Prep for 2017 Production Risk

Illinois may Eclipse 60-Bushel Yield

Manage Fall Nutrients Efficiently
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Cover Story
Move that Soybean Mountain
Illinois leads the country in official 2016 soybean production estimates. If realized, farmers will see record output in the state and the nation. In the shadow of this mountain of soybeans, prices to farmers remain relatively strong. Learn more about the markets supporting the outlook.

Farmers Get Lesson from a Great Big Lake
Across the country, water issues are taking center stage. From the Delmarva Peninsula, to Des Moines, Iowa, to California, water quality and water availability are major hot-button issues. Find out what a group of ISA directors and staff who toured the Western Lake Erie Basin (WLEB) Watershed near Toledo, Ohio, this summer learned about addressing the challenges.

Put Top Management Tips to Work on Your Farm
Field days and winter summits led by ISA’s checkoff program-funded ILSoyAdvisor.com provide hands-on learning opportunities for farmers to increase yields and profits. Illinois Field & Bean partners with the site to offer key takeaways from the 2016 field days.

Farmers Must Understand Phosphorus Nemesis to Manage It
Hypoxia waters are the challenge of agriculture. Non-point source losses of nitrogen (N) and phosphorus (P) can cause deadly algal blooms when N and P build up in surface waters. And while N often gets most of the blame, farmers must understand how P also is a culprit.

ISA Plans New Initiative in the Windy City
The ISA checkoff program recently approved an initiative to pursue new opportunities for the state’s soybean growers in the Chicago area. Read this Q&A with the new director of industry relations to learn more about the program and its goals.

Leader Profile:
Ben and Genny Six
Diversified Farmers
Ben and Genny Six of Chapin, Ill., are sixth-generation farmers, raising their children as part of the seventh generation on the family farm. They raise corn, soybeans, cattle and pigs with Ben’s parents and two of Ben’s brothers and their families. So with three of the five siblings returning to the farm, diversification allows the operation to support multiple families.

About the Cover
Ample soybean stocks may challenge even the best marketers in 2017, as farmers look to manage risk into the new year. Economists say farmers should prepare to operate as efficiently as possible to maximize profitability both on the farm and as an industry.

DID YOU KNOW?
The ISA checkoff program has a new children’s book available to help educate young students about the life cycle of soybeans. Read more about it on page 21.
ISA Keeps Eggs in Essential Baskets

As Illinois farmers, we face this fall the biggest mountain of soybeans we have ever produced. USDA currently estimates Illinois farmers will produce 623.1 million bushels of soybeans in 2016 — a record crop — with a 62 bushel-per-acre yield, which also is a record.

The good news is farmers continue to understand and apply the necessary technologies to increase our individual yields and production to collectively expand our available supplies.

The other good news is the Illinois Soybean Association (ISA) checkoff program invests in projects and programs that grow our markets so all those soybeans have somewhere to go. That soybean prices have remained well supported this fall is proof of demand. And the ISA plan provides a good way to help spread the risk of meeting and expanding demand for even more soybeans. Our target is to utilize 600 million bushels of Illinois soybeans by 2020.

One element of ISA’s new strategic plan is to promote marketplace preference. We want buyers to import Illinois soy, feed livestock and poultry here and abroad, and fuel vehicles with bigger biodiesel blends. Through fiscal year 2020, our objectives in this area include:

- Retaining and growing animal agriculture in Illinois and in close proximity to Illinois.
- Ensuring markets for meat production.
- Increasing overall volume of soy used in aquaculture feeds.
- Shifting biodiesel consumption from B11 to B20.
- Increasing exports of soybeans and meal via containers.
- Increasing U.S. soy export volume where Illinois has a strategic advantage.
- Promoting and improving the quality of soybeans and soybean products.

In this issue of Illinois Field & Bean, you can read more about soybean supply and demand projections and what those projections mean for our profitability. You also can learn more about some of our outside-of-the-box thinking we believe will contribute to greater demand. For example, Illinois soybean farmers are opening an office in Chicago to help us expand our influence and reach through corporate and industry partnerships and opportunities. You also can find out about our various partnerships and the way partners interact for the good of farmers.

We also continue to offer advice for expanding production and protecting risk in 2017. Get top tips about managing production and nutrients and diversifying your operation.

ISA helps keep eggs in the essential baskets so the state’s soybean farmers can benefit from not only increasing production, but also expanding profitability as market opportunities grow. Let’s continue that momentum into the new year and beyond. •

DARYL CATES
ISA Chairman
Minimize Stored Soybean Risk

> BY KEN HELLEVANG

Farmers may have a year’s worth of income to protect in the form of stored grain, and on-farm storage can be a valuable tool to help take advantage of favorable markets. Grain-holding capacity lets farmers wait out fluctuating market conditions and react when prices are good. To make sure soybean yields are protected and stored safely, follow these 10 commandments that begin with harvest and last through the entire storage season:

1. **START WITH A HIGH-QUALITY PRODUCT.**
   How grain is harvested affects storability. Make sure soybeans are harvested at appropriate levels: 18 percent moisture, ideally stored at 15 percent.

2. **MINIMIZE MECHANICAL DAMAGE.**
   Potential for mechanical damage has a lot to do with the moisture level at harvest. Waiting to harvest until soybeans are too dry increases the risk for cracking and splitting. Harvesting with slightly higher moisture and using fans to circulate air to dry soybeans can minimize mechanical damage.

