Weather-Willing
WAYS TO IMPROVE YIELD POTENTIAL

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COVER STORY
Early Bird Gets the Yield Edge
Many factors can contribute to soybean yield potential; some that farmers can control, like seed selection, and some that farmers cannot control, like weather. Planting early is one of those controllable factors yield champions say consistently makes the most difference in their farm averages. Get tips for 2017.

Finding a Fit for Biologicals
Biologicals were first developed for use in high-value fruit and vegetable production — crops where pesticide use comes under closer consumer scrutiny. Companies now are looking at opportunities to market some of these biologicals to other crops, including soybeans. Learn what crop experts have to say about what these products might offer on your farm.

Dicamba Do’s and Don’ts
Soybean farmers have a new weed control tool. New dicamba herbicides have received federal labels for use on dicamba-resistant soybeans. And while farmers can be pleased to have a new mode of action, weed specialists caution farmers to understand what dicamba can and can’t do.

Breaking Down Biotech Barriers
While biotechnology widely has been adopted into American farming practices, the same is not true in other countries. Barriers to biotechnology use and acceptance exist for various reasons. The ISA checkoff program prioritizes creating opportunities for Illinois soybean farmers through trade expansion. Find out what policies and regulations may impact your farm.

New Tool Navigates Local Road and Bridge Repair Planning
An online calculator has been created that could bring welcome news to Illinois farmers hauling soybeans across unreliable local roadways. The new Roadway and Bridge Improvement Calculator may help communities save time and money planning infrastructure improvements, allowing efficient resource allocation for repairs.

LEADER PROFILE:
Paul Neiffer
Tax and Succession Planning Specialist
Paul Neiffer is a CPA and principal for agribusiness with CliftonLarsonAllen LLP in Yakima, Wash. He advises farmers nationwide about succession planning, tax and farm programs, and has recommendations about how and when to get involved with the process.
Soybean Advocates Needed to Advocate

When the Land of Lincoln Soybean Association was created in 1964, it was partly with issues advocacy in mind. Champaign County farmer Lyle Grace said at the time, “Soybeans were the baby of farming. Everyone was raising them more and more, but not doing a very good job with marketing.” As more farmers joined the fledgling industry, it became evident to them that they needed a collective legislative voice to address their needs.

That premise has not changed in 50-plus years. We still need advocates to advocate, so our opinions about soybean issues are heard in Washington, D.C., and also in Springfield.

The Land of Lincoln Soybean Association has now evolved into Illinois Soybean Growers (ISG). ISG is a united membership group that seeks to secure policies to enable Illinois soybean farmers to be the most effective soybean producers in the world. ISG serves more than 43,000 Illinois farmers, making membership options and advocacy opportunities available.

Voice for Soy (voiceforsoy.org) is ISG’s legislative action network, which provides pathways for farmers to easily advocate about specific issues. After farmers register on the website, email and text action alerts are sent whenever a legislative issue needs attention. The action alert provides issue details and the tools farmers need to connect with their specific state and federal legislators.

On federal issues, ISG also works alongside the American Soybean Association (ASA). ASA develops and implements federal policy, testifying before Congress, lobbying Congress and the Administration and communicating with members about policy matters.

As we enter 2017 with a new administration and new faces in state and national roles, it is a vital time to become an advocate to advocate. Approximately 88.5 percent of the Illinois population lives in urban areas. Often, farmers are left out of conversations about issues like sustainability, food safety and animal welfare, even though the decisions legislators and regulators make impact our profitability. We must raise our voices to make our opinions known. We have heard from legislators. They want to hear from us on issues that are important to us.

While the current farm bill is in place for a couple more years, discussion for the 2018 farm bill has already begun. Many Illinois farmers have participated in early hearings, and will be called upon to advocate throughout the year. In this issue of Illinois Field & Bean, we offer some tips on how best to advocate, as well as delve into biotech issues that require strong advocates.

The only way legislators can make informed decisions is if we tell our story. Join me in making a commitment to be advocates who advocate on farm issues in 2017.

DARYL CATES
ISA Chairman
Equipment Plays Vital Role in Soybean Yield Improvement

BY DARREN GOEBEL

During the past four decades, many production changes have allowed farmers to increase soybean yields and profitability. Equipment has played a vital role in this transformation.

Planting practices are one of the big changes that come to mind. However, this change could not have been made without weed-management-enabling technology. I can remember when soybean production meant tilling the soil using a field cultivator that became yellow from the pre-plant herbicide we were applying. Seed went into the soil with the 30-inch corn planter. Summer was filled with cultivating and walking fields, weed hook in hand. There had to be a better way.

As new, more effective soybean herbicides became available, planting in narrow rows was adopted. This provided a quicker soybean canopy to shade out weeds and take advantage of light interception earlier in the growing season. Weeds remained a problem, but this system helped yields improve. Soon, no-till drills equipped with coulters were introduced. Those original no-till drills distributed soybean seed somewhere between two inches deep and the soil surface. I remember checking beans with Dad — first trying to set proper seeding depth and then looking at stand problems 10 days later. Our solution? Increase seeding rates.

