NAVIGATE
THE R&D IMPACT
ON YOUR FARM

DO MORE WITH
YOUR DATA
CAPTURE PROFIT
THROUGH
TECHNOLOGY

A PUBLICATION OF THE ILLINOIS SOYBEAN ASSOCIATION | DECEMBER 2017
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Aspire® is a superior boron delivery system combining boron with potassium in every granule for uniform nutrient distribution. Fields applied with Aspire are proven to improve crop performance with higher yields than standard methods. Ensure your B is right where you need it for optimum plant health.

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COVER STORY:
Adapt and Excel in Changing R&D Environment
Farmers traditionally have a variety of third-party data to answer questions about product performance. But changes in agriculture are altering the research pathway, which means farmers will have to find new ways to get the data they need to up their profitability game. Learn more about the activities affecting research and development and tips to be successful.

Do Something with all that Data
Do you have a data steward? Knowledge is power for making sound decisions. Read here to understand what a data steward is, how they might assist you with data use and how to find one.

No Downtime for Soybeans This Winter
The Illinois Soybean Association (ISA) checkoff program is hosting a broad range of events for farmers across the state; leveraging the colder months for education, growth and development. Get a look at the unique events planned and the registration information you need to participate.

Technology Strengthens Synergy Between Livestock and Crops
Using, monitoring and calibrating key tools allow diversified farmers to capture profit potential. Find out how to use today’s technology to manage both livestock and crop enterprises.

Six Receive ISA Industry Leadership Recognition
ISA checkoff and membership programs honored six industry leaders with awards of excellence last month for guidance in promoting soy from Illinois in ISA’s priority areas: leadership, marketplace, stakeholder engagement, technology transfer and transportation. See who they are.

GETTING TO KNOW:
Austin Rincker
Austin Rincker is an ISA at-large director from Moweaqua, Ill. He also serves as chairman of the ISA Marketing Committee. Rincker shares why he believes getting involved with leadership is a good opportunity for soybean farmers and where he sees agriculture headed.
Growth and Technology:
TWO KEYS TO 2018 PROFITABILITY

Whether you are considering expanding your farm to take advantage of economies of scale, or investing in technology to make your farm more efficient, both could lead to a better 2018.

According to an article that recently appeared on the University of Illinois’ FarmDoc Daily website, “Does your Farm Need to Expand,” the authors suggested farm growth may help reduce costs, improve profit margins, improve asset utilization, bring in new family members, invest retained earnings, and more fully utilize the skills of key managers.

“Reduction in costs and improvement in profit margins and asset utilization are related to economies of size. As farms become larger, fixed costs per unit of production decline. These fixed cost declines are typically related to machinery and equipment and labor costs. As farms expand, they often are in a better position to purchase and adopt new technology. Technologies often reduce per-unit machinery and equipment costs and improve labor productivity…”

With continued tight profit margins, many Illinois soybean farmers are looking for new or different ways to manage production for the new year. That may be farm growth, that may be technology, or that may be something else. This issue of Illinois Field & Bean addresses some of the topics farmers may face in 2018 as we focus on greater efficiencies and profitability.

For example, our cover story takes a look at how the rash of recent ag company mergers may affect new product development and research that might lead to innovation. We also take a look at the technology product pipeline to provide an idea of what is on the horizon.

Are you one of those farmers collecting data from your fields and wondering what to do with all of the information to be sure you get the most for your investment? One data specialist addresses where the industry is at and who might shape the future in terms of data value and use.

Maybe you are counting on manure as one way to save on fertilizer input costs in 2018. We have tips on how you might save a few dollars. Also find inside a list of winter terms of data value and use.

As we close out another calendar year, I encourage all Illinois soybean farmers to consider service to the industry. ISA is looking for quality leaders to join the board of directors when several seats open up next summer. Please consider volunteering! Happy holidays.

LYNN ROHRSCEIB
ISA Chairwoman
Illinois’ rolling hills, plains and river bottoms offer some of the most diverse growing conditions for soybeans, challenging farmers year after year.

Despite challenges, Illinois soybean growers continue to excel. For the last five years, the state has landed within the top two spots for national soybean production.

Illinois soybean farmers are leaders in production because they see the value in trying new technology and management strategies. The state has a major concentration of research plots for soybean products, and we receive a very robust data set that’s used to refine the soybean product line we select for Illinois farmers.

Most recently, Illinois farmers have seen benefits of the Roundup Ready 2 Xtend soybean technology, which was launched for the 2016 growing season. Resources and efforts spent building up the breeding pipeline for Roundup Ready 2 Xtend are evident in the fields across the country where the technology has led to extremely healthy soybeans in 2017. In fact, we anticipate varieties with Roundup Ready 2 Xtend soybean technology will bring a step change in yield above and beyond the Genuity Roundup Ready 2 Yield platform.