3. **MANAGE MOISTURE ACCORDING TO STORAGE PLANS.**
   Market moisture for soybeans is 13 percent, which is fine for storing soybeans during cool conditions. If your soybeans will be stored through winter and into the warmer weather of spring and summer, store at 11 percent moisture to prevent mold growth.

4. **HANDLE SOYBEANS PROPERLY.**
   Specialty soybeans, including those grown for food uses, may need to be handled differently than commodity soybeans. That includes reducing auger drop-height when unloading into grain bins in order to reduce breakage.

5. **CONTROL TEMPERATURE INSIDE THE BIN.**
   Temperature control is as important as moisture control. Soybeans should be cooled as they go through fall and winter to maximize quality. Aerated stored soybeans periodically as temperatures drop. Soybeans should be stored at or near 30 degrees Fahrenheit in the north and 40 degrees or less farther south.

6. **KEEP GRAIN COVERED.**
   Once soybeans are cooled, aerator and ductwork openings should be covered to prevent snow or moisture from blowing into the bins during winter storage. Don’t allow openings to let moist air or snow enter the bins.

7. **MONITOR STORED GRAIN REGULARLY.**
   Storage management isn’t complete once grain is cooled to a proper temperature for winter storage. Outside temperature changes can bring about moisture changes inside the bin. Monitor soybeans at least once every two weeks during winter storage.

8. **READ THE SIGNS.**
   Watch for any indications that something is wrong with your stored soybeans. Condensation, insects and grain temperatures can be indicators of trouble. Recording temperature values and grain condition can be useful in tracking any changes.

9. **USE AVAILABLE TOOLS.**
   Improved technology can help you better manage stored grain. Temperature cables and fan controllers can make management simpler by taking advantage of favorable conditions to keep grain stored at optimal temperature and moisture.

10. **DON’T TURN EVERYTHING OVER TO AUTOMATION.**
    Technology is great, but visual inspection of stored grain occasionally can be valuable. For example, moisture sensors need calibration in order to be accurate. Blindly trusting that equipment is working properly without personally checking periodically could lead to disaster.

“Outside temperature changes can bring about moisture changes inside the bin. Monitor soybeans at least once every two weeks during winter storage.”

KEN HELLEVANG
North Dakota State University Extension engineer

Ken Hellevang is a North Dakota State University Extension engineer responsible for providing education and technical assistance with such areas as grain drying, storage and handling, and structures and building environment engineering. Reach him at kenneth.hellevang@ndsu.edu.
U.S. soybean production in 2016 appears headed for a new national record, with Illinois leading the production parade. And even in the shadow of that mountain of soybeans, prices paid to farmers remain relatively strong as hungry markets here and abroad demand those soybeans.

In its October crop report, USDA forecast a record national soybean crop of 4.269 billion bushels. That production estimate is based on an average national yield of 51.4 bushels per acre from 83.037 million harvested acres. USDA projected a nation-high 623.1 million bushels from farmers in Illinois, with a record 62 bushels per acre from 10.05 million acres.

“This is the first time USDA has forecast a state yield at 60 or more bushels per acre,” says John Baize, international trade analyst. “The bottom line is that USDA has predicted an enormous U.S. soybean crop — the third record crop in a row. Yet, USDA does not see stocks becoming burdensome because of huge global demand growth and a smaller increase in South American production. The market’s attention has shifted to seeing if the prediction is accurate.”

Darrel Good, University of Illinois emeritus ag economist, says during the last two decades, the U.S. average soybean yield estimate released in January after the previous year’s harvest exceeded the September forecast 11 times and was less than the September forecast nine times, indicating a greater chance the 2016 crop may be even larger than currently predicted.

“If the analysis is extended to the previous 40 years, the January soybean yield estimate exceeded the September forecast 58 percent of the time. That suggests slightly higher odds for January soybean yield estimates to exceed September forecasts,” Good says. “Because the Farm Service Agency (FSA) acreage data are used to supplement National Ag Statistics Service (NASS) survey estimates, there is a consistent relationship between the two. Evidence suggests the NASS final estimates of planted and harvested acreage will not differ appreciably from the current estimate, and it seems unlikely production estimates will change enough to materially alter the projected supply and consumption balance for the 2016-17 marketing year.”

In addition, market watchers do not anticipate much of an increase in South American production in 2017. The forecast for Brazil’s 2017 soybean crop is 3.7 billion bushels, which is based on expectations of a smaller increase in plantings. USDA forecasts Argentina’s 2016-17 soybean harvested area will decline as well as a result of a change in export taxes.

“The big news heading into 2017 may continue to be the much better...
than expected demand and smaller-than-anticipated South American crop increase,” says Curt Kimmel, commodity broker for Bates Commodities in Normal, Ill. “The trade is bracing for even more U.S. soybeans in the final January report, but if the crush remains strong with good livestock numbers and domestic feed consumption and solid export demand, that may help offset any increase in the 2016 crop.”

**READY HOMES FOR SOYBEANS**

Other analysts agree there are ready markets for U.S. soybeans. For starters, Baize says U.S. soybean exports for 2015-16 were increased to a new record of 1.94 billion bushels in the September report, while USDA’s forecast for U.S. soybean ending stocks in 2015-16 was reduced by 60 million bushels to 195 million bushels.

