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Perspective



Jerry BambauerOhio Soybean Association Chairman
Auglaize County soybean farmer

A Letter From the Chairman

ain is a good thing, but too much can be a bad thing. Since we've seen more rain than average in certain parts of the state, soybean diseases may be widespread this year. The Ohio Soybean Council (OSC) offers a Soybean Rewards program to provide Ohio soybean farmers information, research and other resources about yields, premium opportunities, new varieties and disease and pest management. Visit www.soybeanrewards.org for helpful tips to managing soybean diseases that may have popped up this spring as a result of too much rainfall.

The soybean industry saw a huge policy victory this past June as the Senate passed a bill extending Trade Promotion Authority (TPA) and sent it to President Barack Obama's desk. The TPA creates and strengthens international trade agreements and is considered a win for soybean farmers across the country. The TPA sets requirements for the President to follow during the negotiating process, and then requires Congress to approve or disapprove the agreement without amendments. This is the only way countries involved with potential agreements like the Trans-Pacific Partnership (TPP) and the Transatlantic Trade and Investment Partnership (TTIP) will put their best offers on the table during negotiations.

The Senate's vote puts U.S. soybean farmers back in the game in terms of finalizing a Trans-Pacific Partnership that includes key export markets for U.S. soybeans and meats, as well as the developing markets that are continuing to grow their demand for soybeans.

The U.S. exports around 60 percent of the soybeans grown here, which creates demand and also creates jobs and economic development. Ohio is home to several companies that sell and transport soybeans overseas so this bill directly supports Ohio soybean farmers.

Hope you have a safe and productive summer.

Sincerely,



Jerry Bambauer OSA Chairman



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NO MATTER HOW YOU SLICE IT, WE'RE RAISING DEMAND FOR YOUR BEANS.

From promoting biodiesel that's used in city busses and home heating fuel, to feeding livestock halfway around the world, the Ohio Soybean Council (OSC) is laser focused on investing your checkoff dollars wisely. We're creating demand for soybean products that didn't even exist 10 years ago and raising soybean profitability in the process.

\$15 BILLION INCREASE IN SOYBEAN OIL REVENUES BETWEEN 2006 AND 2012 BECAUSE OF BIODIESEL.

Total gallons of biodiesel produced from soybeans in 2013 hit a record 2 billion. Over this same time period, the value of soybeans increased by 74 cents per bushel.

2 BILLION **GALLONS IN 2013**



International Energy Agency data shows global biofuels production has cut consumption of crude oil by 1 million barrels a day, offering savings of \$120 million a day.

BIODIESEL GENERATES AT LEAST \$3 BILLION FOR THE U.S. ECONOMY RATHER THAN SPENDING ON FOREIGN OIL.

750,000 LBS. OF HIGH-OLEIC SOYBEAN OIL

CONVERTED INTO OLEIC ACID AND OTHER PRODUCTS. AN OSC STUDY WITH EMERY OLEOCHEMICALS SHOWED THAT HIGH-OLEIC SOYBEAN OIL CAN BE USED NOT ONLY FOR FOOD-GRADE PURPOSES, BUT ALSO FOR INDUSTRIAL USES, FOR EXAMPLE, A SOY-BASED POLYMER THAT CAN

REPLACE UP TO 40% OF THE PETROLEUM USED IN PLASTICS.

NEW EXPORT MARKETS

Over the years, OSC has developed partnerships in at least 10 countries. Korea, Taiwan, Japan, China and Mexico are among the countries who look to Ohio soybean farmers for both high-quality, food-grade soybeans as well as soybean meal for livestock.

THE OHIO SOYBEAN CHECKOFF

supported soybean and product prices by an average of 5% ABOVE what they would have been without the checkoff. • Boosted the level of soybean, soybean meal and soy oil exports by 5%, 15% and 24%, respectively. • Reduced the severity of market downturns in bad years and added growth and profitability in good years.

UP 5% *****

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.





Apply for the

ASA DuPont Young Leader Program

today!

- Gain knowledge to help advance the soybean industry
- Learn to communicate and influence on important issues more effectively
- Connect with farmers from other states and Canada

The ASA DuPont Young Leader Program is a two-phase educational program for actively farming couples or individuals 21 years or older. Spouses who attend are active participants in the program.

Phase I: December 1-4, 2015

DuPont Pioneer Headquarters

Johnston, Iowa

Phase II: March 1 – 4, 2016 New Orleans, Louisiana

Held in Conjunction with Commodity Classic

"The knowledge gained from the ASA DuPont Young Leader Program can directly be applied to make your operation more effective. Along with all of the information gained from the program, you make lifelong friends. The relationships that have come out of this program are priceless."

