AUGUST 2022

Illinois Field & Bean

A PUBLICATION OF THE ILLINOIS SOYBEAN ASSOCIATION

The 2022 Seed Guide

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DEPARTMENTS

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PRINTED WITH SOY INK

COVER: When making seed selections for their operation, farmers have many things to consider. Having the latest product information available to help them make informed decisions is crucial.

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Information in Your Pocket

BRADY HOLST | AT-LARGE DIRECTOR | ILLINOIS SOYBEAN BOARD

Farming in the year 2022 requires more information and more highly-developed technology for many reasons. Thankfully, Illinois farmers can now get the agronomic information we need right at our fingertips, with just a few taps on your smart device.

Over the past several years, ILSoyAdvisor.com has been a go-to resource for Illinois growers to access free agronomic content online 24-7. This summer, ILSoyAdvisor is reaching growers in a whole new way: through a mobile app.

ILSoyAdvisor, funded by the Illinois soybean checkoff program, is a one-stop shop for all the latest soybean news, insights, tips and actionable advice to help farmers grow better beans, run a better business and improve overall profitability.

The new app will make the ILSoyAdvisor platform even more accessible to farmers by providing all the website's content in a user-friendly resource. This content includes all the latest blog posts, crop updates, podcasts, webinars, tools and more. When farmers are out in the field or in their tractor cab, they are now easily able to pull up the latest information on ILSoyAdvisor.

Whether you are wondering how much carbon your field could sequester in a year with a change of practice, how to reduce your risk of Sudden Death Syndrome next year, or the best way to evaluate insect damage, you will now be able to look up answers when and where you need them.

Mobile apps work faster than websites as they utilize the preferences set by the users to take proactive actions on their behalf, and these days, apps are essential to the day-to-day operations of a farm. An app also locally stores the data in the mobile device, making it easy to retrieve data and deliver a better user experience. Additionally, content can be available even when the user is offline. This is especially helpful in areas where cell coverage is spotty.

In a high-tech industry such as agriculture is becoming, it's important that resources such as this one become easier to navigate and more accessible. Farmers are always more optimistic about next year because next year they will know the most they ever have about farming. Now, what others have learned this year is accessible anywhere. Information from agronomists, farmers, and researchers about how to adapt and overcome new and old challenges we face as farmers every year will be with you everywhere.

In addition to the new app, the ILSoyAdvisor website underwent a redesign earlier this spring, refreshing the site's branding and content to ensure an evolving user experience and continued alignment with program goals. Functionality has been oriented to meet the needs of users looking to access information quickly and seamlessly. And though website visitors will enjoy improved overall aesthetics, speed and simplified navigation, ILSoyAdvisor remains a trusted and respected resource for soybean growers throughout Illinois.

The new ILSoyAdvisor offers expert advice, timely articles and more on topics ranging from insect, disease, nutrient and weed management, to climate, planting and harvest strategies, ag tech and innovation, agribusiness management, and sustainability.

Visit the new website and access premier content for free at ***www.ILSoyAdvisor.com*** and be sure to download the app today so you never miss an update.

Building Because of You

JOHN LUMPE | CEO | ILLINOIS SOYBEAN ASSOCIATION

It's the kind of line you wish you could take credit for.

"If you build it, they will come."

This line, made famous in the 1989 movie, *Field of Dreams*, is about as good as it gets. I, too, believe that when you make an investment in something, whether it's time or money, you get back what you put in, and then some. When I was asked to serve as the Illinois Soybean Association CEO in February 2020, I knew that I wanted to help build an organization that people would come to, whether that be farmers, buyers, agribusiness, employees, or any of the stakeholders our organization has the privilege of working with every day.

I wanted to build an association where farmers recognized the value of not only their checkoff investment, but the service they got in return. I wanted to build a staff team that strived to enable Illinois soybean producers to be the most knowledgeable and profitable producers in the world. I wanted to build a better reputation for ISA as an association, and to see us be known as a collaborative partner and robust resource to the Illinois agriculture industry.

The last 2.5 years have been an exercise in building things – both figuratively and literally. Our association team locked arms with Illinois farmers like never before; we've already accomplished some great things together, and I'm thrilled to say this is just the start. We're building at ISA, working hard in good faith that it will result in good things to come for Illinois soybean farmers.

ISA is at the cusp of our new fiscal year and due to the current dynamics of market price and exceptional soybean yield, our team will be reinvesting more than 15 million Illinois Soybean checkoff dollars this next year. We're building good things on the trade front by both exploring new markets and improving global customer relationships we've already established. We're investing more in conservation and agronomy than we ever have before, ensuring success not just for today's growers but for generations who will inherit Illinois farmland. We're also committed to furthering soybean promotion, advocacy and educational efforts, work we'll soon be doing from our expanded physical office footprint in Bloomington, Ill.

As you read this August issue of the magazine, you've already done much of your heavy lifting for the season, and you're looking ahead to harvest. You've rolled up your sleeves with this year's soybean crop, and it's important to me that you know that we've also rolled up ours. This work of building is hard work at times, but oh is it worth it. It's an absolute pleasure to lead this organization and to scale new heights with your soybean investments.

I love hearing from our Illinois farmers. Please drop me a note today at ***ilsoy@ilsoy.org.***

Ben Wiegmann, ISA Soy Envoy and Beck's Field Sales Agronomist, offers his expertise during the seed selection timeframe that combines the leading product offerings from the industry with the latest in research and agronomics.

The Trick to the Pick

When it comes to smart seed buying decisions, everyone wants the highest-yielding option. But finding a hybrid or variety that matches your operation and supports your broader farm management plan is just as critical to long-term success.