“For the first time in history, U.S. soybean exports exceeded domestic crush volume last year,” he says. “Total U.S. exports of soybeans, meal and oil in 2015-16 were forecast at 2.37 billion bushels, which is equal to 60.3 percent of U.S. soybean production in 2015. The only other year soybean exports exceeded 60 percent of production was in 2013-14.”

For 2016-17, USDA raised its forecast for U.S. soybean exports to 1.985 billion bushels and increased the forecast for U.S. soybean crush to 1.95 billion bushels. Total disappearance of U.S. soybeans was raised by 45 million bushels to 4.061 billion bushels.

China remains the primary player for U.S. soybean exports, although USDA trimmed its expectations for sales, as well as lowered soybean export expectations from Brazil and Canada. USDA reduced its forecast for 2015-16 sales to China by 18 million bushels to 3.03 billion bushels and reduced its 2016-17 estimate to 3.16 billion bushels. The forecast for soybean imports by the European Union was raised to 503 million bushels. China is thought to have grown 460 million bushels of their own soybeans in 2016, while India’s crop size was reduced due to excessive rainfall this year in their key soybean production areas.

“Demand for U.S. soybean exports should remain strong in 2017, although the outlook could be affected by any changes in production weather in the U.S. and South America, international trade disputes and even the outcome of the U.S. presidential election,” says Kimmel.

**STEADY SOYBEAN PRICE OUTLOOK**

Translating the supply and demand picture into price expectations is never easy, although Kimmel expects soybean futures could bounce between $9 and $10 per bushel for the next few months, barring any new shocks to the market or changes in 2017 South American production expectations. Soybean prices have remained in a trading range since late July.

USDA in September lowered its forecast for the mid-point season average U.S. price of soybeans from $9.10 per bushel to $9.05 per bushel. However, Baize points out that the expectation is still higher than the average for the 2015-16 crop of $8.95 per bushel.

Economists with the University of Missouri Food and Agricultural Policy Research Institute (FAPRI) agree that in spite of a record U.S. soybean crop, projected 2016-17 soybean prices will increase slightly but with average prices below $10 per bushel over the next five years. The group anticipates the farm price to increase from $9.29 per bushel in 2016-17 to $9.44 in 2017-18, to $9.64 per bushel in 2018-19 and $9.94 in 2019-20. At the same time, FAPRI forecasts a steady to slightly higher trend in soybean exports and domestic soybean use.

“Bids for 2017 harvest delivery in central Illinois are near $9.15 per bushel,” Good noted earlier this fall. “With so much production...
uncertainty over the next 10 months, a strong pace of Chinese buying, and the recent history of smaller-than-expected year-end stocks, it is not completely surprising the market is not yet reflecting the potential for a growing surplus of soybeans during 2017-18. The question for producers is whether or not current prices offer a pricing opportunity for a portion of the 2017 crop. The answer is more likely to be yes for those who intend to increase soybean acreage in response to current price relationships. ■

Funded by the Illinois soybean checkoff

**US SOYBEAN EXPORTS AND CRUSH**

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SOURCE: USDA

**REGISTRATION**

Book by November 21 to receive our early-bird discount!
- Early birds: $550
- Guest evening rate: $225
- Group rate (four or more): $500
- Regular rate: $650

Explore Chicago! Guest Tour: $155

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**COVER STORY**

**US SOYBEAN EXPORTS AND CRUSH**


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Re-energize your business opportunities at DTN/The Progressive Farmer 2016 Ag Summit December 5-7 in Chicago. You’ll hear the latest economic, weather, marketing, and financial insights in our industry. Surround yourself with hundreds of upbeat peers and problem solvers — and go home with a vision for managing today’s cycles.

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- Learn how to execute flexible marketing plans
- Hear how high-profit farms tap technology
- See what lenders expect on the credit front
- Gauge where land markets are headed next
- Get a post-election outlook on farm policy

**2016 AG SUMMIT SCHEDULE OF EVENTS**

**SUNDAY, DECEMBER 4**

**PRE-EVENT OPTIONS**

DTN University: Tax Solutions to Enter and Exit Ag
- 10-Year celebration reception with ag’s most awarded Editorial Team

**MONDAY, DECEMBER 5**

- 7:30 a.m. Registration
- 7:30 a.m. Early Bird Profit Sessions/breakfast
- 12 p.m. Lite lunch with the sponsors
- 1 p.m. Ag Summit general session
- 6 p.m. Dinner at Fogo de Chão

**TUESDAY, DECEMBER 6**

- 7 a.m. Breakfast buffet roundtable discussions
- 8:30 a.m. Ag Summit general sessions
- 12 p.m. Plated luncheon
- 1:30 p.m. Ag Summit breakout sessions
- 5:30 p.m. Reception with the sponsors

**WEDNESDAY, DECEMBER 7**

- 7 a.m. Breakfast buffet roundtable discussions
- 8 a.m. Ag Summit general session
- 12 p.m. Adjourn
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Connecting the Dots

The vision of the Illinois Soybean Association checkoff and membership programs is to enable Illinois soybean producers to be the most knowledgeable, sustainable and profitable in the global market place. To achieve this vision, ISA collaborates with organizations who share common goals from the local to the international level.
BECOME A LEADER
ISA board members serve in leadership positions on several of these partner boards. It’s one way ISA provides leadership to our industry.
A SOYBEAN DISCUSSION IS HAPPENING ACROSS ILLINOIS.