Quint & Leah Pottinger, KY

For More Information and to Apply
https://soygrowers.com/learn/
young-leader-program/









Building Membership and Grassroots Advocacy



An Alliance for Ohio Soybean Farmers

The **Ohio Soybean Council** and the **Ohio Soybean Association** are two distinct organizations that work together to ensure a profitable industry for Ohio soybean farmers.



The Ohio Soybean Council (OSC) manages the soybean checkoff. Your checkoff funds help drive demand and boost your bottom line through research, promotion and education.

On average, for every dollar the checkoff invests, you see a \$6.40 return on investment.

Nationwide, the checkoff plans to invest over \$9 million in research aimed at increasing yields to 59.5 bushels per acre by 2030.

OSC invests in the following areas:

- Soybean Research
- Soy-based Products/Technologies
- · Animal Agriculture
- Global Utilization
- · Critical Infrastructure
- Sustainability

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- ► Twitter.com/ohiosoycouncil
- Subscribe to the Ohio Soybean Council e-News letter. Visit **soyohio.org**



The Ohio Soybean Association (OSA) is a grassroots, membership organization. Because the soybean checkoff is prohibited by law from lobbying, OSA works to ensure that sound policies are in place to enhance the future of soybean farming. We work together to positively impact regulatory and legislative issues on a local, state and national level.

Are these issues affecting your operation?

- Farm Bill
- Water Quality/Nutrient Management
- Crop Insurance Concerns
- Transportation
- EPA Regulatory Oversight
- · Foreign and Domestic Market access

When our membership grows, so does your voice in Columbus and Washington, D.C. Join today: www.soyohio.org/membership

Connect with us

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Subscribe to the Ohio Soybean Association e-News for policy updates and more. Visit soyohio.org



HOT OFF THE PRESS: PEST MANAGEMENT TIPS FOR 2015

GETTING INFORMATION FROM RESEARCHERS TO SOYBEAN FARMERS IS THE GOAL OF SOYBEAN REWARDS. THROUGHOUT THE YEAR, SOYBEAN REWARDS PROVIDES INFORMATION ABOUT THE LATEST TECHNOLOGIES, TRENDS AND RESEARCH SO THAT YOU CAN MAKE THE BEST DECISIONS ON YOUR FARM TO IMPROVE YIELDS, QUALITY AND PROFITABILITY. WHETHER IT IS A NEW SOYBEAN VARIETY OR DISEASE AND PEST CONTROL RECOMMENDATIONS, BE ON THE LOOKOUT FOR SOYBEAN REWARDS ARTICLES AND COMMUNICATIONS TO HELP YOU STAY ONE STEP AHEAD.

MANAGING SOYBEAN PESTS IN 2015 (2) (2) (2)

- 1) COLD WEATHER: The cold weather last winter did not necessarily knock out all soybean insects. Some, like soybean aphids, are quite capable of surviving outdoors as eggs or even indoors, like the brown marmorated stink bug.
- 2) SLUGS: Not technically insects, they are one of the most devastating early-season pests. A rainy spring will favor slug development.
- 3) EARLY-SEASON BEAN LEAF BEETLE: Bean leaf beetles are common early-season defoliators, although economic damage is rare. If your field emerges early and your soybeans are stressed, you may need a rescue treatment to prevent damage.
- 4.) KUDZU BUG: This invasive pest is commonly found in the southeastern U.S. and is on the march toward Ohio. It may appear this year in vegetative stage soybeans.
- TWOSPOTTED SPIDER MITES: Some weather models predict a drier than normal summer, which increases the risk of spider mites. Monitoring for yellowing or bronzing of soybean leaves on field edges is the best way to catch a mite problem early.

For the rest of this list, please go to soybeanrewards.org or for more information, please contact Dr. Andy Michel at michel.70@osu.edu.



FOR FALL HERBICIDE APPLICATIONS

- The best time to spray is anytime between after harvest and Thanksgiving. Dr. Mark Loux from The Ohio State University observes that he has even applied into late December and still had good weed control. Once hard freezes start to occur, there is usually a substantial change in the condition of certain weeds, such as dandelion and thistle, that renders them less sensitive to herbicides.
- Regardless of even heavy residue left on the fields, herbicides still seem to work. However, it doesn't hurt to wait a while after harvest to let the residue settle down and the weeds to poke through.
- Don't overthink fall weed control or spend a ton of money. Keep in mind the primary goal is control of already-emerged weeds. This is hard to accomplish with a single herbicide, but there are a number of relatively low cost, two-way mixtures that easily achieve this goal.
- There is no advantage to using residual herbicides because almost all of them deteriorate over the winter and fail to provide any control of spring-emerging weeds. Research has repeatedly shown that applying residual herbicides in the fall to get control in spring is a waste of money.
- It doesn't take a lot of herbicide to control weeds in fall, just the right ones. Consider that fall treatments should comprise no more than about 25 percent of your total herbicide budget, and it can often be accomplished for even less than that.