Seed was relatively cheap. No-till reduced soil erosion and kept moisture-saving residue on the soil surface. The narrow-row, no-till approach was more economical because it eliminated tillage and cultivation. Instead farmers used pull-type sprayers to apply a preemergence herbicide plus Roundup and 2,4-D as a burndown. Seed was drilled. Postemergence herbicide was applied with the same pull-type sprayer, and the work was done until harvest.

Understandably, growers did not like the number of soybeans destroyed by wheel tracks made during postemergence herbicide application, so manufacturers increased spray boom widths from 30-45 feet to 60-90 feet and eventually to 120 feet or more, each increase allowing incremental yield benefits. When Roundup Ready technology was introduced, seed cost rose dramatically due to high demand, technology fees and a “ban” on planting bin-run soybeans.

Planter and drill manufacturers responded by developing more precise depth control for drills and narrow-row planters along with better seed metering systems, reducing seeding costs for growers while improving yields.

Precision agriculture also has had a broad effect on soybean yield improvements. Early yield mapping systems identified in-field variability so yield-limiting factors such as soil pH and nutrient levels could be corrected. SGIS Data Management Software introduced by Ag-Chem Equipment in 1994 and the “blend-on-the-go” SOILECTION system on TerraGator applicators were other innovations making variable rate application possible. More recently, variable rate seeding and variable hybrid placement using agronomist-provided prescriptions allow producers to plant the right variety at the right rate in the right part of the field.

Prevalence of herbicide-resistant weeds is bringing new herbicide-tolerant crop systems to market that will require equipment companies to respond again. Technology will ensure the right product is applied on the right field and that herbicides don’t drift and damage susceptible neighboring crops. Improved herbicide applicator cleanout, capture and disposal will be critical.

Within agriculture, crop production cannot improve without all players pulling together. I am confident equipment manufacturers will continue to respond with innovations that enable even better management practices. I look forward to what the future holds.

Darren Goebel is an agronomist and director of Global Commercial Crop Care at AGCO Corporation. He applies his technical agronomy, precision farming, research and business experience to ensure producers understand the impact of equipment design, technology and use on crop production and performance. Visit www.agcocropcare.com.
Early Bird Gets the YIELD EDGE

An infinite number of factors contribute to soybean yield potential, but is there one factor that makes the biggest difference? Two-time yield champions Robert and Jason Lakey say yes.

“We cannot emphasize enough how important early planting is,” says Robert Lakey. “Our strategy has been to keep plants green so they can absorb the most sunlight. With that approach, we’ve been able to see our beans’ potential grow.”

Robert and Jason Lakey produced a 106.29-per-acre yield on their Champaign County 2.02 acre Illinois Soybean Association (ISA) checkoff program Yield Challenge harvested plot in 2016. In 2015, they won the ISA 100-Bushel Challenge with 108.27 bushels.

“Early planting definitely seems to have the greatest impact in achieving higher yields,” adds Jason. “What I like the most about this particular management ‘practice’ is it doesn’t cost a penny extra to plant in April as it does in late May. You have to plant the crop. Why not plant it when it is at an optimum time to achieve the highest yield possible from years of proven data?”

The Lakeys follow a corn-soybean crop rotation on their conventional tillage farm. “We used the same program in our plot as we used across all of our soybean acres. Nothing was done special or extra in this particular field where we achieved the 106-bushel yield,” says Jason.

Shawn Conley, University of Wisconsin Extension soybean specialist, confirms planting date is critical to yield potential. It ranks it in his top 10 yield limiting factors. He says average yield loss when soybean planting is delayed past the first week in May is 0.4 bushels per acre per day.

Other factors on Conley’s list include variety selection and row spacing. “The yield response in wide versus narrow rows shows an average seven percent difference,” he says.

Shelby Kaufman, Ehler Bros. Seeds, Thomasboro, Ill., worked with the Lakeys in planting 20-inch rows with a 135,000 population of inoculated seed to protect against soil-borne diseases.

“We encourage early planting, starting around April 20 through May 10. When planting early, you maximize plant growth, so you want to keep populations lower. This keeps the plants from overcrowding each other and causing standability issues and increased disease potential,” she says. “We also see a significant advantage to 20-inch rows. This spacing is optimal for allowing quick canopy cover but still allows air movement between the rows.”

Dan Davidson, ISA research and technical coordinator, advises farmers to reduce plant populations in narrow rows. He says populations at 140,000-160,000 or less save on seed costs and achieve the same yield potential. “Narrow 15-inch or 20-inch rows outperform 30-inch rows and yield equal to drilling in 7.5-inch rows,” he explains. “Farmers save on seed by getting better seed singulation and depth placement and get consistent germination and emergence.”

Kaufman likes to see farmers plant a full-season soybean variety in
these situations. The Lakeys planted a 4.1 relative maturity, which was a full-season variety for their area. “This allows for the plant to capture the most sunlight throughout the season, which maximizes growth of the plant to set more pods, which can lead to more yield potential,” she says.

Davidson adds, “Select the right variety for the right fields and yield potential. Study yield performance reports and look at your own data. Select varieties with resistance to soybean cyst nematode (SCN), sudden death syndrome (SDS) and other diseases.” he says.

A two-year corn, one-year soybean rotation may also spike yield, says Davidson, since soybean plants face many disease organisms from planting to harvest while a two-year continuous corn rotation means fewer disease organisms and more organic matter added back to the soil.