JOIN THE CONVERSATION NOW.

At ILSoyAdvisor.com, you’ll find management and production tips, the latest research, market information, weather forecasts and more. It’s always relevant and from local experts—and it’s all within a click of a button. Visit ILSoyAdvisor.com today for the tools to help increase your yields.

DID YOU KNOW?

YOUR CHECKOFF FUNDS developed the ILSoyAdvisor webinar series to highlight tools and technologies to improve soybean production.

Find out more at ILSoyAdvisor.com
Across the country, water issues are taking center stage. From the Delmarva Peninsula, to Des Moines, Iowa, to California, water quality and water availability are major hot-button issues.

“What we do on our farms helps feed, fuel and clothe the world, but our decisions can have far-ranging effects that go far beyond our farm’s borders. This is especially true when it comes to water quality,” says David Droste, soybean farmer from Nashville, Ill., ISA director and Illinois Council on Best Management Practices chairman.

Farmers, industry and university representatives and others are finding local efforts can provide viable, sustainable solutions to these challenges. A group of ISA directors and staff toured the Western Lake Erie Basin (WLEB) Watershed near Toledo, Ohio, this summer to understand how officials in that area work effectively. The WLEB has been plagued with significant water quality issues.
Here’s a look at what the ISA team learned during their visit:

FROM POST-GLACIAL SWAMP TO FERTILE VALLEY

“After the last Ice Age, this area was known as The Great Black Swamp,” explains Captain Ron Merihew, a local fishing guide and amateur historian who has spent his entire 67 years in the Maumee Bay area of Western Lake Erie, near Toledo, Ohio. The Great Black Swamp, a 1,500 square mile lowland floodplain crisscrossed by higher ridges, was drained and settled in the late 1800s, providing thousands of acres of highly productive farmland.

“This entire area is now part of the Western Lake Erie Basin Watershed — the largest watershed basin in the Great Lakes,” he says, noting these facts about the region:

• 4.9 million acres includes portions of Ohio, Indiana and Michigan
• 21 watersheds and 44 waterways plus hundreds of drainage ditches and septic systems, some of which empty into the waterways
• 71 percent of acres are farmland with nearly 15,000 farms averaging 230 acres per farm
• More than 90 percent of the farmland is drained via subsurface tile drainage
• Runoff flows from tile drains into surface ditches, then into local waterways
• Thousands of residential septic systems and municipal wastewater treatment plants also drain into the same ditches and local waterways
• Waste and runoff from the entire 4.9 million acres in the watershed end up in Lake Erie

Most of the dredged material is dumped into about 22 feet of open water farther out in the lake.”

ALGAL CRISIS NIXES WATER USE IN 2014

While algal blooms have been a persistent issue in the WLEB Watershed for decades, they have grown increasingly damaging in recent years with higher levels of soluble P in the waterways.

In 2014, algal blooms led the city of Toledo, which uses Lake Erie as a source of drinking water, to issue a ban that completely shut down the city’s water supply. The water ban meant no drinking, cooking or bathing for the city’s 500,000 residents for three days.

According to Andrew Solocha, Ph.D., Univ. of Toledo professor of finance and member of the University Water Task Force, the shutdown also affected local businesses with an economic impact of at least $2 million. Toledo spent an addition $2 million for water treatment.

OHIO REGULATES FERTILIZER APPLICATIONS IN TOLEDO AFTERMATH

In response to the situation, the Ohio legislature approved Senate Bill 1 in July 2015 to place new restrictions on fertilizer applications on the basin’s 4.9 million acres.

The law bans fertilizer applications on snow-covered or frozen soil and has restrictions on commercial fertilizer and manure applications when the top two inches of soil are saturated.

In addition to the new law, USDA’s Natural Resources Conservation Service (NRCS) initiated a WLEB Water Resources Protection Plan in 2005. Specific objectives of the plan included reducing soil erosion and sediment, reducing dredging costs, safeguarding drinking supplies, minimizing water flow spikes, protecting fish and wildlife habitat and restoring wetlands and riparian forests. The plan also recommended a series of Best Management Practices (BMPs) to help farmers reduce the negative impacts on the waterways. Approved BMPs include conservation tillage, wetland restoration and enhancement, nutrient and manure management systems, cropland conversion, controlled drainage and buffer/filter strips.

Ohio also developed a 4R Nutrient Stewardship Certification Program for fertilizer retailers, which launched in 2014, right before the drinking water bans in Toledo. Under the program, individual retailers and certified crop advisers (CCA) are re-certified every three years, says Jim Lake, a 43-year conservation leader, whose background includes work with the Indiana Department of Ag and Soil and Water Conservation Districts. Lake was instrumental in initiating the 4R certification program and the Conservation Technology Information Center at Purdue University.

“This proactive approach has helped us avoid further regulations without sacrificing yields or farmer profits,” says Lake. “The best approach is to soil test every three years at least, and use those results to make decisions based on yield goals. No-till and cover crops help, but with phosphorus, the biggest change is to make sure you’re incorporating it after application.”

FARMERS EMBRACE SOLUTIONS

Government and industry responded to the crisis, but farmers also have adopted new practices.

In Byron, Ohio, Joe Nester, a farmer and CCA with nearly 30 years of phosphorus experience, has implemented several conservation practices. He is a former fertilizer retailer and past chair of Ohio CCAs and Ohio 4R Certification Program, and understands the value of P management.

