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COVER STORY: More Than Meets the Eye
Soybeans are known best for the protein and oil that are extracted from them for use in food, feed and fuel. Scientists, however, continue to identify other uses that can contribute to expanding overall farmer profitability. Learn about some of those uses and their potential.

Illinois Farmer Finds Value in Growing High Oleic
Nearly 650,000 acres of high oleic soybeans were planted this year across the country, according to the United Soybean Board (USB). High oleic varieties contain the same agronomic traits, and, one farmer observes, they perform just as competitively as other varieties.

Soybean Team Discovers Billion-Dollar Value Differences
ISA has found a new way to compare potential customer value of soybean varieties that could possibly increase a swine producer’s bottom line by up to $2.98 per head. Read more about the discovery, and how soybean farmers may put it to profitable use on their own farms.

Biodiesel Potential Booms
Building on the momentum of the approved Illinois tax exemption, the ISA board of directors is ramping up efforts to expand biodiesel consumption in Illinois as one of its top priorities for the new fiscal year that began Sept. 1. A new initiative has a goal of increasing the average blend of biodiesel in Illinois diesel dispensers from eight percent to 13 percent.

New ISA Leadership Looks to 2020
ISA elected its new executive committee and seated one new board member and two new committee chair people at its annual meeting in July. The new board is tasked with leading the ISA checkoff and membership programs through August 2018.

GETTING TO KNOW YOU: James Martin
James Martin is a fifth-generation corn and soybean farmer from LaSalle County who resides in Pontiac, Ill. He serves as the ISA District 6 director. Martin talks about his farm, the value of leadership and his thoughts about where the agriculture industry may be headed.
Customers are Big Priority for Illinois Farmers

The Illinois Soybean Association’s (ISA) new fiscal year began Sept. 1, and with that came the pledge to focus more on one of our highest priorities; increasing demand for Illinois soybeans.

I was elected to serve as ISA chairwoman for the 2017-18 year. I farm near Fairmount, Ill., as part of a family operation that also includes a custom application business. I have been active in soybean organizations for several years, having served as ISA vice chairperson and secretary and as an at-large director. I also represent Illinois on the United Soybean Board.

ISA’s goal is utilization of 600 million bushels by the year 2020. We are putting the programs in place this year to help reach that goal and drive the organization forward. Our strategic plan includes the following priorities: promoting preference of Illinois soy for export markets and animal agriculture; helping farmers be profitable through business management, yield and sustainable production practices; building membership relationships with member, corporate, industry and advocacy efforts that positively impact Illinois farmers; ensuring Illinois soybeans and products reach intended destinations efficiently; and increasing effective, progressive leadership.

It is our job to work at a strategic level and focus on projects that continuously improve the knowledge of our farmers, but also to focus on the influencers we work with and the markets where we sell our beans. In this issue of Illinois Field & Bean, our cover story looks at some of the innovative new uses that are expanding the market for specific soybean components. While food, feed and fuel are major uses, soybean products have myriad other applications.

We also share the latest on soybean quality efforts through the High Yield PLUS Quality (HY+Q) program. ISA has found a new way to compare potential customer value of soybean varieties that could possibly increase a swine producer’s bottom line by up to $2.98 per head. Read on to get details and reactions about this breakthrough.

This issue also shares information about the benefits of producing value-added soybeans, best post-harvest practices and a look at the rest of the new ISA executive committee.

Farmers will find tips for managing soybean production decisions for the upcoming season. We know farmers face tough decisions each year, and we received feedback about dicamba particularly in 2017. To stay current on dicamba and other issues, visit our newly designed website ilsoy.org and sign up for our weekly update.

I look forward to representing Illinois soybean farmers in the year ahead, and getting feedback on current ISA checkoff and membership initiatives and future ideas.

Have a safe harvest.

LYNN ROHRSCEIB
ISA Chairwoman
PARTNERSHIPS ARE KEY TO CONSERVING ILLINOIS LANDS AND WATERS

> BY MICHELLE CARR

A subdivision now looms on the eastern horizon, but corn and soybean fields still enclose my childhood home. At the time, I gave little, if any, thought to how our local fields helped feed people beyond rural Ohio. But I knew that farmers nurtured the land and were attuned to the weather. They were some of the first conservationists I encountered.

Today, The Nature Conservancy in Illinois works to contribute to the agricultural community’s efforts to protect our lands and waters. For more than a decade, we’ve been collaborating with farmers at the Franklin Research and Demonstration Farm in Lexington. Our scientists, hydrologists and biologists test and refine sustainable methods that keep soil in the field, protect water quality and allow productive lands to stay productive, without impacting the bottom line.

We've seen just how many farmers already implement these methods, and how many more are ready to get on board. We are grateful for the groundswell of interest, support and engagement. As an important next step, we need to ensure sustainable agriculture across Illinois is aligned, and that practices adopted are at scale with a tangible impact. Meeting conservation goals, such as the Illinois Nutrient Reduction Loss Strategy, requires coordination of many stakeholders.

We are thrilled to play a role in partnerships led by the agricultural community that not only increase productivity, but also protect our lands and waters for people and nature. The Midwest Row Crop Collaborative (MRCC), for example, is a broad-based effort to support, enhance and accelerate sustainable ag practice use and is already underway in Illinois. For the first time, leading ag supply chain companies and conservation organizations have formed an “end-to-end” partnership that will support farmers’ improvement of soil health and water quality.