On another front, the invisible threat to yield caused by nematodes in Illinois soybean fields causes more than $200 million in losses to farmers each year. Found in more than 80 percent of fields, nematodes exist in every county. They remain a problem because yield loss often occurs without any visible symptoms. University of Illinois specialists advise when yields do not meet expectations in a field, nematodes should be the first suspected cause, even if plants look healthy.

Researchers have put a great deal of time and resources into developing technologies to manage nematodes. One of the newer technologies farmers may consider in the battle is NemaStrike Technology, a synthetic nematicide that is part of Acceleron Seed Applied Solutions. It has a novel mode of action that stays in the root zone for 75 days of broad spectrum control.

As seed companies bring additional new technologies to market, farmers can rely on local seedsmen to help them select soybean products that fit their farms’ unique soils, growing environment and management. For example, Channel’s Field Check Up Series service helps provide insights about placing products where they will perform.

Channel has a commitment to Illinois farmers to select game-changing genetics and to pair them with new herbicide platforms. Combining the right assets with the knowledge and expertise of a local company seedsmen can provide a win-win for 2018 and beyond.

“The state has a major concentration of research plots for soybean products, and we receive a very robust data set that’s used to refine the soybean product line we select for Illinois farmers.”

Kurt Calvert has been with Monsanto Company for more than seven years in a variety of roles, including district sales manager in northern Indiana and geospatial engineer in the St. Louis area. As soybean product manager, he most enjoys bringing products to market that help make farmers successful. Farmers can check Channel.com for more information about Channel products and seedsmen.
Adapt and Excel in Changing R&D Environment

> BY LAURA TEMPLE

**What’s new? Does it pencil out?**

As farmers plan for next season, most compare new seed varieties, trait packages and crop protection options to their current programs. “When we look at new products, we want to see data and cost,” says Jenny Mennenga, who farms near LeRoy, Ill. “We need to understand where data come from, if advantages are significant, and if we will get back product costs in either yield or value. A yield change of just one or two bushels doesn’t even show up on yield maps.”

Farmers traditionally have had a variety of third-party data, including university research, to answer their questions about product performance. But changes in agriculture, such as the development of biotechnology and low use-rate chemistries by major companies, have altered the research pathway to new products, requiring agribusiness, university researchers and farmers to all look beyond the usual channels of information to gather data.

**TECHNOLOGY, REGULATIONS RESHAPE LANDSCAPE**

According to research commissioned by CropLife America in 2016, every crop protection product that reaches the market costs $286 million and takes 11 years of research. With agricultural profit margins in flux and increasing regulations, developers of new products and technologies require significant resources and often must assume greater business risk.

As such, large agribusiness companies have taken the lead in research and development (R&D) from land-grant universities. “Companies can move much more quickly than universities,” says Kelly Robertson, agronomist with Precision Crop Services in Benton, Ill. “They do more research more quickly and efficiently, and they have the resources to develop new products in today’s regulatory environment. But they must also focus on shareholder profits.”

These factors contribute to the consolidation trend impacting many segments of agriculture. As the most recent round of mergers reshape the agribusiness landscape, the competition for product innovation eases. Resources committed to research and development must increase.

The new U.S.-based DowDuPont Agriculture Division touts, “A greatly expanded product and service offering with robust near-term pipeline across seed germplasm, biotech traits, crop protection, seed-applied technologies and digital agriculture.” It also claims “world-class combined R&D capabilities supporting agricultural innovation and promising new technologies.”

Bayer and Monsanto are operating separately, even as they look to the pending acquisition. Bayer officials claim, “Farmers will benefit from a range of new, superior solutions aimed at helping to advance the next generation of farming and to address some of society’s most pressing challenges, including leading innovation capabilities and R&D technology platforms, with an annual pro-forma R&D budget of approximately $2.9 billion.”

Monsanto officials state, “Through this deal, we look forward to accelerating much needed innovation, optimizing the tools farmers have on their farms and expanding the offerings that will be available to growers through broad licensing in the years to come. From delivering new choices even faster to expanding current solutions, this combination will support growers in their efforts to be more productive, more profitable and more sustainable.”

For farmers, consolidation means fewer sources to monitor for new products. “With industry consolidation and the amount of product research and development done in-house, we have fewer independent voices verifying and quantifying the products companies are bringing forward,” Robertson says. He believes farmers need stronger third-party voices to help sort out statistical and economic benefits of new products.

“Universities offer an unbiased perspective,” he continues. “But their budgets are shrinking. And industry investment in university research has decreased over the past decade.”

**ASK THESE NEW PRODUCT QUESTIONS**

- How does the product work?
- Who created trial protocol and conducted trials?
- How were trials funded?
- How and where were trials replicated? In the field or greenhouse? Locally, regionally or nationally?
- How were results measured and analyzed?
- What data show statistical significance?
- How was ROI figured? And how would that translate to my farm?
- Can we try it? How can we set up a side-by-side?
CONSOLIDATION SHIFTS ROLE OF EXTENSION

The priority for research investment has shifted from third-party product performance validation to companies meeting some of the most critical regulatory requirements. And that has influenced the role of universities and other groups as third-party voices in product development over time.