For the rest of this list, please go to soybeanrewards.org or for more information, please contact Mark Loux at loux.1@osu.edu.





SOY TALK

A new era of weed control is here

The Enlist™ Weed Control System is an advanced herbicide and trait system that delivers exceptional weed control.

Dave Hillger, PhD, an Enlist field specialist with Dow AgroSciences, offers a closer look at the system: Enlist traits, Enlist Duo™ herbicide with Colex-D™ Technology and the Enlist™ Ahead management resource.

Enlist traits in elite soybean varieties

Enlist traits give soybeans tolerance to Enlist Duo herbicide, a proprietary blend of new 2,4-D choline and glyphosate. In addition, Enlist soybeans and Enlist E3™ soybeans offer more weed control options in one convenient system, including tolerance to glufosinate herbicides.

In future seasons, Enlist soybeans will be available in elite varieties from Mycogen Seeds. As always, yield performance remains the primary focus for all new products. Dow AgroSciences has many years of yield data showing no yield penalty associated with Enlist™ traits.

Proven performance of Enlist Duo herbicide

The two modes of action in Enlist Duo work within a program approach to deliver season-long weed control and help prevent weed resistance. Growers can maximize yields by eliminating nutrient-robbing weeds from their fields.

The innovations introduced with Colex-D™ Technology help growers and applicators address challenges beyond controlling tough weeds. This powerful new herbicide offers four key benefits – ultra-low volatility, minimized potential for physical drift, low odor and improved handling characteristics.

The drift reduction from Colex-D Technology combines with low-drift nozzles to cut drift by as much as 90 percent compared with a tank mix of traditional 2,4-D and glyphosate. In addition, near-zero volatility — up to 96 percent less than traditional 2,4-D — helps keep Enlist Duo $^{\rm M}$ in place to improve control.

Enlist Aheads helps manage and prevent resistance

The system also includes Enlist Ahead, a benefits-based management resource to help growers and applicators get the best results from the Enlist system — today and in the future.

"Ultimately, the Enlist system is going to offer growers peace of mind and a great weed management package to maximize yield potential," says Hillger.

Brought to you by:



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U.S. Soybean Market Hopeful for Increased Trade with Cuba

fter more than half a century, things are warming up between the United States and Cuba. While the island nation is located just 90 miles from the shores of Florida, an embargo was enacted more than 50 years ago in hopes of bringing change to the nation's communist regime.

Legislation introduced earlier this year, combined with President Obama's removal of Cuba's designation as a State Sponsor of Terrorism, initiated the process of removing some of the regulations and red tape that surround trade with Cuba.

Generally, the embargo aimed to completely cut ties, putting extreme restrictions on travel, commerce and sharing information. The U.S. agriculture industry was afforded some opportunity with inclusion in the Trade Sanctions Reform and Export Enhancement Act passed by Congress in 2000. The act allowed food and agricultural products to be exported to Cuba on a cash only basis, making Cuba a regular large consumer of U.S. soy oil.

However, in recent years, Cuba's consumption of U.S. soy has declined with no clear reason. With the shift in both the market and legislation, the U.S. Soybean Export Council (USSEC) has decided it is time to further their exploration of the Cuban markets and determine additional opportunities in both first hand and second hand consumption of soybeans and related products.

"Soybeans are an extraordinarily useful commodity," said Jeff Roehm, Ohio Soybean Association (OSA) Vice President and soybean farmer from Highland County. "USSEC does a great job of encouraging the use of not only soybeans, but the long list of products derived from soybean oil and the high nutritional value of soy in livestock diets."

USSEC is hopeful to find new market share in the food industry as well as prospective markets for U.S. soy oil and meal targeting human consumption along with animal nutrition.

Opening trade with Cuba will be a lengthy process, as there are still considerable limitations in existing foreign trade and marketing policies — including that no soybean checkoff funds may be used to administer the project. Even so, small changes in legislation will open up new chances to capture a market which may have previously not taken notice of the true value of U.S. soybeans.

*Article provided by the American Soybean Association







Wood County Brothers Named Beck's Young Farm Leaders

eciding on a career can be a daunting task for many young people, but for Andy and Brian Stickel, there was hardly a second thought. Agriculture is ingrained into their way of life and they are grateful for those who have paved the way before them. Their pay-it-forward

mentality is what drives them to step up and take on responsibilities in the industry and in their community.

