

Unfenced

VOL. 3



The Road to Higher Yields

PURSUITOF300.COM

INNOVATION BY THE MOSAIC COMPANY



LOOKING TO THE FUTURE



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Table of Contents



Utilize the Preseason to Maximize Yields in 2013	4
The Pursuit Fields of the Future	8
Manage the Margins for Return on Investment	12
A Futurist’s Farmscape	14
Best Practices: Give Your Hybrid a Hand	18
Succession Lessons	20
Retailer Q&A: Clay Scanlon, CPS Kansas	24
Upcoming Events	27



Farmers are constantly thinking about the future, especially when the calendar turns toward spring. It’s an exciting time: Land is prepared, seed is in storage, and planting is about to begin.

At The Mosaic Company, we’ve also been thinking a lot about the future — and the second season of the *Pursuit of 300™*. Our agronomy experts have jointly developed crop plans with each Pursuit Farmer, and their retailer, for their Pursuit Fields. We are also getting ready to plant our 2013

research plots around the Corn Belt. We take a long view, because the future is not just what we’ll do this season, but what we’re doing to protect the abiding potential of the land and the agriculture industry.

Preparing for the future means carefully managing margins by reducing risk and protecting stable revenue streams. It means looking at data in new ways, and thinking about succession planning. It means trying new practices and technology to find the right fit for individual farm success, and learning from the experiences of the Pursuit Farmers so each farm can improve.

For this edition of *Unfenced*, we spoke with futurists, research agronomists, industry marketers and technology companies. While each offered a specific view, the one theme that carried through every discussion was a simple one: optimism.

Whether it’s for this season or five years down the road, whether you are just starting out as a farmer or if you’re working side by side with your grandchildren, the future of agriculture is bright. We will feed the world, we will continue to advance on the road to higher yields, and we will make smart business decisions for today and tomorrow.

Kevin Kimm
Senior Director of Marketing and Agronomy
The Mosaic Company



Utilize the Preseason to Maximize Yields in 2013

For baseball fans, there's no time like spring training. Optimism reigns supreme. Each team starts the season undefeated. Visions of World Series wins dance in the heads of even the most cynical fans.

There's a spring training mindset for farmers, too. Optimism is abundant. There are no yield losses due to weather or unforced errors. Visions of career-high yields occupy their minds.

To bring that dream season to life, now is the time to work on the fundamentals and prepare for a successful year. Here are five things to consider before opening day:

Tip 1: Know your soil

Farmers typically know their land pretty well, but even the best data trackers might be able to get a little more yield by diving deeper into their data.

Curt Woolfolk, product development specialist for The Mosaic Company, believes it's as important as ever to soil-sample in 2013.

"With the drought, a lot of farmers expect higher carryover of nutrients from 2012, but that might not always be the case," he said. "I can't stress enough the importance of comprehensive soil testing to avoid compromising a season's worth of effort."

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Tip 2: Set a solid yield goal

Every good season starts with a specific set of goals and timelines. Central Valley Ag’s Tom Ortmeier, who works with Pursuit Farmer Todd Prinz, explains that setting planting dates, knowing crop demands for fertilizer, optimizing timing to the crop, and having a yield goal are some key components that can help squeeze every dollar out of every acre.

“I can’t stress enough the importance of comprehensive soil testing to avoid compromising a season’s worth of effort.”

— Curt Woolfolk

“There are a lot of factors to consider,” Ortmeier said. “You have to look at rent and see if there are any places to trim costs. Even in a good plan, trimming can get you into trouble. You can’t trim on fertilizer, weed control or a good hybrid; these are all very important to pushing yields to the top end.”

Tip 3: Conduct equipment maintenance

Input application windows can be hard enough to hit with the precision you would prefer when the machinery is working and impossible if it is not.

Conducting regular equipment checks and maintenance prior to planting will limit in-season maintenance delays, and build your confidence that equipment will run smoothly when it’s needed. Many farmers create an equipment checklist that their teams revisit annually, and equipment dealers can be a good resource for preventive-maintenance strategies.

Tip 4: Scout early and often

2013 is the year to scout better. Go deeper into fields. Scout more often. Create a scouting log as a long-term record to help predict the problems you’ll face in the future.

“To be honest, most of the farmers in our area raise livestock, which takes a lot of valuable scouting time out of their day,” Ortmeier said. “You can come up with 150-bushel corn yield by planting it, spraying it and harvesting it. In order to push to 300-bushel corn, you need to look more often to find problem areas and take action accordingly.”

Tip 5: Don’t trust a one-year trial

In many areas, the 2012 growing season was fraught with adversity. For that reason, it’s important to look at the sample size and several years of data in plot test results carefully before making decisions.

