

MKC Partners In Precision

by Margy Eckelkamp



The team at MKC meets growers where they are on the adoption curve

In adopting technology, ag retailers are charged with promoting to and partnering with farmers to find success. Often, the process is weighed down with a cumbersome learning curve. However, leaders in ag retail have helped level off that learning curve to make it a smooth journey.

“I tell people all of the time one of the challenges I have as a farmer is to make it easy for me, and MKC has done that,” says Kansas farmer C.J. Blew. “I need someone who can take the equipment I have—the variable-rate equipment and precision ag equipment—and take it all the way to the prescription. I can take my data card or go into the cloud, and go directly to MKC, and they can manage zones and make prescriptions.”

For the strides MKC has helped farmer-customers achieve, AgPro named MKC as the recipient of the Precision Impact Award. The award is co-sponsored by the Ag Retailers Association and SST Software, and it was presented at the 2017 ARA Conference and Expo. The award recognizes retailers excelling at innovative use, grower engagement, bottom-line profitability for the company and customers and environmental stewardship.

MKC, formerly known as Mid Kansas Cooperative, is headquartered in Moundridge, Kan., and it serves farmers across 24 counties with nine agronomy hubs. For the past eight years, the team at MKC has ramped up its precision ag team and products and services offering.

“Initially, the investments we made were all about the people and getting the right people in the right place to have a successful precision ag department,” says Dave Christiansen, MKC president and CEO.

Today, that team includes Troy Walker, precision ag manager and agronomy field sales manager, and Ross Benisch and Craig Miller, precision ag specialists.

“We can go out and share the value proposition that is MKC and is delivered through precision ag,” Walker says. “It’s exciting for our precision team, our sales team and MKC as a whole. We have something that can help growers be more profitable, particularly in a time that is as challenging as this is.”

FAST FACTS:

- Headquartered in Moundridge, Kan., and serves farmers across 24 counties with nine agronomy hubs
- Offers services for zone management creation; grid soil sampling; and variable-rate application of crop nutrients, planted populations and irrigation
- Connects customers and its team via cloud technology for easy data transfer

Mission Critical. The company’s precision ag offering has become more than a division or set of services—instead, it’s become integrated in its mission.

“We believe precision ag is the future of farming,” says Benisch. “We’ve seen the great value and benefits it provides. We feel it’s our obligation to share that information with our growers to help them be as successful as possible. We view our producers’ success as being tied directly with our company’s success, which is why our slogan is ‘Shared Growth, Shared Success.’”

The approach for MKC’s precision ag program is built on the 4R philosophy and lowering the barrier of entry while helping farmers realize maximum yields and profitability. In making progress, the MKC team encountered challenges due to its trade area’s geographic diversity, agronomic variability, machinery hurdles and more.

“At MKC, our customer profile is incredibly diverse,” says Christiansen. “We go from customers that are primarily ranchers to some very large operations with 5,000- or 6,000-acre farms. So there is a lot of diversity in our footprint. What we understand is precision ag is a technology that can benefit each and every one of them. And our job is to continue to tell the message and teach them how to better use the tools and technology out there.”

Most customers are in a rotation of wheat, soybeans, corn and milo. And the ground they farm can present high variability with pH, phosphorus (P) and potassium (K). With these conditions, using variable-rate technology (VRT) sets a strong foundation for other soil fertility practices, and it provides high return on investment.

“Our pH can be drastically low and highly variable—mid-4 to 7.0 or 8.0 in the same field,” Benisch says. “Lime is expensive—anywhere from \$50 per acre to \$200 per acre. I always tell farmers, if you are looking to apply lime, you should really grid sample first because the return on investment is outstanding. By doing GPS grid sampling, the farmer only has to save a half ton of lime to pay for the grid samples. And we also get the other information for our other nutrients, which continues to bring more return on that investment.”

Starting with GPS grid sampling, MKC works with growers to develop VRT prescriptions for nitrogen (N), P, K, zinc, sulfur and lime. Then, yield goal zones are developed by using yield data or satellite imagery to further drive N and variable-rate seeding prescriptions. Additionally, an electromagnetic sled can be run to map soil electrical conductivity, which correlates very well to the soil's water-holding capacity.

“The more pieces of data that we can have, the better we can help solve the yield puzzle for each field,” Benisch says.



Customer Engagement. To help show growers precision ag's value while being mindful of costs, MKC created a new program, Optimal Acre. It includes a four-year contract for grid soil sampling, VRT fertilizer and seeding prescriptions, data analysis and WinField United R7 in-season imagery with the costs spread out over four years.

“This program is designed to spread out the expensive first-year cost of grid sampling over four years to help increase the level of adoption of precision ag during tougher economic times,” Benisch says.

MKC's precision ag program has grown every year since it began in 2009 from grid sampling and VRT applying about 2,000 acres to touching almost 100,000 acres with some form of precision ag in 2017. Benisch says the team set the goal of mentioning Optimal Acre in every conversation with growers.

Remote sensing has been a valuable tool for MKC because of the low adoption rate of yield monitoring technology across its region. With less than 20% of customers having a yield monitor on their combines, the MKC team uses WinField United's R7 tool for in-season satellite imagery and historical NDVI images that provide another layer of information when developing management zones.

