake Ready Mix Inc.
- 1985** • Feed mill in Albert City burns down.
- 1986** • New joint feed venture with ADM & Feed mill was built in Sheldon.
- 1987** • Key-trol station converted into cardtrol which is called Flashcard.
- 1988** • Alceco forms subsidiary called Farmers Diversified Inc. (FDI)
- 1992** • Purchased Hartley facility. Lease of Golden Sun Feed Mills in Albert City and Laurens. ALCECO expands to Harris and finalizes agreement to buy ADM facility in Sheldon.
- 1994** • 1 million bu storage unit built in Hartley.
- 1997** • Alceco and Cargill form Ag Partners, LLC. & Formed Lincoln Supply LC - jointly owned by Ellsworth turkey growers & ALCECO/Ag Partners.
- 2000** • Bulk seed services added.
- 2004** • Largest expansion in company history at Hartley.
- 2005** • Alceco celebrates 100-yr anniversary.
- 2008** • Midwest Farmers Cooperative merger.
- 2018** • Purchased Don's Farm Supply in Newell & Nemaha - 3 feed mills.
- 2020** • Ag Partners becomes solely owned by Alceco.
- 2021** • Ag Partners/Alceco joins FCA as AgState.

OUR ROOTS RUN DEEP

Just like every one of our producers/ customers, AgState has deep roots grounded in our/your local area. As promised in the last newsletter, we bring you the history of Ag Partners/ Alceco legacy company.

The original root was planted by The Skewes Moan Grain Company back in 1900. Then in 1905 the Farmers Elevator Company was formed and purchased The Skewes Moan facility. The Farmers Elevator Company's charter expired in 1925, thus, the company was named Farmers Cooperative Elevator Company. The cooperative purchased the facility and equipment for \$9780 from the stock company. During this period the cooperative set forth the election for a board of directors elected by the producers.

The roots started to branch out to stabilize our co-op. Albert City was named as the barley capital of Northwest Iowa, expanded to 800 shareholders and in 1964 increased storage capacity to 285,000-bushel concrete elevator. With each new root comes new pathways. In 1969 the board entered into the petroleum business. There was now a service station and bulk petroleum operation to balance keep our equipment in top shape.

1970 was a huge milestone for Albert City and the co-op, another 2 large concrete silos were built with a capacity of 520,000 bushels. Our new storage

amount allowed us the opportunity to load a complete train. A few years later Farmers Cooperative Elevator of Albert City was the first grain elevator to ship a trainload of grain with the Milwaukee Railroad System. Approximately 125 trains of grain were loaded and shipped that year.

Hey, Hey, Hey! in 1975 “Fat Albert” was constructed with a capacity of 1 million bushels. Measuring in at 105 feet diameter and 124 feet high, this was the largest concrete silo in the world at that time. Shortly after “Fat Albert” came another one-million-bushel silo named “Big Bertha”. Along with Bertha came 2 dryers and a bulk grain scale for loading rail cars. The identity of Alceco was adopted in 1981 after the name changed to Albert City Elevator, A Cooperative in 1975.