“I would advise farmers to be cautious in relying on 2012 small-plot results and on-farm trials,” Woolfolk said. “They’re very hard to evaluate in a drought year, and you need to make sure what happened is actually representative of typical results.”

Soon, farmers across the country will be hit with the variables that shape a growing season. Now is the time to grab hold of what can be controlled. And swing for the fences.

SUMMARY OF TIPS:

1. Know your soil.
2. Set a solid yield goal.
3. Conduct equipment maintenance.
4. Scout early and often.
5. Don’t trust a one-year trial.

“You can’t trim on fertilizer, weed control or a good hybrid; these are all very important to pushing yields to the top end.”

— Tom Ortmeier

Tom Ortmeier (left) discusses strategy with Pursuit Farmer Todd Prinz.



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The Pursuit Fields of the Future

1) Fungicide application at Launstein Farms. 2) Lantz Farms — Crystal Valley, Minn. 3) Pursuit Farmer Mitchell Baalman and an employee discuss high-yield strategies for the upcoming season. 4) Pursuit Farmer Todd Prinz. 5) Pursuit Farmers Curt and Christopher Hudson servicing their John Deere planter. 6) Pursuit Farmer James Schoff (left) and retail partner Malcom Stambaugh discuss plant health.

Although the *Pursuit of 300™* kicked off this past August, it's this spring that farmers get down to business, growing and making the pursuit for 300-bushel-per-acre corn a day-to-day reality.

In the fall of 2012, each Pursuit Farmer met with an agronomist from The Mosaic Company as well as their retail agronomist, to form a joint crop plan for the acres of their respective Pursuit Fields in 2013. Each farmer will adopt new technologies and practices to boost yields today and ensure the health and productivity of their acres for years to come. They'll do so guided by the five *Pursuit of 300* agronomic principles:

- 1) Provide balanced crop nutrition tailored to the needs of the individual field, based on the International Plant Nutrition Institute's (IPNI's) 4R nutrient stewardship principles — applying the right source of nutrient, at the right rate, at the right time and in the right place.
- 2) Maximize light interception in each field.
- 3) Maximize root growth of each plant.
- 4) Minimize the impact of weather variability.
- 5) Minimize the impact of external stresses from diseases, insects and weeds.

Here's a look inside each of the Pursuit Farms as well as partial strategies each farmer will employ this spring:

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MITCHELL BAALMAN

FDK Partnership, Hoxie, Kan.
Retail Partner: Crop Production Services (CPS)
Mosaic Agronomist: Curt Woolfolk
Pursuit Field: 120 acres with a center pivot

Mark Bretz, CPS Kansas:
“This is a pretty neat thing to be a part of, from our standpoint. It will be interesting to watch how this comes together.”

Best practices: Mitchell Baalman is already using precision equipment to increase his yield, and his staff is implementing variable-rate technology and practices to keep production as efficient as possible. IPNI’s 4R’s (applying the right source of nutrient, at the right rate, at the right time and in the right place) are also a key element of the farm’s success.
What’s new for 2013: On his Pursuit Field, Baalman will be implementing new techniques as well as fine-tuning current practices. He plans to increase plant population from 32,000 seeds per acre to 36,000 seeds per acre, and decrease planting speed by 0.5 mph to increase precision of seed spacing. He’ll also carefully evaluate soil test data to determine next steps in soil fertility management — especially micronutrients.

TODD PRINZ

Prinz Farm and Feedlot, West Point, Neb.
Retail Partner: Central Valley Ag
Mosaic Agronomist: Curt Woolfolk
Pursuit Field: 155 corn acres on center pivot

Tom Ortmeier, Central Valley Ag:
“He is an aggressive young farmer who already uses tissue sampling to test nutrient levels in fields.”

Best practices: Keeping irrigation equipment in the right place at the right time has been a key for Todd Prinz, as has maintaining meticulous data sets that

cover yields, inputs, soil testing and marketing. He uses no-till practices, with a back-to-back corn crop followed by soybeans to reduce pest pressure.
What’s new for 2013: Prinz’s Pursuit Field was not only harvested for grain last season, but the stover was also swathed and baled. This additional nutrient removal will be replaced by applying MicroEssentials® SZ™ in the spring, starter fertilizer with micronutrients at planting, and nitrogen application through the center pivot irrigation throughout the season. Prinz will also be increasing his seeding population to 38,000.

MATT AND LUKE LANTZ

Lantz Farms, Lake Crystal, Minn.
Retail Partner: Crystal Valley Cooperative
Mosaic Agronomist: Dr. Kyle Freeman
Pursuit Field: 160 acres currently in corn-on-corn rotation

Gary Spence, Crystal Valley Cooperative:
“We’ve been working together for 20 years, and we’ve always been pretty aggressive.”