By Betsy Osman

Illinois Field & Bean Magazine sat down with ISA Soy Envoys Ben Wiegmann and Kathryn Kamman to talk about seed decisions that pay off and what farmers should consider in today's competitive marketplace. Here's what they had to say...

Meet Ben Wiegmann ISA Soy Envoy and Beck's Field Sales Agronomist

Farming is a system that is comprised of many different management factors, for example, seed varieties, fertilizers, pesticides, tillage practices; the list goes on and on. Within this system, each factor can affect all the other factors. With that said, determining your yield limiting factor can be a farmer's biggest step forward to produce high yielding crops.

Every year farmers are faced with the decision to select which varieties they will plant on their farm. Each variety can be unique and may possess different characteristics that cause that variety to respond differently to management factors. Knowing how each variety responds to different management factors is extremely important for the farmer to know so they can not only maximize yield, but also maximize return on investment. When selecting soybean variety, consider these six characteristics:

Herbicide Program

Weed management is arguably the largest challenge in soybean grain production. With different weeds being or becoming herbicide resistant to many different herbicides, farmers must be mindful of the weeds in their field. Today, there are multiple herbicide tolerant soybean trait platforms ranging from XtendFlex and Enlist to Non-GMO and organic. This is the first decision farmers must make when determining soybean varieties for their farm.

Yield

Weed-free fields are extremely important, but yield is what farmers are paid for. Selecting high-yielding soybean varieties is of utmost importance after farmers determine how the troublesome weeds will be controlled.

Disease tolerance

Plant health is something that farmers strive for every year. Farmers must be mindful of common diseases they face in their fields and be able to select varieties that can combat those diseases. For example, soybean varieties are often characterized by whether or not they handle "wet feet," which refers to their ability to grow in saturated soil conditions. A host of diseases, such as phytophthora, can develop when soil conditions are wet. Soybean varieties will have varying levels of natural tolerances to phytophthora. Moreover, some soybean varieties possess phytophthora genes that can help prevent infection by this disease. Being aware of diseases farmers may combat is important in any seed selection process.

Emergence

Every growing season is different, which brings different sets of challenges typically caused by the weather. Selecting varieties that have excellent emergence is important as the soybean plant encounters adverse weather conditions. Tillage, no-till, and cover crops can largely affect emergence. Being mindful of which soybean varieties work best in each system is important to get the growing season started in the right way.

Standability

Harvesting soybeans that are flat on the ground is definitely a way to slow down productivity. Many different factors can affect the standability of a soybean crop, for example, wind, fertilizer rates, water, soil type, and much more. However, specific varieties may stand better in some scenarios versus other scenarios. Be cognizant of how specific varieties will stand in the environment they are placed.

Maturity

Maximizing the growing season while mitigating risk is the name of the game in farming. Selecting a maturity range that allows a farmer to maximize the entire growing season is important. Additionally, planting multiple maturities can be beneficial for managing risk. For example, a disease infection or weather event may occur at a particular time throughout the growing season. A 3.5 maturity group soybean variety may be affected more by that event than a 3.9 maturity group soybean variety.

Considering multiple management factors when making any seed decision is extremely important. Knowing your management factors, and how different seed varieties respond to the factors, can lead to maximizing yield and R.O.I. Work with your seed supplier and be sure you fully understand how your soybean varieties will respond to your unique management factors.

Meet Kathryn Kamman ISA Soy Envoy and WinField United Market Development Specialist

It may seem like there are countless number of seed companies all touting full line-ups of corn and soybean products to choose from in the marketplace. This is potentially daunting when developing a seed plan for the coming year. However, the competition between the seed brands and a wide selection for the grower to choose from is actually a valuable asset, especially when working closely with a trusted agronomic advisor to help focus in on key products. When I work with retail sellers and farmers, making variety selections can be broken down by answering three broad questions: what trait package, what soil type will the soybeans be on, and what is the management style? From there, what may seem like a limitless number of varieties breaks down into what works for a specific farmer. With an emphasis on soybean variety selection, lets dive into each of these questions and see how they help to choose the right product for each acre.

What soybean trait package are you planning on using?

This plays hand in hand with a grower's weed management plan. There are three key choices in the market today, XtendFlex, Enlist, and conventional soybeans. XtendFlex soybeans are tolerant to herbicides glyphosate, glufosinate, and dicamba while the Enlist traited soybeans are resistant to glyphosate, glufosinate, and 2,4-D. Conventional soybeans are normally planted for premium on the market whether they are treated conventionally or organically. After years of breeding both the Enlist and XtendFlex traited soybeans, yield, agronomics, and disease tolerance are at parity between the two platforms, leaving both to be a superior option. Selection of these two traits really comes down to the weed management plan that is preferred.

Where will these beans be placed or what soil types will they be planted into?

Really honing in on that question to know what the fertility levels are, what the yield potential is of those soils, and what the drainage is on those acres will drive what varieties need to be utilized across the different acres. For example, a farm that is a silt loam with high organic matter content, moderately well drained, and is in a corn/soybean rotation will be a great fit for a soybean variety that is high-yielding and is more offensively focused. Or maybe the placement and soil type discussion is around a field that is heavy in clay content and sits wetter throughout the year needing a variety that is more defensive, has good disease tolerance scores and has a larger plant stature so it will not shrink on those stressed acres.

What is the season long management plan?