Through participation in the MRCC, The Nature Conservancy in Illinois will focus first on the Upper Sangamon watershed, which covers eight counties and struggles with sedimentation and high phosphorus and nitrogen levels. The Conservancy will help farmers adopt the use of in-field and edge-of-field practices, and create a model that will be expanded across the state to complement the work of others involved with the MRCC.

We also participate in the Soil Health Partnership (SHP), a farmer-led initiative of the National Corn Growers Association focused on finding the best ways to measure soil health. We will contribute to The Illinois Sustainable Agriculture Partnership as well, to help develop and provide resources, training and education for farmers, advisors and conservation practitioners. The goals are to increase adoption of soil health systems and sustainable practices, and link a network of on-farm demonstration sites to disseminate new information and lessons learned. Similarly, The Nature Conservancy and Illinois Soybean Association are developing a collaborative partnership to encourage adoption of agricultural practices that will protect soil health and water quality while improving farm productivity and efficiency. Together, we will share success stories of farmers who work toward sustainability and state nutrient loss reduction goals and will help make connections between agricultural and urban communities.

Increasing the use of these practices could have an incredible impact far beyond Illinois. A soil health roadmap, prepared by a team of Nature Conservancy scientists, environmental economists and ag experts, outlines how adopting soil health practices on all U.S. corn, soy and wheat acres could deliver nearly $50 billion in social and environmental benefits annually.

As a child, farmers were my first contact with large land stewards. Now, I am proud to follow and support their lead to utilize our rich lands and waters to the benefit of people and nature. ●
Columbia Forest Products converted from urea-formaldehyde adhesives to a patented system using soy flour as a protein source in manufacturing its wood panel products.
The protein and oil extracted from soybeans traditionally have been sources of food, feed and fuel. But today’s researchers are able to dig deeper into these soybean components and identify additional uses that also can contribute to the long-term profitability of soybean farmers.

“Making a great soybean product even more valuable serves the needs of our customers. The Illinois Soybean Association (ISA) checkoff program looks for and helps support those projects that build preference for U.S. soybeans and meet end user needs in hundreds of products,” says Austin Rincker, ISA Marketing Committee chair and farmer from Moweaqua, Ill.

Likewise, the United Soybean Board (USB) has turned more attention to building preference for U.S. soybeans by focusing on innovative solutions to meet changing end-user demands.

“We are looking beyond just bushel gains and into new ways to capture value,” says Jared Hagert, USB director from North Dakota. “If we are going to improve soybeans and growing practices, we have to make sure the market values our product and our solutions for end users.”

SOYBEAN NO STRANGER TO DIVERSE USE

One of the first soy product experiments was an automobile panel made from soy plastic by Henry Ford in 1933. Although soy had been used in products such as paints and lubricants previously, petroleum chemicals were lower in cost and more readily available after World War II. Since then, new technologies have been discovered to use more soy in industrial products.

Soybean oil is used in not only industrial products such as plastics and biodiesel fuel, it is used in margarines, salad dressings and cooking oils. Lecithin extracted from soybean oil is used for everything from pharmaceuticals to protective coatings as a natural emulsifier and lubricant.

After oil is removed from soybeans, the remaining flakes are processed into edible soy protein products or used to produce meal for animal feeds. In addition, soy flour and grits are used in commercial baking to aid in dough conditioning and bleaching. Excellent moisture-holding qualities also help retard staling. Soy hulls are processed into breads, cereal and snacks.

FLOUR FINDS PLACE IN INDUSTRIAL APPLICATIONS

One general area where researchers have focused in recent years is in industrial uses of soybean meal. Soy-based adhesives are one of the successful products that helps diversify its demand.

“We started looking for alternative ingredients to use in our adhesives in about 2003 so we could differentiate our wood panel products,” says Tony Ferrante, Columbia Forest Products innovations sales and service manager, Greensboro, N.C. The company’s hardwood plywood and veneers are used in kitchen cabinetry and interior walls. “At the time, environmental rulings were coming down on formaldehyde use, and we wanted to eliminate it in our products.”

Columbia Forest Products converted from urea-formaldehyde adhesives to a patented system using soy flour as a protein source. It was jointly developed by Columbia, the College of Forestry at Oregon State University and Hercules International, based on technology partially funded by the checkoff. Hercules was granted a worldwide license to use the technology in the wood composite panel market, and Columbia was awarded a lifetime license to utilize the patented adhesive system for all of its North American panel business.

“The result was PureBond. We now exclusively produce plywood with soy adhesives,” he says. “Protein is critical for the bonding process, and soy flour is the only ag product that could provide the protein we needed. Soy is the most important material we need besides wood. There are no substitutions, and we devote all of our time and energy to soy.”

Ferrante estimates the company uses 24-26 million pounds of soy flour per year, and has produced more than 100 million wood panels with soy adhesive since moving to the formulation. They also offer the adhesive for sale on the open market through another group.

“We plan to continue to grow the use of soy adhesives. The next step is working on an all-natural adhesive that is proprietary and will eliminate any manmade chemicals. It is another generation in product development and will be less expensive,” he says.