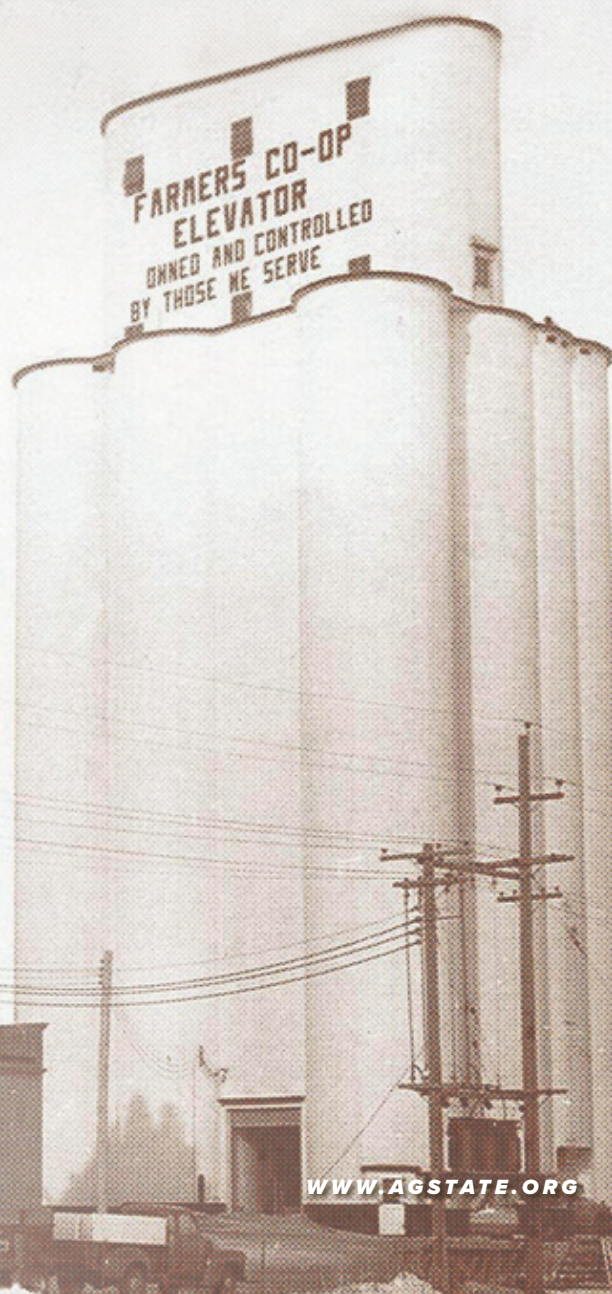
1980’s started out looking rough with the bankruptcy of Milwaukee Railroad. With the hard work of Bruce Anderson - Alceco manager and talks with Chicago & Northwestern

Transportation Company (C&NW) the rail line to Albert City stayed operational. The company’s capability to handle and ship large quantities of grain in 75-car units trains was a pivotal factor in C&NW company’s decision. With the leasing of the Hartley location, we now have the capability to load large trains at two locations on two different railroads. Alceco was now over a 9.5-million-bushel grain storage capacity.

Alceco continued to branch out to other locations and grow in Albert City. Fertilizer and bulk chemical storage helped the co-op have a well-rounded business and helped our producers in many different aspects of agriculture. 1994 was the year Alceco expanded into Sheldon, Harris, Everly, and Hartley built a one-million-bushel storage unit. Alceco stockholders approved a joint venture with Cargill, Inc. to form Ag Partners. The locations continued to have grain handling,

fertilizer, ag chemical, seed, and feed operations. The Ag Partners’ board was now comprised of 3 representatives from Alceco and 3 from Cargill.

In 2005 Alceco celebrates their 100-year anniversary. Shortly after in 2008 the purchase of Midwest Farmers Cooperative occurred. Expanding the feed business with the purchase of DFS (Don’s Farm Supply) in Newell and Nemaha. The co-op now included 3 large feed mills to help producers with animal feed. Ag Partners becomes solely owned by Alceco in 2020 where talks with FCA started, and on September 1st, 2021, Alceco/Ag Partners joined FCA to become AgState.





AGSTATE **CAPITAL IMPROVEMENTS**

BY MARC MEARS, CHIEF OPERATING OFFICER

If you have visited any number of AgState facilities in recent months, you have undoubtedly observed capital projects and extensive, or sometimes referred to as extraordinary, maintenance projects taking place.



To understand the planning and execution of the many projects AgState undertakes, it is helpful to think about several categories of capital expenditures, as well as some specific examples of projects in each of the categories.

END OF USEFUL LIFE

Projects intended to replace or upgrade an asset that has reached the end of its useful life and must be replaced due to condition, obsolescence, or both. The crack and spall repair that was completed on many of our concrete structures this fiscal year, the concrete silo liners at Albert City, and updating some of the older electrical systems at Albert City are a few of many examples of these types of projects.