This question will help to understand the fine details that are expected out of the variety. For a farmer who plants in 30 inch row spacings, a bushier statured plant or variety that has more branching would be ideal to help close the wide rows quickly. When looking at disease levels, if a grower does not intend to spray fungicides, a variety that may be less tolerant to frogeye leaf spot is not the best option compared to a variety that is more tolerant. Conversely if a grower does usually spray fungicides, varieties that have lower disease tolerance ratings are a great option to fit with their management plan. Knowing how a grower intends to manage their soybean crop will help to get the most out of the varieties chosen.

Discussing these three questions with a trusted agronomic advisor will help to determine the best soybean variety for each acre out there and make the task a little less daunting when the options seem limitless. Variety selection is one of the most important decisions each year because the season long plan starts with the seed.

Remember, the best season-ending yield comes from the best season-starting seed!

Kathryn Kamman, ISA Soy Envoy and WinField United Market Development Specialist, encourages growers to consider their season-long management plan.


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Anything To Move the Needle

ABIGAIL PETERSON | DIRECTOR OF AGRONOMY | ILLINOIS SOYBEAN ASSOCIATION

Setting the stage for each year's seed selection feels like an important decision. From seed treatment to herbicide package to the next variety name, the choices start to stack up. We pick the numbers we have always loved, the dealer comes out with suggestions, and we're done.

In this issue of ***Illinois Field & Bean***, Soy Envoys Ben Wiegmann and Kathryn Kamman reiterate how valuable their expertise is when trying to navigate long-term success. Moving the needle to increase bushels takes creativity and risk. We hem and haw about what our fields looked like, try to predict what weather and integrated pest management (IPM) will come in the next year and do our best. Our fields are usually scored on how wet it gets and how weedy it is and that's the baseline to knocking the bulk of options out. Spreading our risk with multiple hybrids and varieties keeps things interesting. Evaluating local plot scores and yields may lead to a new number finding its way in the lineup.

With the fields I walk, cover crops have to come to play again. They are by far the most competitive when it comes to weed control, regulating soil moisture and temperature, and have a winning quality in some agronomic aspect depending on the year. Getting back to seed selection and management, areas of interest to cover crops and soybeans has been early maturities, naked seed, eliminating the pre herbicide pass or taking a residual out, and strip tilling. Early maturities have been avoided in the past as they seemed to be the weaker performing option, but they've made a surprising comeback. Getting serious about cover crops means getting timely field applications in the fall and an early maturity bean can make fall planting impactful.

Seed treatments for us can range from $8/unit to $40.50/unit. We've seen the most benefit for seed treatments for very early planted beans. The fields with long-term no-till and cover crops are seeing many beneficial insect populations increase. In those fields, taking out a nematicide saves us $11. Going naked would save substantially. However, be sure to get a soybean cyst nematode (SCN) test and understand the disease history in the field when making this decision. I don't think I'd want to push that risk, but I see more on-farm trials with less seed treatment emerging.

Some like to keep it simple, selecting beans in the same herbicide package to reduce confusion. Misapplying a herbicide to a certain field because of trait package can result in devastating damage. With increased residue I've seen some try to take out a residual and, in many cases, I've seen a complete reduction with volunteer corn.

One more management decision that has been trialed recently is a throwback to strip-tilling soybeans. In soil health systems, this really helps the seed reach full potential. In systems with no-till and cover crops, the advantage to prepping the row is making an impact in beans that has previously gone unnoticed.

Seed decisions are made, planting comes and goes, and you have another year of information. Your ISA Agronomy team's goal is to find the tactics that work and push our research to tackle the challenges that are holding back your ROI and yield. We hope to provide you with the information you need to make each growing season a success.

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JOHN DEERE

RACHEL PEABODY | EDITOR |
ILLINOIS SOYBEAN ASSOCIATION

Things Have a Way of Working Out

As I sit down to write this August column, it's pouring down rain and a welcome break to this summer stretch of heat. The thirsty soybeans across the road were desperate for a good drink and with nearly an inch of rain falling just this morning, I'd say they got it.

Working in agriculture has taught me a couple of important things over the years. 1) Always be prepared to report what's in your rain gauge, and 2) Mother Nature and markets will throw a wrench into things, but one way or another, things have a way of working out like they should.

In this August "Seed Guide" issue, we're covering a variety of topics we know are on your mind as you're nearing the end of another growing season. And it's our hope that wherever you're reading this issue, despite all obstacles, you've got a great crop of Illinois soybeans nearly ready for harvest.

On page 6, you'll read about seed selection tips from two of our Soy Envoys who have been covering a variety of in-field, agronomic topics across Illinois all season long. If you're considering seed treatments, you'll enjoy our Katie Dowson and Seed Life story on page 26, where we uncover what treatments are working best for soybeans. This issue also explores what the checkoff-funded Soybean Research Information Network (SRIN) is up to in terms of supporting different soy research projects that help farmers make the most informed seed decisions. And speaking of research, be sure to check out our FY22 checkoff-funded research wrap-up to see what your investments helped fund this season.

I'd like to take this opportunity to remind Illinois soybean farmers that your soybean checkoff is here for you with solutions for all seasons and all systems. From seed selection, to addressing disease and pest pressure, to exploring the latest agtech innovations, ***ILSoyAdvisor.com*** is here for you 365 days a year with actionable, in-season agronomic advice, just like you'll find in the pages of this issue.

Illinois soybean farmers: well-done on another season and for staying the course despite delayed planting, drought, skyrocketing input prices and global disruptions beyond your control. Regardless of the many challenges you've faced over this growing season, Illinois has produced another bounty of high-quality soybeans that we'll soon harvest and send around the globe, providing relief and sustenance like summer rain for thirsty crops.