HIGH OLEIC OIL RECAPTURES MARKET SHARE

Filling a market need with a product that offers top functionality is behind work directed by Frank Flider, an oils expert who consults for QUALISOY from Scottsdale, Ariz. QUALISOY is an industry partnership that focuses on improving soybean quality. Efforts to promote and test high oleic soybean oil are funded by the soybean checkoff.

Flider assists with functionality testing for enzymatic interesterified soybean oil — high oleic oil shortenings — to replace partially hydrogenated soybean oil in a variety of applications.

“This is an important segment to reach with a stable, drop-in
solution to reclaim lost food oil market volume following the phase-out of partially hydrogenated soybean oil," he says. High oleic soybeans have been a checkoff priority for more than a decade. The program evaluating soybean oils in deep fryer applications began about four years ago. The goal was to start a database with comparisons of high oleic soybean oil to other competing oils and to partially hydrogenated oil. 

“We had favorable results with French fries, so we moved on to donuts and ran high oleic shortening frying tests. Again, performance was similar to partially hydrogenated oils and superior to other oils taking the place of partially hydrogenated oil. We confirmed high oleic could be substituted in shortenings and replace it immediately,” he says.

Most recently, QUALISoy has tested high oleic soybean oil shortenings in baking applications like cakes, cookies and icings. High oleic has performed well, especially in icings. “The fact we can position high oleic shortening as a drop-in for partially hydrogenated oils is huge for the food industry. Manufacturers do not want any product that will change the flavor, color or smell. This is a big deal to maintain their product formulas and characteristics,” he says.

Commercial applications already are in the marketplace. “High oleic soybean oil has a fabulous nutritional composition with its mono and polyunsaturated levels and has a perfect fatty acid profile for optimum performance in these applications. The oil is bland in flavor and will be very cost effective to produce, too,” says Flider.

There is plenty of high oleic soybean oil available now for use by small- and medium-size companies, and high oleic soybean production is on track to grow exponentially to meet quickly rising demand. Flider says the goal by 2025 is for high oleic soybeans to be the fourth largest row crop behind corn, commodity soybeans and wheat. “Farmers are regaining lost market volume from canola and palm with high oleic production. It also offers an immediate economic benefit to those farmers because it pays a premium,” he says.

Soybean meal produced from high oleic soybeans has the same composition as meal produced from commodity soybeans. While the high oleic trait has been approved in China, it awaits final stacked approval in the European Union, so it cannot be sold worldwide yet. “We want to continue functionality research into specialty areas like mayonnaise, salad dressings and pastries,” he says. “Efforts also are underway to develop a high omega 3 soybean oil as an alternative to fish oil.”

OIL MAKES ASPHALT MORE COST EFFECTIVE

Commodity soybean oil for asphalt production is another industrial use that may someday help absorb plentiful stocks. Eric Cochran, Iowa State University chemical and biological engineering associate professor, is formulating soy-based thermoplastic elastomers for that use. His team has developed a process to convert soybean oil into a building block of plastic that can be compounded with other materials, like asphalt. A thermoplastic elastomer is a soft, stretchy rubber when heated that can be melted into a liquid and recycled or remolded.

Styrene-butadiene-styrene (SBS) currently is used in pavement formulations to keep asphalt stiff, but also elastic, when it is really hot so truck tires can’t leave ruts. Cochran says SBS is one of the few materials that offers this enhancement and the primary material used for some 30 years.

In Cochran’s work, soybean oil replaces the “B” in SBS, which is 75 percent of the mass of the final product. He says soybean oil is a comparable performer and cheaper than butadiene. “The tradeoffs are good. The final asphalt product can be made a few cents per pound cheaper, so you get more performance using less material,” he says.

The product will transfer from the lab to a pilot plant for a real-life test in the next few months. “This is an excellent potential market for soybean oil. Millions of pounds of SBS are used in asphalt production every year, and that could provide a new market for farmers,” he says.
As the high oleic soybean industry in the U.S. continues to grow, soybean farmers are taking note of the increased end user demand and added benefits of the value-added crop.

Soybean farmer Steve Huls from St. Joseph, Ill., is one of the many farmers who understand the value of keeping those end users in mind. “It’s is important to consider the needs of our end users,” says Huls. “Also, it's really not that much extra work to raise high oleic soybeans. They yield well, and the premium can be a nice bonus.”

Nearly 650,000 acres of high oleic soybeans were planted this year across the country, according to the United Soybean Board (USB). As additional farmers grow the varieties and more processors accept them, high oleic soybeans could become the fourth-largest U.S. crop.

So far, USB estimates more than 500 restaurants and food companies have tested high oleic soybean oil: a highly functional oil with a higher nutritional value and no performance sacrifice. USB believes the sizable growth in demand provides new opportunities for farmers in states that are growing high oleic. Huls has since switched from commodity soybeans to only high oleic.

“Our operation has planted 2,000 acres of high oleic soybeans a year for the past four years,” says Huls. “That is 100 percent of our soybean acres.”

There are reasons why farmers like Huls decide to plant high oleic every year. High oleic varieties contain the same agronomic traits and perform just as competitively as other varieties. USB finds the growing process is fairly similar and takes a lot less attention than many other premium varieties. Huls has only had to take a few different steps when growing high oleic.