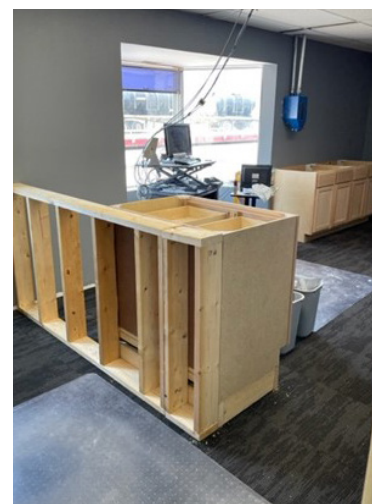
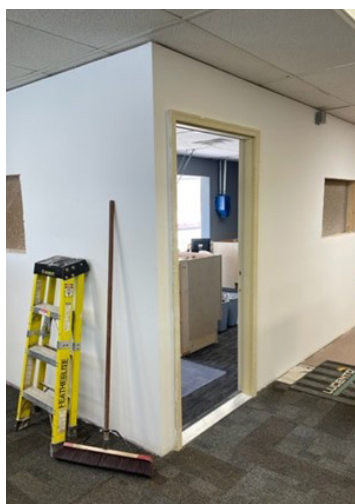
ENVIRONMENTAL, HEALTH, AND SAFETY (EHS)

Primarily projects intended to improve our ability to keep people, facilities, and the environment safe. These types of projects often have a positive impact on business and productivity results. Examples of projects in this category are installing hazard monitoring and temperature monitoring systems, replacing or upgrading bin reclaim/cleaning systems, replacing worn out or outdated dust systems, and replacing or upgrading fertilizer containment liners.

CUSTOMER IMPACT, GROWTH, AND PRODUCTIVITY

These projects are often considered to be exciting as they are usually associated with increased capacities, operating faster, new processes/technology, and overall help the AgState team better serve member needs. Some examples of projects that have been completed in this fiscal year are recommissioning of the Anhydrous Ammonia plant at Rembrandt, the addition of an outbound scale and probe at Albert City and increasing the size of spouts and adding scanners to the Hartley truck receiving system to improve truck receiving capacity at both locations.

The AgState Board of Directors has recently approved a detailed list of capital projects totaling \$14,257,000 for fiscal year '24. The category breakdown of the approved list of projects is 41% End of Useful Life, 16% Environmental, Health, and Safety, and 43% Customer Impact, Growth, and Productivity. In addition to the approved capital budget, \$4,000,000 was approved for ongoing repair and maintenance in fiscal year '24 to ensure the reliability of AgState's assets. We look forward to the safe and timely completion of these projects as we work to serve you safely and efficiently.





LOOKING AHEAD

TO THE 2023-24 GRAIN MARKETING YEAR

We've seen a summer with substantial grain market volatility stemming from weather and crop reports. This recent volatility comes after nearly eighteen months of volatility not only driven by weather and crop production, but also the Ukraine war. With this in mind, we need to start turning the focus to the coming fall crop and new crop marketing year, considering what might be different, and what might remain the same from the recent trends in the grain markets. Here are some points to consider on three timely topics.

BY AARON MEYERLE, VICE PRESIDENT OF GRAIN

INVERSES

We have seen a couple years of sizable inverses in both corn and soybeans. An inverse is when the nearby value of grain is worth more than the deferred value. Prices can be inverted month to month, and certainly crop year to crop year. Inverses tell both the elevator and the producer to move grain now, as opposed to holding on to it, as it is worth more nearby. The market becomes priced in an inverse as the grain is needed to meet demand nearby. We have seen a couple years of tight supply relative to demand fueling this inverted price structure. One thing we know about inverses is they eventually come out and the nearby price drops as either demand gets covered, or a new supply comes to market in the form of harvest. It is too early to know for sure if the coming crop year will offer an inverted market structure like we have seen the past couple of years, but we can be ready when it does. We all need to realize that inverses are necessary to get grain to market, but they can disappear fast. This means the nearby price can drop quickly in an inverted market; therefore, be prepared with price targets in mind and understand that front-end values change quickly in an inverse.

BASIS

Basis is the difference between Chicago Board of Trade futures price and the local price of grain. In large part due to the inverted market structure noted above, we have seen a lot of volatility in basis over the past couple of years. Traditional harvest “unders” to as much as \$1.00 or more “over”. If the U.S. grows a larger, and more uniform crop this coming year it is possible we see a more relaxed basis environment. Relaxed in the sense that we might not see the big volatility, up or down, with changes in basis during the crop year. There is a lot yet to be determined about the 2023-24 crop year, but just like the idea that futures prices can look different and take a different trajectory over the year, keep in mind that the same is true of local basis values for grain.