Best practices: Matt and Luke Lantz use precision planting equipment to maximize the return on investment in seed. Data management has been a key to their success, and using inputs wisely has also helped them achieve next-level yields. Matt applies two rounds of fungicide — one at V5–6 and one at R1 — to keep the corn plants free from disease. He raises hogs, too, and makes good use of manure from that side of the operation.
What’s new for 2013: Many of the fertilizer techniques the Lantz brothers already use are very sophisticated, so Lantz Farms will put in some on-farm trial plots with new nutrient combinations to identify any new ways to maximize production and keep the soil healthy. The biggest differentiator for their Pursuit Farm will be some experimentation with boron to battle possible depletion levels from the corn-on-corn rotation.

DALE LAUNSTEIN

Launstein Farms, Holland, Iowa
Retail Partner: Heartland Co-op
Mosaic Agronomist: Dr. Kyle Freeman
Pursuit Field: 100 acres

Dr. Kyle Freeman, The Mosaic Company:
“The Pursuit Farmers are talented and know how to achieve high yields. Dale was able to achieve 200 bushels in a drought last year.”

Best practices: Dale Launstein has a strong team. It’s a high-energy group that helps him bring the best new technology, agronomic practices and farm management trends to bear on every acre. He is dedicated to protecting the integrity of the land through sound agronomic practices.
What’s new for 2013: Launstein will be adding micronutrients to his fertilizer program, as well as aerial applications of fungicide and insecticide during the season. He will also add a nitrogen application at planting to his overall fertility program.

CURT AND CHRISTOPHER HUDSON

Hudson Family Farms, Crawfordsville, Ind.
Retail Partner: Crop Production Services (CPS)
Mosaic Agronomist: Ron Olson
Pursuit Field: 170 acres coming into corn after soybean rotation

Mitch Groves, CPS Indiana:
“We’re talking about changing nitrogen timing on part of the field. We want to do what’s right for the grower and determine the best return on investment.”

Best practices: Curt and Christopher Hudson have a strong data management program, including three years of data for analysis using the Farm Works GPS

data online tool. They also purchased a new combine in 2012 that will provide even more data, and have a solid program for seeding volume and row spacing.
What’s new for 2013: The Hudsons will use plant analysis to enhance their soil nutrition program, and are already planning to split-apply nitrogen and combine the in-season application with a fungicide treatment. They will add MicroEssentials SZ to give the soil additional zinc and sulfur, and utilize their 2013 data to build a long-term nutrition program.

JAMES SCHOFF

Schoff Farms, Walnut, Ill.
Retail Partner: Ag View FS
Mosaic Agronomist: Ron Olson
Pursuit Field: Three similar fields throughout his farm

Ron Olson, The Mosaic Company:
“I’ve been in this business a good while and had these kinds of conversations in the 1980s. ... Back then, we were looking for 200 bushels per acre.”

Best practices: As a retailer himself for almost 20 years, James Schoff knows the value of data in determining best agronomic practices field by field to maximize yield. He works closely with experts in variable-rate technology, and keeps ahead of the latest trends in equipment and crop protection.
What’s new for 2013: Schoff will be adding foliar fertilizer applications and increasing planting population by 3,000 plants per acre in his Pursuit Fields. He will also add MicroEssentials to his overall fertility program, and increase soil testing to measure results.

Follow each Pursuit Farmer’s efforts throughout the growing season at www.Pursuitof300.com.

Manage the Margins for Return on Investment

The secret is out: It's a pretty good time to be in the farming business. But this era also requires a bit more cerebral fortitude than ever before.

This is an industry that has always been flush with difficult decisions, but today there are more. And those decisions are more high-risk than ever.

Today's farmer has countless options for seed technology, equipment, inputs and data management. That means farmers need to work a far more complex equation to improve the bottom line today, and likely for the foreseeable future.

There are always variables that can't be controlled; the weather might not cooperate, pest infestations may cut into yield, or other factors may reduce the return from each acre. But good management can create many opportunities to boost profit.

Mosaic Vice President of Market and Strategic Analysis Mike Rahm keeps an eye on the trends and the economics of this new world.

"Farmers today have to think about their crop and practices as an equation," Rahm said. "They should always be asking themselves the foundational question: What price do I need to get for my crop when all of my costs are calculated?"

Rahm sees the input big picture as a "bundle" of inputs that includes seed, fertilizer, equipment, herbicides, fungicides, insecticides and labor. Many of those inputs can be acquired at fixed prices to help farmers better predict their costs.

"Even with skyrocketing cash rents, farmers are willing to pay because they know they can sell forward at a profit based on a fixed commodity price," Rahm said. "If a farmer fixes his input costs and locks in rents for several years, at that point, he knows how many

bushels he needs to get from each acre to turn a profit."