“We have to completely clean out our planting and harvest equipment before switching to any other crops,” he says. “It is a slightly different process than commodity soybeans, but high oleic is much more beneficial to end users. When all is said and done, I am happy with high oleic.”

In addition to similar growing practices, farmers receive a premium for growing high oleic soybeans. On average, farmers collect about 45 cents extra per bushel.

USB stresses that by ramping up the total acreage of high oleic soybeans, farmers and processors have a chance to greatly impact end users. A consistent supply of high oleic soybeans that meets demand from farmers growing a sustainable, premium product could be good news for everyone.

For more information on high oleic soybeans, contact a seed dealer or visit soyinnovation.com.
ISA has found a new way to compare the potential customer value of soybean varieties that could possibly increase a swine producer’s bottom line by up to $2.98 per head.

The breakthrough came when the soybean checkoff-funded HY+Q (High Yield PLUS Quality) program looked at quality data from soybean samples through the eyes of customers — swine producers. Using least-cost ration formulation software, they discovered that differences in levels of seven key essential amino acids (EAAs) in the best and poorest soybeans could offer more than $1 billion in potential value to swine and poultry producers worldwide.

The value differences are based on comparing how the seven EAAs drive feed costs in a corn-soybean diet in finishing pigs. Actual value will vary because soybean meal includes many soybean varieties and nutritionists adjust each ration to minimize feed costs.

“Being clear about soybean value to livestock and oil customers requires an accurate way to compare quality at the variety level,” says Linda Kull, Ph.D., ISA director of strategic research programs. “Using essential amino acids and ration formulation software makes it easy to find high-quality soybeans and countless farmer success stories across the U.S.”

GOOD FOR ALL GROWERS
Raising the quality and feed value of soybeans would be a “win-win” for soybean and hog producers, says Chris Hostetler, Ph.D., director of animal science for the National Pork Board.

“This is exciting news that begins to allow us to estimate the feeding value of individual varieties,” says Hostetler.

Revealing the full value in U.S. soybean varieties began when HY+Q asked Bart Borg, Ph.D., director of nutrition for Standard Nutrition Services, an independent swine nutrition consulting company, to analyze value differences. Borg used lab data from representative soybean samples, then created simulated soybean meal based on the United Soybean Board Estimated Processed Value calculator. He compared them using Dalex, a standard ration formulation software brand.

Comparing the virtual soybean meals showed that the highest-value meal with the best amino acid profile could reduce feed costs of a corn-soybean meal-based diet as much as $2.98 per head during the finishing period, says Borg.

“When compared to other protein sources, the value of soybean meal is related to its amino acid profile and digestibility of those amino acids,” says Omarh Mendoza, Ph.D., associate director of nutrition for The Maschoffs, LLC, an Illinois-based family pork producer with swine operations in nine states. “We make feed for our pigs at 26 mills across the U.S. There can be considerable difference in the amino acid profile and feeding value of meals across the various mills.”

HY+Q team members also worked with the University of Wisconsin-Madison to generate a statistical model to predict value differences across 8,282 farmer soybean samples, which were grown over four years and collected by the U.S. Soybean Export Council (USSEC) for its annual soybean quality reports. The team also developed the methodology for a customer value report that will enable farmers and seed companies to compare end-user value of their soybeans. The value report will be released following the 2017 harvest.

FARMERS APPRECIATE HIGH-VALUE SOYBEAN DISCOVERY
Illinois farmers who participated in the new program are enthused about its potential to enhance future soybean value and competitiveness.

Farmers Kenneth Jorstad, Scott Miller and Douglas Thompson all have submitted samples from their soybean fields to the U.S. Soybean Export Council’s (USSEC) quality testing program for years to help contribute to documenting and improving the quality and value of U.S. soybeans.

The farmers agree results from their 2016 USSEC samples gave them new insights into the connection between quality and end-
Funded by the Illinois soybean checkoff

user value, thanks to a new collaboration between USSEC and the ISA High Yield PLUS Quality (HY+Q) program. The research pioneered by HY+Q showed key amino acid components of bean samples would have theoretically saved hog producers more than $2 per head in finishing costs compared to lower-quality soybeans. Poultry customers also would likely reduce feed costs with meal from high-value soybeans.

“Two dollars a head is no small potatoes; it’s huge money,” says Scott Miller, Tamms, Ill. “Anything that is going to benefit our customers benefits us. I like this approach.”

“I think this is very important,” adds Kenneth Jorstad, Newark, Ill. “Any time you can improve the value of your soybeans you have improved the economic well-being of your customer. Eventually some of that will come back to us, the soybean producer.”

Farmer Douglas Thompson from Atlanta, Ill., also agrees. “This focus on the dollar implications of higher amino acid value to customers is exciting. If beans with more valuable amino acids are a readily available alternative for feeders, it might mean more value for soybean growers.”

HIGH VALUE AND HIGH YIELD

All three farmers say fields providing their high-value, high-quality samples yielded as well or better than any other soybeans on their farms last year. Miller grew an FS HiSoy variety, Jorstad’s sample was an Asgrow soybean and Thompson’s was a Pfister variety.

“That was my best field of beans because it was the most uniform,” says Jorstad. “It yielded 60 bushels per acre. My primary focus is on yield. If protein and amino acids are high, so be-it.”