“The challenges to adopting precision ag, particularly for our geography, are related to the upfront cost,” Walker says. “Farm economics are a challenge everywhere, and when you add wheat in the rotation with a bit of a lower value than 200-bu. corn, it changes farm economics significantly. And it changes the amount of dollars out there to invest in new technology.”

MKC's precision ag team received its Federal Aviation Administration commercial exemption license and is testing UAVs.



The team at MKC set a goal of building its precision ag program to touch 100,000 acres every year. PHOTO COURTESY OF MKC

Right Timing. “We don’t have to be the bleeding edge. A lot of this technology has been fully developed, and we can take it and run; we don’t have to crawl with it. We know it works. We can scale it,” Walker says. “And we’ve seen the value to the grower. We just have to share that with them and meet them where they are at in their journey.”

The core of MKC’s precision business is centered on data. The team uses EFC’s FieldAlytics system, which provides a cloud-based solution to connect all of the data that MKC and a grower generate.

“This helps the grower and any of MKC’s trusted advisers easily access all of the precision data that have been gathered to make intelligent, data-driven decisions,” Benisch says.

With VRT prescriptions for fertilizer, seed and irrigation, MKC helps farmers maximize their input investments. For VRT irrigation, MKC offers AquaSpy soil moisture probes for center pivot systems, and the team can make variable-rate prescriptions.

In determining yield goals for management zones, the team divides each zone into three categories: low, average or high potential.

“All of this greatly increases input efficiency, which reduces overapplying product,” Benisch says. “My role is to help growers produce the optimal yield on every acre. We do that by helping growers use the technology they own and what’s available in the industry to maximize their input efficiency and optimize their bushels per acre. Precision ag is so many things, but ultimately, we believe it’s about optimizing inputs and optimizing yields to give the best return on every acre.”



As a company, MKC has seen a return on investment for using technology in its retail business. Investments include those for product handling and loading systems and telematics on its application equipment. PHOTO BY THE AUTHOR

Efficiency And Profitability. Every grid book includes two fertilizer scenarios: a build program and a no-build program. The build program increases soil test values to a sufficient target, maintains the values close to that target and applies none to areas with high nutrient values. The no-build program replaces nutrients lost from crop removal only in areas with below-optimal soil test levels.

“The ‘no-build’ program takes advantage of any nutrient areas that are high, but for those areas at or below the target value, it simply keeps them from getting lower. We feel this is about the most economical fertilizer program while still maintaining yields,” Benisch says. “We can show the grower how much each program costs and let them decide which one is best for them each year. Some years, it might be a build, but lately, it has been mostly no-builds. Our customers appreciate having options.”

With every fertilizer program, MKC also uses check blocks as a test to yield goals, which help establish the point of diminishing returns.

“We can also generate a profit-loss report for a field or even by management zones to accurately measure if each zone was as efficient as it could have been or if more adjustments are needed,” Benisch says.

MKC offers another economic consideration in light of tight budget management—the option to contract fertilizer up to 12 months out.

For in-season management, MKC was a pilot tester of WinField United’s R7 Field Forecasting Tool (FFT). The FFT is a crop model based on N, K, weather and water that uses field information and tissue samples to help growers make better in-season decisions on their fields.

“We are also one of the few organizations to pilot WinField’s Data Silo project. This is a tool that WinField has created that will have master control of field boundaries to start but ultimately will be the central, connecting hub for all precision ag data. When we make a change in one system, it will update that change across all connected platforms,” Benisch says.

The team has also assisted farmers in working with Natural Resources Conservation Service offices to see what government programs are available for nutrient and irrigation management, which will pay for the cost of the services in many cases.

Efficiency In Retail Operations. For its business, MKC uses technology to be more efficient. The machinery fleet uses Razor Tracking to provide real-time location of all application and tendering equipment. The system also displays information such as idle time, miles per gallon and other performance metrics to help control costs and improve efficiency.

MKC is using data to build bridges with customers and deliver value for the cooperative and the farmer.

Benisch says, “One success story I like to share about how precision ag has helped our growers is from back in 2013. This grower hadn’t done much with precision ag, but then, we did the full line of everything we could do. We did grid soil sampling, variable-rate fertilizer, variable-rate lime applications, developed management zones for variable-rate N, variable-rate irrigation and soil moisture probes. And then we increased yields by 40 bu. over the average he had previously. It was a fantastic corn year—one of the best we ever had—so the debate was how much was environment and how much was precision ag. But in talking with most growers, their yields were 20 bu. above their averages. So this grower saw a big yield gain. We knew precision ag helped play a huge part.”

The cooperative formed closer relationships with customers as it built its precision ag services.

“Precision ag is an asset for us because it ties us much closer to the grower,” Christiansen says. “Our grower relationships are much more fully developed when we have a precision ag relationship. It’s a huge part of what we are trying to do in helping that grower be successful. And when you’re operating and helping him operate in precision ag and fully use the equipment he has and we have, it just makes him a much better customer.”