Emerson Nafziger, University of Illinois professor and Extension specialist, has observed R&D changes during his career. “As private company marketing and development has evolved with a focus on biotechnology, companies are taking different approaches to how much and when they share new products with universities,” he explains. “By the time companies have products ready for market with regulatory approvals in place, they may not need much validation. Their PhDs have done years of research, and they’ve identified market potential.”

Nafziger notes other segments in agriculture, like fertilizer, have already consolidated dramatically. Agriculture is becoming more like other commercial industries.

“For example, car companies wait until new vehicles are released to share them, though they do highlight favorable independent research after vehicles have been on the market,” he says. “Because Extension researchers have less access to products in development than in past decades, we are not in the same position to make recommendations we once were.”

Nafziger says many companies mention university research as a stamp of legitimacy, though they don’t always highlight trial results. At the same time, he believes university researchers are adapting to changing needs for crop production.

“We share principles rather than specific product recommendations,” he says. “Many big problems have been solved. We fine-tune crop production to maximize yields and profits.”

Nafziger still sees needs for neutral research from universities or other sources to fill gaps in private research. “Farmers need science-based recommendations for planting dates and plant populations,” he says. “Factors like these receive less company attention. They aren’t tied to sales or meeting farmer expectations.”

GET THE INFORMATION YOU NEED

Farmers must adjust to the paradigm for new product development and accompanying research to ensure they have good information to choose seed, traits and crop inputs that fit their farms.

“Company marketing is often louder than any other voice, as farmers evaluate product options,” says Stephanie Porter, sales agronomist for Burrrus Hybrids who covers the state of Illinois. Porter spent several years with University of Illinois Extension before working for Burrrus.

“The university voice is not as loud as it used to be,” she says. “But farmers often do ask for university research as they select seed varieties.”

Porter says Burrrus, as a regional seed company, prefers to have university data for their seed varieties. However, cost of seed and submitting varieties to trials limits the amount of third-party research the company obtains.

“Farmers should ask for additional data so they don’t rely too heavily on marketing,” encourages Porter. “For example, ask how and where trials were conducted and replicated, and what constitutes statistically significant results.”

Central Illinois farmer Mennenga looks for information and answers in farm publications, from her crop consultant and from university data, if it’s available. She expects to see university trial data for new seed varieties. And she asks her own questions.

“We ask how a product works,” she says. “We want to understand what is happening in the plant as it responds to a change in its environment, especially with biological products. We also ask to try new products before we commit to a whole farm change. Usually we can. Any management change can have unintended consequences, and we want to understand that to manage risk.”

Mennenga tried a new soybean seed treatment in 2017 in part of a field of the same variety. She observed the field all season for differences, from emergence to yield data. “The results were noticeably positive. Our first question was, ’Is this real?’ because a single trial, even on our farm, isn’t statistically significant,” she says. “We must confirm our results are consistent with others.”

Reconsider Public Funding Options for Ag Research?

The current farm bill provides public funding for agricultural research as a separate line item, primarily through land-grant universities. However, many believe the budget is inadequate to meet today’s challenges. Since 2003, company investments in research have nearly doubled, while public funding has decreased significantly, despite proven high returns agricultural research. Carl Zulauf, professor emeritus from Ohio State University, suggests changing future farm bill policy to better align short- and long-term incentives.

He believes designating a share of spending from each farm bill item on related research would better support the dynamic nature of farm bill spending. “In the private market, consumers can buy products from a firm that pursues long-term benefits they value, thus enhancing the firm’s profits. Public ag research needs a similar connection,” he writes in a recent article. “Funding research as a percent of the spending on other farm bill titles could create this connection.”
Most companies express willingness to be transparent with their research. Nafziger recommends healthy skepticism come from farmers with regard to new products, as definitive proof that use of those products will pay can be difficult to generate.

"Ask questions about where the research actually came from, who funded it and what and how results were measured," he recommends. "Third-party research designed and funded by companies tends to find what it wants. Farmers should ask for university research. In the current environment, we are getting renewed signs of interest in research done at universities, although it’s no longer the case that all university-led research is completely neutral."

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### SOYBEAN R&D PIPELINE

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**Look Ahead at Soybean Pipeline**

Agribusinesses invest heavily in R&D, with budgets of millions of dollars per day. More of this investment is going into managing data, digital farming, biological pest control and breeding for stress tolerance, as well as focusing on sustainability and trait and crop protection chemistry research. Here are examples of pipeline products from major agribusiness companies.
You probably have a crop consultant, insurance agent, tax planner and attorney who contribute to your farm’s management decisions. But do you have a data steward? It may be time to get one.

“Farmers increasingly are general contractors who require specialists to manage all the parts of their operations. It is not naturally in most farmers’ wheelhouses to manage this new data. Some farmers might be best served to develop a relationship with someone who can show them how to generate returns from data they are collecting,” says Don Bierman, CEO of Crop IMS, a technology services company created by five farmer-owned supply cooperatives.