Miller, who has won the Illinois irrigated division of the National Corn Growers Association (NCGA) corn yield contest five of the past eight years, says the dryland field where he took his sample yielded 54-56 bushels per acre. “The high-quality beans we raise yield well,” he says.

Thompson’s sample came from a field that yielded more than 70 bushels per acre, while his farm soybean yield average in 2016 was 65 bushels per acre.

All three samples were high in protein and oil – 34.7 to 36.6 percent for protein and 19.0 to 20.2 percent for oil. Sample value was enhanced by high concentrations of two amino acids with the greatest value among seven amino acids typically considered in swine rations. Concentrations ranged from 1.55 to 1.69 percent for isoleucine and 1.71 to 1.78 percent for valine.

HIGH-VALUE OPTIMISM

Jorstad is optimistic about the results, and hopes the soybean checkoff continues exploring the soybean amino acid value equation for livestock producers. “This is important for our future,” he says. “This is our checkoff dollars at work. It needs to be pursued.”

Seed companies will play a pivotal role in improving value, Thompson believes. “It may be possible to produce a bean that is even higher in value than the beans we already grow. If we get breeders looking at the genetics, they may find a specific gene that confers this,” he says. “Then even higher levels of key amino acids with corresponding feed value gains are possible.”

Thompson has 180 acres of his previous high-value sample soybeans in the ground this year. “I would keep them in a separate bin at harvest if I thought there was more value,” he says. “I think this is heading in the right direction,” adds Miller. “If seed companies see the positive side of it, there could be a big push for value. It will be a big deal. It is not snake oil,” he says. ■
Post-harvest can be a great time to evaluate soil health and develop a plan to improve it.

“Accurate soil sampling and soil test reports continue to be among the most valuable pieces of information for evaluating nutrient needs and identifying possible yield-limiting fertility factors,” says Chad Kalaher, agronomist for Beck’s Hybrids, Bloomington, Ill. “Applying fertilizer without accurate soil testing can’t be achieved with a ‘spread by crop removal’ approach. Some nutrients, such as boron (B), and pH may be yield-limiting and remain unaddressed.”

Improving soil health begins with soil sampling, reducing destructive tillage, adopting no-till and planting a cover crop, adds Dan Davidson, ISA research technical coordinator. “The goal of soil health is to create an environment where soil micro-organisms thrive, carbon cycling takes place and nutrients are kept in the soil to be used by the next crop,” he says.

Variety selection, environment, field placement, fertility, disease, soybean cyst nematodes, insects and weed management all can contribute to potential yield loss or gain. However, seed is the most expensive input for soybean production, which makes seed selection critical.

“It’s unfortunate that many growers fail to place enough emphasis on accurate product selection of soybeans,” says Burrus Seed agronomist Stephanie Porter, Taylorville, Ill. “No one knows your fields better than you. By pinpointing the correct maturity range, pest control, agronomic traits, weed program or other management practices needed, you may not only set up the right conditions for your variety to achieve your expectations, you’ll have the recipe for success.”

The vast array of soybean production tools available — seed treatments, advanced genetics, growth regulators, micro and macronutrients, fungicides and insecticides — are not important to the farm unless the farmer is aware of the problems that need to be solved with them.

“Take care of your soybeans and the yield will follow,” says Adam Day, Certified Crop Adviser and agronomy account manager for Northern Partners Cooperative, Ottawa, Ill. “Remove as many risks as possible to allow soybeans to reach their potential.”

Even after the crop is out of the field, weed control decisions continue. According to University of Illinois weed scientist Aaron Hager, herbicides applied in the fall often can provide improved control of winter annual weed species compared with similar spring applications.

This tip is especially important for weeds like resistant marestail, which Hager recommends spraying with 2,4-D in the fall to achieve better control at planting. Typically, the earlier the fall application is made, the more beneficial the results. He advises farmers to shoot for an early October application date, if possible, before winter annual weeds emerge.

“I recommend fall-applied herbicides to target fall-emerging winter annual species, biennials and perennials,” Hager notes. “But, I do not recommend fall application of residual herbicides for control of any spring-emerging annual weed species.”

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Double-crop systems may be more profitable when farmers manage the rotation efficiently. ISA checkoff program field plot demonstrations at the 2017 Farm Progress Show revealed that double-crop systems can provide a positive return on investment for farmers, while improving soil health and protecting downstream water quality. Here are the recommendations that have surfaced from this work with several collaborative partners.

THE DOUBLE-CROP SYSTEM

Double-cropping is a popular rotation that allows three crops to be harvested over two years instead of a single crop each year, which can improve profitability and expand crop diversity. Double-cropping generally requires a fall-planted cereal crop, such as barley, rye or wheat, that is harvested in early summer followed by soybeans, sorghum or a forage crop. Some spring-planted crops, such as oats or vegetables, can be harvested early enough to plant a second crop.

The wheat-soybean rotation is most common. Winter wheat is planted in the fall and harvested in June, followed by no-tilling soybeans into wheat stubble immediately after wheat harvest. The earlier soybeans are planted, the sooner they emerge and the greater the yield potential.
EARLY WHEAT HARVEST SYSTEM

The key to improving second-crop yields is planting earlier. That requires the first crop to be harvested sooner. The good news is farmers today can purchase wheat varieties that mature three to seven days sooner than usual, yet produce the same yield as conventional maturities.

