

Ohio Soybean News™

WINTER II 2015

A PUBLICATION OF THE OHIO SOYBEAN ASSOCIATION

**What Inputs Increase
Soybean Yield? *p. 18***



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Ohio Soybean News

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Jerry Bambauer
Ohio Soybean Association Chairman
Auglaize County soybean farmer

A Letter From the Chairman

HAPPY New Year from the Ohio Soybean Association!

It's hard to believe we're already in 2015. Before we know it, the Ohio Soybean Association (OSA) will celebrate its 50th anniversary in 2016. The cold weather is here and personally I have been enjoying the low temperatures because that means I get to "walk on water" and go ice fishing.

A new year also means newly elected legislators. The OSA Board of Trustees plans to build relationships with our state legislators during Statehouse visits soon so they get to know Ohio soybean farmers and have the opportunity to ask questions. There is a lot of risk involved with being a farmer with uncertainty about weather, government, economy and much more. Ensuring our representatives know our priorities and building lasting relationships is one way we help reduce some uncertainty in government.

Ohio legislators expect farmers to do their part in addressing the algal blooms on Lake Erie. While House Bill 490 failed in December, many of the legislative changes sought in the bill will likely resurface in the 131st General Assembly.

The Ohio Soybean Council (OSC), a sister organization of OSA, is funding water quality research in partnership with other Ohio agricultural organizations and The Ohio State University and U.S. Department of Agriculture. OSA continues to play a role by monitoring the research and communicating with legislators about what farmers are already doing to keep nutrients on the field and the need for science-based solutions.

The 2014 Soybean Yield and Quality results are now available and can be found inside on page 12. OSA has been conducting the statewide contest for five years now and this year's Overall State Yield Champion hails from Preble County. Congratulations to Don Jackson who recorded a yield of 86.1 bushels per acre!



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Staff Credits

Adam Ward – Publisher

Jennifer Coleman – Editor

Katie Bauer – Staff Writer

Jacqi Fisher – Production Manager

Carol Locker – Designer

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Web address: www.soyohio.org

E-mail: cdeboard@soyohio.org

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- The industry is supporting more than 62,000 jobs, generating billions of dollars in GDP, household income and tax revenues.
- OSC has worked closely with the National Biodiesel Board to drive development of additional uses for biodiesel. One example: home heating fuel. New York City is already the nation's largest municipal user of biodiesel and recently implemented a 2% biodiesel blend mandate on heating oil.

To learn more about the Ohio Soybean Council and its programs to help Ohio soybean producers, please visit our website: SOYOHIO.ORG.



The Ohio Soybean Council (OSC) was founded in 1991 to manage the Soybean Promotion and Research Program — more commonly known as the soybean checkoff. OSC is governed by a volunteer farmer board, which directs the investments of the checkoff. The program's primary goal is to improve soybean profitability by targeting research and development, and education and promotion projects.





PREPARING FOR PLANTING IN OHIO

Agronomic outlook for spring planting and new Asgrow® Brand innovations
Jay Brooks, Monsanto Technology Development Representative



As Ohio farmers settle in for winter, they begin to map out their plan for next season. Keeping in mind the wet fall, increased weed pressure and lessons from harvest, farmers have a lot to consider as they prepare for planting. When it comes to planning for the Ohio region, Asgrow products can help keep yields consistently high and mitigate issues as they occur.

Agronomic Outlook for Spring 2015

In the Ohio region, Brooks notes that the main things for farmers to watch out for will be soil condition and weed management. "It's important to consider soil condition primarily – farmers were trying to get into the field between storms and facing compaction problems last spring. They'll need to determine

whether tillage is needed to have a strong seedbed," Brooks indicates. Additionally, he suggests that farmers look into crop rotation on a field-by-field basis to determine which fields could benefit from a different crop in the coming year.

Looking back at last season, Brooks recalls the wet fall delaying harvest, which led farmers to experience weed-control issues. Something farmers should ask themselves will be, "Did the fall rain keep me from additional applications of herbicides?" Spring weed control will continue to be a major topic, and Brooks advises that farmers should use multiple modes of action in the appropriate timing to help mitigate these issues.

Asgrow Brand Innovations on the Horizon

Each year, farmers encounter more and more weed resistance. It is not news that marestalk remains a huge problem in Ohio fields. Looking ahead to innovations that can help farmers combat these tough weeds, Brooks highlights Asgrow® Genuity® Roundup Ready 2 Yield® Soybeans using the Roundup Ready PLUS® Crop Management Solutions as an ideal option to help with weed resistance this spring. "The Roundup Ready 2 Yield Soybeans are the high performing standard for farmers," says Brooks. "We've had such success with Roundup Ready 2 Yield that we've taken that reliable platform farmers are comfortable with and added dicamba tolerance to be included in the Roundup Ready® Xtend Crop System."

"It's another tool in the tool belt," Brooks says. Though they are still pending regulatory approvals, Roundup Ready 2 Xtend™ Soybeans have gained the confidence of farmers and experts in the Ground Breakers® Field Trials Under Permit program. These trials have shown excellent weed control with the addition of residual herbicides and dicamba as options to use on tough-to-control weeds. The addition of dicamba tolerance will allow farmers to kill weeds and help gain maximum yield.

Brooks speaks highly of this Asgrow brand innovation, noting its elite high-yielding genetics with the incorporation of innovative traits, like Roundup Ready 2 Xtend™, which will contain tolerance to dicamba and glyphosate. This future technology provides farmers another tool to help control weeds.



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Great Year for Soy in Washington, Despite Obstacles

By John Gordley

*American Soybean Association
Washington Representative*

MARKED by gridlock between the Obama Administration, Senate Democrats, and House Republicans that continued to bottle up nearly all legislative progress, the 113th Congress won the dubious honor of being the second-least productive in history. The mid-term election campaigns preoccupied Members of Congress throughout much of 2014, and while the significant Republican gains in both the House and the Senate could result

in greater cooperation going forward, the results are broadly seen as voter angst with the president and discontent with Congress' continuing failure to address the nation's most pressing problems.