Bierman also serves on the Agricultural Data Coalition board, whose goal is to help farmers manage electronic data. He predicts farmers will add a new member to their teams – a data steward who talks the technology language and can manage data collection and applications. In fact, data steward could become a new ag career specialty as data value and use increase.

“Farmers are relatively comfortable with the data they generate with yield monitors and soil testing,” he says. “But much of the other data generated by farm technology is new. Farmers have to learn how to collect it and integrate it with the other data they have.”

For example, variable rate planting and crop input applications add a new dimension.

“Farmers who prescribe seed placement and crop input use likely have digital records of those events but may not be using them to their fullest capabilities,” he says. “And we continue to see new layers of data being created. Aerial and satellite imagery and weather data all can be used to augment day-to-day decisions. Sensor data collected in real time in the field also is new.”

**BIG LEARNING CURVE**

Agriculture is a latecomer to the data scene, so Bierman says data collection, on-farm use and data sharing are still relatively fresh concepts for the industry. Rules are still being established.

“Right now, data and information services more generally support the sale of other products farmers need. Many times, there is little support for bringing all of the data variables on the farm all into one place,” he explains. “But that is slowly changing. We are seeing outside investment capital companies move into agriculture to establish business processes outside of sales functions of these other products farmers need to run their operations. They are making data collection and monetizing data a business and that will continue to grow.”

Data stewards could help farmers determine what data they may want to share with companies, and how they want to share it. Over time, farmers will learn the value of their data to outside vendors, as well as the economic value of using their data to personally be more productive.

“Farmers must be prepared to adjust and let data help them make smart production decisions. When you know more, you operate more efficiently,” he says. “But it is a bit of the wild, wild west. Be aware that all of this is new. Some will be of benefit to farmers and some will not.”
Winter is typically referred to as “downtime” or “the off-season.” Not this winter. The Illinois Soybean Association (ISA) checkoff program is hosting a broad range of events for farmers across the state; leveraging the colder months for education, growth and development.

“ISA believes the right information leads to better outcomes, whether that’s yields or farmers’ bottom lines,” says Linda Kull, ISA director of strategic research. “The soybean checkoff is going hyper-local, offering a variety of solutions tailor-made for specific regional issues.”

“Soybeans can be very profitable with better management,” adds Dan Davidson, ISA research technical coordinator. “By offering these educational events, we help growers find their edge and take their operations to the next level with higher yields, better profits and smarter management.”

Here’s a look at the unique events planned specifically for Illinois soybean farmers:

2018 ILSoyAdvisor Soybean Summit - Lead Your Field in Yield

Where: Wyndham Springfield City Centre – Springfield, Ill.
When: Thursday, Jan. 11, 7 a.m. to 4 p.m.
What You’ll Learn: This year’s Soybean Summit will offer insightful management techniques for breaking yield barriers and gaining increased profitability. Speakers will discuss trends and techniques to boost yield potential. Illinois soybean farmers will walk away with new ideas to overcome production challenges and keep meeting the growing global demand for soybeans.
Registration Information: Register at ilsoy.org/summit or call 888-826-4011. E-mail events@ilsoy.org with any questions.

Better Beans Series - New in 2018

When and Where:
- Jan. 30: Polo
- Jan. 31: Mendota
- Feb. 1: Jacksonville
- Feb. 6: Altamont
- Feb. 22: Fairview Heights
What You’ll Learn: These new regional events will focus on local agronomic issues and management solutions from local experts. Attendees will get practical tips and best practices to help reach better yields on their own farms.
Registration Information: Registration will open online at ilsoy.org/betterbeans this month. Call ISA at 888-826-4011 or email events@ilsoy.org with any questions.

Resilient Farmer Road Show: Building Habits to be a Successful Risk Manager

When and Where:
- Feb. 13: DeKalb
- Feb. 14: Galesburg
- Feb. 15: Bloomington
- Feb. 20: Altamont
- Feb. 21: Mt. Vernon
What You’ll Learn: What makes some farmers consistently more successful than others? Attend these seminars to learn the seven habits of the most financially resilient farmers. Along with this keynote topic, learn cash-flow management, crop insurance and grain marketing strategies and other tools to manage risk and maximize profits.
Registration Information: ISA is partnering with the University of Illinois, Farm Business Farm Management (FBFM) and others to bring Illinois soybean growers these local risk-management seminars. Registration is now open www.farmdoc/illinois.edu/ResilientFarmer.
Take a trip to the capital of soybean knowledge.

The tools, the resources and the information you need to shatter your soybean yield barriers are in one place. Join us January 11 at the Wyndham Springfield City Centre in Springfield, Illinois, and learn all about the latest technologies and management techniques for reaching your full yield potential and maximizing profitability. Because it pays to lead your field in yield.