INTEREST

Referencing the first two discussion points above, there is still much to unfold to determine if we see an inverted market structure again, or more of a “carry”; and what the basis levels (let alone futures levels) will look like this coming year. Perhaps one thing we can say with more certainty is that we will enter the 2023-24 crop year with elevated interest rates, at least relative to recent history. The opportunity cost associated with having cash invested in grain inventory vs. that same cash in a three-month T-Bill is approximately two cents per month on corn and six cents per month on soybeans, as of this writing. This is a cost to be aware of when setting marketing plans and targets for the coming year.

From all of us at AgState, we wish you a safe and plentiful Harvest. We are here to assist you in your grain marketing needs.

HOW AGSTATE MERCHANDISES ITS GRAIN:



The majority of AgState corn that ships by truck goes to local Northwest Iowa ethanol plants.



AgState ships corn by rail also, with the majority of its grain shipping to feed markets west of the Rockies.



Truck beans shipped from AgState facilities typically go to Northwest Iowa soybean crush plants.



Rail beans from AgState can ship to Mexico, or either the Gulf of Mexico or the Pacific Northwest for export to overseas markets.

2023 TRUCK RAIL SPREAD

BEANS



40%



60%

CORN



60%



40%



GRAIN ***DID YOU KNOW?***

DID YOU KNOW?

AgState operates 5 unit - train shuttle loading facilities.

- 1** Albert City
- 2** Alta
- 3** Alton
- 4** Emmetsburg
- 5** Hartley

DID YOU KNOW?

AgState has access to three Class I railroads.

- 1** Canadian National
- 2** CPKC
- 3** Union Pacific



NURTURING OUR VALUE OF SAFETY

AgState is proud to serve our customers and member owners safely this fall. As our workdays grow longer, we welcome lines of trucks eager to dump grain quickly and return to the field. However, this sense of seasonal urgency should not overshadow our ability to work safely – both at AgState facilities and on the farm. Increased traffic, large equipment, seasonal drivers or temporary workers, and long hours are common contributors to life altering accidents in our industry. Keep these safety tips in mind as we plan for a busy and successful season.

- ✓ Get some rest. We put in a lot of hours, but fatigue paired with heavy equipment can be a dangerous combo.
- ✓ Be diligent and aware of your surroundings. Know where others are before moving farm equipment, especially young children.
- ✓ Have a plan for equipment and field fires. This summer's dry weather only increases the risk. When delivering grain, smoking is not allowed within 50' of any AgState facility. This is to prevent grain dust fires and explosions.
- ✓ Understand the traffic flow at your delivery location. Check in with your AgState location ahead of harvest and communicate changes to family members or hired drivers. These changes are necessary to accommodate large numbers of trucks efficiently.

Speaking of efficiency, a few other items to help keep lines moving and our customers safe:

- ✓ Please stay off cell phones and respect facility speed limits.
- ✓ Stay in your truck or tractor where possible. While our employee team works diligently to maintain clean facilities, slips and falls on stray soybeans are preventable. Additionally, other drivers may not be aware to look for pedestrians or someone may be in their blind spot. If getting out of your vehicle while in line to dump grain is necessary, never walk between wagons or under equipment. Maintain eye contact and use a hand signal for the other driver to acknowledge when crossing traffic lanes. It is best practice to always stay at least one arm's length away from equipment.

Communicate questions and concerns to the location early, as the entire team is happy to help. Together we can have a safe and prosperous grain harvest!



PREPARING FOR THE 2024 CROP

3 PRODUCTS TO MAXIMIZE NEXT YEARS CROP

MIKE CONOVER, AGSTATE DIRECTOR OF FERTILIZER & CHEMISTRY PROCUREMENT

Hard to believe it is time to start thinking about the 2024 crop when the 2023 crop is not out yet. Now is a good time to evaluate the products and programs you used and make adjustments to maximize next year's crop. One thing to consider or implement is the use of our MAP+MST for your phosphorus source.

1 **MAP + MST**

MAP+MST is well suited for not only your phosphorus needs but also supplies a great form of sulfur to your crop. With an analysis of 9-43-0-16s this MAP based product can effectively supply your crop with the sulfur it needs. Sulfur is key in photosynthesis, protein synthesis, chlorophyll formation, and nitrogen fixation. Sulfur is safely molded equally into every granule of MAP+MST for the insurance of even application on every acre.