Despite the negative environment, the soy industry achieved a number of major legislative and regulatory victories. The American Soybean Association (ASA) worked hard to ensure that the new Farm Bill preserved planting flexibility by decoupling both the Agricultural Risk Coverage (ARC) and Price Loss Coverage (PLC) programs to prevent future production distortions between crops. The bill

also allows producers to update their payment yields and reallocate base acres, and raises the soybean reference (target) price in the PLC program from \$6.00 to \$8.40 per bushel. The law also consolidates conservation programs on working lands and provides full funding for the Foreign Market Development and Market Access Programs – export promotion programs key to ASA, the U.S. Soybean Export Council and World Initiative For Soy in Human Health's success in developing foreign markets.

Also of great significance was the passage of the one-year tax extenders package, which included several



provisions that have positive impacts on soybean farmers. It reinstated expensing provisions, including the Section 179 small business limitation of \$500,000 and the \$2 million phase-out amount for property placed in service during 2014. The tax extenders package also restored the 50 percent bonus depreciation provision and the dollar-per-gallon biodiesel tax credit.

ASA was also successful in helping achieve several long-standing priorities for waterways infrastructure. These included passage of the Water Resources Reform & Development Act (WRRDA), increased appropriations for the Army Corps of Engineers waterways operations and maintenance programs, and a nine-cent-per-gallon increase in the barge fuel fee that funds infrastructure upgrades via the Inland Waterways Trust Fund (IWTF). Within WRRDA were several significant policy victories that will result in additional revenues available for the IWTF and the Harbor Maintenance Trust Fund. Together, the barge fuel increase and the increased revenues from the changes in WRRDA will yield \$185 million per year in additional funding for waterways infrastructure improvements.



PHOTO: FRANCOIS LARVIERE/ISTOCK/THINKSTOCK

Just as important as these legislative victories were successful efforts by ASA and others on regulatory issues. While EPA has yet to withdraw its proposed Waters of the United States rule, it is expected to undergo significant revision in 2015. Another regulatory achievement was publication of a proposed rule that would allow aquaculture operations in the Gulf of Mexico, a critical first step to building a domestic aquaculture industry and opening opportunities to feed sustainably-produced U.S. soybeans to a growing industry here at home.

On trade, ASA was a leader in efforts by the U.S. Biotech Crops Alliance to

convince the Obama Administration to make international biotech approvals a major trade policy priority. This led to China's decision to approve three long-standing applications for importation of biotech crops, including two soybean varieties, and to commit to a strategic dialogue on agricultural innovation and biotechnology. And the Administration moved to establish formal diplomatic relations with Cuba, whose top imports in 2013 included frozen poultry, soybean meal, corn and soybeans. ASA also continued to press the Administration on its priorities in the Trans Pacific Partnership (TPP) trade negotiations, and for maintaining and increasing access to EU markets in the Transatlantic Trade and Investment Partnership (TTIP) negotiations, including on biotech approval regulations and the sustainable agriculture requirements of the Renewable Energy Directive.

ASA's success in these core policy areas, especially in the face of such a challenging political environment in Washington, should give all members reason for great confidence as our organization moves into a new year and a new Congress. As always, we are proud to serve the members of the American Soybean Association and all the men and women of the U.S. soybean industry in Washington. ♦



PHOTO: KASTOR80/ISTOCK/THINKSTOCK



Ohio Soybean Association Year in Review

By Katie Bauer

Beck's Young Farm Leader Program

In partnership with Beck's Hybrids, the Ohio Soybean Association (OSA) continued the Beck's Young Farm Leader Program. The second year of the program highlighted the hard work, dedication and leadership of young Ohio farmers. This year's winners included Matt Aultman of Darke County, Andy Wentling of Stark County, Andrew Hollenback of Licking County and Ryan Rhoades of Marion County. Pictured on the right is Ryan Rhoades who was chosen as the overall winner, and named 2014 Beck's Young Farm Leader of the Year.



PHOTO: PHOTONAJ/ISTOCK/THINKSTOCK

Senate Bill 150

OSA worked closely with the Ohio Corn and Wheat Growers Association, Ohio Farm Bureau and others on Senate Bill 150, the nutrient management and water quality bill. OSA testified as an interested party to Senate Bill 150 and stressed that Ohio's soybean farmers have already been proactive about the application of fertilizer by funding research and education programs that will help create practical solutions. Thanks to this effort, OSA was able to significantly reduce the burdensome regulations that were in the original bill. The bill will require a certification to apply commercial fertilizer, and that process has begun. The first training saw hundreds of attendees.



Harvest Classic

OSA hosted the annual Harvest Classic golf outing to benefit the Soy Political Action Committee. This year's winners included (from left to right) Jim Ballenger, Roger Tedrick, Dave Miller and Jim Scheid.

Ohio Grain Farmers Symposium

The 2014 Ohio Grain Farmers Symposium, sponsored by OSA, Ohio Corn and Wheat Growers Association and The Ohio State University was held on December 18th at The Ohio State University Nationwide and Ohio Farm Bureau 4-H



Center. The event brought together farmers, researchers and industry experts who offered insight into key agricultural issues such as agricultural transportation, 2015 grain market outlook, crop program decisions, genetically

modified organisms and the Lake Erie algae bloom. Attendees also heard updates from the National Corn Growers Association, National Association of Wheat Growers and the American Soybean Association.



2014 Commodity Classic

During the 2014 Commodity Classic which took place in San Antonio, Texas, the American Soybean Association held the annual delegate voting session to set its policy direction for 2014-2015. OSA farmer-leaders represented Ohio as delegates and will represent Ohio again at the 2015 Commodity Classic in Phoenix, Arizona.



continued: Ohio Soybean Association Year in Review

2014-2015 Ohio Soybean Association Officers

The OSA Board of Trustees elected Officers for 2014-2015. Individuals in these positions are responsible for the implementation of OSA board policies and procedures, as well as carrying out the roles for their respective offices.



President:
Tommie Price
of Putnam County



First Vice President:
Adam Graham
of Logan County



Vice President:
Jeff Roehm
of Highland County



Treasurer:
Todd Hesterman
of Henry County



Secretary:
Allen Armstrong
of Clark County



Chairman:
Jerry Bambauer
of Auglaize County,



American Soybean Association
Representative:
Jeff Sollars
of Fayette County



American Soybean Association
Vice President:
Bret Davis
of Delaware County

Advocating on Ohio Farmers' Behalf

OSA farmer-leaders lobbied in favor of Ohio soybean farmers at the Ohio Capitol and U.S.

Capitol and met with legislators or legislative staff. Topics discussed included nutrient management, commodity handlers fund, biobased product procurement, biodiesel, transportation and infrastructure, trade expansion and biotechnology.