As I say, things have a way of working out like they should.

Thank you to our 43,0000 Illinois soybean farmers, and the readers of this magazine, who keep this industry spinning. Whatever the season, and whatever the issue, reach out to us today at ***ilsoy@ilsoy.org***. Your Illinois Soybean Association team is here for you.


REMEMBER,
HE
CREATED
YOU
FOR THIS.
Don't be afraid. Just believe. Mark 5:36
BECK'S

Dr. Linda Kull retired from ISA this year, marking the end of a long career in agriculture and serving Illinois farmers.

Celebrating the Meaningful Contributions of Linda Kull

By Brynna Sentel

The Illinois Soybean Association (ISA) honored Dr. Linda Kull for her many years of commitment to Illinois soybean farmers at their June board meeting where she was presented with an award signifying her retirement.

"Dr. Kull has always been fully dedicated to Illinois soybean farmers throughout her career," says Illinois Soybean Association CEO, John Lumpe. "Her commitment to the industry has contributed

greatly to the success of Illinois agriculture and we wish her the best in her retirement."

Kull dedicated nine years of service to Illinois soybean farmers at ISA.

Before her successful career at ISA, Kull achieved her two-year degree from Lakeland College in Mattoon, Illinois, her four-year degree as well as her Master's degree from Eastern Illinois University (EIU) where she graduated cum laude. Following her graduation, she taught botany, microbiology and biology and environmental sciences for four years at EIU.

She became certified to teach at a high school and continued as an instructor of research for four years.

"I just really enjoyed teaching and I loved learning," says Kull. "I think my husband knew how much I loved it and one day he looked at me and said, 'Just go get your PhD at [University of Illinois] U of I.'"

She applied to get her PhD in both microbiology and agriculture.

"I was told I didn't have a chance in my microbiology interview because I wouldn't have time since I was married and had a family," Kull said. "My next interview was in crop sciences and I nailed it."

She earned her PhD in Plant pathology six years later and graduated summa cum laude in 2001 the same year as her daughter.

After graduating she stayed at the U of I National Soybean Research Lab (NSRL), which was heavily funded by the checkoff and the U.S. Department of Agriculture.

Kull spent 20 years at the NSRL where she began as a research coordinator and worked her way up, coordinating three million dollars worth of research, 1.5 million of that coming directly from ISA funds.

From there she made her way to ISA. Since her start in 2013, she championed several different programs, many of which are still seeing success today including:

- Agribusiness Management Program (AMP)- A program aimed to help farmers be more profitable and navigate the business side of owning a farming operation.
- New Uses- A program started to explore upcoming markets for Illinois soybeans.
- ILSoyAdvisor- A website with the sole purpose of providing actionable, timely information to farmers across the state.
- Soybean Summit- the leading event for farmers, CCAs and other soybean industry stakeholders to learn the latest soybean agronomic and agribusiness management information.
- Better Beans- locally focused events similar to Soybean Summit but providing more replace with region-specific information.

"I remember when I started, Illinois was still number two in soybeans behind Iowa," Kull said. "It's wonderful to see how far we have come over time, and it's exciting to see the future of ISA and everything we can do with Illinois soybeans."

Despite her tireless efforts throughout her career, she is not ready to slow down.

In her retirement, she already has plans to travel, spend time with family and volunteer at her church.

She said she has always had a love for crafting that she hopes to one day turn into its own operation refinishing photographs, Coca-Cola signs that she has inherited from her husband's family, and bringing old jukeboxes back to life.

Kull has left a lasting impression on ISA and Illinois agriculture. ISA wishes her the best in her retirement and would like to thank her for her years of service to Illinois farmers.

Funded by the Illinois Soybean Checkoff

ILSOY℠ ADVISOR

2022 RESEARCH SUMMARY

The **Front Lines** of **Advanced Agriculture**

At the cross-section of research, science and technology, the Illinois Soybean Association is exploring agronomic frontiers, adapting our global impact, using less to generate more, and shaping the future of farming. Through innovation and collaboration, we are committed to empowering Illinois farmers not only to grow enough, but to grow better.

Because whatever the challenge, advanced agriculture is part of the solution.

"Science, technology, and research help us solve today's problems and anticipate tomorrow's challenges. Innovations born from research help to ensure that this season will be better than the last. That's why the Illinois Soybean Association funds inclusive research projects that offer the potential to leverage data, respond to global need, and provide the most hopeful return for Illinois soybean farmers. As leaders in modern agriculture, we have both the responsibility and the opportunity to ask: will the breakthroughs we're implementing today enhance the harvests of tomorrow?

During FY22, some of the top areas of research, critical to the future of Illinois soybean production included: increasing understanding of regional conservation practices throughout the state; integrated pest management strategies and pest population studies; adapting agronomic studies to earlier planting strategies; and developing new uses and products for Illinois soybeans."

- ISA Agronomy Team

Funded by the Illinois Soybean Checkoff

Comprehensive Evaluation of Phosphorus Best Management Practices (Year 2 of 2)

Researcher: **Dr. Andrew Margenot,** University of Illinois at Urbana-Champaign

Farmer Benefit: Updating the 4R's of P for soybeans ensures both the sustainability and profitability in soybean production when it comes to phosphorus fertilizer management.

This project, which aimed to provide fundamental information on the sustainability of Illinois soy by addressing economically effective usage of phosphorus with co-benefits to water quality, finished its second year of evaluating best management practices for phosphorus including timing, placement, source and rate to ensure efficient and thus economic phosphorus usage for soybean growers. Updating the 4Rs of phosphorus management – specifically for soybean, and specific to the distinct soil-climate conditions of Central-North versus Southern Illinois – was expected to identify options to increase the profitable use of phosphorus inputs while reducing off-field nitrogen and phosphorus losses.