Register for free today at ILSoy.org/summit.
Funding Flows Into Local Watershed Efforts

ISA-supported field day highlights best soil and water quality practices and partnerships

Thanks to the Illinois Nutrient Loss Reduction Strategy (NLRS) released in 2015, more federal and private-industry grant dollars are flowing into local watershed efforts. The goal is to help farmers consider the benefits of adopting new voluntary Best Management Practices (BMPs). A prime example is the Upper Macoupin Creek Watershed near Carlinville, Ill. American Farmland Trust (AFT) recently secured a USDA/NRCS Regional Conservation Partnership Program (RCPP) grant that dedicates $1 million per year during the next five years to increase local conservation efforts. These dollars include both technical assistance and cost-share funding for BMP adoption and education and outreach to local farmers and other industry stakeholders.

“Cost-share dollars, along with technical expertise and local champions, are important first steps to help farmers adopt practices to enhance soil health. By reducing barriers and providing local experts, we’re helping more farmers adopt practices that contribute to healthier soils, cleaner water, greater biodiversity, stronger communities and better bottom-line profitability for farmers.”

Kris Reynolds
AFT watershed coordinator, explained the need to reduce erosion and P loss within the watershed, as well as the importance of local, regional and national partnerships.

CRIS REYNOLDS
AFT watershed coordinator, explained the need to reduce erosion and P loss within the watershed, as well as the importance of local, regional and national partnerships.

Photo by Mark Ingbritson

In December 2016, the Upper Macoupin Creek Watershed Partnership gained more than $1 million of special funding from USDA/NRCS to help watershed partners and farmers reduce P loss from nearly 138,000 acres that drain to the creek. The Regional Conservation Partnership Program offers new opportunities for the NRCS, conservation partners and farmers to expand conservation practices and demonstrate the value and efficacy of voluntary conservation.

Even though Illinois accounts for only seven percent of the water that flows to the Gulf of Mexico through the Mississippi River, the state contributes 20 percent of the nitrogen (N) and 11 percent of the phosphorus (P) that reaches the Gulf. The Illinois NLRS outlines a voluntary approach to stemming nutrient loss through widespread adoption of agricultural conservation management practices. It looks to cut N losses 15 percent and P losses 25 percent by 2025 and eventually reduce both by 45 percent.
The Upper Macoupin Creek Watershed, covering nearly 617,000 acres of mostly rolling hills, is one of the state’s top three watersheds for P loss, with an average of greater than two pounds lost per acre every year.

American Farmland Trust, Soil Health Partnership (SHP), the ISA checkoff program and dozens of other partners held a soil health field day at the Bill Heyen farm near Gillespie, Ill., in August. The event highlighted local efforts to reduce erosion and nutrient loss within one of the state’s top three watersheds for P loss, with an average of more than two pounds lost per acre every year. More than 60 farmers attended.

Two Soil Warrior strip-till machines developed by farmers in Faribault, Minn., offer a one-pass solution that incorporates fertilizer three to six inches deep into the band. They are available to local farmers at reduced pricing through local retailers M&M Service and CHS Shipman.
Jack Jackson bought his first tractor in 1975, the year he started farming. As a contract seed grower, Jack can’t afford to take chances with difficult broadleaf weeds like waterhemp and marestail. After a fall burndown to start with what he refers to as a “field of clean,” Jack applies Authority® First DF herbicide a couple of weeks before planting to stay clean. Learn more about the soybean growers who farm with Authority herbicides at FMCAGUS.com/Authority.

Whatever seed brand you plant, Authority First DF herbicide qualifies for FMC Freedom Pass Agronomic Rewards and Product Financing1. See your authorized retailer for more details.

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1 Offer ends July 31, 2018 and is subject to approved credit on a Multi-Use Account, a service of John Deere Financial, f.s.b. For agricultural/commercial use only. Offer requires a $5,000 minimum purchase of at least one of the qualifying products listed. After the promotional period, interest charges will begin to accrue at the regular Multi-Use Account rate. See your authorized retailer for details. Multi-Use Accounts are a service of John Deere Financial, f.s.b.
NRCS Northeast soil health specialist, shared soil health data and the influence of cover crops and reduced tillage to prevent soil and nutrient loss, improve soil health and protect water quality.

“Managing for soil health centers around four simple principles: reduce or eliminate tillage, keep plant residues on the soil surface, keep living roots in the ground, and maximize diversity of plants and animals,” he said.

“Overuse of tillage and leaving bare ground disrupts the natural soil cycle. Reduced tillage and cover crops act as natural buffers within the soil system, helping to build back soil organic matter, tie up nutrients for later release and improve water infiltration.”

Scott Wohltman, LaCrosse Seeds, explained the benefits of various grass and legume covers and stressed that farmers need to look at their goals before making cover crop decisions and rely on others who have experience using covers to get the best results.

The cover crop trials on Heyen’s farm included a broad mix of grasses and legumes, including radish, crimson clover, sunhemp, sorghum, sudan grass, oats and spring peas.
Farmers rely on technology to monitor soybean yield and moisture from combine cabs, and to monitor manure application rates and barn conditions from mobile phones. Using, monitoring and calibrating key tools allow diversified farmers to capture profit potential.