“Too much tillage doesn’t benefit soybeans, either,” he says. “Only in wet, heavy soils do soybeans benefit from tillage by drying out the soil and allowing earlier planting.”

Conley outlines additional yield limiting factors as potassium deficiency, followed by seedling diseases, SDS and brown stem rot, white mold, SCN and soybean aphids.

“Control pests from emergence to pod fill. Know your risks, treat the seed and scout regularly,” says Davidson. “Treat for aphid, bean leaf beetle and Japanese beetle whenever they exceed the threshold. Most high-yield producers apply insecticide and fungicide at the R3 stage.”

Foliar feeding once or twice can stimulate crop development as pests are controlled. The Lakeys applied two types of fungicides to protect their soybeans. They also relied on fall fertilization and preemergence herbicide use to set the stage for maximum yield success.

“More than 90 percent of soybeans planted are glyphosate tolerant, but a number of weeds are now resistant to glyphosate,” says Davidson. “Use a weed control program that includes a spring burndown or tillage, overlapping residual and post program that will control herbicide-resistant weeds. Spray when weeds are smaller than four inches. Early weed competition robs yield.”

Finally, Davidson advises harvesting when the crop is at 13 to 15 percent moisture. “Properly adjust the combine and go slow. Reckless harvesting can cost several bushels per acre,” he says. ■

“We enter 2017 with the Pacific Ocean having retreated from a weak and tepid La Nina for a brief time in the fall, to neutral conditions for temperatures and barometric pressure patterns. It does not look like the equatorial Pacific will cool to La Nina levels during the winter and spring,” Anderson says. “This is significant given that the last time we saw soybean yields decline came during 2010-2012, when a very strong La Nina was in effect and left its imprint on conditions.”

Anderson says the last time the Pacific went from a threshold-level La Nina in the fall to neutral the following year was 2000 into 2001. Corn production declined about four percent that year while soybean production set a new record. He anticipates a similar scenario in 2017.

“I am not going to forecast a record year, but I think that trend-line crop yields are certainly possible. We have generally adequate to surplus soil moisture in the Midwest,” he says.

“The cautionary note I offer is that longer-range forecast models have started to indicate an above-normal temperature and below-normal precipitation pattern for mid- to late summer, and that combination would not be favorable for filling crops,” he says. “But, considering that production has shown a four-year run of ability to work past weather issues, I think that at this point the emphasis should be on the potential for another decent year of production.”
Meet the ISA 2017 CCA Soy Envoys

The Illinois Soybean Association (ISA) checkoff program is again partnering with the Illinois Certified Crop Adviser program to provide local crop production recommendations throughout the season.

KEVIN NELSON
Northern Partners, Ottawa
Nelson is a CCA with a 4R Nutrient Management Specialist (NMS) certification, working for Northern Partners Cooperative based in Mendota, Ill. Nelson has worked for Northern Partners and its legacy companies since 1997. He received his CCA in 1994, and has a strong background in soil fertility and precision agriculture. He works with the cooperative’s agronomy sales team to help share these tools with farmer members in north central Illinois.

DAWN KIELSMEIER
Pearl City Cooperative, Pearl City
Kuelsmeier is an agronomy sales specialist with Pearl City Elevator based in Baileyville, Ill. She has a bachelor’s degree in dairy science and a master’s degree in agronomy, both from the University of Illinois. She has been a CCA since 1993. Kielmsmeier started her career with Riverview FS and American Cyanamid, before working at a co-op in central Wisconsin and then Landmark Services Cooperative in Durand, Ill., before joining Pearl City Cooperative.

CHAD KALAHER
Beck’s Hybrids, Bloomington
Kalaher grew up on a grain and livestock farm near Litchfield, Ill. He earned a bachelor’s degree in agronomy from the University of Illinois in 1995 and a master’s degree in weed science from North Carolina State University in 1997. He currently is Beck’s Hybrids field agronomist for east central Illinois and farm management advisor for the Midwest. He has served other positions in the seed industry, including as a research agronomist, district and regional sales manager.

NICK MARLEY
Effingham
Marley is an agronomist and CCA with responsibilities for seed sales, seed organization and handling, and diagnosing field issues and managing field trials. He has an associate’s degree from Lincoln Land Community College, a bachelor’s degree in agronomy and crop science from the University of Illinois and is working on a master’s degree in agronomy and crop science at Iowa State University via their online program.

TODD STEINACHER
AgriGold, Carrollton
For the past two years, Steinacher has worked as a regional agronomist for AgriGold, covering west central Illinois. Prior to working with AgriGold, he was with the GROWMARK/FS system for nearly 10 years working as a crop specialist, seed specialist and field sales agronomist. Steinacher has an associate’s degree from Lincoln Land Community College, a bachelor’s degree in agronomy and business from Western Illinois University and expects to complete a master’s degree from the University of Illinois this spring.

KELLY ROBERTSON
KBR Farms, Benton
Robertson has worked as a soil fertility agronomist and precision agriculture consultant in southern Illinois since 1989. He graduated from Southern Illinois University Carbondale with a master’s degree in plant and soil science. Since 1997, he has been involved with on-farm precision ag research dealing with the use of historical yield maps as predictors for variable rate corn populations, variable rate nitrogen, variable rate phosphate and potash and tile drainage.