2 **InSite Maxium Products**

Secondly, we recommend our InSite Maxium products for your corn and bean crop. AgState's InSite Maxium line is a blend of micronutrients specifically formulated for your corn or soybean crops.

InSite Maxium Corn contains a blend of boron, copper, iron, and manganese, to deliver nutrients at many points of contact so crops can consistently access the nutrients throughout the growing season. This product, when blended with fall fertilizer, will provide an even distribution across the field, reducing the risk of over application and deficiencies from under application. Also available is InSite Maxium LQ, a liquid formulation of InSite Maxium Corn for

use when dry fertilizer applications will not be used.

For example, fields that have had manure applied.

InSite Maxium Soybeans contains the same boron, copper, iron, and manganese, but in different ratios tailored to the soybean crop. This is formulated to provide better nutrition to soybeans and when blended with fall fertilizer, will continue to offer important micros to your soybean crop.

3 **Triune**

Lastly if you have not yet, I would encourage you to get your Triune added to your manure pits now. Triune is a pit additive that helps to control the crust, odors, and is environmentally safe. Triune uses a patented technology to dramatically improve nitrogen and phosphate efficiency. Approximately 15-30% of nitrogen in manure is in the inorganic form and susceptible to loss. Manure contains ammonium and timing is essential to minimize losses. If not incorporated shortly after application, much if not all of the ammonium can be lost as ammonia gas, thus reducing the fertilizer value of the manure. Triune's negatively charged molecule can bind to positively charged ammonium delaying the conversion to nitrate and ammonia.

Triune also creates a sphere of availability for phosphate in the soil zone leaving phosphates free to be absorbed by the plant. In high pH soils, Triune protects phosphate from binding with calcium and magnesium. In low pH soils, Triune protects phosphates from binding with heavy metals found in the soils. Keeping more phosphates available in the soil will reduce phosphate buildup by allowing it to be more available to the crop.

For more information on any of the products listed above please contact your Sales Agronomist.

PUTTING ALFALFA TO BED FOR THE WINTER

BY JAMES RUSSMANN, AGSTATE WESTERN AGRONOMY REGIONAL BUSINESS LEADER

Top Alfalfa growers know the timing of fall Alfalfa harvest can be detrimental to the over-wintering of the crop and its regrowth the following spring. Winter kill is the single biggest factor in determining the longevity of alfalfa stand viability over a period of years. The key to maintaining a healthy crop during cold winter months is to build its root and crown nutrient reserves allowing for a good survival and fast start the following year.

How do we build the winter food stores for the crop to survive?

Standard practices tell us that if we want to continue the perennial crop for several years, we need to discontinue harvest and allow the root reserves to build prior to a killing frost. Normally, September 15th seems to be the key date for the last cutting to give us ample time (4 to 6 weeks) for recovery. Alfalfa needs at least 4 to 6 inches of regrowth prior to frost allowing for food build up and this regrowth also allows for the trapping of winter snows to insulate the crop as a blanket.

Can we feed a forage crop prior to winter hibernation?

The simple answer is yes. Here are some practices to look at to manage winter survival of Alfalfa.

Soil testing – Taking a soil test is a good way to determine nutrition needs for next year. Fall applications of phosphorus and potassium will not do much for fall feeding of the crop but will be there for next year's use. Boron and sulfur applications are best made in the spring after the crop comes out of dormancy as these nutrients can be leached through the soil profile.

Tissue testing – Sending a leaf tissue sample to a testing lab can tell you what might be missing for the long winter months. AgState handles several products to help alfalfa over winter. Foliar applications of these materials add to root reserves and can get the crop off to a healthy start next year.

Amino Acid application – An application of a product such as Orbix boosts carbohydrates/root growth by supporting photosynthesis and aids in stress mitigation.



Foliar Nutrition products – Micronutrient applications give the crop a balance of winter food sources enabling the crop's respiration and disease resistance. These products come in single or multiple nutrient analysis depending on what the tissue tests indicate the needs might be.

For more information on alfalfa management practices contact your local AgState Sales Agronomist.



FEED, JUST FEED?