The real key to increasing profit margins is to get ahead of the national average. If a farmer fixes rent and input costs, as well as the per-bushel price, any increase in yield over and above the average is money in his pocket.

"If the market is giving you five to six dollars per bushel, based on a 200-bushel yield volume with fixed costs, the addition of 50 to 100 bushels is pure profit,"

"If the market is giving you five to six dollars per bushel based on a 200-bushel yield volume with fixed costs, the addition of 50 to 100 bushels is pure profit."

— Dr. Mike Rahm

Rahm said. "While sometimes farmers miss out on short-term profit when commodities prices soar, having that stable price can incentivize a farmer to get more bushels to make up the difference."

As in any industry, innovation leads the way to meeting advancing goals in agriculture. Precision, data, technology and a little bit of guts will lead growers into the next phase of yield, according to Rahm.

"There will always be a group of farmers who lead agriculture forward, and I would anticipate further expansion and innovation will result from that," Rahm said. "With all the technology and data-mining opportunities, there's no end in sight for advancing profit growth."



DR. MIKE
RAHM

Michael R. Rahm is responsible for managing and conducting market and strategic analysis for The Mosaic Company. Rahm joined Mosaic when it was formed in October 2004 through the combination of IMC Global and the Crop Nutrition business of Cargill.

Prior to joining Mosaic, Rahm served as a market analyst for Cargill Crop Nutrition for 19 years. Before joining Cargill, Rahm taught economics at Macalester College in St. Paul, Minnesota.

Rahm earned a bachelor's degree in economics and English from Loras College in Dubuque, Iowa. He earned M.S. and Ph.D. degrees in agricultural economics from Iowa State University in Ames, Iowa in 1978 and 1980.

Rahm is a member of the Fertilizer Institute's Economics Council and the International Fertilizer Industry Association's Agriculture Committee. He also serves on the board of the Minnesota Council on Economic Education.

A Futurist's Farmscape

One might argue that farmers were the first futurists, eyes fixed on the horizon, examining how tomorrow's weather might affect a crop harvested months later. Still today, they look ahead to the next phase in the crop cycle, the next great time to market, and further into the weather forecast than ever before.

Futurist and best-selling author Jack Uldrich looks further yet. He follows trends in agriculture and the overall global economy. For him, futurism is not about making predictions, but about identifying upcoming trends and potential futures to be explored.

"I know we'll find a way to feed the world population in the next few decades," Uldrich said. "Farmers have been stepping up and innovating for hundreds of years, and there's no reason to believe that won't continue."


Uldrich notes key areas that will have great impact on the future of agriculture:

1. Genomic/Genetic science

Five years ago, it cost researchers \$150 million to sequence a genome. Today, that price is closer to \$1,100, and by 2016, experts predict the ability to sequence a genome for just 56 cents. That means traits will more easily be isolated and incorporated into hybrids, giving farmers more ways to farm more efficiently on every acre.

"Stronger corn that features specific disease and pest resistance can expand the area where crops are grown, making it easier to feed the world's population," Uldrich said.

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Pursuit Farmers Luke (left) and Matt (right) Lantz explain how they are utilizing the latest precision planting techniques.

A FUTURIST'S ADVICE TO FARMERS

For farmers to take full advantage of future opportunities, Uldrich offers some important advice:

Stay Flexible. “The world is changing,” Uldrich says, “and you have to be ready for it.” Adaptability is a primary trait of an innovator, and most farmers are always ready to check the data and move operations forward accordingly.

Embrace Ambiguity. “The future will unfold in many ways, not just one way,” Uldrich said. “That means there can be expansive changes, or changes to specialized niche markets. Farmers shouldn’t close out any of their possible industry improvements.”

Keep an Open Mind. “Whenever you have change coming at an exponential rate, as we’ve had in ag in the past few decades, it can be easy to let skepticism take over,” Uldrich said. “It’s important for farmers to keep an open mind, so they can take advantage of the power that will come with embracing the future.”

(Continued story)

2. Technology adaptation

“The biggest thing in ag technology that plays a role in advancement is the explosive growth of sensor technology,” Uldrich said. “Farmers today are able to capture immense volumes of information, which they can use to plan and solve problems. The farmers who create a good system for tracking information and putting it to work in the field will be light years ahead of the game.”

Companies like IBM, Cisco and GE are building technology platforms around sensor and data management technology. While the applications would not be solely agricultural, the technology will help farmers create a matrix that will support problem solving on a higher plane.

“We like to think we’re efficient in the way we work, but there’s always a way to improve how we work, and that will translate to an improved bottom line for farmers,” Uldrich said.