“We have been in no-till for the last nine years and have been
On Nester Farms near Bryan, Ohio, phosphorus is the biggest nutrient issue. An edge-of-field monitoring station helps measure phosphorus loss. Joe Nester (left) shares his perspective with ISA director David Droste (right).

According to Nester, most of their phosphorus loss comes through tile drainage rather than runoff. He says the monitoring stations prove that no-till, cover crops and incorporating phosphorus help reduce nutrient loss from the tiles. In addition, he’s seen a consistent yield benefit of about 12 bushels per acre using these practices.

“The most important aspect of phosphorus is to incorporate it to prevent loss,” says Nester.

In Napoleon, Ohio, Todd Hesterman, farmer and Ohio Soybean Association director, also uses real-time edge-of-field monitors. In addition to no-till and cover crops, he installed a series of drainage water management systems four years ago using federal cost-share funds.

“You can be successful without harming the environment,” Hesterman says. “Being more efficient with your nutrients, paying attention to building your soil health, and, especially in this area, incorporating phosphorus help increase yields and profits.”

Hesterman is a firm believer in showing positive changes to non-farmers, hosting more than 3,000 consumers for an annual “Breakfast on our Farm” event.

“We have two soil pits. We let folks walk around and ask questions. These events are totally transparent,” he says. “As farmers, we need to be more proactive in sharing our positive stories, to show we care about the same things as non-farmers and are working toward the same goals.”

On Nester Farms near Bryan, Ohio, phosphorus is the biggest nutrient issue. An edge-of-field monitoring station helps measure phosphorus loss. Joe Nester (left) shares his perspective with ISA director David Droste (right).

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LAKE ERIE 2015 PREDICTED BLOOM SEVERITY

NOAA and university data

Lake Erie algal blooms started spiking in 2008.

Algal blooms increased in 2011.

Algal blooms in 2014 were lower, but triggered a water crisis.

The 2015 algal bloom set an all-time record, but did not produce toxic effects.
Put Top Management Tips to Work on Your Farm

ISA’s checkoff program-funded ILSoyAdvisor.com management site provides practical soybean management advice all year. In addition, summer field days and winter summits provide hands-on learning opportunities to increase yields and profits. Here’s a summary of the key takeaways from the 2016 field days that took place in early August across three regions:

**Take Six Secrets to your Own Fields**

Lance Tarochione, technical agronomist, Asgrow/DEKALB

- Advancements in genetics show soybeans respond positively to better management.
- Start with a strong fertility base before planting. Consider the differences in fertilizer need and use between corn and soybeans.
- Be aware that while growth rate appears to be unchanged, soybean plants require significantly more nutrients late season to set more pods and promote seed fill.

**Match Planting Date, Maturity Group and Planting Population**

A.J. Woodyard, technical crop production specialist, BASF

- Plant early in good soil conditions as a common practice. We are learning these factors interact with maturity groups and planting populations as well. The trick is determining how to best match early planting date with the correct maturity group and population.
- Align planting date with variety maturity and population. If planting is delayed, consider increasing population while using the varieties already in your storehouse.

**Build, Preserve Yield through Soil Management, Nutrition and Plant Protection**

Greg Willoughby, technical manager, Helena Chemical Company

- To produce high-yield soybeans, start with a strong fertility base foundation.
- Remember your initial goal is plant establishment and population is your target.
- After establishment is complete, protect the plants to protect your investment.

**Get Soybeans off to a Strong Start**

Adam Day, agronomy account manager, Northern Partners Cooperative

- Building soybean yields begins with paying attention to the fundamentals. Give plants the edge they need to reach their yield potential.
- Fundamental factors could help you reach 65-70 bushels per acre. To move to the next level and aim for yields closer to 80 bushels per acre, plants need an additional kick.
- Many growers see positive returns from adding nitrogen and applying plant growth regulators (PGRs) and foliar nutrients to help mitigate stress and protect the growth of flowers, pods and seeds. This may add to yield at the end of the day.

**Fertility Affects Soybean Yield More Than You Realize**

Terry Wyciskalla, Wyciskalla Consulting, LLC

- Soil test for P and K frequently. Apply enough to at least meet crop removal needs and apply independently to corn and soybeans.
- A 55-60-bushel soybean crop takes up about 43 pounds of phosphate with 80 percent removed with the grain. Only 20 percent recycles back to the soil.
- The same soybean crop takes up 170 pounds of potash. Only 46 percent is removed with the grain and the other 54 percent is recycled back to the soil.

“ISA strives to educate farmers on growing bigger, better beans with higher profits. Our ILSoyAdvisor.com platform and events, including summer field days and winter summits, deliver on that promise,” says Jenny Mennenga, LeRoy, Ill., farmer, CCA and ISA director. Watch for more details about ISA’s upcoming winter summits, which will be held Feb. 3 and 16.
Hypoxia, or algal blooms, occur when N and P build up in surface waters. The blooms deplete oxygen from the water and terminate marine life.

**FARMERS MUST UNDERSTAND PHOSPHORUS NEMESIS TO MANAGE IT**

> BY DAN DAVIDSON

Hypoxia waters are the bane of agriculture, and non-point source losses of nitrogen (N) and phosphorus (P) are one of the causes. Hypoxia, or algal blooms, occur when N and P build up in surface waters. The blooms deplete oxygen from the water and terminate marine life.