“The capabilities of technology ensure stewardship and save time,” says Ted Funk, Ph.D., an engineering consultant who provides technical support to Illinois livestock farmers, with support in part from the Illinois Soybean Association (ISA) checkoff program. His work supports the top local market for Illinois soybean meal – Illinois livestock – and helps livestock farmers use technology to protect profit potential.

“With a bit of quality input and monitoring, farmers benefit more from tools that make their jobs easier, without overlooking the basics,” he says.

**NUTRIENT MANAGEMENT MOBILE APP**

From a crop farmer’s perspective, “Capturing and using the nutrient value of manure saves significant fertilizer costs,” Funk explains. “The Illinois Manure Calculator mobile app is built for Illinois-specific nutrient management plan rules. It also supports goals and recordkeeping associated with the statewide Nutrient Loss Reduction Strategy.”

Funk developed the app to automate the Illinois nutrient management planning worksheet, funded by the ISA checkoff program and Illinois Pork Producers Association. Since its February launch, it has been downloaded more than 2,200 times. It calculates manure application rates from crop yield goals, soil samples and manure content data.

“For those applying manure at a set rate rather than the nitrogen (N) or phosphorus (P) limit, it also calculates what additional fertilizer a field needs to meet crop requirements,” he says. “The app doesn’t require internet connectivity, but when connected, results can be sent to applicators and others.”

“It’s a useful tool to provide plant-available N from manure based on crop history,” says Matt Bradshaw, pig farmer and custom manure applicator with Bradshaw Custom Pumping, Griggsville, Ill. “With current low fertilizer prices, the app helps with P and K needs and track organic N carryover on a field to consider for future applications.”

“The Illinois Manure Calculator uses technology to better capitalize on the synergy between livestock and crops in Illinois,” Funk adds. “In addition to N, P and potassium (K), manure provides micronutrients, increases soil organic matter content, and boosts soil water holding capacity.”

The free app works for multiple species and crops, and has been incorporated into the University of Illinois Extension Certified Livestock Manager Training workshops. Search “Illinois Manure Calculator” in the app store to download the app for iPhone or Android.

**OPTIMAL BARN COMFORT SENSORS**

For livestock producers, computer-monitored sensors maintain barn temperature and airflow, a time-saving technology application. However, Funk recommends extra manual observation during seasonal switches between warm and cool weather to ensure efficient energy use and animal comfort – both key factors for profitability.

“Over time, ventilation components and temperature sensors can get out of adjustment, creating drafts or lack of airflow that stress animals,” Funk says. “Scheduling extra time to observe the animals and the interaction of automated temperature and fan controls, especially during dramatic temperatures swings, helps catch problems before they become expensive in terms of animal health, equipment maintenance and energy costs.”

He notes that conditions in one pen or area of a barn can be compromised when relying completely on automatic systems. They provide an average for barn conditions, but may create isolated extremes that impact animals and energy use.

“The health, comfort and productivity of animals needs to be a priority, even though seasonal changes often coincide with fieldwork,” Funk says. “Often the window for fieldwork is broader than the window to keep animals comfortable to ensure their health.”

Technology, with strategic monitoring and calibration, allows farmers to manage diversified operations. Funk serves as a resource for those learning how to capitalize on the synergies of crop and livestock farms. Email him at funkt7@gmail.com. ■
From the first sale of U.S. soy to China to the release of the first soybean oil-based tire, the soy checkoff has been behind the scenes, growing new opportunities and customers for the soybeans you produce. We’re looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And for U.S. soybean farmers like you, the impact is invaluable.

See more ways the soy checkoff brings value to farmers at unitedsoybean.org
SIX RECEIVE ISA INDUSTRY LEADERSHIP RECOGNITION

ISA checkoff and membership programs honored six industry leaders with awards of excellence last month at their meeting in Chicago. The winners were nominated and chosen by the current ISA Board of Directors for excellence in promoting soy from Illinois in ISA’s priority areas: leadership, marketplace, stakeholder engagement, technology transfer and transportation.

“We appreciate the time and service these people have provided to our industry. Their efforts help increase the profitability of Illinois soybean farmers,” says Lynn Rohrscheib, ISA chairwoman and soybean farmer from Fairmount, Ill. “Each of these leaders has made significant contributions to Illinois agriculture and to furthering the mission and vision of ISA.”

ISA gives the award to an individual who excels in developing and establishing a global competitive position for Illinois soybeans and soy products. Lang recently retired from the Illinois Department of Agriculture.

Excellence in Marketplace honors an individual who excels in promoting preference of Illinois soy for export markets, biodiesel or animal agriculture. Clarkson is founder of Clarkson Grain Company Inc.