Farmers also no longer need to wait to harvest wheat at 12 to 14 percent moisture. They can harvest at 18 up to 22 percent moisture and then dry the wheat using air on-farm or deliver to an elevator that takes high-moisture wheat.

The combination of planting earlier wheat varieties and harvesting at higher moisture, followed by no-tilling soybeans immediately afterwards, can move up the planting date seven to 14 days.

ECONOMIC BENEFITS

In most years, the economic return from planting two crops is greater than planting one crop. Often, the wheat-soybean double-crop provides a greater return than corn, wheat or beans alone.

Harvesting wheat at higher moisture produces better quality grain. Test weight is higher, incidence of vomitoxin is reduced and the risk of price dockage is much lower, which can improve profitability. Planting soybeans earlier also increases yield potential by as much as one bushel per acre for each day they are planted sooner, increasing yields and profitability.

ENVIRONMENTAL BENEFITS

Planting three crops over two years improves crop diversity, which can benefit the soil and improve water quality. Winter wheat acts as a cash cover crop protecting the soil, suppressing winter annual weeds and scavenging nutrients in the soil. The result is overall improved soil health. Remaining wheat residue will also suppress and reduce soybean cyst nematode populations in the following soybean crop when beans are no-tilled.

Soybeans planted after wheat act as a summer cover crop suppressing weeds, scavenging nutrients, and again protecting the soil and improving soil health.

ISA Partners Provide Critical Input

ISA appreciates the assistance and collaboration of its partners in developing these double-crop recommendations:

- AgriMaxx
- Beck’s
- Growmark
- Illinois Wheat Association
- Limagrain Cereal Seeds
- National Wheat Growers Association
- Syngenta

For more information, visit www.ilsoy.org/profitability-double-crop-beans.
More stability was granted to the Illinois biodiesel industry earlier this summer. In July, Illinois lawmakers approved a five-year extension of a full sales tax exemption for biodiesel blends above 10 percent. The Illinois sales tax exemption was set to expire at the end of 2018.

The 20 percent sales tax credit for lower blends will sunset in December 2018 as originally intended. Adoption of this tax package now extends the higher blend exemption through 2023.

“This is huge for Illinois soybean farmers,” says Austin Rincker, chairman of the Illinois Soybean Association (ISA) Marketing Committee and a soybean farmer from Moweaqua, Ill. “As a top priority, Illinois Soybean Growers has been working diligently and leading the campaign on this issue. The biodiesel industry adds value to our soybean crop each year. We want that consumption to take place in Illinois where soybeans are grown and the oil is processed into biodiesel and distributed to diesel users.”

Illinois is a top-five biodiesel producing and use state, according to the National Biodiesel Board (NBB). The Illinois biodiesel industry creates jobs and benefits the state’s economy in both downstate and urban areas. According to a 2016 study by ABF Economics, the biodiesel industry supports about 2,000 Illinois jobs, both directly and indirectly. The use of biodiesel helps commercial, governmental and municipal fleets operate more efficiently.

“The biodiesel sales tax incentive in Illinois has been a tremendously successful policy supporting the growing market for American-made advanced biofuels,” says Donnell Rehagen, National Biodiesel Board CEO. “Incentivizing the use of biodiesel in the state spurs economic activity, supports U.S. produced fuels, and adds value to the agricultural economy. This policy extension will help maintain the state of Illinois as an industry leader.”

ISA RAMPS UP EFFORTS

Building on the momentum of the Illinois tax exemption approval, the ISA board of directors is ramping up efforts to expand biodiesel consumption in Illinois as one of its top priorities for the new fiscal year that began Sept. 1. A new checkoff-funded initiative has a goal of increasing the average blend of biodiesel in Illinois diesel dispensers from eight percent to 13 percent.

“Biodiesel continues to be a lucrative investment by soybean farmers and their checkoff in Illinois and other soybean states,” says Doug Schroeder, a Mahomet, Ill. farmer and vice chairman of the ISA board. “We expect the combination of this new effort and the tax exemption to add more than five cents per bushel to the value of soybeans.”

Schroeder notes the special initiative will allow for more intense and differing methods to communicate both the health and economic benefits to the state of Illinois and its citizens. The goal is to motivate residents to ask for biodiesel use in their children’s school buses, in county and city diesel equipment, park districts, mass transit systems and other places.

Other goals for the project include increasing the number of diesel fleets in Illinois using B20 (20 percent biodiesel blend), collecting fuel quality sample data to determine if fuel specifications need to change, and exploring new technologies that allow for higher biodiesel blend use.

Biodiesel Potential Booms

NEW INCENTIVES, FOCUS PROVIDE BOOST FOR SOY-BASED FUEL

> BY AMY ROADY

Only the oil portion of the soybean is used to make biodiesel, leaving the protein available for other uses, including livestock feed and consumer food products. Biodiesel creates an additional market for soybean oil not purchased for food or industrial applications.
NEW ISA LEADERSHIP LOOKS TO 2020

The Illinois Soybean Association (ISA) elected its new executive committee and seated one new board member and two new committee chairmen at its annual meeting in July. The new board is tasked with leading the ISA checkoff and membership programs through August 2018.