This work provided updated and evidence-based recommendations on the 4Rs phosphorus management options for soybean growers in distinct regions of Illinois. Field-based evaluation of timing and placement of phosphorus to increase soybean use efficiency of these inputs, and adding phosphorus source options to growers' management toolbox, stands to improve agronomic, economic and environmental outcomes of Illinois soybean production. By quantifying these benefits to water quality, this project better positioned Illinois soybean growers at the forefront of environmental stewardship as active contributors to water quality improvement.

"We sought to update and better understand the 4Rs of P for soybean. Much work on the 4Rs of P have been done on corn, but there is increasing attention that P management for soybean can pay agronomic dividends. Additionally, there are key environmental benefits of paying attention to how we manage P sources for soybean: specifically, the use of ammonium phosphates as a P source means that we are adding 'free' N that isn't needed for soybean, and ultimately may not be that 'free' after all."

- **Dr. Andrew Margenot,** University of Illinois at Urbana-Champaign

Funded by the Illinois Soybean Checkoff

Soybean Stem Pests: Survey, Impact and Education

Researchers: **Dr. Jason Bond**, Southern Illinois University Carbondale, **Dr. Ahmad Fakhoury**, Southern Illinois University, **Dr. Glen Hartman**, USDA-ARS, **Dr. Nicholas Seiter**, University of Illinois at Urbana-Champaign, and **Kelly Estes**, Illinois Cooperative Agriculture Pest Survey Program (CAPS), University of Illinois

Farmer Benefit: Identifying soybean diseases and insect pests across the state allows agronomists and extension specialists to make the most up-to-date recommendations when it comes to IPM throughout the season.

This project aimed to conduct a survey of important stem diseases and insect pests affecting soybean, identifying pests and assessing adopted management practices. Stem diseases of soybean, including anthracnose stem blight, brown stem rot, charcoal rot, Phytophthora stem rot, stem blight, brown stem rot, charcoal rot, Phytophthora stem rot, stem blight, red crown rot, and stem canker, can cause significant loss in yield. According to disease loss estimates reported through the Crop Protection Network, stem diseases resulted in 257 million bushels lost. Moreover, in some instances, new diseases have been reported in some soybean production areas, or the identity of the specific pathogens that cause a particular stem disease is not resolved or is changing. In a survey conducted in 2020, red crown rot was confirmed in four counties in Illinois, including St. Clair, Madison, Pike, and Sangamon (2020 Research Guide, UIUC).

"This project helped us identify the distribution and severity of insects and diseases that compromise stem health. Most pathogens have multiple species affecting plant health, and often pathologists and the industry refer only to the genus name of the pathogen because of the limited information that we have about these diseases. However, it is also imperative to know the exact species in soybean stems, their variability, and distribution. Future breeding efforts and other management options will benefit from this project's results."

- **Dr. Jason Bond**, Southern Illinois University Carbondale

In addition to the survey, producers, crop consultants and researchers were invited to identify soybean production fields with a reported incidence of stem diseases and insect pests and/or to collect plants with symptoms of stem diseases. This process was complemented with surveying for stem disease and insect pests and collecting diseased plant samples by the collaborators on this project.

"It's important to update our management recommendations for insects as the soybean production system changes. Improved varieties, higher prices, and more intensive management all impact management decisions. However, in reality it takes high levels of defoliation to have a measurable impact on soybean yield – much higher than the 1-2 percent defoliation we observed in most fields that we looked at. Even with today's prices, it is rare for defoliating insects to affect yield in the North Central region of the U.S."

- **Dr. Nick Seiter,** University of Illinois at Urbana-Champaign

Funded by the Illinois Soybean Association Checkoff Program.

ILLINOIS SOYBEAN ASSOCIATION

Funded by the Illinois Soybean Checkoff

Weed Management in Very Early-Planted Soybeans

Researcher: **Dr. Aaron Hager**, University of Illinois

Farmer Benefit: Understanding and creating the best management strategy for weeds in early-planted beans is paramount for reaching genetic yield potential.

This research project was designed to generate data needed to formulate weed management recommendations for very early-planted soybean. Advances in soybean seed treatments, planting equipment and perceptibly subtle climate change have spurred interest in planting soybean weeks earlier compared with long-term averages. Reports of soybean planting as early as April 6 in 2020 were well in advance of corn planting progress reports. The potential of increased soybean yields as an outcome of early planting, however, can be offset by environmental and pest-related factors, some of which could actually reduce yield potential. The adage, "You can't control the weather," highlights the risks associated with the uncertainties of weather (such as frost after soybean emergence, excessive precipitation leading to replanting, etc.), but many pest management uncertainties are also relevant.

Weed control is of paramount importance in allowing a soybean crop to express its genetic yield potential. Yet, scant data exist to guide weed management recommendations in early-planted soybean. Field research at four locations investigated pre-herbicide application rate and timing and post-applications with and without layered residual.

Evaluation and Commercialization of SOYLEIC™ Varieties in Illinois

Researcher: **Dr. Brian Diers**, University of Illinois at Urbana-Champaign

Farmer Benefit: Breeding high-value varieties with special market-driven characteristics increases the opportunity for specialty contracts and profitability for Illinois farmers.

This project focused on the development of high oleic, low linolenic (HOLL) soybean varieties that will be marketed under the SOYLEIC name. This is a source of high-quality soybean oil that can be used to win back the market share of soybean in the food industry and increase its industrial uses.