3. Robotics

In California and Nevada, testing of self-driven robotic cars is already legal on public roads. While automation in agriculture isn’t quite as advanced, the industry is starting to see its first automated vehicles phasing their way into the picture. And the advent of auto-steer and GPS to streamline operations and complete tasks with precision has already had a dramatic effect on production efficiency.

“Rather than eliminating jobs or making activity management more difficult with robotics, many companies are finding that the reverse is true,” Uldrich said. “Robots can do the more menial tasks, freeing up farmers to expand and improve.”

Uldrich notes that within the dairy sector, automation in milking has helped a younger generation of farmers feel ready to come back home and work on the farm. “Running a dairy used to mean being around all day, every day to get the milking done,” Uldrich said. “Now, a new generation is coming home to the farm, in part, because automation is making them feel like they will be able to have work-life balance.”

4. Consumers connecting with agriculture

With the spread of cities and suburbs, what might have been considered “rural” before will soon be a stone’s throw from suburbia. Farmers are now finding themselves living and working near citizens who have never worked on a farm.

“When farming and city living start to interact more, everyone will have a better perspective on how food is produced,” Uldrich said. “It will also help residents of cities feel connected to a farm community that they can be proud of and patronize. That can only strengthen the reputation of American farmers in the eyes of consumers.”

So what will the future hold? Even a professional futurist doesn’t know. But with hard work, an open mind and a spirit of adventure — each hallmarks of the industry’s history — American agriculture will continue to be strong in the decades to come.



ABOUT JACK ULDRICH

Uldrich is a renowned global futurist and the author of 11 books, including award-winning best sellers such as “The Next Big Thing Is Really Small: How Nanotechnology Will Change the Future of Your Business,” “Jump the Curve: 50 Essential Strategies to Help Your Company Stay Ahead of Emerging Technology” and “Higher Unlearning: 39 Post-Requisite Lessons for Achieving a Successful Future.” His most recent book is “Foresight 20/20: A Futurist Explores the Trends Transforming Tomorrow.”

Uldrich is also the founder of The School of Unlearning — an international leadership, change management and technology consultancy dedicated to helping businesses, governments and nonprofit organizations prepare for and profit from periods of profound transformation.



“Five years ago, it cost researchers \$150 million to sequence a genome. Today, that price is closer to \$1,100.”

— Jack Uldrich

Best Practices: Give Your Hybrid a Hand

Nobody can question whether the agriculture industry is up to the challenge.

As experts predict that the world's population will increase from seven to nine billion by 2050, the leading minds in agriculture have developed an intense focus on increasing yield. The global challenge of growing almost twice as much food on fewer acres has forced both scientific discovery and technological adoption to move at a rapid rate. Growers have responded by looking to the best science available to meet rising needs. In fact, industry experts predict that more than 50 percent of U.S. corn acres will be planted in stacked-trait, insect-resistant hybrids in 2013.

It's an important time to remember: There's no easy option for long-term yield gain.

Instead, maximizing the benefits from top seed technology requires a comprehensive crop management approach. This includes assessment of nutrient uptake and the exact nutrition prescription needed to help the hybrid achieve success.

There's perhaps no better example than the plight of Corn Belt farmers fighting corn rootworm.



The corn rootworm problem

Corn rootworm is one of the most devastating insect pests corn farmers face each year. It does its greatest damage at the larval stage, feeding on the roots of young corn plants. Rootworm larva feeding inhibits the corn plant's ability to take up water and nutrients, including potassium, decreasing plants' ability to develop, which can ultimately lead to yield loss.

The U.S. Department of Agriculture (USDA) has estimated that the damage caused by corn rootworm and the costs associated with controlling it typically total \$1 billion annually.¹

More tech, more nutrient removal

New research conducted at the University of Illinois suggests that micromanaging the crop's nutritional needs is critical in pushing the yield barrier and maximizing return on investment.

University of Illinois professor of plant physiology Dr. Fred Below compared corn rootworm-resistant hybrids with their conventional counterparts to examine the variance in nutrient uptake.

Dr. Below confirmed the new resistant hybrids removed more nutrients than conventional counterparts, and that the increase in potassium removal was greater than the increased removal of many other nutrients.

This underscores the need for farmers to combine a strong fertility program and balanced crop nutrition with the high-tech seed they've selected, in order for that seed to reach its full potential.

Maintaining the power of potassium

Potassium (K) is a vital nutrient to plant growth, since it performs a number of core functions to ensure healthy, stress-resistant plants. Treat plants to enough potassium, and the damage that pests and tough conditions create will actually be inhibited.