One of the most important tasks of the group will be deciding the strategic direction of the organization, notes Lynn Rohrscheib, Fairmount, Ill., soybean farmer who was elected as ISA chairwoman. She previously served as vice-chairwoman for two years. The board currently focuses on soybean marketplace, farmer profitability and stakeholder value, and will develop new relationships in the Chicago area, where ISA recently opened a second office.

“It is our goal to utilize 600 million bushels of soybeans by 2020, a goal we almost hit in 2016,” says Rohrscheib. “Our board currently focuses on the supply side of our industry by looking at sustainable production practices and technology transfer. For the demand side, we work in utilization industries such as animal agriculture, aquaculture, biodiesel and value creation. We always are looking to find the next thing we should support to make Illinois soy the most dependable, sustainable and competitive in the global marketplace.”

Other executive committee members include Vice-Chairman Doug Schroeder, Mahomet; Treasurer Jered Hooker, Clinton; Secretary John Longley, Aledo; and Assistant Secretary-Treasurer Stan Born, Lovington. Joining the executive committee are Jenny Mennenga, LeRoy; as Production and Outreach Committee chairperson and Austin Rincker, Moweaqua; as Marketing Committee chairperson. Mennenga and Rincker also were re-elected to at-large director positions.

Edward Murphy from Farmersville was newly elected to the board at the meeting as well. Murphy represents ISA District 13, where he farms with his son. He is a graduate of Wabash Valley College with an associate’s degree in agribusiness. He began farming in 1970 and today raises soybeans, corn, alfalfa, hay and oats. He also is a fourth-generation draft mule farmer.

Several board members were re-elected to their district director positions for 2017-18. Paul Rasmussen, Genoa, was re-elected to District 1; Stan Born, Lovington, was re-elected to District 5; Tom Kentner, Danville, was re-elected to District 7; Carrie Winkelmann, Tallula, will again serve District 9 and Roberta Simpson-Dolbeare, Nebo, represents District 12.

ISA has a total of 18 district directors and six at-large directors located throughout the state who work on behalf of Illinois soybean growers and the checkoff. To learn more about how to become a board member for ISA, visit www.ilsoy.org/leadership. Several director positions will be open for new leadership later in 2018.

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Ag Economist Develops Habits of Financially Resilient Farmers Training

The Illinois Soybean Association (ISA) focuses on farmer profitability as a core area, with the goal to improve the financial management skills of Illinois soybean farmers. With this initiative, Gary Schnitkey, Ph.D., ag economist from the University of Illinois, was awarded a grant from the North Central Extension Risk Management Education Center to provide training on the habits of financially resilient farmers who excel at risk management. With additional funding from the ISA checkoff program, five training events about the topic and supporting materials also will be created. The events will span across Illinois next winter and will be free to Illinois soybean producers. Stay tuned to ilsoy.org for more information about this event.

Soil Health Partnership Encourages Planting Cover Crops in Fall

The Soil Health Partnership (SHP) is encouraging farmers to consider planting cover crops this fall or winter. Cover crops can help reduce soil erosion, improve soil health and protect water quality, among other benefits. Typical varieties of cover crops in the Midwest include cereal rye, oats and tillage radish. The goal of the Soil Health Partnership is to quantify the benefits of sustainable ag practices, including cover crops, from an economic standpoint. To learn more about cover crops and SHP, visit www.soilhealthpartnership.org. The Soil Health Partnership works with the ISA checkoff program on sustainability efforts. To learn other ways to take part in sustainability on your farm, visit www.ilsoy.org/sustainability.

ASA/DuPont Young Leader Applications Available

DuPont Pioneer, DuPont Crop Protection and the American Soybean Association (ASA) have once again partnered to offer the Young Leader Program for 2017-18. Applications are now available to interested farmers who wish to explore leadership potential. Selected participants will begin the program Nov. 28 at DuPont Pioneer Headquarters in Johnston, Iowa. Phase two of the program will be held in February 2018 in Anaheim, California, in conjunction with Commodity Classic. Additional information and qualifications for the Young Leader program are found at soygrowers.com. Applications must be completed online by Sept. 30, 2017.

Do What's Right with Dicamba

Everyone involved with production agriculture in Illinois has a critical role to play in the proper stewardship of new products, such as dicamba-based herbicides, including strict adherence to all label guidelines. Working with other groups, ISA developed key learnings to help farmers make best use of dicamba technologies. For more information visit ilsoy.org or ilsoyadvisor.com.

Biodiesel Labeled Cleanest Liquid Fuel in America

The California Air Resource Board announced recently that it has certified a biodiesel additive that will make B20 blends in California the cleanest proven and tested diesel fuel with the lowest emissions profile available anywhere in the United States. The additive takes biodiesel and reduces every measurable regulated emission, including NOx, when blended with California’s unique diesel formulation called CARB diesel. The effort was led by the National Biodiesel Board (NBB), which receives funding from the ISA checkoff program. NBB is the U.S. trade association representing the entire biodiesel value chain, including producers, feedstock suppliers, fuel distributors and the U.S. renewable diesel industry. Visit biodiesel.org.