The goal of this research was to test and commercialize soybean varieties with improved seed oil quality to give growers new opportunities for producing soybean with a value-added trait and to increase demand for soybean oil. The varieties being developed have improved oil quality with greater than 80 percent oleic acid and less than 3 percent linolenic acid, which is achieved through combining two mutagenized and two naturally occurring genes which makes this a non-GMO source of HOLL oil. This allows for the marketing of non-GMO HOLL varieties, which will result in increased premiums, and makes it easy to combine HOLL oil with new GMO technology, which would require a lengthy and expensive approval process if HOLL oil was a GMO trait. The genes used to develop varieties with the HOLL oil are being licensed from the University of Missouri and are being promoted by United Soybean Board and the Missouri Merchandising Council (MMC) under the name SOYLEIC. SOYLEIC soybean varieties provide the food market with a high-value, market-driven functional soybean oil, offering a solution to recent food labeling rules set in motion by health concerns with trans-fats.

WISHH catches new markets for U.S. soy by advancing aquaculture.

ASA/WISHH is helping explore opportunities for soy-based feeds to grow aquaculture in 8 sub-Saharan African countries, including Ghana, Nigeria, Senegal, Togo, Burkina Faso, Uganda, Kenya, Tanzania

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WISHH is a program of the American Soybean Association and is funded in part by the United Soybean Board and state soybean board checkoff programs.

Get to know the Soybean Research and Information Network (SRIN), a checkoff-funded source for information regarding soybean diseases, pests, diagnostic tools and so much more!

Soybean Sleuths

These are the people, programs and research working to improve your bottom line.

By Betsy Osman

Next to Mother Nature and her oft-fickle tendencies, soybeans' inborn characteristics play a leading role in yield outcomes and masterful performance. The genetics in every soybean variety can provide defense against diseases, nematodes, weeds and other stresses (like drought or flooding), which is why seed selection represents a farmer's most significant investment, and should be carefully researched, strategized, and tailored to each field.

So what's a farmer to do when the stakes are this high? Lean on the stakeholders.

To support critical seed selection decisions, and help mitigate farmer risk, the soy checkoff funds a variety of research, tools and other resources that provide unbiased, third-party information to help deliver bin-busting yields, year over year.

Soybean Research and Information Network (SRIN)

The Soybean Research and Information Network (SRIN) is a source for information regarding soybean diseases, pests, diagnostic tools and more. The program's website contains summaries and highlights of the latest soybean research.

"The goal of the SRIN is to provide an efficient way for researchers to access past soybean research results and potentially eliminate a duplication of efforts saving both time and money," says Cate Newberg, Program Manager of SRIN. "It can also provide supporting documentation for expanded research in a specific area or gain a new perspective to an existing question."

Soybean research priorities focus on soybean yield and quality enhancement through genetic improvement, and biotic and abiotic stress mitigation for soybean maturity groups 0-IV. Included in these objectives are classical and molecular soybean breeding efforts, research addressing control of insects and disease, weed resistance to herbicides, and soybean response to water, nutrients, soil, and environmental conditions.

The priorities also focus on soybean production practices that will increase yield, profitability, and environmental stewardship issues specific to the North Central region. This includes practices such as crop rotations, plant population, row spacing, and input management, water quality, cover crops and conservation tillage, soybean production sustainability and life cycle assessment.

Science for Success

A new-to-the-scene program, "Science for Success" is ensuring U.S. farmers are beneficiaries of the practical research results that come from work funded by the soybean checkoff, amplifying access to timely, data-driven best management practices (BMPs) so farmers can better manage agronomic stability.

"Science for Success gets up-to-date BMP research efficiently into the hands of U.S. soybean farmers through Extension publications, videos, podcasts and other platforms to share the sustainable practice recommendations needed to optimize yield and protect quality," says Newberg.

The Science for Success partnership brings together 17 Extension specialists from land-grant institutions across the country, representing more than 80 percent of soybean acres. "These specialists contribute their own state-gleaned knowledge and research results to the program," says Newberg. "So as demands within the soybean industry change, the Science for Success team will collaboratively use proven research combined with historic results to adapt BMPs to future challenges."

North Central Soybean Research Program (NCSRP)

Another program made possible by support from the soybean checkoff, the North Central Soybean Research Program (NCSRP), is creating stepping stones to pave the way for new varieties more quickly, more accurately and with better yield potential and composition.

NCSRP is supported by 13 member state checkoff programs, including Illinois, which represents more than 355,000 soybean farmers. The program collaborates with USDA's Northern Uniform Soybean Tests to evaluate yield, disease resistance and quality traits of public breeding lines found in the northern U.S. and Canadian provinces.

SOYBEAN RESEARCH & INFORMATION NETWORK

SoyBase

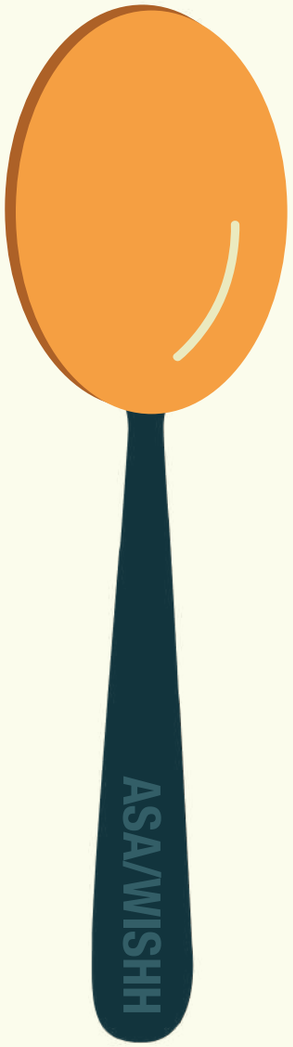
To meet the goal of increasing genetic gain for yield and composition, NCSRP researchers also built a breeding database known as SoyBase that is housed within the community-supported USDA for soybean genetics and genomic data. As the platform grows, public breeders can access the data for use in their breeding efforts. The database and workflow of software tools will allow breeders to interact and team up.