The honor recognizes individuals who excel in expanding the influence and reach of ISA or Illinois soybean farmers through membership, corporate, industry and advocacy efforts. Jones is chancellor at the University of Illinois at Urbana-Champaign. Kidwell is dean of the College of Agriculture, Consumer and Environmental Sciences at the University of Illinois.
**JOHN SCHILLINGER**
THE EXCELLENCE IN TECHNOLOGY TRANSFER AWARD WINNER

The Excellence in Technology Transfer award honors an individual who excels in optimizing farmer profitability through business management, yield and sustainable production practices. Schillinger is currently president and founder of Schillinger Genetics, Inc.

**MIKE STEENHOEK**
THE ISA EXCELLENCE IN TRANSPORTATION AWARD WINNER

The award honors an individual who excels in ensuring Illinois soybeans and soybean products reach their intended destinations efficiently. Steenhoek is executive director of the Soy Transportation Coalition.

**GARY BERG**
RECOGNIZED OUTGOING BOARD MEMBER

Gary Berg, St. Elmo, Ill. Berg served two terms as ISA District 13 director. He currently is an Illinois director for the United Soybean Board. Berg also was a Soy Ambassador and active with World Initiative for Soy in Human Health (WISHH), U.S.A. Poultry and Egg Export Council (USAPEEC) and National Biodiesel Board (NBB).

**ISA BOARD IS LOOKING FOR LEADERS**

Are you ready to lead the Illinois soybean industry? ISA will have five director positions open when the current fiscal year ends Aug. 31, 2018. District directors Jered Hooker, Tim Scales and David Droste are retiring, along with at-large directors C.W. Gaffner and John Hagenbuch.

The process for district director elections officially begins in April 2018, but interested farmers are encouraged to consider the application process now. Districts with openings are District 10, representing Christian, Dewitt, Macon, Moultrie and Shelby counties; District 16, representing Clay, Edwards, Lawrence, Richland, Wabash, Wayne and White counties; and District 17, representing Jackson, Jefferson, Perry, Randolph and Washington counties.

The process for at-large director elections officially begins in February 2018, but interested farmers are encouraged to consider the application process now. Two nominees from the application pool will be elected by a majority of soybean farmers in attendance at the annual meeting, Aug. 1, 2018, in Champaign, Ill. No write-in provision exists for at-large directors.

For more information, contact Angel Terrell at terrella@ilsoy.org.
New Machine Evaluates Soybean Quality on the Go

Researchers from Kyoto University and the University of Illinois have developed a machine to automate the process of checking soybean quality during harvest. When threshing speed is too high, soybeans split or break as they are harvested, which can affect quality and price. The machine evaluates quality on the fly, so harvesting can go on uninterrupted. The efficient, compact, onboard quality-monitoring system provides combine operators with real-time grain quality information. A high-speed camera is mounted inside the tank of the harvester to take images as soybeans pass by. A computer program analyzes the beans in real time. A combination of front and back lighting provides a complete shape of the beans, making it possible to identify splits. The system has been field-tested, and the prototype is with a Japanese company working to develop a higher-speed camera and produce the machine.

Illinois Soybean Leaders Join Anniversary Celebration in China

U.S. soybean leaders visited China this fall, taking part in a celebration of 35 years of partnership between the U.S. soy industry and China. American Soybean Association (ASA) president Ron Moore and U.S. Soybean Export Council director Sharon Covert, both Illinois soybean farmers, were part of the delegation. Prior to the 35th anniversary celebration, U.S. delegates met with U.S. Ambassador to China Terry Branstad to learn more about the market for U.S. soy in China, including the overall relationship between the two countries, China’s own ag production, biotech approvals and China’s continued demand growth for soybeans. U.S. soybean farmers opened the international marketing office in China in 1982. Today, China remains U.S. soy’s top customer, buying more than one of every four rows of soybeans grown in the U.S.

Global Harvest Initiative Features Illinois Soybean Leader’s Thoughts

The Global Harvest Initiative (GHI) recently featured a blog post written by ISA past chairman Daryl Cates. Cates currently serves as chairman for the ASA World Initiative for Soy in Human Health [WISHH]. The blog post features discussion of floating soy-based fish feeds finding success in Pakistan with the assistance of U.S. soybean farmers.

ASA WISHH’s FEEDing Pakistan project improves economic opportunities in Pakistan by introducing U.S. soybeans as an important source of fish feed. The project has generated long-term investments in Pakistan’s feed and aquaculture sector and sustained business growth. ASA WISHH worked with a number of partners, including fish farmers, university graduates, government officials and fish traders.

ISA Supports Pork Power Efforts with Midwest Food Bank

Local pig farmers in the Peoria area recently gifted the Midwest Food Bank more than 100 pounds of ground pork. The donation was provided by the Young Leaders of the Peoria County Farm Bureau, while processing costs were offset by the Pork Power program implemented by the Illinois Pork Producers Association (IPPA) and made possible with contributions from the Illinois Corn Marketing Board and ISA checkoff program. IPPA launched Pork Power in 2008 with the goal of helping fight hunger in Illinois. It provides a system for farmers to donate pork to food banks associated with Feeding Illinois, a partner to Feeding America. Since its inception, Pork Power has generated nearly 570,000 pounds of pork, or enough for nearly 2.9 million meals, for families throughout Illinois. Pork, soybean and corn farmers commit funds from their respective checkoff programs to support this program which also is an opportunity to promote pork consumption. Families are educated about how to prepare and incorporate pork into meals. Pigs are one of the primary consumers of Illinois soybeans.