When water is scarce, potassium helps create concentration gradients inside the plant to help pull water into the plant. Furthermore, potassium regulates leaf tissue openings (stomata), helping them open and close quicker, which reduces moisture loss through the leaves and helps keep moisture in the plant. Aside from helping maintain stalk strength and standability,

potassium helps prevent disease by ensuring sugars and proteins the plant produces do not build up in tissues. Tissues with high levels of sugars and proteins attract insects and disease because these sugars are such excellent food sources for the pests. Adequate potassium levels in plants help maintain lower concentrations of sugars and proteins in cells, helping to prevent disease infections and deter insects.

On the other hand, potassium deficiencies can create a vicious cycle of unmet needs for a corn crop under pressure. Stressful conditions, such as those created by drought, disease and insect pressure, can interfere with root development and access to soil potassium.

Since corn rootworm-resistant hybrids require more potassium, it's of increased importance that farmers have a plan in place to protect the supply of this key nutrient pivotal to yield success.

Protect seed investment by protecting potassium

It's becoming clear across the Corn Belt that some farmers are removing more potassium from the ground than they're putting back.

Potassium exists in the soil solution, absorbed onto soil particles and tightly held in mineral forms. The solution K is readily accessible to the plant, but is present in very low concentrations. As it gets taken up by the plant, other forms of potassium can slowly reenter the soil solution, but depending upon the form and soil type, this process can be very slow.

The International Plant Nutrition Institute's (IPNI's) most recent study of soil fertility levels showed that in many regions, potassium levels are declining, a strong indicator that farmers' current fertilization rates are not adequately replacing nutrient removal by high-yielding hybrids.

High-performance seed technology is a big investment for farmers, and a proven tool for boosting yield. Hybrid seeds are an outstanding tool for higher yield, but not a replacement for the nutrients that allow it to prosper. Producers need to take into account what this technology is removing from the ground as well.

Moving forward, revising fertility plans to take into account new requirements for potassium will be critical to help achieve unprecedented yields.

¹Comis, D. (2007): Corn Belt Growers Give Area-Wide IPM a Try. USDA.

Succession Lessons



From left to right: Pursuit Farmer James Schoff, Ray Schoff and Tanner Schoff represent three generations of Schoff Farms.

When it comes to succession planning, jarring statistics have told an unnerving story for the past half-decade. Almost 50 percent of farmers are less than 10 years from retirement, yet about 80 percent do not have a succession plan they're confident in.

It's time to get moving.

There are plenty of resources available for farmers who want to make a plan. University extension offices hold special workshops on succession planning. Some industry magazines have regular succession planning

content, and the Internet is loaded with information about the process of transitioning the family business smoothly to the next generation.

Certified public accountant – turned Purdue University extension specialist – Alan Miller has been on the front lines of the succession education movement.

Diving deep into the details of succession planning, Miller helps Purdue advise farmers as a farm business management specialist.

Miller and other advisors have learned some key

lessons over the years as they work with farmers on succession plans. While all farms are unique, there are some factors every farmer should consider as they plan for what's ahead.

The first step is the hardest to take

For many farmers, the first question is the hardest to answer: Where do I start?

"In a lot of cases, farmers around the country don't know how to get started, and that delays them,"

Miller said. "We need to help them change their thinking about what succession planning is. We should view succession planning — which primarily focuses on the people in the family and preparing them for a transition — as an ongoing part of farm management, not so much as a task that's checked off the list somewhere down the line."

Miller says those who have not gotten started on their succession plan should begin by doing the homework required to get off on the right foot.

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“Here at Purdue, we say the starting point in the succession planning process is gathering information,” Miller said. “You should attend succession planning meetings to get ideas, talk to other farmers about what they’ve done, and get your questions answered. It’s time well spent.”

Put together a complete team

It is easy to make the mistake of putting fewer people around the table, especially when some difficult family discussions may be required. That’s a mistake that Miller said is actually quite common.

“I think the person on the team who is most sorely missed is usually a family business consultant,” Miller said. “They can help guide you through the process. And these people help families as much with the human dynamics in play as the technical and financial aspects of the process.”

Miller says that the succession planning team should also include a lawyer, an accountant and perhaps your lender, as well as the farm operation management team. This allows each person to stick to their specialty.

PURDUE’S ACTION PLAN FOR MANAGEMENT SUCCESSION¹:

- 1. Gather information and ideas; discover expectations.
- 2. Generate and examine options.
- 3. Make preliminary decisions and check with experts.
- 4. Decide on a plan and develop the plan.
- 5. Implement the plan.

¹Courtesy of www.agecon.purdue.edu, adapted from “Family Farm Business Advisor: Manual for Farm Families and Their Professional Advisors.” Manitoba Agriculture, Manitoba Farm Business Management Program, 1996, Chapter 11. January 2010.

Local isn’t always logical

Most farmers look first to their local resources as they work through planning, but Miller notes that expertise should trump proximity.