Membership Appreciation

OSA and Ohio Ag Equipment partnered to promote OSA membership by entering all new OSA members who signed up by September 18 in a drawing to win free hours with an MT600 Challenger Tractor. This year's winner was Kevin Kruger of Allen County. Kevin was presented with the tractor during the 2014 Farm Science Review in London, Ohio.

Ohio Soybean Association Membership Incentives

When you join OSA, you will also become a member of the American Soybean Association and enjoy incentives and benefits. These include several discounts and rewards programs. To view a complete list, visit www.soyohio.org/membership.





Davis Elected Vice President of the American Soybean Association

By Katie Bauer

THE American Soybean Association (ASA) recently announced the 2015 officers and committee assignments. Among the group of volunteer soybean farmers was Bret Davis, Delaware County soybean farmer who was elected to serve as Vice President.

“I am really honored to have been elected and look forward to working with the other officers,” said Davis. “Checkoff dollars cannot be used for lobbying, therefore, membership with the Ohio Soybean Association (OSA) and ASA is extremely important.”

Davis currently serves on the OSA Board of Trustees and also serves on the Board of Trustees of the state soybean checkoff organization, the Ohio Soybean Council. In



Bret Davis

addition to his leadership positions with state and national soybean organizations, Bret is an active member of the Delaware County Farm Bureau and Ohio Corn and Wheat Growers Association.

ASA’s nine-member executive committee now consists of Secretary Ron Moore, Ill.; Treasurer Davie Stephens, Ky.; Vice Presidents Kevin Hoyer, Wis.; Bret Davis, Ohio; Joe Steinkamp, Ind. and John Heisdorffer, Iowa.

ASA also confirmed Wade Cowan from Brownfield, Texas, as its newest President and moved outgoing President Ray Gaesser from Corning, Iowa, to the position of Chairman. Board members elected Richard

Wilkins, Greenwood, Del., to serve as First Vice President.

“I’m pleased with the team we elected and think it’s an important step toward a world class standard as an organization,” Cowan said. “We will work together this year to unify and move agriculture forward.”

Gaesser said he looks forward to working with the newly elected leaders this year.

“We have a great team elected for leadership at ASA,” he said. “We’re excited about being proactive and addressing those issues that impact soybean farmers.”

Elections were held in St. Louis at ASA’s annual winter board meeting, and the meeting also served as a venue to celebrate the retirements of Alan Kemper, Jim Andrew, Robert Ross, Dean Campbell, Danny Murphy, Bob Worth and Ron Bunjer. ♦



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2014 OSA Soybean Yield and Quality Contest Winners



THE Ohio Soybean Association (OSA) recently announced the winners of the 2014 Ohio Soybean Yield and Quality Contest. This is the fifth year for the statewide contest with a total of 44 applicants.

There were four different yield categories available and the quality portion of the contest was based on highest percentages of oil and protein.

“Congratulations to this year’s Yield and Quality Contest winners,” said Tommie Price, OSA President and soybean farmer from Putnam County. “Every year, entrants reinforce how outstanding Ohio soybean farmers are at producing high soybean yields and high quality soybeans.”

The 2014 Overall State Yield Champion was Don Jackson of Preble County who recorded a yield of 86.1 bushels/acre with the Seed Consultants 9363 variety.

OSA would like to thank Asgrow, Beck’s Hybrids, Channel, CROPLAN, LG Seeds, Ohio AgNet, Ohio’s Country Journal, Ohio Soybean Council, R Farm Seeds, Rupp Seeds, Seed Consultants, Shur Grow, Stewart Seeds, Stine Seed Company and Monsanto for sponsoring the 2014 contest.

To learn more about the Ohio Soybean Yield and Quality Contest, visit www.soyohio.org/yieldcontest.

Yield Results

| Conventional Tillage | Yield (bu./acre) | Variety |
|--|------------------|-----------------------|
| 1. Don Jackson (Preble County) | 86.1 | Seed Consultants 9363 |
| 2. Andrew Balttes, Jr. (Mahoning County) | 72.74 | NuTech 7273 |
| 3. Bob Short (Miami County) | 72 | Asgrow 3832 |
| No-till | Yield (bu./acre) | Variety |
| 1. Dan Uetrecht (Warren County) | 84.8 | Mycogen 5N342 |
| 2. Jason Groselle (Portage County) | 83.3 | Pioneer P32T25 R2 |
| 3. Doug Swaim (Greene County) | 81.1 | Asgrow 3533 |
| Non-GMO – No-till | Yield (bu./acre) | Variety |
| 1. Tom Schuffenecker (Ottawa County) | 68.24 | Beck 295 |

Quality Results

| Highest Percentage Protein Content | Percentage | Variety |
|---|------------|------------------|
| 1. Joshua Yoder (Logan County) | 37.1 | Pioneer P32T80PR |
| 2. Andrew Balttes (Mahoning County) | 36.6 | Asgrow 3034RR2 |
| 3. Jason Groselle (Portage County) | 36.2 | Pioneer P32T25R2 |
| Highest Percentage Oil Content | Percentage | Variety |
| 1. Andrew Balttes Jr. (Mahoning County) | 20.1 | Nu Tech 7273 |
| 2. Jack Groselle (Portage County) | 19.2 | Pioneer P24T19R |
| 3. Joshue Yoder (Logan County) | 18.8 | Pioneer P32T80PR |

OSC Recognizes Ohio Teachers, Awards Ag Biotech Winners

By **Katie Bauer**

ENVELOPE, please. As part of an education initiative by the Ohio Soybean Council (OSC), three Ohio teachers received new supplies and materials to improve biotechnology education in their classrooms. OSC supported the Ag Biotech Academy Awards contest which was open to teachers who attended this summer's Ag Biotech Academy, a two-day professional development event for teachers. The Academy is held at DuPont Pioneer's soybean facility and offers teachers an opportunity to learn about topics like gel electrophoresis, micropipetting and food science. Each participating teacher goes home with curriculum and materials for use in their classrooms.

Winners are as follows:

PAM CLARK teaches at Global Impact Stem Academy in Springfield, Ohio. She will receive a class set of TI Inspire CX calculators, which use probes to give precise and accurate readings and to gather data.