Soy Checkoff Expands Pesticide Resistance Conversation

Take Action, an industry-wide partnership spearheaded by the national soybean checkoff, is a farmer-focused education platform designed to help farmers manage herbicide, fungicide and insecticide resistance. A new website has been launched with tools for weed, disease and insect management and pesticide, herbicide and fungicide best practices. Visit iwilltakeaction.com.
2017 Legislative Issues are on the Move

> BY MIKE LEVIN, Illinois Soybean Growers Director of Issues Management Analysis

We are several months into a new federal administration that is already proving impactful to the agriculture industry. And, Illinois has a budget for the first time in two years — albeit not perfect.

During these times of transition and progression, advocacy has never been more important. Illinois Soybean Growers (ISG) is keeping its finger on the pulse of issues important to Illinois soybean farmers. Below are some of the key issues ISG is monitoring during the second half of 2017:

2018 FARM BILL
Every five years, Congress reviews and renews the farm bill, which sets national policy regarding agriculture and food issues. Negotiations over the 2018 Farm Bill are already in full swing, and ISG is working alongside other ag organizations to build the farm bill and protect important titles like risk management and crop insurance programs that help farmers in times of economic uncertainty.

Listening sessions began this spring and continued into the summer. House and Senate leaders left Washington, D.C., to hear from farmers around the country on what changes are needed to the bill. Farmers in every region have important perspectives about what policies are or are not working. It is critical Illinois soybean farmers make their opinions known on farm bill issues.

A common debate among lawmakers is splitting the nutrition title from the farm bill. However, the farm bill provides a safety net for farmers and consumers alike. Food security is a shared issue, so farm and nutrition programs should remain together. This also bolsters rural-urban legislative support for passage.

RENEWABLE FUEL STANDARD
The Environmental Protection Agency (EPA) released in July the proposed Renewable Fuel Standard (RFS) volumes for biomass-based diesel for 2019, keeping volumes at 2.1 billion gallons. ISG wants to see marketplace growth for an Illinois-grown renewable fuel, and maintaining volumes at current levels is a missed opportunity for supporting domestic biodiesel and soybean production.

WORLDWIDE MARKET ACCESS SUPPORT
Commodity importers from China signed agreements in July to buy U.S. soybeans, beef and pork – the second-largest deal for U.S. soybeans valued at more than $5 billion by the U.S. Soybean Export Council (USSEC). The beef deal came shortly after China reopened its market to U.S. supplies following a 14-year ban. While nothing is in concrete until shipment dates are set, this is a sign of progress for U.S.-China trade relations and our ag sector. ISG will continue to monitor this and other priority trade issues.
I'M A LEADER

WHAT SKILLS DO YOU USE THAT FARMERS NEED TO PARTICIPATE IN LEADERSHIP?

It is important to be a good listener and be willing to research issues and topics that might affect soybean farmers. Responsible fiscal management of soybean checkoff dollars is important for ISA leadership.

WHERE DO YOU SEE U.S. AGRICULTURE HEADED?

I believe we will see even more technology come into play for growing crops and livestock. There also will be more competition in the global marketplace. We need to be proactive with nutrient management to avoid future overregulation.

WHAT ARE YOUR PLANS FOR YOUR FARM IN THE FUTURE?

I would like to keep the land sustainable for future generations and expand if the situation is right. With variable rate technology and no-till, I am trying to reduce erosion with waterways and drainage and ultimately get some natural earthworm movement for healthier, more productive soils.

WHAT DO YOU LIKE TO DO IN YOUR FREE TIME?

I enjoy history and travel, and am involved with my church and community. I also like to attend Illini games and participate in my kids’ activities.

WHAT IS YOUR FAVORITE ASPECT OF FARMING?

Managing our natural resources and experimenting with production practices are my favorite activities on the farm. Nearly half of our land has been in my family since our German ancestors homesteaded the area.

I am committed to high-quality soils, and I think a big reason we have good soils is because my family has made that a priority across the generations. I also make on-farm trials a regular part of my business, including participating in ISA’s Yield Challenge. I might have as many as 30 different trials going at one time to evaluate various products and seed varieties.

Along with managing natural resources and trying different management practices, I want to be sure what I am doing is profitable. We have to be financially solvent to keep farming.

WHY ARE YOU INVOLVED WITH INSURANCE AND INCOME TAX SERVICES IN ADDITION TO FARMING?

I have been involved with these businesses since I was in college. I enjoy helping the general public with financial management. At the same time, I hope I can educate consumers about agriculture along the way. The income tax season is ideal in the off-season of grain farming.

WHY DID YOU WANT TO BE A DIRECTOR FOR THE ILLINOIS SOYBEAN ASSOCIATION?

I like to speak on behalf of farmers, as well as promote our products and be part of cutting-edge research.

James Martin is a fifth-generation corn and soybean farmer from LaSalle County who resides in Pontiac, Ill. Along with farming, he operates an independent insurance agency and an income tax service and has worked in the banking and seed sales industries. He has a bachelor’s degree in ag industries from the University of Illinois and also attended Illinois Valley Community College. Martin previously was an American Soybean Association DuPont Young Leader and an Illinois SoyLeader. He and his wife, Lisa, have two children.

James Martin
ISA District 6 Director
LaSalle County, Ill.
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