STEPHANIE PORTER
Burrus Hybrids, Taylorville
Porter is a sales agronomist with Burrus Hybrids with responsibilities that include educating growers and Burrus staff about all types of pests, weeds, diseases and other agronomic issues that affect corn, soybean and alfalfa production. Her territory encompasses southern Wisconsin as well as northern, eastern and southern Illinois.

These CCA Soy Envoys will contribute regular content through ILSoyAdvisor.com to help farmers increase yields and profits in 2017 while minimizing environmental impact.

Follow us on twitter: @ilsoyadvisor.
Finding a Fit for Biologicals

> BY PAUL QUECK

Farmers are inundated with advertising and dealer offers for biological products to boost yields. But do they work?

“It’s really tough to answer that question because there’s no central independent evaluation data available on these new biological products,” says Tony Vyn, Purdue University agronomist.

That’s a dilemma for Vyn and for farmers, such as Jenny Mennenga. “I need to see third-party information showing some kind of measured response before I would buy or recommend untested crop biologicals,” says Mennenga, LeRoy, Ill., farmer and certified crop adviser.

That’s not to say some products don’t have some data. It just is mostly from companies that sell them. “So often we’re brought information done in-house by companies,” says Mennenga. “I question the validity of it. We need a testing protocol for evaluating these products, and third-party or university testing to determine if they do what the companies say they will do.”

University of Illinois agronomist Emerson Nafziger cautions farmers not to confuse data that may have come from a lab or other controlled environment with what will work on their farm.

“Even if products produce results under greenhouse conditions, having that translate to a yield increase in productive Illinois soil is another thing,” says Nafziger.

EVALUATE CROP IMPACT

Biologicals were first developed for use in high-value fruit and vegetable production — crops where pesticide use comes under closer consumer scrutiny. Companies now are looking at opportunities to market some of these biologicals to other crops.

Can these products make the leap to corn and soybeans? “Some have potential,” says Vyn, “and some will never have potential to improve corn and soybean yields or profits.” Nafziger adds that in highly productive soil of three percent organic matter — soils already rich in microbes in Illinois — that it is a “tall order for a small group of added microbes to take on what’s already there and to noticeably change what microbes do. It’s a little bit like trying to wet the ocean with a sprinkling can,” he says.

He sees farmers’ natural drive to improve soybean yields and marketing as making them more curious about new products, even if they are untested. “The message that farmers need to apply more inputs on soybeans if they expect to maximize yield has been a common one,” he says.

SCRUTINIZE YIELD GAINS

“We’ve tried a lot of things on soybeans that claim to increase yields. Even if they do, the increase usually is too small to show up as a consistent effect in even the best-managed field research,” Nafziger continues. “If a product comes along that provides a consistent yield increase large enough to pay for itself and make a profit, those of us who do this work would make noise. So far, though, I haven’t found the product or product combination to do this.”

It also is easy to get swayed by the marketing. As an example, it is now common for seed dealers to treat seed with product combinations chosen by the farmer.

“Some of these treatments — fungicides especially — are now considered as standard for soybeans as they are for corn seed. However if a dealer is treating much of the seed he sells with a biological product or micronutrient, it can be difficult for a producer to decide not to add what most neighbors are using, even if the producer’s not convinced it pays its way,” says Nafziger.

Even so, farmers may be less anxious to buy untested products this year. “Now that we are barely at breakeven, I think every input purchase is being questioned,” says Mennenga.
Maintain Moisture and Limit Losses
Control Structures can Help Manage Drainage Water

Farmers are at Mother Nature’s mercy when it comes to rainfall. But they may be able to manage it more effectively by integrating drainage control structures into field tiling systems.

Corn and soybean grower Doug Schroeder uses control structures to manage drainage on two fields of his Mahomet, Ill., farm. Like miniature dams controlling water ebb and flow, the structures contain a series of gates that can either block or release water from the tiling system based on field and weather conditions.

With some or all gates closed, the control structures keep water and nutrients in the soil for ready access by plants. Open gates allow water to flow freely through tile lines.

“When we decided to install drainage control structures, we were looking to manage moisture with a goal of growing more beans. And, environmentally it’s the right thing to do,” says Schroeder, who also is an ISA director. “By holding water in the soil, the structures help prevent water nitrate contamination due to runoff.”

Schroeder closes the gates after fall tillage to keep water in the soil through the winter. In dry years, the gates often have already been closed during summer months to preserve moisture. In early spring, he reopens the gates to aid field drying for planting.

“Throughout the season, we keep an eye on the tile lines and watch weather models to determine how many of the gates should be opened or closed,” Schroeder says. “Rainfall often is a limiting factor in our area, so we usually keep gates closed during the season. But if the forecast calls for a three- or four-inch rain, we’ll open gates and let the water flow through.”

Proper management is key to success with control structures, says Laura Christianson, Ph.D., P.E., assistant professor of water quality, University of Illinois. Too often farmers install the structures and leave them alone, rather than constantly monitoring them as Schroeder does.

“Leaving gates open year-round is not drainage water management,” Christianson says. “It’s important to manage structures correctly at critical times of the year.”