Understanding these nutrients and learning to manage them can reduce losses and environmental risk. And while the soluble and mobile N often gets most of the blame, P also is a culprit.

While P is considered essentially immobile, it has two fractions; total and dissolved. The total fraction in the soil has remained relatively constant, but the dissolved portion is increasing and is the form that is spiking in surface waters. Along with N, it causes algal blooms.

“Dissolved P concentrations generally are low in natural surface waters,” says Tom Bruulsema, phosphorus program director with the International Plant Nutrition Institute (IPNI). “But a slight increase can cause an algal bloom. Over the last two decades, we have seen definite increases.”

Bruulsema says researchers are puzzled with the general increase in dissolved P, and are looking for reasons why it has occurred. “Since the 1990s, growers have adopted more conservation tillage practices while broadcasting dry fertilizer or making manure applications on the surface,” he says. “More P is staying on or near the surface and is at risk to runoff with soil and water.”

Bruulsema tracks P in the Western Lake Erie Watershed Basin, an area plagued with problems. “In this watershed, total P is staying constant, but the fraction that is dissolved is increasing. It is more bioavailable and travels farther into the lake, increasing the area affected,” he says.

Agronomists know farmers typically apply ample amounts of P to feed crops, and hope crops can retrieve most of what is applied. But studies show only 20-30 percent of the phosphorus applied is actually retrieved by the next crop. The other 70-80 percent gets fixed to soil particles or binds with calcium, forming an insoluble mineral that is considered immobile in the soil. Over time, chemical weathering releases P back into the soil solution, making it available to the crop.

Soils in southern Illinois are more vulnerable to P losses than soils in central and northern regions, says Kelly Robertson, farmer and crop consultant from Benton, Ill. That’s because the southern topography consists of rolling landscapes and timber soils and P loss is from erosion. Farther north, where fields are more level, tillage is common and P is lost through tile lines.

“Growers in southern Illinois are more likely to practice no-till to reduce erosion on their highly erodible fields,” Robertson says. “However, there still is some soil loss that carries phosphorus off the field and into surface waters that feed into streams and rivers.”

While conservation practices have been effective in reducing both soil and total P loss, Bruulsema says agriculture cannot rely on conservation practices to keep P in the soil when it becomes dissolved. “P has to be placed in the soil to keep it there,” he says.

The ISA checkoff program hosted a phosphorus symposium webinar earlier this year which can be viewed at ILSoyAdvisor.com. ISA also is working with local officials in the Kaskaskia and Upper Vermilion watersheds to find P loss solutions.
In September and October, Illinois Soybean Growers (ISG) representatives visited Cuba for the ninth and tenth times. The purpose was to see Cuban agriculture, explore long-term market development opportunities and continue building relationships with Cuban officials.

In Cuba, farmers grow crops and an intermediary brings the crops to the market. The government buys most of the product at a set price. Depending on the crop, the rest can be sold at open markets, such as this one in Havana.

Fresh fruits, vegetables, flowers, grains, spices and meat are sold at local, open-air markets in Havana. Prices vary but on this day a pineapple cost 50 cents, cucumbers were 40 cents each and avocados sold for 25 cents.
In Cuba, many farms are part of some type of a cooperative. Cuba has programs that encourage people to farm since most people live in urban areas. About 80 percent of the population lives in the city and 20 percent lives in the countryside. Roughly 80 percent of farmland is owned by the state and the rest by farmers and cooperatives.

This farm is located near Havana and is 100 percent organic. The farm consists of 25 acres and creates 120 jobs. The farm raises fruits, vegetables and herbs, including the mint that is used at Hemingway’s bar. The main farmer visited California and applied what he learned there to his farm.

Cuba wants to increase its own production but still relies on imports of commodities such as rice, corn, soybeans and pork. See pg. 21 for more information.
ISA Plans New Initiative in the WINDY CITY

The Illinois Soybean Association (ISA) checkoff program recently approved an initiative to pursue new opportunities for the state’s soybean growers in the Chicago area. Jayma Appleby joins ISA as director of industry relations, and will be based out of a new office in Chicago to lead the initiative. Appleby comes to ISA in an agreement with FLM+, where she served as a senior public relations manager working across multiple checkoff programs.

She grew up on a fourth-generation farm in Iowa where her family raises soybeans, corn and livestock. She is a graduate of Iowa State University. With direction from the board, Appleby will focus on building stakeholder relationships, outreach and influence in the city, state and nationally. Here are her thoughts about the initiative:

Q. Why did ISA decide to pursue this initiative?

ISA did research around opportunities that might be available if we had a presence in Chicago. ISA board members and staff conducted interviews with business leaders, legislators, non-governmental organizations (NGOs), media and consumers to weigh the advantages that might exist if we had better access to this market. A few themes stood out — access, relationship development and location.

The opportunity to make an impact is great. Chicago serves as a hub for so many food and agricultural influencers that impact the soybean market, including companies that use soy as an ingredient, global customers and those who work in policy and regulation. In addition to the Chicago Board of Trade and the Chicago Mercantile Exchange, ADM, ConAgra, Koch Foods, Kraft Heinz and McDonald’s all call Chicago home. More than 80 embassies, consulates and trade-based organizations are located in Chicago, along with a large contingent of state and federal government representatives and local government. We will have the ability to interact with numerous NGOs and community organizations.