"Our goals are to incorporate technology in all aspects of our laboratory-based classes, so these calculators will be used in Physical Science, Chemistry, Biology, Plant and Animal Biotechnology, Environmental Sustainability and Food Science classes, along with several of our students' senior/capstone projects and STEM fairs," said Clark.

JENNIFER FOUFRAY, a Biology/plant and Animal biotechnology instructor at Global Impact STEM Academy, will use the money to buy lab supplies and equipment so students can apply their knowledge to real-world situations and improve laboratory skills.

"My goal is to increase interest in the area of biotechnology. With the grant I will be able to introduce a myriad of possible career opportunities and laboratory

techniques to my students," said Foudray.

SHANNON LANGSTON is a 7th grade science, health, biology and anatomy & physiology teacher in Russia, Ohio. She will use her contest prize to buy more microscopes and equipment for her students to use in the "How Did They Get That Gene in There?" lab from the GrowNextGen website, an OSC sponsored site that offers a variety of eLearning courses, career videos, and curricular units for students and teachers. Microscopes will allow the students to view bacteria and better understand bacteria's role in genetic modification, and other supplies will make it possible for the students to perform the gel electrophoresis lab.

Langston said, "Attending the Ag Biotech Academy was extremely helpful. I



A group of Ohio teachers attend the Ag Biotech Academy, a two-day professional development workshop held at DuPont Pioneer's soybean facility.

appreciated being given supplies to implement what I learned from the workshop. I really enjoy going to workshops where I get labs that I can easily use in my class. I also enjoyed meeting other science teachers and exchanging ideas for using biotechnology in the classroom. I will definitely be going to this workshop again in the future!" ♦



The Ag Biotech Academy offers teachers a chance to learn about several agricultural topics and how they can incorporate agriculture, soybeans and science in their classrooms.

Outlook Conference in Japan Highlights Quality



By Jennifer Coleman

THE U.S. Soybean Export Council (USSEC) recently held a two-day Soy Buyers Outlook Conference in Tokyo, Japan. Sponsored in part by the Ohio Soybean Council (OSC) and soybean checkoff, the November event hosted a total of 350 Japanese crushers, feed millers, soy food processors, traders and media. Topics covered

included the annual U.S. soy crop quality update, soy health benefit information, market outlooks and soybean meal quality.

OSC board member, Jeff Magyar of Ashtabula County, attended the conference in Tokyo to speak with soybean buyers about Ohio’s crop progress, quality and availability of specialty varieties.

“The theme of the conference and the conversations we had with

Japanese buyers was quality,” said Magyar. “Of course price is always a hot topic, but quality is something that the market in Japan is very concerned about and is willing to pay a premium for in many cases.”

The path to market success in Japan is much different than some other well-known markets. While China is growing at a rapid rate in both population and demand, Japan’s population is declining. However, where the overall



Industry experts, U.S. soybean farmers and USSEC representatives participated in a press conference for Japanese media during the 2014 Soy Buyers Outlook Conference.

demand is not expected to increase, Japan's demand for quality, premium products is increasing.

"Japan may not be the high volume commodity market like China, but its demand for specialty products with traceability and high protein content makes it a high value, premium market," said Magyar. "Markets like this give soybean farmers the opportunity to add a specialty soybean to their operation and seek a premium for it,

U.S. Sustainability Assurance for International Customers

IN 2013, the U.S. Soybean Export Council (USSEC), American Soybean Association, United Soybean Board and several state soybean boards launched the U.S. Soybean Sustainability Assurance Protocol (SSAP). This program helps define and document sustainable performance in soybean production for international customers. The protocol covers four key components including sound environmental objectives, social responsibility, promoting economic growth and continuous improvement in technology and cultural practices. The protocol addresses how sustainable performance by U.S. soybean farmers is measured and verified by various government programs.

SSAP also offers exporters of U.S. soy the opportunity to obtain an official sustainability certificate that verifies the soy products they sell are

raised in a sustainable manner. The certificate was developed through a multi-stakeholder process to ensure the methodologies for measuring sustainable performance are thorough, transparent and credible.

This was a strategic move by the soybean industry to assure international customers that U.S. farmers raise soybeans with high sustainability performance through areas such as reduction in carbon emissions, energy use, greenhouse gas emissions and soil erosion. Certification is done at shipment point by Soy Export Sustainability, LLC, based on an aggregate system representing nationwide soybean production. According to USSEC, 95 percent of U.S. farms currently participate.

To learn more about USSEC and the U.S. Soybean Sustainability Assurance Protocol, visit www.ussec.org.

like many Ohio soybean farmers are already doing."

Protein levels are extremely important for many domestic and international markets and concern about declining protein levels from the U.S. as a whole is a topic of conversation among all stakeholders. This is especially true of markets like Japan that are specifically focused on those levels.

Ohio is uniquely positioned to fulfill this demand. Thanks to the climate and soils of the state, Ohio soybean farmers consistently produce soybeans with higher protein levels than other states in the western half of the Corn Belt. Additionally, long-standing relationships with buyers have given Ohio an excellent reputation for a consistent supply. Ohio is currently one of the

largest producers of food-grade soybeans among U.S. states.

"Events like this outlook conference are valuable to both the soybean buyers and the soybean growers because it's an opportunity to meet face-to-face," said Magyar. "I spoke with many grain buyers and soy food manufacturers during the conference who were delighted to see pictures of my farm and watch a video of our soybean harvest. They asked great questions about the weather, prices, quality and availability of food-grade varieties. While it may seem like a small thing, building these relationships and keeping Ohio top of mind among the big players in this market is so important if we want to continue to maintain these opportunities for Ohio soybean farmers." ♦



Fishing for Answers: OSC Supports Research to Develop Improved Soybean Meal for Aquaculture



By Barry McGraw

AS soybean meal content increases in fish diets due to the high protein content of soy, the fish feed becomes more sustainable and affordable. Since no other agricultural feedstock has such an attractive high-protein feature, it provides an opportunity for soybean farmers to play an important role within this emerging market.

As a result, the Ohio Soybean Council (OSC) is funding research to develop technology that can remove anti-nutritional factors (ANFs) from soybean meal, mak-

ing it more efficient as a fish meal replacement in aquaculture diets.

OSC's research partners include Battelle, The Ohio State University, Iowa State University and Kentucky State University.

"Fish fed with the improved soybean meal grew 21 percent faster than fish fed with conventional soybean meal," said Vikas Kumar, assistant professor, Division of Aquaculture, Kentucky State University.