Properly managed drainage structures reduce overall water flow, decreasing average nitrate loads by 15 to 75 percent, Christianson and colleagues have determined. But drainage control structures are not yet an approved practice for the Illinois Nutrient Loss Reduction Strategy (NLRS). “Other states do have approvals and research is continuing,” she says.

Research to date shows yield results from drainage control structures vary from year to year, depending on weather patterns. Structures are most effective on flat fields with typically slopes averaging one percent or less. Most fields, even flat ones, need more
“By holding water in the soil, the structures help prevent water nitrate contamination due to runoff.”

DOUG SCHROEDER
Corn and soybean grower near Mahomet, Ill.

than one structure for proper drainage, she explains, while hilly fields require even more control structures. Added costs may make the practice cost-prohibitive on those acres.

Drainage structures costs vary from approximately $500 to $3,000 each, based on structure height and the diameter of the tile lines they connect to, reports Agridrain.com. Installation is extra, although Schroeder says it is a relatively simple process.

“We own a tile plow and backhoe and do all our own tiling work,” he says. “My son and I installed the structures ourselves and it was not complicated.”

Alternately, companies that supply drainage structures can handle installation. Structures can be incorporated as new tile is laid, or retrofitted to existing tile lines.

“For best results, we recommend farmers work with an approved technical service provider to design the tile system and structures for optimal drainage management,” Christianson says.

Cost-sharing may be available. Farmers should check with their local Natural Resources Conservation Service (NRCS) offices for details. To learn more about drainage water management or to find an approved supplier, go to www.nrcs.usda.gov.

“Leaving gates open year-round is not drainage water management. It’s important to manage structures correctly at critical times of the year.”

LAURA CHRISTIANSON
Ph.D., P.E., assistant professor of water quality, University of Illinois

FREE NITRATE TESTING AVAILABLE

Regularly monitoring water nitrate levels in tile lines and waterways allows farmers to evaluate their conservation practices. Farmers who would like a better handle on nutrient losses from their fields can bring water samples to one of 19 locations across Illinois for testing.

Testing is free and confidential, says Caroline Wade, Illinois Corn Growers Association nutrient watershed manager. “Understanding nitrate levels often is the first step toward implementing management practices to reduce nutrient loss,” she says.

Nitrates can come off both corn and soybean fields. For more information and testing sites, visit http://www.illinoiscbmp.org/Water-Testing.
Soybean farmers have a new weed control tool for 2017. New dicamba herbicide, XtendiMax, received its federal label last November for use on dicamba-resistant (Xtend) soybeans. 

XtendiMax arrives with a great deal of anticipation, especially among farmers running out of options to control weeds resistant to multiple herbicides. University of Illinois weed scientist Aaron Hager is pleased to see farmers getting another weed control option. However, he cautions farmers to be realistic about what dicamba can and cannot deliver. Dicamba must be handled carefully, and with the same diligence of other herbicides.

“A lot of people are under the impression this system is going to be the solution, like glyphosate was when it was first introduced,” says Hager. “Dicamba will not bring back the ‘good ol‘ days‘ of post-only weed control in soybeans, but it will work well in a handful of scenarios in Illinois.”

Top on the list is horseweed, or marestail, control. “There were issues with marestail in northern Illinois in 2016 — more than I’ve ever seen,” he says. “Dicamba should be very effective to control marestail in the spring; especially when used as a burndown in front of no-till soybeans.”

Morningglories is another species where dicamba will provide useful control. Hager notes glyphosate was never very effective on morningglories, but dicamba should be. Hager also sees dicamba as helpful in controlling herbicide-resistant giant or common ragweed.

“We know we have resistance to both of those species with ALS inhibitors, and we suspect there’s probably glyphosate resistance in some giant ragweed in Illinois,” he says.

And when it comes to waterhemp, Hager thinks farmers need to temper expectations. He says dicamba provides good control of waterhemp and other pigweed species but is not excellent, and will not be as effective as glyphosate once was in controlling waterhemp in soybeans.

In addition, resistance issues regarding waterhemp and XtendiMax herbicide may already exist. Hager notes a population of tall waterhemp has already been identified in Illinois as resistant to the Synthetic Auxins Group 4 herbicide site of action. XtendiMax is a Group 4 herbicide.

Hager advises farmers not to use dicamba the same way they used glyphosate — weed resistance could evolve from applying it alone as both a burndown and as a post application.

Dicamba must be handled carefully, and with the same diligence of other herbicides.
"If you already rely on residual herbicides, continue using residuals if you switch to the dicamba system. Don’t un-diversify what you are doing with this technology," says Hager. "To not use another residual with this system just sets you up for resistance disaster down the road."

XtendiMax’s label states the product provides up to 14 days residual control after application. While Hager says that is true, dicamba’s high water solubility limits consistent control.

“If you spray soybeans on Monday and get an inch of rain on Wednesday, your dicamba is gone because of its solubility,” he says. "It will move too deeply into the soil profile to control weeds."

XtendiMax’s label also contains wide setback areas, wind speed restrictions, low weed height restrictions, maximum and minimum use rates and the specific nozzle to be used. It also cannot be tankmixed with other herbicides, adjuvants or drift-reducing agents.