Calendar of Events

Soybean Summit
> January 11 • Springfield, Illinois

Better Beans Series (see page 10)
> January-February

Commodity Classic
> February 27-March 1 • Anaheim, California

Resilient Farmer Road Show (see page 10)
> February and March
Flexible solutions.

Firm results.

The growing season throws a lot at you. Be ready for it all, because at year’s end, you don’t want reasons why your plan didn’t work. You want the payoff showing that it did. BASF soybean solutions are just what your fields need to reach their full potential. Seed to harvest, we help defend your beans from the toughest weeds and diseases, all while providing Plant Health benefits to boost quality and yields. Talk to your BASF rep and get the best plan for 2018. GrowSmartSoybeans.com

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ISG Helps Drive Success with Biofuels Policy in 2017

Illinois Soybean Growers (ISG) was active promoting biodiesel legislation and regulations in 2017, and successful in seeing state incentives extended for the soybean oil-based fuel.

Illinois lawmakers this summer approved a five-year extension, through 2023, of the full sales tax exemption for biodiesel blends above 10 percent. It had been set to expire at the end of 2018.

ISG has a long history of wins where biodiesel is concerned. Biodiesel production and use in Illinois generates $144 million in household income and $3.4 million in farm income, as well as supports about 2,000 jobs in all sectors, according to ABF Economics research. The biodiesel tax incentive also is effective in displacing foreign petroleum, helps meet the nation’s renewable fuel goals and creates opportunity as an additional market for soybean oil.

Recognizing the value of the Illinois tax exemption extension, the ISA board of directors has stepped up efforts to expand biodiesel consumption in Illinois. A new ISA checkoff program initiative is working to increase the average blend of biodiesel in Illinois diesel dispensers from eight percent to 13 percent. ISA leaders expect the combination of this new effort and the tax exemption to add more than five cents per bushel to the value of soybeans.

Federally, the national biodiesel tax incentive has helped grow the biodiesel industry from a 100-million-gallon market in 2005 to more than 2.9 billion gallons in 2016. Biodiesel is the first and only commercial-scale fuel produced in the United States to meet the Environmental Protection Agency’s definition as an advanced biofuel. EPA has determined it reduces greenhouse gas emissions by more than 50 percent when compared with petroleum diesel.

Voice for Soy Delivers RFS Message

Voice for Soy, the legislative action network for ISG, is a key tool for Illinois soybean farmers’ advocacy success. Most recently, an action alert related to Renewable Fuel Standard (RFS) biomass-based diesel volumes accomplished the highest response rate yet.

ISG also has recently advocated on such issues as harvest weight limits, the farm bill, GMO labeling and transportation infrastructure improvements.

Voice for Soy started in 2012 and response rates – the percentage of registered users submitting a comment to a legislator or regulator – have nearly doubled since that time.

Through Voice for Soy promotions, communications and initiation of the grassroots Advocacy Champions program, Voice for Soy has increased its response rate, and is within the average advocacy response rate, according to Idealware, a nonprofit technology company.

ISG finds it is important for farmers to keep engaging in the legislative and regulatory process through Voice for Soy to have their opinions heard on key issues. To participate in Voice for Soy legislative alerts, visit VoiceforSoy.org.  ■
WHAT DO YOU LIKE TO DO IN YOUR FREE TIME?
I enjoy traveling. I have family in California. I also like to go to auctions even when I am not working them, and I like running and lifting.

WHERE DO YOU SEE U.S. AGRICULTURE HEADED?
Farms are getting bigger. There are fewer people involved with actual production agriculture. There also are fewer young people getting into the business. More technology will come into play and the industry will need to continue to increase efficiencies to produce food.

WHAT ARE YOUR PLANS FOR YOUR FARM IN THE FUTURE?
I recently bought an enterprise and plan to grow the farm as I am able. I anticipate there will be a lot of change in the future. I intend to be an early adopter of technology and streamline the business where I can so it is here for the next generation.

If you are interested in serving on the ISA board of directors, please contact Angel Terrell at 309-663-7692 or terrella@ilsoy.org. The board will have openings beginning August 2018.
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THE PERFORMANCE ISN’T.

There are plenty of look-alike seed treatments out there, but don’t let them fool you. With CruiserMaxx® Vibrance® Beans you get the industry-leading combination of fungicides and insecticide. Nothing else protects your soybeans while boosting root health and yield with the same kind of power. To learn how that helps you win at harvest, talk with your local Syngenta retailer or visit SyngentaUS.com/CMVB.

*A combination of separately registered products.