Soybean meal has a high protein content, essential fatty acids, unsaturated fats and a favorable amino acid profile that closely meets the dietary requirements of

fish.

"With OSC funding, Battelle developed a process to completely remove the anti-nutritional oligosaccharides from soybean meal without any compromise in amino acid composition," said Ram Lalgudi, senior research scientist with Battelle.

Globally, aquaculture uses four to six metric tons of fishmeal each year and is expanding by at least 10 per cent annually. Because fishmeal contains wild fish, a rapidly dwindling resource, fish farmers are interested in agriculture-based nutrients to supplement fishmeal and provide a sustainable source of nutrition at an affordable price.

"Ohio soybean farmers are excited to be able to meet an important need for aquaculture farmers," said Bill Bayliss, OSC board member and soybean farmer from Logan County.

"We are now at the stage where we need to determine market efficacy. We are planning to conduct larger-scale fish studies within 2015."

OSC is now looking for commercial partners with an interest in bringing this technology to the marketplace and help meet the consumer demand for fish, which has nearly doubled in the last 40 years. ♦

Popular Ohio Fish

Yellow Perch

Bluegill

Freshwater Shrimp

Baitfish

Largemouth Bass

Tilapia

The Aquaculture Industry

U.S. soybean farmers are an essential partner in the prosperity of the aquaculture community, and are helping to revolutionize aquaculture globally. Soybean farmers in America's Heartland provide a consistent, healthy and efficient source of protein that nourishes the fish that feed families around the world.

U.S. Grown Quality

- Soybean meal is consistent in quality, and is produced in a range of protein levels to suit the needs of the aquaculture industry.
- Soybean meal has the best amino acid complex of all of the plant protein ingredients.
- Soybean meal is highly digestible to most cultured fish and shrimp species.

Consistency

- Soybean meal provides a consistent product to fish farmers, which in turn allows farmers to supply consumers, chefs and retailers with fish of consistent quality, size and supply.

Affordability

- Soybean meal has a significantly lower cost than most animal feeds, and a much lower cost than fishmeal/fish oil.
- Soy protein can replace animal proteins in feeds for freshwater and marine fish with rapid fish growth and low feed conversion ratios.

Sustainability

- Availability of a high-quality, renewable protein product like soybean meal is critical to the future of the global aquaculture industry.
- Soybean production has increased more than tenfold in the past four decades, and can sustain this growth in the coming years.



Motter Elected Treasurer of the United Soybean Board

By Katie Bauer

THE Ohio Soybean Council (OSC) celebrated the recent election of the United Soybean Board (USB) as John Motter of Hancock County was elected Treasurer of USB.



John Motter

Motter is currently serving his sixth year as a USB board member and has previously served as the Vice Chairman of the Audit & Evaluation Committee and Chair of the Customer

Focus Action Team. He has held multiple executive committee roles at the state level on the OSC Board of Trustees including as Chairman. Motter is active in many agricultural organizations near his farm in Jenera, where he grows soybeans and corn, including high oleic soybeans.

“I can’t express how excited and humbled I am by this opportunity,” said Motter.

“Agriculture is changing rapidly and rising demand for soybeans is expected to continue. However, we also have new challenges to face in the coming years. I will work very hard with my fellow board members to ensure that we are doing all we can to ensure a profitable future for all U.S. soybean farmers.”

The 70 farmer-directors of USB oversee the investments of the soy checkoff to maximize profit opportunities for all U.S. soybean farmers. These volunteers invest and leverage checkoff funds to increase the value of U.S. soybean meal and oil, to ensure U.S. soybean farmers and their customers have the freedom and infrastructure to operate, and to meet the needs of U.S. soy’s customers.

The following farmer-leaders were elected to the executive committee to oversee USB’s profit-building projects:

- Chairman: Bob Haselwood, Berryton, Kansas
- Vice Chairman: Jared Hagert,

Emerado, North Dakota

- Secretary: Dwain Ford, Kinmundy, Illinois
- Treasurer: John Motter, Jenera, Ohio
- Meal Action Team Chair: Laura Foell, Schaller, Iowa
- Oil Action Team Chair: Jimmy Sneed, Hernando, Mississippi
- Freedom to Operate Action Team Chair: Bill Beam, Elverson, Pennsylvania
- Customer Focus Action Team Chair: John Dodson, Halls, Tennessee
- International Opportunities Target Area Coordinator: Dwain Ford, Kinmundy, Illinois
- Domestic Opportunities Target Area Coordinator: Lewis Bainbridge, Ethan, South Dakota
- Communications Target Area Coordinator: Nancy Kavazanjian, Beaver Dam, Wisconsin
- Past Chairman: Jim Call, Madison, Minnesota

OSC Partners with Sustainable World Tour

By Katie Bauer

THE Ohio Soybean Council recently collaborated with the OBIC Bioproducts Innovation Center at The Ohio State University to promote a biobased lifestyle to consumers on the Sustainable World Tour (SWT).

The SWT is a first-of-its kind public awareness campaign that includes exhibits and activities transported by a biobased-branded vehicle to encourage consumers to purchase biobased alternatives such as soy-based products and excite young people about future careers in sustainability.

The van kicked off the tour this past April and has visited more than 20 events including: 4-H camps, the national and state FFA convention, teacher workshops, the Cincinnati zoo, the Ohio State Fair



and many classroom settings.

Biobased products are plant-derived, non-renewable matter and are made from renewable agricultural resources including food waste, soybeans, corn, and other plant materials. Biobased is a sustainable approach that considers the entire product life cycle from its agricultural origin to its

overall renewability.

The OBIC Bioproducts Innovation Center focus is to connect the diverse segments of the bioproducts community to nurture business ecosystems and expedite commercialization of bioproduct technologies. The

OBIC Bioproducts Innovation Center accomplishes this mission by integrating the expertise and innovations from its network of research institutes, companies, and policy agencies to provide progressive solutions that fill gaps not normally addressed by other organizations. To learn more, visit www.bioproducts.osu.edu.



What Inputs Increase Soybean Yield?