Another notable application restriction is weed height. Monsanto does not warrant product performance of applications to labeled weeds greater than four inches tall.

“Let’s say you plan on saving money by not using a residual, but plan on being very timely with your post application of dicamba. Weeds are just under four inches, and then it rains. You can’t get back in the field for four or five days, you now have six-inch weeds and a problem,” he says.

For complete, up-to-date label directions, go to www.xtendimaxapplicationrequirements.com. ■

Aaron Hager says dicamba provides good control of waterhemp and other pigweed species but is not excellent, and will not be as effective as glyphosate once was in controlling waterhemp in soybeans.
BREAKING DOWN BIOTECH BARRIERS

Five Countries Key to Market Future

While biotechnology widely has been adopted into American farming practices, the same is not true in other countries. Barriers to biotechnology use and acceptance exist for various reasons. But where there are barriers, there also are opportunities.

USDA statistics show Illinois is a top soybean exporter. The ISA checkoff program prioritizes creating opportunities for Illinois soybean farmers through trade expansion. Explore the map to see five key countries with barriers to accepting biotechnology and the corresponding opportunities as witnessed by ISA trade team participants.

INDIA

Key Barrier: Politics

- India has a population of 1.2 billion and is growing fast.
- It has “zero tolerance” for biotech soybeans, but biotech cotton widely is accepted and used by farmers.
- In 2015, India used seven million tonnes of soybeans, and two million were imported.

Trade Team Insight | Dale Asher, ISA director and Sutter, Ill., farmer

“India is maintaining a pace of growth that will soon surpass China’s population. All tillable acres are being used, but demand is outgrowing production. Some acceptance of biotech products points toward future U.S. soybean purchases. From a political standpoint, barriers are being addressed. In 2016, the U.S. and India signed a Memorandum of Understanding on issues like climate change, a positive step toward building better relations.”

EUROPE

Key Barrier: Consumer Concern and Industry Pressure

- Europe is the second-largest biotech soy importer from the U.S.
- Labeling restrictions and a strong non-governmental organization (NGO) presence create limitations.
- In 2015, the European Commission set up a legal framework that allows European Union (EU) member states to “opt out” of domestic biotech cultivation. In response later that year, half of the 28 EU members requested such opt-outs.

Trade Team Insight | Mark Albertson, ISA director strategic market development

“Europe is a significant market for U.S. soybeans, and their preference for product consistency is growing. As a meat-exporting region, they need high-quality animal feed. But it is a challenging region, where consumer perceptions of biotechnology skew negative and NGOs have a significant seat at the table. That’s why trade missions, like the one ISA board members took to the Netherlands, Italy, Spain, United Kingdom and Belgium in January, are so important. We want a seat at the table, too.”
**CHINA**

**Key Barrier: Regulation**
- China is the top soybean importer.
- Though a key market for U.S. soybeans, regulatory biotech approvals often are restrictive and slow.
- Currently, China permits imports of certain biotech soybeans for animal feed.

*Trade Team Insight | Doug Schroeder, ISA director and Mahomet, Ill., farmer*

"China’s middle class is booming. As population and incomes increase, so does the need for good animal protein. This country produces roughly half of the world’s pork – that’s a lot of pigs needing a quality, high-protein diet, which U.S. soybeans can consistently deliver. We just need to keep building relationships and trust, which is a highly regarded value of the Chinese culture."

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**TAIWAN**

**Key Barrier: Politics**
- Taiwan is the sixth-largest market for U.S. soybean exports.
- In late 2015, Taiwan passed a bill to prohibit biotech foods in school cafeterias.
- An emerging market, Taiwan holds a lot of promise for U.S. soybean products imported via containers.

*Trade Team Insight | Mike Levin, ISA director issues management analysis*

“As the Taiwan market grows, containers offer a vehicle for smaller shipments or for customers wanting a specific quality or attribute in their soybeans. ISA works to understand what Taiwanese buyers need – both in products and shipping – and ultimately identify how we can meet those needs with Illinois soybeans. Trade missions uncover opportunities in this market, which is why the ISA trade team went for a third time to Taiwan in January.”

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**THE PHILIPPINES**

**Key Barrier: Consumer Concern and Industry Pressure**
- The Philippines is the second-largest U.S. soybean meal importer.
- Biotech crops have been allowed for 10-plus years, but the Philippines Supreme Court responded to a Greenpeace petition in late 2015 by halting new permits for planting or importing biotech crops.
- In 2016, new rules were approved that allow permits to plant, import and commercialize biotech products, but the process may now take longer.

*Trade Team Insight | Austin Rincker, ISA director and Moweaqua, Ill., farmer*

"China’s middle class is booming. As population and incomes increase, so does the need for good animal protein. This country produces roughly half of the world’s pork – that’s a lot of pigs needing a quality, high-protein diet, which U.S. soybeans can consistently deliver. We just need to keep building relationships and trust, which is a highly regarded value of the Chinese culture."