Feed is just the mixture of grains and minerals that animals eat, right? Wrong! In conversations with our feed department team members, there were many more steps left out. Let me introduce you to a couple of our AgState Feed Team Members, George Green & Bradi Bohlke.



GEORGE GREEN FEED BUSINESS DEVELOPMENT SWINE SECTION

George has been with AgState for 5+ years. George, wife Melissa, and 2 daughters reside in Storm Lake. The family enjoys free time together and with friends. George also enjoys boating, golfing, and college football season, especially the Nebraska Huskers since he grew up in Northeast Nebraska.

George works in the Feed Business Development Swine Section of AgState. His passion for talking to people, meeting new people, and building relationships, is what drives him with his customer base. A few years ago, he had a customer that was working with another large producer. The producer was getting rid of 20,000 spaces. George continued to work at connecting the grower with the other large producer to get the spaces filled. He built a relationship and had the Grower sell themselves to the producer and ended up with a 5-year contract. He enjoyed building confidence with that great customer and still enjoys working with them today.

Not only does George have great customer relations, but he also works with both producers and growers to find them the best possibilities to grow their business. Matching producers and growers who are compatible with each other makes for a smooth business environment. Customer service with swine from weaning to finishing the swine is a daily occurrence for George.

"I did not come from a strong ag background. I actually have more of a sales background but I love learning the feed and ag side of my position at AgState," said Green.

Without the support of his great team at AgState and in the Feed Department, George would not be able to continue supporting the AgState Feed mills, cold calling on customers to create new relationships and build new feed business or attend industry leading meetings.

Contact George with any swine feed questions at 712.299.4769 (cell), or email at ggreen@agstate.org.

BRADI BOHLKE AGSTATE INGREDIENT MERCHANDISER

Introducing new hire, Bradi Bohlke – AgState Ingredient Merchandiser. Bradi has been working full time for 2 months but had a small class load at Iowa State her last semester, so she has been learning on the go since April with AgState.

Bradi graduated in May from Iowa State University with a master's degree in Ag Communications with minors in animal science and general business. Bradi has great attention to detail and is well versed in agriculture and business. Her degrees really give her the perfect knowledge for the position she is in.

Wednesdays in the office are huge for Bradi. She said that this is her big day with soybean meal. She will be looking over her contracts and price point loads to make sure she has enough product coming in for the needs of the feed mills.

Mondays are Bradi's other crazy busy day with working on DDG purchases.

Every week she breaks down the load orders, matching them with purchase order numbers, load numbers, load quantities, usage at the producer's level, as well as the feed mill outputs.

Bradi has stated her relationships with everyone from the haulers, suppliers, marketers, and ingredient brokers has been seamless and very enjoyable. She works very hard with understanding the markets, offering good products, and keeping the prices low for our end users. Her main goal is to get the best product for the best price.

The AgState Feed Department is a very detailed and important part of growing our feed customer relationships. Each of our team members is dedicated to helping our producers prosper.





AGSTATE PRECISION AG DEPARTMENT

CLINT SIRES, DIRECTOR OF PRECISION AG SERVICES

The AgState Precision Ag department is always on the lookout for new tools and technologies to better serve our grower members. In preparation for the 2023 fungicide application season, AgState first looked to partner with a 3rd party to provide our customers with an option for having their fungicides applied with a drone. As we researched this technology, we began to realize we needed to be in this space ourselves. This is because there are many advantages over conventional methods in having a fungicide application made with a drone. Some of these include:

- 1** The drone can remain a constant and consistent 10' above the crop canopy across the field, border to border, corner to corner.
- 2** The drone can accurately cover crops in difficult field corners, borders along groves, tree lines, areas adjacent to telephone poles and around windmills.
- 3** Due to the drone's precision movement and ability to maintain the height above the canopy, there is minimal off target movement of product in winds up to 15 mph.
- 4** The drone does not compact soil or run over any crops.

We see a lot of opportunities with applicator drones. As of this writing, we are continuing to work with the FAA to finalize our licensure for the application spraying of these drones legally. There are a lot of steps in this process. Our main objective for the summer of 2024 will be to foliar apply as many acres of fungicide as possible to our growers' fields. With the coverage level of product we can achieve and the ability to consistently apply every inch of every field, we believe many of our growers will want us to provide them with this service. The opportunity, however, will not end with fungicide applications. In the future, we see demand increasing for the following application types:

SPRING "PRE" APPLICATIONS

Getting product on when the ground might be too soft and wet for large application equipment.