SoyGen

The multi-year, multi-organization Science Optimized Yield Gains across Environments (SOYGEN) project leverages NCSRP partnerships, advancing new and existing checkoff funded research to increase genetic gain for yield and seed composition. Through the ongoing effort, researchers seek to understand the functions of genes that underlie major traits and will elevate standardized collaborative field trials, create a genomic breeding facilitation suite and maximize use of USDA's Soybean Germplasm Collection as a foundation of success.

For more information around seed selection, and the science behind soybean success, visit ***soybeanresearchinfo.com***.

WISHH graduates entrepreneurs from global training for high-quality foods and feeds.



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Congratulations Tommy Waters

2022 Illinois FFA State Proficiency Winner in Fiber and Oil Crop Production

Tommy Waters, a soon-to-be high school senior from Goreville, Illinois has been named the 2022 Illinois FFA Proficiency winner in Fiber and Oil Crop Production. Tommy's selected Supervised Agricultural Experience (SAE) was completed on his family's 750-acre grain farm in Vienna, Illinois.

The Fiber and Oil Crop Production SAE highlights a FFA member each year who owns or works for a business that includes the best management practices available to efficiently produce and market crops for fiber and/or oil such as cotton, sisal, hemp, soybeans, sesame seed, flax, mustard, canola, castor beans, sunflower, peanuts, dill, spearmint, and safflower. "I chose this specific SAE because it directly involves soybeans. This is largely what I grow and incorporated many different new techniques such as cover crops, planting populations, banding fertilizer, higher crop management practices with regards to fertility, also crop protection with a fungicide/ insecticide application," says Waters.

Waters has also entered his SAE into the National FFA competition, representing Illinois, and is waiting for the final results.

After he graduates next spring, Waters plans to attend the University of Illinois Urbana-Champaign (UIUC) to obtain a bachelor's degree in crop science and then eventually pursue a PhD in crop physiology. He also noted that he hopes to join a research team while studying at UIUC.

The 2021 Fiber and Oil Crop Production winner was a classmate of Waters, Loren Pribble. When asked if this was due to the culture of his FFA chapter, Waters said, "Goreville's FFA is one of the best. I'm very thankful for Mr. Robison for helping me prepare and enter this competition. Loren is a good friend of mine, and I got a lot of useful advice from him. I also credit my success from my determination to perfect my record book and the team that supported me at Goreville FFA."

The Illinois Soybean Association is a proud sponsor of the Illinois FFA Fiber and Oil Crop Production award. ISA believes in the importance of cultivating the next generation of agriculture and understands the impact they will have on the industry for years to come.

Funded by the Illinois Soybean Association Checkoff Program.

ILLINOIS SOYBEAN ASSOCIATION

Meet "Seed Life," an ag brand dedicated to bringing new options and advancements to the seed industry.

The Seed Life

By Olivia Key

"Everyone is a part of the Seed Life. Producer or consumer," says Katie Dowson, Founder and Sales and Marketing Manager of Seed Life. "I want everyone to wear our logo around the world and know that they are all a part of the agriculture industry in some form or fashion."

When Dowson first started her adventure into seed sales and treatments, she wanted to create a community similar to the brand Salt Life® but geared toward the agriculture industry in the Midwest. "I was always amazed by how much people loved Salt Life even if they didn't live around the ocean. So, I wanted to be the Salt Life of the Midwest representing agriculture," says Dowson. Seed Life is grounded in the common

Katie Dowson, Founder and Sales & Market Manager, Seed Life

goals that bring people in the industry together. When looking into the future of agriculture, Seed Life stays at the forefront of advancements, but is committed to offering products that will bring value to their customers' farms.

According to Dowson, no seed treatment is created equal, and they are here to stay. To ensure success on the farm, it is important for growers to ask questions about the number of fungicides, if they are getting an insecticide or SDS (Sudden Death Syndrome) protection, and if their treatment is formulated or a custom blend. "Knowing exactly what is going on in* your seed and the quality of the treatment is important, because it will lead to confidence in what you are planting and success when the combine is rolling through."

Each year, we continue to see advancements in the agriculture industry, and this includes treatments for seed. Yield data from previous years shows that having a base treatment of fungicide and insecticide will leave you better off than opting for no treatments. Says Dowson, "There are so many unknowns with mother nature, so if I can control what my seed gets treated with, then why wouldn't I try to help them out with what mother nature can throw their way." The time from plant to establishment is critical, as seedlings face a variety of weather elements and treatments allow for the seeds to withstand unpredictable environmental conditions.

Choosing the right treatment for seed is one of the most important decisions a farmer can make. Without it, seedlings have a tough time establishing, leading to yield loss just weeks after planting. Treatment packages differ based on plant date, location, and preference. Seed Life works with growers across the Midwest and ensures that soybeans treated with their best packages perform better overall come harvest time.