“With the digital communications options available to farmers today, the person you add to your team doesn’t have to be located on Main Street in the nearest town,” Miller said. “In fact, that local person may not have experience with this type of work.”

Farmers should not only select team members who have succession planning experience, but also who have experience with operations of their size and type. Miller recommends farmers connect with peers at trade shows, commodity organizations or succession workshops to get recommendations of team members with the experience they require.

Ask the hard questions

In Miller’s 30-plus years of experience, one recurring issue that comes to light all too often is that different stakeholders in the operation have strikingly different goals for its future.

“One of the big issues is that farm families tend to think ‘we all want the same thing,’ and that’s rarely true,” Miller said. “If the stakeholders aren’t talking regularly and openly about how they want to manage the farm, it’s not likely that everyone will be on exactly the same page.”

Too often, farm families aren’t having conversations about the future of the enterprise, meaning that by the time the succession conversation begins, one person’s goals can stand acres apart from another’s.

“A fairly simple, but valuable strategy farm families should take advantage of is to regularly — no less than annually — get together and talk about the future of the business,” Miller said. “They should ask themselves, ‘What are our goals for the future? Not the stuff we’re worried about now, but where do we want to be down the road?’ Our research shows that if families do that one thing, it’s highly related to making progress on the succession planning front when that time comes.”


“We should view succession planning — which primarily focuses on the people in the family and preparing them for a transition — as an ongoing part of farm management, not so much as a task that’s checked off the list somewhere down the line.”

— Alan Miller



Retailer Q&A:

Clay Scanlon, CPS Kansas

A photograph showing three men walking from left to right on a gravel path. In the background are several large, light-blue cylindrical agricultural storage tanks. The man on the left is wearing a dark t-shirt and jeans. The man in the center is wearing a light-colored polo shirt and jeans. The man on the right is wearing a grey t-shirt, jeans, and a baseball cap.

Clay Scanlon (center) talks with Pursuit Farmer Mitchell Baalman (left) and crop consultant Brett Oelke (right).

Clay Scanlon of Crop Production Services helps western Kansas farmers, including *Pursuit of 300SM* grower Mitchell Baalman, navigate the ever-changing marketplace of efficiency-related products.

Scanlon took time recently to chat with *Unfenced* about his views on the future of agriculture efficiency and innovation.

***Unfenced:* What are some ways farmers in your area are creating higher profitability through increased efficiency?**

Scanlon: When it comes to becoming more efficient, there are three things that come to mind in our area. The first thing is strip-till fertilizing. It's been the biggest adoption in our area to cut down on fuel cost, labor cost and machinery. And it really helps, being able to utilize those nutrients to the best of their ability by putting them under the seed slice and not having to worry about volatilization. That's really taken off here and has provided the best average return versus a conventional or no-till system.

Of course, there is also auto steer and just precision agriculture in general. That technology has made a major impact here, and our growers have adopted it quite well.

And I think one tool that a lot of guys might take for granted, but has made producers much more efficient through increasing the size of their operations or cutting man-time, is the use of a preemerg herbicide. It buys them time. Or cuts down on those extra operations. When you look at what those dollar amounts would be, it adds up. Preemerg herbicides are one thing we take for granted, but they make a big difference.

***Unfenced:* What are some of the more cutting-edge efficiency tools that might become more commonly utilized by farmers in 2013?**

Scanlon: When we look at technology adoption in our area, variable-rate technology will lead the way this year. Whether its variable-rate fertilizer, seed or

even irrigation scheduling to some degree. A lot of the producers we work with have the capabilities to gather that information. The biggest challenge that they face right now is "what do I do with it?" It's being able to filter through that information to pinpoint the accuracy, and determine how we can improve the acres that are more productive and maybe be more efficient on the acres that aren't as productive.

I think that's really what we're going to see with our producers this year in that regard. They're going to be able to take off on utilizing that equipment and utilizing that data to be more efficient, putting the right inputs in the right places and driving yield.

***Unfenced:* What's the next big thing?**

Scanlon: Here in western Kansas, it will have to do with water utilization. Our state legislature has just passed groundwater legislation that has limited more than 63,000 acres here with regard to the amount of irrigation that producers will be able to use.

Long story short, producers in this groundwater district will have 55 acre-inches over five years to utilize. So I think where we'll be heading is looking at, instead of bushels per acre, how many bushels per inch of water are we raising, and how efficient can we be with that over the next five, 10 or 15 years.

***Unfenced:* That's certainly a new dynamic — calculating your water as an input.**

Scanlon: That's where we are now. We had a grassroots effort from some of our more progressive farmers who saw the need. The Ogallala Aquifer is declining, and they want to save that water for future generations. They were very proactive in realizing that something needed to be done now, and they came up with this plan.