By **Laura Lindsey, Grace Bluck, and Anne Dorrance**
The Ohio State University

WHEN soybean prices are high, we get many questions from farmers about inputs that increase yield. With funding from the Ohio Soybean Council, we have investigated the use of fungicide, insecticide, and manganese foliar fertilizer at the R3 growth stage (initial pod development). This research has been conducted for two years at several locations across Ohio. Our treatments included:

- (1) “Enhanced” system which included inputs of Rhizobia inoculant, gypsum, fungicide, insecticide, and manganese foliar fertilizer.
- (2) “Traditional” system which included no inputs.
- (3) “Enhanced” minus fungicide (E – F).
- (4) “Enhanced” minus insecticide (E – I).

- (5) “Enhanced” minus manganese foliar fertilizer (E – Mn).
- (6) “Traditional” plus fungicide (T + F).
- (7) “Traditional” plus insecticide (T + I).
- (8) “Traditional” plus manganese foliar fertilizer (T + Mn).

Our questions were: Does soybean yield decrease if fungicide, insecticide, or manganese foliar fertilizer is omitted from the enhanced system? Does soybean yield increase if fungicide, insecticide, or manganese foliar fertilizer is added to the traditional system?

Does soybean yield decrease if fungicide, insecticide, or manganese foliar fertilizer is omitted from the enhanced system?

In 2013 at the Clinton, Henry, and Wood County locations, we saw statistically significant yield decreases (3.1 to 11.7 bushels/

Table 1. Change in soybean yield when inputs are omitted from the enhanced system and added to the traditional system, 2013.

| | Clark | Clinton | Delaware | Erie | Henry | Mercer | Preble | Wayne | Wood | Average |
|--------------------------|-------|---------|----------|------|--------|--------|--------|-------|--------|---------|
| ----- bushels/acre ----- | | | | | | | | | | |
| Enhanced (E) | 70.2 | 74.4 | 47.6 | 36.9 | 60.6 | 55.8 | 64.4 | 60.0 | 62.6 | 59.2 |
| E - Fungicide | -1.7 | -11.7 * | +1.9 | +4.7 | -5.3 * | +0.8 | +5.9 | -1.7 | -3.1 * | -1.1 |
| E - Insecticide | +0.8 | -4.0 | -8.2 | -3.0 | -0.2 | +7.5 * | +3.6 | -0.1 | -2.0 | -0.6 |
| E - Manganese | +0.5 | +1.9 | -4.2 | +0.2 | -0.8 | +2.6 | +3.8 | +0.8 | -2.3 | +0.8 |
| Traditional (T) | 71.1 | 70.9 | 40.4 | 38.3 | 57.8 | 58.4 | 68.2 | 57.6 | 59.2 | 58.0 |
| T + fungicide | +1.5 | -2.2 | +15.1 | +6.3 | +2.8 | +1.0 | -4.1 | +2.4 | +1.1 | +2.7 |
| T + insecticide | -7.4 | -0.1 | -0.1 | +5.5 | -1.0 | -2.1 | +0.1 | -1.4 | +1.3 | -0.6 |
| T + Manganese | +3.0 | -1.1 | -3.1 | +2.9 | -1.4 | -5.6 | +0.9 | -2.9 | -0.1 | -0.8 |

*Asterisks denote statistically significant yield differences compared to the control (either the enhanced or traditional system).



PHOTO: FUSE/THINKSTOCK

Does soybean yield increase if fungicide, insecticide, or manganese foliar fertilizer is added to the traditional system?

In 2013, fungicide, insecticide, and manganese foliar fertilizer applied separately did not increase yield at any of the locations. In 2014 at the Mercer County location, yield increased by 7 bushels/acre when fungicide was applied. The insecticide and manganese foliar fertilizer did not increase soybean yield in 2014.

The take-away

Yield response was greatest for fungicide application; however, a yield response only occurred 35% of the time. Response to fungicide tended to occur when June and July rainfall exceeded 10 inches and when fields had a high yield potential (yields greater than 65 bushels/acre).

Five out of six fungicide yield responses occurred when fungicide, insecticide, and manganese foliar fertilizer were tanked mixed in the enhanced system. Tank-mixing inputs requires a larger yield increase to cover the cost of inputs. In 2014, we added a fungicide + crop oil treatment which tended to give equal or better results than fungicide applied alone or fungicide tank mixed with insecticide and manganese foliar fertilizer.

We saw very limited yield response due to insecticide and manganese foliar fertilizer. These products are very effective if there is insect pressure or a manganese deficiency. In 2014 at the Sandusky County location, we saw a yield response to manganese foliar fertilizer. The Sandusky County location had the lowest soil organic matter (2%) and highest sand content (approximately 60%). The lower organic matter and higher sand content can help explain the yield response to manganese foliar fertilizer at that location. ♦

acre) when fungicide was omitted from the enhanced system (Table 1). In 2014 at the Clinton and Wayne County locations, we saw statistically significant yield decreases (5.3 to 10.5 bushels/acre) when fungicide was omitted from the enhanced system (Table 2). We saw no yield reductions when insecticide and manganese foliar fertilizer were omitted from the enhanced system in 2013. The omission of insecticide and manganese foliar fertilizer from the enhanced system reduced yield at one location in 2014. With 16 site-years of data, we saw the omission of fungicide reduce soybean yield 29% of the time. Omission of insecticide and manganese foliar fertilizer reduced yield 6% of the time. Also, it is important to note during 2013 and 2014, brown spot and/or frogeye leaf spot were present at the R5 (beginning seed) growth stage in locations with the yield responses. No aphids were observed and there was limited pressure from bean leaf beetle during both years of the study.

Table 2. Change in soybean yield when inputs are omitted from the enhanced system and added to the traditional system, 2014.

| | Clark | Clinton | Mercer | Preble | Sandusky | Wayne | Wood | Average |
|--------------------------|-------|---------|--------|--------|----------|--------|------|---------|
| ----- bushels/acre ----- | | | | | | | | |
| Enhanced (E) | 52.2 | 68.0 | 60.4 | 81.9 | 62.0 | 61.5 | 50.8 | 62.4 |
| E - Fungicide | +0.5 | -10.5 * | -3.1 | -1.3 | -5.5 | -5.3 * | 1.5 | -3.4 |
| E - Insecticide | +1.8 | -4.9 | -3.2 | -0.7 | -6.9 | -4.7 * | -0.1 | -2.7 |
| E - Manganese | -0.3 | +2.4 | -0.9 | +0.6 | -8.1 * | -0.9 | 0.0 | -1.0 |
| Traditional (T) | 51.9 | 64.3 | 53.9 | 82.6 | 55.5 | 60.8 | 47.8 | 59.5 |
| T + fungicide | +1.2 | +3.2 | +7.0 * | +1.9 | +3.7 | -0.7 | +3.2 | +2.8 |
| T + insecticide | +1.0 | +0.9 | +3.6 | +0.7 | -1.0 | -4.4 | +3.7 | +0.6 |
| T + Manganese | +0.7 | +2.1 | +0.7 | -2.8 | +0.1 | -3.4 | +2.0 | -0.1 |

*Asterisks denote statistically significant yield differences compared to the control (either the enhanced or traditional system).