Bottomline, ISA will be in the heart of where these key influencers are located and have better access and greater opportunity to affect and shape the marketplace. It also better positions ISA as a credible, go-to resource for information about soybeans and general agriculture.

Q. How does this align with ISA’s goals?

This initiative directly supports ISA’s new strategic plan, which includes a wide array of projects focusing on stakeholders, farmers and customers. The stakeholder value section of the strategic plan works to expand the influence and reach of ISA through member, corporate, industry and advocacy efforts that positively impact Illinois soybean farmers. The Chicago initiative will help protect markets, build coalitions, expand influence and represent Illinois soybean farmers.

A key to ensuring positive outcomes for farmer success is building proactive, long-term relationships with key stakeholders. This involves direct, ongoing conversations on topics like economics, sustainability, transportation, infrastructure, consumer choice and the high quality of soybeans produced in Illinois. We can learn from them as much as they can learn from us.

Q. How does this impact farmer profitability?

The more we can positively interact with these key stakeholders and help them understand the benefits of soy from Illinois, the more doors we can open to access new markets. This effort is about increasing awareness, understanding and recognition of our industry. Illinois soybean farmers have a significant opportunity, and I’m excited to be a part of it. ■
Six Secrets Partners with ISA

A focus of the ISA checkoff program is to fund research and education activities focused on improving soybean yields. One of those projects is University of Illinois crop scientist Fred Below’s Six Secrets of Soybean Success. Below has found increasing yield requires doing a lot of little things right during the season while remediating any forms of stress that can affect yield. Six Secrets looks at the individual and combined benefits of weather, variety selection, fertility, seed treatment, row spacing and foliar protection with fungicide and insecticide. To learn more about the partnership and watch a webinar, visit www.ilsoyadvisor.com.

New Soybean Children’s Book Available

Pod to Plate: The Life Cycle of Soybeans is now available. The new, 16-page illustrated children’s book was produced by the ISA checkoff program. It details the life cycle of a soybean plant, from planting to harvest and then on to export. The book is for children ages kindergarten through second grade. ISA is offering this book to Illinois Ag in the Classroom coordinators and Illinois teachers at no cost, given the importance of agriculture literacy in all classrooms. The goal is for teachers to see the book as a valuable resource for early elementary students. Teachers may get a copy by going to www.podtoplate.org or calling 309-663-7692.

Soy Groups, USAPEEC Host First Checkoff-Funded Trip to Cuba

The ISA checkoff program and Iowa Soybean Association recently participated in the first-ever soybean checkoff-funded trip to Cuba in association with representatives from the poultry industry and U.S.A. Poultry and Egg Export Council (USAPEEC). The purpose was to gather facts and provide for information exchanges between the U.S. and Cuban poultry, egg and soybean industries to assess Cuba’s food distribution system and develop an understanding for a range of food safety, biosecurity and nutrition issues. The three-day trip included meetings with various Cuban ministries, foreign trade companies and ag experts.

USB Confirms Two Illinois Farmer Reappointments

The United Soybean Board (USB) recently elected 15 new directors and reappointed 24, bringing the total to 73 directors. Former ISA board members Dan Farney and Doug Winter both were re-appointed to the board. All appointees were nominated by their Qualified State Soybean Boards (QSSBs) and confirmed by U.S. Ag Secretary Tom Vilsack on Sept. 26.

USB’s 70 farmer-directors work on behalf of all U.S. soybean farmers to achieve maximum value for checkoff investments. The volunteers invest and leverage checkoff funds in programs and partnerships to drive soybean innovation beyond the bushel and increase preference for U.S. soy. As stipulated in the federal Soybean Promotion, Research and Consumer Information Act, USDA’s Agricultural Marketing Service has oversight of the program.

CORRECTION: In the September issue, the story “ISA Welcomes Diverse Board” should have stated there are six women on the board, including Lynn Rohrscheib, Fairmount, Ill.; Jenny Mennenga, LeRoy, Ill.; Carrie Winkelmann, Tallulah, Ill.; Sharon Covert, Tiskilwa, Ill.; Sherri Kannmacher, Martinsville, Ill.; and Roberta Simpson-Dolbeare, Nebo, Ill.

CALENDAR OF EVENTS

ISA Meeting
> Nov. 29-Dec. 2 · Bloomington, Ill.

Peoria Farm Show
> Nov. 29-Dec. 1 · Peoria, Ill.

Executive Women in Agriculture Conference
> Dec. 1-2 · Chicago, Ill.

American Soybean Association Meeting
> Dec. 6-8 · St. Louis, Mo.

United Soybean Board Meeting
> Dec. 7-9 · St. Louis, Mo.
ISG Establishes New Direction for Policy

Illinois Soybean Growers (ISG) is beginning to focus more on policy issues affecting Illinois soybean farmers to keep positive legislation in place. The goal is to motivate leaders to add new policies that ensure American agriculture is not destroyed by anti-ag activists.

One of the core resources that makes America great is the ability to produce our own food and fuel. Yet every year, ISG sees family farmers pushed off their land due to new taxes, regulations and legislative pressures. How do you keep Capitol Hill from impacting the income you use to support your family? How do you stop them from putting obstacles in your way?

Become a member of Illinois Soybean Growers.