APPLICATION OF MICRONUTRIENTS

Our drones can variable rate (VR) dry products as well as liquids. For example, the ability to VR micronutrients in dry form will allow many of our progressive growers to take advantage of our proprietary "Zinc to Phosphorus" Zinc Prescription. The equation that makes up this prescription ensures growers' zinc levels relative to the phosphorus concentrations throughout the field are in the right ratio. Maintaining the correct balance of these two key nutrients has a tremendous impact on yield potential.

ENHANCED LEARNING BLOCKS/STRIP TRIALS

Our drone technology will allow us new levels in trial application data. Growers in our InSiteCDM program have already been learning with Enhanced Learning Blocks (ELB's). ELB's are a self-contained, complete management experiment used to test differences in rates, products, or even application timing. Depending on the type of application, these treatment factors can be varied with 3-5 rates or applied as randomized on/off treatments. Treatments are replicated a minimum of 5 times and randomized within the trial area. The goal of an ELB is to provide a formal testing environment within a field to determine whether a treatment has a meaningful effect. The grower has the ability to implement scientifically designed research in his/her fields with an expectation of accurate, statistically confident results. Our drones will allow us to exponentially increase the number, type and accuracy of these trial areas!

PRESCRIPTION BASED WEED AND FOLIAR NUTRIENT APPLICATIONS

Our applicator drones, combined with our multispectral camera drone, will allow us to "map" the locations of weeds in a field. We begin by utilizing the camera on our multispectral drone to give us current images of the field. After processing these images into desktop software, we can create a prescription to target spray identified weeds from that map, load that prescription into our applicator drones, and then go out and spray the field with a targeted approach. In addition, we have the ability to map areas with nutrient deficiencies in crops with our multispectral drone (a great example this year would be yellow beans caused by Iron Chlorosis). Once images with these areas are processed, we can create a prescription for the applicator drones to variable rate apply corrective nutrients (i.e. Iron) in the deficient area. Lots of exciting possibilities here!

We are really scratching the surface on the potential uses for drones in this space. We are excited to be a part of this new technology in agriculture and thrilled to be able to offer these opportunities to our producers. AgState continues to stay on the cutting edge of new Precision Ag technologies so we can continue to achieve our mission: Helping Producers Prosper!

AGSTATE **DONATES** **TO IDA COUNTY** **SWINE BARN**

The Ida County Fair – A new Swine Barn was designed and developed by the Ida County Fair Board in conjunction with The Ida County Agriculture Society.

AgState is honored to donate \$5000 to the new swine barn. In a check presentation at the Ida County Fair grounds this morning, Bob Butcher, Ida County Fair Board member stated, “Our funding is currently on track.”

The new building is 60'x120', with white tin, spray foam insulated roof, fan-air circulated, with a 14' north door will be used for many different purposes. The south side of the building will open directly to the show ring for ease of maneuvering animals. The sides of the barn are made with polycarbonate panels for natural lighting, while high performance LED lights are also installed for early mornings and late nights. There

will be 108 removable swine pens for use during the fair. These 6'x6' pens have vertical bars with slam lock latches and front steel kickers for bedding control.

When the new swine barn is not being used for swine shows, it can be used for rental storage or large gathering events. The Ida County Agriculture Society is hoping to hold Agriculture Education events (FFA/4-H), graduation parties or possibly a wedding. The space is absolutely stunning.

The new barn will receive the first swine groups in less than one week. They were happy to be getting this new building in time for the fair.

The Ida County Fair was held on July 18th and ended on Sunday, July 23rd. Hope to see you all at the fair next year.



Front row L-R Duane Nippert, Katrina Cox, Ross Thul, Mason Goodenow (AgState Board Treasurer), Bob Butcher, Jeana Todd, Espe Hoffman, Ella Hoffman
Back Row L-R Virgil Gronwoldt, Justin Grove, Vincent Kreutz, Brent Rohlk, Evan Hoffman, Anna Hoffman, Aleece Hoffman

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