High Oleic Soybeans' Value Goes Beyond Soybean Farmers

By Greta Erwin

United Soybean Board

ANYTIME a new product or service creates value for an entire industry, the odds of it succeeding increase exponentially. That's why high oleic soybeans are so exciting for the Ohio soybean industry – because they impact more people than just farmers. These varieties have benefits that extend to farmers, processors, food companies and industrial markets.

Commodity soybean oil lost a significant amount of market share due to trans-fat labeling, but high oleic soybean oil avoids trans fats because it doesn't need partial hydrogenation. High oleic soybeans can help increase soybean oil demand and reclaim lost markets for farmers, but the value doesn't stop there.

Benefits for Farmers

Farmers face crop decisions each year with the profitability of their businesses in mind. With high oleic soybeans, farmers see proven performance alongside higher value, which adds up to profit opportunities.

Dale Profit, a soybean farmer from Van Wert, Ohio and a volunteer director for the United Soybean Board and Ohio Soybean Council, is a big supporter of high oleic soybean adoption because it brings profitability for the entire industry. He says farmers

will directly feel the benefits of increased demand because the oil from high oleic soybean varieties offers an improved option for many food and industrial users. This strong market demand will help farmers recapture lost soybean oil markets.

"High oleic soybeans are expanding the possibilities for soybean farmers," said Profit. "I have been pleased with the performance of my high oleic soybeans too."

High oleic soybean varieties pack a performance punch because they yield on par with current varieties and come with the agronomic and disease packages farmers expect. By combining that performance with increased demand and adding a processor-paid incentive, high oleic soybeans result in a major opportunity for U.S. soybean farmers.

Benefits for Processors

Oil processors are also excited about the opportunities with high oleic soybean oil as it allows them to expand their oil portfolio to serve even more customers. Processors need to provide their oil customers, typically large and mid-sized food companies, with products that fit their needs. High oleic soybean oil will provide these customers with an oil that has an enhanced nutritional profile and increased heat stability which are qualities customers desire.

"Soybean usage for food has diminished in the United States with the declining use

of partial hydrogenation" said Don Wyss, Commercial Manager with Bunge. "High oleic soybeans offer processors a product that allows us to run our crushing plants and introduce a new soy oil which helps fill in the gap left by the absence of partially hydrogenated oils."

Additionally, most oil processors and other delivery locations can handle high oleic soybeans within their current infrastructure. Because high oleic soybeans have easier handling procedures for both farmers and processors, they offer a nice value-add oil for processors to include in their portfolio.

Benefits for Food Companies

Food companies are ready to use soybean oil that has superior oil functionality and stability. Because U.S. consumers prefer the neutral taste of soybean oil, many food companies and restaurants used soybean oil in the past but switched to other oils to comply with regulatory pressure. They are comfortable with soybean oil and the resulting products, so high oleic soybean oil is exciting for them.

"High oleic soybean oil is a liquid system that is easy to pour directly into the fryer," said Wyss. "It's high in heart healthy mono unsaturated fats and provides the great taste of soy that their customers have grown up with."

High oleic soybean oil will compete with the oils currently being used, including

2006

4 BILLION POUNDS OF ANNUAL OIL DEMAND LOST TO OTHER VEGETABLE OILS

As food manufacturers and restaurant chains sought healthier product options with the advent of trans fat labeling, soybean farmers lost market share to other vegetable oils.

2014

INNOVATION THAT GROWS

The soybean industry launches **HIGH OLEIC SOYBEANS** to win back food markets that bake and fry in large quantities and provide higher heat stability for new industrial markets.

The combination of high oleic and commodity soybeans grows overall demand for soybean oil throughout the country.

When demand goes up for all soybean oil, the value of soybeans increases, helping add to the bottom lines of ALL soybean farmers.



2023

9 BILLION POUNDS OF OIL GAINED FROM NEW AND EXISTING MARKETS

46¢ MORE PER BUSHEL TO THE PRICE OF SOYBEANS

Meeting the industry goal of 18 million acres of high oleic soybeans, ALL U.S. soybean farmers earn an additional 46 cents per bushel from increased demand for soybean oil.

canola, palm, sunflower and others, because the soy industry can provide a high volume of high oleic oil at a relatively low cost. Additionally, the companies will be able to source the oil from the United States, which can eliminate a number of transportation problems.

“High oleic soybean oil is a premium high stability product,” said John Jansen, Senior VP of Product Management with Bunge. “It will fry two or three times longer with proper filtering when compared to a commodity soybean oil. The frying kettle

also cleans easier and develops less residue buildup because of the reduction in 18:2 fatty acids.”

Benefits for Industrial Markets

Some of the same properties that make high oleic soybean oil attractive to food companies make it attractive to industrial-products manufacturers as well. High oleic soybean oil’s high-heat functionality and stability allows it to enter into markets that commodity soybean oil cannot. It can be used by industrial manufacturers to make

synthetic motor oil, lubricants and many other items. High oleic soybean oil can compete with petroleum-based products on performance and price, as well as the added benefit of being renewable.

“High oleic soybean is a very stable oil naturally, it’s high mono content and lower saturated fat levels lead to longer life and a better pour point at colder temperatures,” said Jansen. “This leads to higher viscosity and better lubrication for hydraulic fluids, cutting oils and even engine oil.”

While the main market for high oleic soybeans will be the food industry, farmers are excited for soy to be able to further tap into this new market.

Three Things to Explore about High Oleic Soybeans

A new website from the soy checkoff, SoyInnovation.com, helps farmers discover the benefits and profit potential of high oleic soybeans. Find answers to your questions about how you can expect high oleic varieties to perform in your field, how easy it will be for you to market the soybeans, as well as other key information for making the switch to this new profit opportunity.