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"It is no secret that Southeast Asia is a major growth area right now, and the Philippines is seen as the trailblazer of biotech acceptance in this region. They don’t have much crushing capacity, and they like U.S. soybeans because of their consistency. So, we have a strong foothold there. Through trade missions where we can put a face to our product – plus the ongoing work of the U.S. Soybean Export Council in this region – we have major opportunity for sales growth. In the words of Wayne Gretzky, we just need to ‘skate to where the puck is going to be.’”
Simple, customizable and fast. An online calculator has been created that could bring welcome news to Illinois farmers hauling soybeans across unreliable local roadways. The new Roadway and Bridge Improvement Calculator may help communities save time and money planning infrastructure improvements, allowing efficient resource allocation for repairs.

The online tool (www.ilsoy.org/ImprovementCalc) was designed to provide planners with reliable estimates of the costs and benefits of constructing or improving roadways and bridges, and is supported by the Illinois Soybean Association (ISA) checkoff program.

“The ISA transportation team is committed to investing in infrastructure tools like the Roadway and Bridge Improvement Calculator,” says Scott Sigman, ISA transportation and export infrastructure lead. “The initial 10- to 20-mile or even longer journeys that soybeans make from the farm to elevator usually occur on rural roads. Helping local communities improve roads and bridges is vital to the health of the Illinois soybean industry.”

According to the Illinois Department of Transportation (IDOT), Illinois has more than 140,000 miles of roads — the third-highest number in the country — and more than 70 percent are rural. Such a vast network of roadways is crucial to moving Illinois commodities like soybeans, which are transported at least in part via trucks. Unfortunately, Sigman notes, the roads and bridges that connect marketplace facilities and processing or transfer operations centers are aging and in need of repair, causing travel restrictions and delays, and costing soybean farmers money.

“The Roadway and Bridge Improvement Calculator gives decision makers information they need to prioritize and decide where limited funds can have the most impact,” says Becca Wagner, Hanson Professional Services engineer who oversaw the calculator’s development. “It also automates repetitive calculations, which cuts down on the time spent studying roadway conditions and allowing more funds to be put toward the improvement of roads and bridges.”

Wagner says county engineers, town officials and other involved parties consider many factors when planning road and bridge projects. The Road and Bridge Improvement Calculator lets them quickly assess calculations, such as the cost of reconstructing versus resurfacing a road or analyzing safety benefits of efforts like widening a road shoulder or installing a traffic light.

The tool also has a visual interface, with sketches, timelines and charts that can be created with the click of a button. Wagner says this allows planners to see critical information at a glance, such as the impact a detour would have if a road or bridge was not there. Armed with these figures, officials can then make more informed decisions. The calculator also can generate overall benefit-cost ratios of improvements that account for safety, travel efficiency and construction costs.

ISA Partners for Transportation Improvements

Informa Economics researchers previously partnered with the ISA checkoff program to study 12 Illinois bridges, estimating an average return of $10.24 to the local economy for every dollar invested in repairs. Learn more about ISA efforts at ilsoy.org/transportation.
Funded by the Illinois soybean checkoff

Illinois Farmer Participates in ASA DuPont Young Leader Program

Brock Willard, soybean farmer from Pittsfield, Ill., recently joined the 33rd class of American Soybean Association (ASA) DuPont Young Leaders. The leadership journey began late last year at DuPont Pioneer headquarters in Johnston, Iowa. The first phase of the program is intended to identify new and aspiring leaders and provide them with opportunities to enhance their skills and network with other growers. Participants in the program come from 23 states and Canada.

USFRA Launches New Lesson Plans

The U.S. Farmers and Ranchers Alliance (USFRA) recently launched new interactive lesson plans through its partnership with Discovery Education. The partnership has taken the Farmland documentary and broken it down into classroom standards-aligned education modules for science and social studies for grades K-12.

The new development, created with funding from the Illinois Soybean Association (ISA) checkoff program, includes interactive lesson plans that are PowerPoint based and support interactive whiteboard and other modern learning tools. The new lesson plans are designed to engage high school students in exploring critical issues impacting the agriculture industry. The current curriculum has been downloaded 12,000 times.

Teachers can access the free resources at www.discoveringfarmland.com.

Checkoff-Funded Study Highlights U.S. Transportation Needs

A recent study funded by the soybean checkoff offers warning that future production increases, along with infrastructure improvements by South American competitors, could suppress the profitability of the U.S. soybean industry. The “Farm to Market: A Soybean’s Journey” research was performed by Informa Economics, and is an expansion of the original 2012 report that highlighted how soybeans are transported to domestic and international customers.

In addition to documenting the volume of total U.S. soybeans transported across the various modes, the report provides transportation profiles of 26 individual states—an expansion from the 17 states featured in the 2012 study. The 26 states profiled account for 97 percent of soybeans transported in the country. Some of the key findings of the study include:

- Railcar loadings of soybeans will increase 20 percent to approximately 240,000 rail cars by the year 2023. Barge loadings will increase 32 percent to over 21,000.
- China, the leading international customer for U.S. soybeans, will continue to import larger volumes.
- Lower transportation costs historically serve as one of the key sources of competitive advantage for the U.S. soybean industry.

Full study results are found at www.soytransportation.org and www.unitedsoybean.org.

CALENDAR OF EVENTS

- National Farm Machinery Show > Feb. 15-18 • Louisville, Ky.
- ILSoyAdvisor Soybean Summit > Feb. 16 • Peoria, Ill.
- ISA Board Meeting > Feb. 27 • San Antonio, Texas
- Commodity Classic > March 2-4 • San Antonio, Texas
How to Advocate for Illinois Soybeans

Farmers often are left out of conversations about issues like sustainability, food safety and animal welfare, even though decisions legislators and regulators make impact their profitability.