To bring Illinois soybean growers the most value possible, two easy ISG membership options are available. Membership in the American Soybean Association (ASA) also is included.

Take a Stand as ISG Policy Member

Activate your power to join ISG in educating people on the facts and importance of Illinois agriculture. Help us be the people that government officials stop and listen to in Springfield and Washington, D.C. Be a driving force for change in American agriculture. The more members we add, the louder our voice becomes. ISG Policy Membership keeps you informed, gets you involved and gives you added discounts and benefits. A one-year membership is $150 and a three-year membership is $300, and includes the following benefits:

- Automatic enrollment and Action Alerts from ISG’s Voice for Soy Action Network
- Invitations to legislative networking events
- Opportunity to participate in the ISG Political Action Committee
- Expanded policy representation and advocates in Springfield and Washington, D.C.
- Discounts on new Ford, Chrysler and GM vehicles
- 10 percent discount on Cabela’s gift cards
- 10 percent discount on any new DTN/The Progressive Farmer product or service
- Discounts on Commodity Classic registration
- Discounts on DTN/The Progressive Farmer Ag Summit registration (held every December in Chicago)
- Complimentary subscriptions to three top soybean magazines: Illinois Field & Bean, American Soybean, and The Progressive Farmer
- Weekly emails from the Soybean Weekly Update and the ASA eBean News

Stay Informed as ISG Regular Member

If you prefer to stay informed on what is going on in the agriculture industry, simply supply your name and email address and you will receive the Soybean Weekly Update sent via email and the Illinois Field & Bean magazine (eight times per year).

Contact Judy Smith at smithj@ilsoy.org, 309-808-3612 or 888-826-4011, to join or renew your membership, or for additional information.
Diversified Farmers

Ben and Genny Six of Chapin, Ill.

Ben and Genny Six of Chapin, Ill., are sixth-generation farmers, raising their children Joseph, Anna and Luke as part of the seventh generation on the family farm. The Six family raises corn, soybeans, cattle and pigs with Ben’s parents, John and Betty; his brother and sister-in-law, Brian and Katelin; their children Jackson and Henry; and his brother, Brandon. With three of the five siblings returning to the farm, diversification allows the operation to support multiple families. Genny provides this perspective:

WHAT PROMPTED YOUR FARM DIVERSIFICATION?

During college 13 years ago, the brothers began managing an area pig-finishing barn for the owners. That began a great partnership that continues today, and provided steady income for tuition. Seven years ago, we built our first pig barn to add farm income, helping us return to and stay on the farm and support our families as we marry and have kids. Last year we built a second pig barn. Raising pigs allows us to farm with family.

HOW HAS DIVERSIFICATION BENEFITED YOUR FAMILY?

It’s a dream come true to be able to farm. We love the land and we love animals. We’re excited to raise farm kids and teach them to work hard and care for the land and animals.

Our pigs and cattle require year-round labor and provide steady income, allowing us to farm. Plus, we have a built-in nutrient source for our crops with the manure. We save money on fertilizer and applications costs, which benefits the whole farm.

WHAT CHALLENGES DOES RAISING LIVESTOCK BRING?

Our biggest challenges occur when a lot of work needs to be done in a short time. For example, in the fall when we’re shipping out hogs and harvesting, we need everyone’s help. Holidays are often a little different because that’s when things tend to break.

But as a family, we’ve learned to make it work, like with everyone doing vaccinations together. We can’t put a value on bringing people back to the farm, working next to our parents and children, and building a legacy. Those benefits far outweigh the challenges.

HOW DO YOU MANAGE AND SPREAD RISK?

We chose to be contract hog finishers. With vertical integration and economy of scale, it is not practical for us to take on all the risk of raising livestock. We are responsible for our barns, the upkeep and labor to care for the pigs. Our contractor owns the pigs, provides feed and other inputs and pays for our building and labor, assuming much of the risk. This business arrangement made the most sense.

We invest sweat equity to build and pay off the barn, while adding assets and income that supplements other farm areas.

WHAT ADVICE DO YOU HAVE FOR FARMERS CONSIDERING DIVERSIFICATION WITH LIVESTOCK?

Do your research and consider what diversification could mean for the future, so you can make an informed decision. Raising livestock looks much different than it did 20 or 30 years ago. Having livestock in barns and using current technology changes the workload dramatically. For example, we can ship pigs out of our barns with just two or three people. Today’s barns improve animal care and comfort and efficiency for farmers. Injecting manure in fields maximizes nutrient benefits while minimizing odor. It’s still hard work. Farming involves risk, but the benefits are real, and risks can be minimized.

“Diversification with livestock allowed us to bring three sons back to the farm and for three generations to work side by side. That’s the legacy we are passing onto our children.”

GEMNY SIX
farmer, Chapin, Ill.
Make soybean cyst nematodes useful.
Turn them into fertilizer.

While other seed treatments claim to be effective against soybean cyst nematodes (SCN), Clariva® Complete Beans seed treatment, a combination of separate products, is the only broad-spectrum seed treatment proven to kill them all season long. As it acts to destroy SCN, it also reduces damage from sudden death syndrome (SDS). All this lethal power comes from a tough nematicide paired with the unbeaten insect and disease protection of CruiserMaxx® Beans with Vibrance® seed treatment, a combination of separately registered products. So contact your Syngenta representative or visit ClarivaCompleteBeans.com. And take back your fields.