Here are three things you should check out on SoyInnovation.com.

1. **Performance:** Learn what on-farm benefits high oleic varieties offer, including

their comparable agronomic packages and yield. And hear from current farmers who share testimonials about their first-hand experience raising high oleic varieties.

2. **Profitability:** A soybean calculator tool allows you to anonymously enter production information specific to your operation and see how much high oleic could be worth for you.

3. **Location, location, location:** A zip code tool maps out local high oleic delivery options. See how availability of high oleic varieties is expected to increase on the availability map.

Realizing these Benefits

The entire soy value chain can see some very real benefits from high oleic soybeans. To capitalize on any one of these, farmers must first grow high oleic soybean varieties.

“If the industry reaches its 2023 goal, we will have simpler, improved oil that helps farmers, customers and processors—it’s a long industry chain that benefits,” concluded Profit.

To learn more about growing high oleic and raising profitability, farmers should reach out to their local seed rep or visit www.soyinnovation.com. ♦

Warm Up This Winter with Soy



Soy Turkey Chili Recipe

Ingredients

- 3 cups Boiling water
- 2 cups Texturized soy protein (TSP)
- 2 pounds Ground turkey breast
- 3 cups Onions, chopped
- 3 cups Green peppers, chopped
- 1 tablespoon Garlic, minced
- 1 tablespoon Soybean oil (vegetable oil)
- 10 ounces Canned diced tomatoes, including liquid
- 1 1/2 U.S. liquid quarts Canned tomato sauce
- 4 ounces Canned green chilies, diced (1/2 cup)
- 1/3 cup Chili powder
- 2 teaspoons Salt
- 1 tablespoon Jalapeno peppers, minced
- 3 U.S. liquid quarts Water

Instructions

In a large bowl, pour boiling water over soy protein.

In a 14-quart pot, sauté turkey, onions, peppers and garlic in oil over medium high heat until turkey is no longer pink.

Add rehydrated soy protein and remaining ingredients. Bring to a boil; reduce heat and simmer uncovered for 45 minutes.

Serve with assorted condiments such as shredded lowfat Cheddar cheese, yogurt, sour cream or minced onion.

Makes 24 servings.

Soy Soft Tacos Recipe

Ingredients

- 1 1/2 cups Boiling water
- 2 cups Texturized soy protein (TSP)
- 1 pound Lean ground beef
- 1 cup Onions, chopped
- 1 tablespoon Soybean oil (vegetable oil)
- 2 cups Tomato sauce
- 1 cup Canned diced green chilies
- 1 tablespoon Chili powder
- 2 teaspoons Garlic salt
- 1/2 teaspoon Ground pepper
- 24 Tortillas
- 1 1/2 U.S. liquid quarts Shredded lettuce
- 3 cups Fresh tomatoes, diced
- 3 cups Lowfat cheddar cheese
- 1 1/2 U.S. liquid quarts Salsa, prepared



Instructions

Pour boiling water over TSP.

Sauté ground beef and onion in oil until beef is no longer pink. Add rehydrated TSP, tomato sauce, green chilies, chili powder, garlic salt and pepper; mix well. Bring mixture to boil, reduce heat and simmer 15 minutes.

Prepare each serving as ordered. Wrap tortilla in clean towel and microwave at HIGH (100% power) 20 to 25 seconds. Place tortilla on serving plate, spoon 1/3 cup filling in center of each tortilla. Top with 1/4 cup shredded lettuce and 2 tablespoons each tomatoes and cheese. Fold in half. Serve with 2 oz. (1/4 cup) salsa.

Makes 24 tacos.



**GROW
NEXT GEN**

HERE'S A LITTLE HOMEWORK ASSIGNMENT FOR OHIO TEACHERS

Please review the content at GrowNextGen.org – a timely resource that helps students better connect science with high-demand career opportunities.

It contains more than 75 pieces of curricula, including e-learning courses, career videos and ways to share knowledge with other site users.

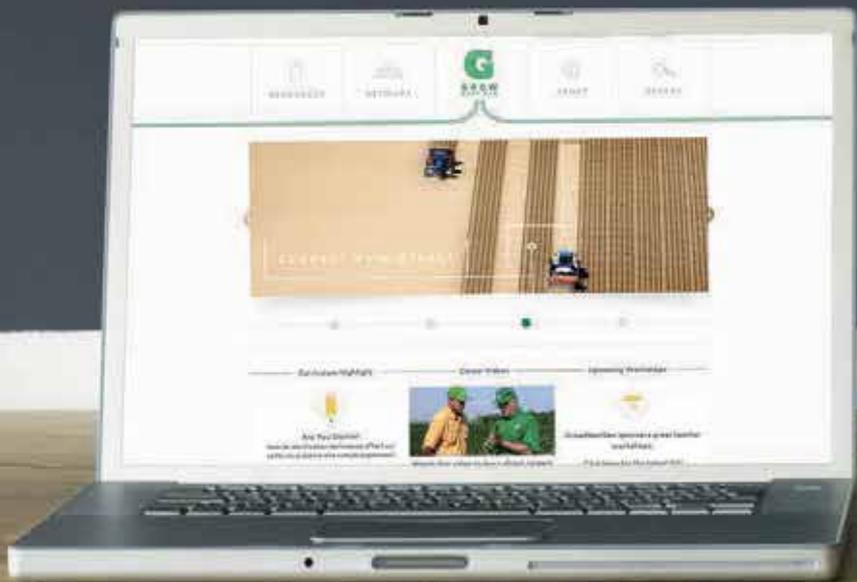
GrowNextGen.org is funded by Ohio soybean farmers with the goal of encouraging students to pursue careers related to agriculture, including:

BIOTECHNOLOGY

PLANT AND ANIMAL SCIENCE

ENVIRONMENTAL SCIENCE

ENGINEERING



OPEN UP YOUR LAPTOPS AND GO TO GROWNEXTGEN.ORG

Sponsored by Ohio soybean farmers and their checkoff.



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PROOF



“ I’ve literally planted 100,000 acres of LibertyLink® soybeans and have seen no yield drag. ”

The consistency and field performance are there. **I would put my Beck’s LibertyLink soybeans up against any Genuity® Roundup Ready 2 Yield® soybeans or any others out there.**

Liberty® herbicide is easy to use and **kills much faster than glyphosate.**



David Schrock
Schrock Farms



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