I don't know if we have our heads around it quite yet, but we will figure that out. I think in the efficiency and technology area, where we're going now will be to really fine-tune how productive we are with an acre-inch of water, not judging production by bushels per acre.

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Unfenced: When a grower comes to you thinking about making a change geared toward efficiency, how do you help that grower evaluate the change?

Scanlon: The first thing we want to do is have a very good understanding of that producer's operation. We want to know it inside and out. How they manage the operation and what tools they are currently using. The next thing, and often the biggest thing, is defining the goal. What are you trying to accomplish by adding this technology or changing the system? Once we find that out, we can circle back to gauge if it will be successful.

We also want to know who is going to take ownership of this. Who is really going to take control? Then we'll go through the advantages and disadvantages. What we want is a win-win, in which the producer is able to accomplish that goal we decided on at the very start of the process. If we can do that, we'll take the necessary steps to move forward.

Unfenced: What's one aspect that growers might regularly leave out of their efficiency calculations?

Scanlon: Efficiency to each producer is defined differently. We can do breakevens and cost analyses with these producers to see how efficient they're going to be, but one measure we look at that a lot of farmers forget about is the list of intangibles. Will a change result in spending more time with your family? Expanding your operation? Or will you not have to work Sundays? We forget about things you might not be able to put a price on.

Unfenced: Do you think growers in your area are more willing to experiment than they have been in the past?

Scanlon: You know, I hope so, and I think so. I think you're always going to have a group of guys who are very progressive. I consider them the innovators. They'll always want to try new things and be very aggressive. Then we have a group that wants to get there, but they might

want to watch and see how it works for the neighbor first before they make that investment. And we have a group that's status quo, happy with the way things are.

We've very blessed to have a real strong group of progressive, aggressive guys who are always looking to improve their farming practices and their business. I think we'll continue to see that trend evolve, and adoption will continue to become more of the norm.

Unfenced: Innovation is coming into the marketplace at a pretty rapid rate. What role do you, as a retailer, play in introducing farmers to innovative ideas?

Scanlon: We play a very integral role here to be that filter of information. I think we're just at the tip of the iceberg in terms of technology in the ag industry. In five years, who knows what will be obsolete?

I feel one of our main roles is to help filter all that data. We take pride in the fact that we do a lot of test plot work — field trials, side-by-sides — to find out if these products will actually work in our area. I don't see that changing.

In fact, I see us pushing the envelope and becoming more and more involved in that regard as we move forward. We just purchased a tractor and planter for our division here, so our customers don't have to slow down and do plot work for us. We'll be able to do that in their fields ourselves, which will allow us to do more trial work over a larger geography to determine what's working and what's not.

For more from Clay Scanlon, follow Mitchell Baalman's *Pursuit of 300* at www.Pursuitof300.com.



Upcoming Events

When the ag industry comes together, it is always an impressive sight. Events and trade shows are some of the best ways producers can discover what's new and connect with others like them. *Unfenced* will keep you in the loop — and your calendar updated — with all the big dates in agriculture.

MICHIGAN STATE UNIVERSITY AG EXPO

July 16–18, 2013
East Lansing, Michigan

Michigan State University's annual Ag Expo, made possible by the school's College of Agriculture and Natural Resources and AgBioResearch Departments, brings together over 200 commercial exhibitors and 18,000 visitors. Featured attractions include interactive displays for youth, tractor ride 'n' drives and educational sessions.

Admission is free.

agexpo.msu.edu

FARMFEST

August 6–8, 2013
Redwood Falls, Minnesota

Farmfest connects over 35,000 attendees with more than 600 leading farm industry companies. Show highlights include field demonstrations on the industry's latest technological advancements, educational and political forums, and family-friendly programs and entertainment.

Admission is \$10 per adult and free for ages 18 and under.

ideaggroup.com/farmfest

DAKOTAFEST

August 20–22, 2013
Mitchell, South Dakota

The premier agricultural event in South Dakota, Dakotafest provides both exhibitors and attendees with all their farming and ranching needs. Offering field and livestock demonstrations featuring the latest advancements in the industry, Dakotafest continues to grow with decision-making producers.

Admission is \$8 per adult and free for ages 18 and under.

ideaggroup.com/dakotafest

FARM PROGRESS SHOW

August 27–29, 2013
Decatur, Illinois

Farm Progress Show is the nation's leading outdoor farm show, and features the most extensive state-of-the-art information and technology available for today's agricultural producers from North America and across the world. Visitors have the opportunity to see the latest equipment, seed, crop chemicals, field demonstrations, livestock handling and equine events, ride 'n' drives, rural life programs and entertainment, arts and crafts, and more.

Tickets are \$10 at the gate.

farmprogressshow.com

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