So, what is the best treatment option for soybeans? "I would recommend a 4 fungicide, 1 insecticide formulated base treatment, SDS protection, and a nutritional to give them some extra juice to get out of the ground and rock it," says Dowson. At Seed Life, their success means grower success. Dowson and her team ensure grain farmers remain competitive in the industry. In doing so, they offer agronomic support and seed handling equipment to ensure each crop year is effortlessly successful.

As an agricultural business owner, Dowson hopes that Seed Life will also be an inspiration to other women in the industry. "My favorite part of running my own business is showing other women that they can make a name for themselves in the agriculture world, too. I love leaving an impact on women and I hope that a few little girls, especially my daughter, will look up to me and know that they can do anything they want to in the agriculture industry."

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Farmers know all too well that there's no such thing as a sure thing. Unless we use our collective power to advance us all. That's the idea behind the soybean checkoff. Everyone invests a little—seed money if you will—so everyone can be rewarded with more. More agronomic advancements. More market opportunities. More value for every bushel sold. In fact, a 2019 study by Cornell University showed that U.S. farmers received an estimated $12.34 in added value for every dollar they've invested in the checkoff. That's a return worth writing home about. To learn more about how the checkoff pays off, visit **ilsoy.org**.

THE CHECKOFF THAT PAYS OFF.

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JULIE (ARMSTRONG) HEWITT |
EXECUTIVE DIRECTOR | ILLINOIS NREC

A Decade of Tackling Illinois' Nutrient Loss Issues

They say time flies when you're having fun, so perhaps that explains why it is so hard to believe that the Illinois Nutrient Research & Education Council (NREC) celebrates our ten-year anniversary this month. Created by state statute in 2012, NREC is funded directly by Illinois farmers and fertilizer retailers through an assessment on fertilizer sold in the state. This collaboration between agricultural organizations, environmental groups and state agencies is a unique approach to funding the research that is critical to pursing science-based solutions to nutrient loss issues. The goals of NREC are straight-forward: we pursue nutrient research and education programs that ensure adoption and implementation of practices that optimize nutrient use efficiency, ensure soil fertility, and address environmental concerns regarding fertilizer.

The Council is appointed by the Director of the Illinois Department of Agriculture and is made up of three farmers, three representatives of fertilizer retailers, a member of the Illinois Certified Crop Advisors, a representative of the specialty fertilizer industry and a member of the Director's staff. In addition, there are four advisory members who represent two environmental organizations, the Illinois Environmental Protection Agency and a representative of a federal research station. Together, these council members direct the investments of the collected funds and oversee a staff of two full-time employees. David Wessel represents the Illinois Soybean Association on the Council and regularly reports back to the Illinois Soybean Board on the progress and activities of NREC.

In the ten years since NREC's formation, the Council has invested just over $30 million into nutrient research. The Council reviews research proposals and focuses on projects that address nutrient efficiency from a three-pronged approach. We know that in order for conservation practices to be long-term sustainable and widely adopted, they need to work from an agronomic, economic and environmental perspective. The projects that have been funded are diverse in practice, methodology and approach and this has led to a research portfolio that is both deep and wide. Scientists funded by NREC have studied cover crops, nitrogen rates, saturated buffers, legacy phosphorus, biochar for phosphorus removal, microbial community impact on denitrification, and more. NREC funded research has led to the publication of over thirty articles in peer-reviewed scientific journals which elevates Illinois-based research to a national and international level. In addition, the work of NREC-funded scientists has created three versions of a Cover Crop Guide, a Turf Management Guide, and a Farmer's Guide to using MRTN (Maximum Return to Nitrogen). Each year the Council publishes an Annual Report as well as multiple one-page reports on the various studies that are being funded by NREC. All of the publications as well as recorded video presentations are available on our website at ***www.illinoisnrec.org***.

Illinois NREC also works in parallel, but independently, with the Illinois Nutrient Loss Reduction Strategy (NLRS) in a variety of ways. The Illinois NLRS contains the goals and strategies for meeting the interim (2025) goals of reducing the loss of nitrates by 15 percent and phosphorus by 25 percent. This strategy is a collaboration between point and non-point (agricultural) contributors to the nutrients that leave the state via our waterways. NREC supports the work of the strategy and it's various work groups in a variety of ways which include serving on task forces and funding a biannual farmer survey in partnership with USDA-NASS. In addition, NREC helps to evaluate the removal rates for the best management practices that are identified in the current strategy and to provide peer-reviewed research for practices that are being considered for the strategy going forward. With this research, the science committee recently added saturated buffers as an accepted practice in the strategy. Several other practices are also being considered, with NREC funded research as their support.

So, while it's hard to believe that it's been ten years since the original council members joined then Director of Ag Bob Flider on the grounds of the Illinois State Fair to sign the legislation creating the organization, the research portfolio shows just how much has been accomplished. The Council knows there is a lot of work left to do but the ongoing commitment from their stakeholder organizations, such as ISA, allows us to push forward and to continue to demonstrate that NREC truly is Illinois agriculture's commitment to nutrient efficiency.

Thank you

to Our Corporate Partners

ISA proudly supports the 43,000 soybean farmers of Illinois. But we don't do it alone. In 2022, the organizations listed below partnered with us to help create new opportunities for Illinois soybeans around the world in areas such as advocacy, trade and exports, animal agriculture, sustainability efforts, biodiesel and more. It's our mission to help Illinois farmers operate in a profitable, sustainable way that increases ROI on their checkoff dollars, and our corporate partners help make that possible. Because when farmers win, we all do.

Visit ILsoy.org to learn more about ISA and our work to support Illinois soybean farmers.

ILLINOIS SOYBEAN ASSOCIATION

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