“The only way legislators can make informed decisions is if we tell our story,” says Stan Born, soybean farmer from Dunlap, Ill., Illinois Soybean Growers (ISG) director and Voice for Soy Advocacy Champion. “Legislators don’t want to hear your perspective from someone else. They need to hear it from you.”

Born says advocating for Illinois soybeans is easy, and offers these tips:

1. Educate yourself about key issues. Staying informed makes farmers ready to take action when issues heat up. One way to stay up to date is by visiting the Voice for Soy website at VoiceforSoy.org/key-issues. There, farmers can learn about hot topics like biotech approvals, expanding Cuban trade and biodiesel tax credits.

2. Take action on critical legislation. When legislation is on the floor, it is imperative to contact legislators immediately. According to the Congressional Management Foundation, constituents who personally communicate with Senators and Representatives have influence. Eighty-eight percent of Congressional staffers surveyed say individualized email messages have positive impact on decisions, and 86 percent feel phone calls are influential.

Voice for Soy streamlines the process. Visit VoiceforSoy.org and click “Join Us” to choose to receive alerts via email and text message any time a critical issue needs action. Farmers can quickly and easily tell legislators how key state and federal issues affect them.

“When you use Voice for Soy, sharing your side of the story becomes so much easier,” says Sherry Flack, Voice for Soy Advocacy Champion from Shannon, Ill. “The action alerts provide information that is written in an understandable manner.”

3. Network and engage others to take action. A united voice for the Illinois soybean industry makes a strong difference in getting things done. Born says everyone needs to advocate, and encourage friends, family and neighbors to do the same.

Sharing information on social media is one easy way to participate. Pew Research findings show 43 percent of social media users learn more about a political or social issue because of something they read on social media. Almost one in five will take action on that issue.

Voice for Soy has launched a new advocacy Twitter handle, @VoiceForSoy. Follow along to share updates and actions on key soybean farmer legislative issues.
Paul Neiffer is a CPA and principal for agribusiness with CliftonLarsonAllen LLP in Yakima, Wash. He advises farmers nationwide about succession planning, tax and farm programs.

WHY DID YOU DECIDE TO WORK WITH FARMERS AND SUCCESSION PLANNING?

I grew up on a wheat and pea farm in Washington state. While I don’t farm now, I still help my cousins farm when I can. I always have had a passion for farming. I understand what is important and the need to transfer wealth without tax liability while accomplishing family goals.

TELL ME ABOUT YOUR COMPANY AND THE WORK YOU DO.

CLA is a professional services firm that offers integrated wealth advisory, outsourcing and public accounting capabilities to help clients succeed professionally and personally. We believe professional relationships can be personal and those connections can last for generations. In addition to agriculture, our firm works in such industries as construction and real estate, commercial services, cooperatives, dealerships, employee benefit plans, federal government, financial institutions, government contractors and more.

WHY IS IT IMPORTANT FOR FARMERS TO GET INVOLVED WITH SUCCESSION PLANNING?

It is most important for farmers to not leave themselves open to tax liabilities or bad family harmony. Succession planning is just part of that, and it is different from estate planning, although the two are related. Consider that if a faucet drips every 10 seconds and you don’t fix it, you are going to have a flood after 30 or 40 years. The same is true with your estate assets. You may not have tax liability right now but you may have a lot of it down the road. You have to fix the leaky faucet. Succession involves the human side. You have to determine whether your children want to farm, or if some want to farm and others do not and get a plan in place.

WHAT TIPS DO YOU HAVE FOR FARMERS WHO NEED TO BEGIN THE PROCESS?

To begin, choose and meet with a qualified adviser. The process has many steps. When you sit down and consider the estate tax liability that is easy part. The hard part is talking with all your family members and deciding on common goals, a vision and mission. Estate and succession documents don’t just get shoved in a drawer either. You need to revisit them every year, especially in a year like 2017 where a new Administration could see a lot of changes in tax laws. Don’t be intimidated by the process. There are a lot of good advisers across the country you can work with along with your local attorney and CPA. The key is to not procrastinate.

AS YOU WORK WITH FARMERS TO PROTECT THEIR FUTURES, WHAT DO YOU ENVISION FOR THE FUTURE?

I expect to see more consolidation as costs for equipment and technology rise. The size of farms will continue to get bigger and we will see more farm automation. There will still be a core group of farmers that work off the farm to support their farm as a lifestyle. But full-time, professional farmers will need to double or triple the size of their operations to stay profitable.
The quality of our water is a result of how we take care of our land.

The more we adopt best management practices (BMPs) that reduce nutrient loss from soil erosion and runoff, the more we'll benefit from better water quality. ISA checkoff programs have long been leading in promoting sustainable farming practices and supporting the voluntary adoption of BMPs as outlined in the Illinois Nutrient Loss Reduction Strategy. Your participation creates a ripple effect that leads to everyone seeing the importance of water quality more clearly.

Let's work together for better water quality. Visit ilsoy.org/sustainability to learn how or call 309-663-7692.