It has also earned them the honor of being named Beck's Young Farm Leaders, a program that showcases young people in agriculture who are actively engaged in their communities and the industry.

"At Beck's, we know the future of agriculture is the hands of young farmers like the Stickels," said Bruce Kettler, Director of Public Relations at Beck's Hybrids. "We

are excited to recognize their efforts to step in to leadership roles because they understand the importance of being engaged and leading the industry."

The brothers have been farming as long as they can remember, but made the official decision to return to the farm after college with Brian graduating from The Ohio State University in 2011 and Andy returning

from Kansas State with a master's degree in 2012. They now operate and manage the family farm alongside their parents growing a combination of soybeans, corn, wheat, tomatoes and alfalfa with a cow/calf operation, feeder cattle and custom baling keeping them busy in between.

Beef Brand as an Ohio Proud product. With all of their endeavors, they strive to implement practices that allow them to improve efficiency and be good stewards of the environment.

"This year we seeded rye by flying it on standing cornstalks and our acres are all no-till. The last few years we've started



Their business fills many niche market opportunities with non-GMO and food grade soybean varieties that reach international markets and allow them to appreciate the need for Ohio and the United States to do business on a global scale. With a similar niche market focus, their cattle are marketed under the Ohio Signature

Stickel Brothers: Brian (left) & Andy Stickel hope to continue growing their operation and stay involved in the industry as the fourth generation on their family's farm.

banding all of our fertilizer. It goes about two inches into the ground with 15inch centers and we plant our beans in 15-inch rows between the bands," said Brian. "We notice more consistency with yields and we gain efficiency by having the fertilizer more readily available and not tied up in the soil."

They believe in the importance of education, not only for themselves keeping up with new technology and research in the agricultural industry, but also the importance of educating consumers and policy makers who might not understand all the intricacies of farming.

"You see a lot of companies wanting to remove GMOs, we need to help people become more educated on the topic and make decisions for themselves. We try to be transparent, there are many ways to do things and in the end we just want to produce a safe wholesome product for consumers," said Andy.

Their family farm has welcomed the opportunity to be part of a county agriculture tour, bringing area CEOs, managers and elected officials on the farm to see their side of the industry and help answer questions that might be surrounding new policies and regulations being considered.

"We're involved in the community and I serve on the Ohio Soybean Association Board," said Andy. "We think it's important to represent our farm, ourselves and our community in the right way and our organization serves as the voice to make sure things happening with policy in Columbus or D.C. are in the best interest of those on the farm."

Brian serves on the Wood County Farm Bureau Board and their township zoning committee. He knows sometimes the decisions they make affect a lot of people and they have to look at what's best for everyone involved.

Looking to the future, there is no slowing down, the brothers hope to grow the operation and continue to diligently look for opportunities to improve their efficiency and stewardship of the land.

"We do it because we love it. Watching things grow and producing a crop is something we can be proud of and we know we're carrying on a tradition. We also hope we're doing things right for the next generation to ensure there is a bright future for agriculture," said Andy.

"We're happy to honor Andy & Brian as Beck's Young Farm Leaders," said Tommie Price, Ohio Soybean Association (OSA) president and soybean farmer from Putnam County. "OSA advocates on behalf of Ohio soybean farmers and it's great to see young leaders getting involved in that process. Engaged farmers like Andy and Brian will help keep our industry strong for years to come. OSA encourages other farmers to apply or nominate someone for the Beck's Young Farm Leader program to continue to showcase Ohio's young farmers."

2015 Beck's Young Farm Leader Program

One farmer each quarter will be chosen by a selection committee consisting of OSA and Beck's Hybrids representatives. One of the Beck's Young Farm Leaders will be selected as the 2015 Beck's Young Farm Leader of the Year and receive a trip for two (\$2,000 value) to the 2016 Commodity Classic in New Orleans, Louisiana. Visit www.soyohio.org/becksyoungfarmleader for details.

Program Deadlines:

July 29, 2015: 3rd Quarter Applications Due October 5, 2015: 4th Quarter Applications Due

Application Guidelines:

- Growers must be between the ages of 21 and 45.
- Any soybean grower may apply for the program; selected participants are required to have a current Ohio Soybean Association membership
- Applicants are not required to grow Beck's Hybrids products to be eligible to win.
- Applicants should demonstrate an interest in pursuing leadership roles within the soybean industry.





Soy-based Solution for BPA Free

PA Free." Health conscious consumers considered it a victory when the simple phrase began popping up on packaging as they believed it was a change for the better. Recent studies show the effort behind the movement may have raised awareness, but the Bisphenol A (BPA) replacements may not be any safer. Information surrounding the consumer concerns and the opportunity to develop a new product to meet a market demand led to a project

exists, is that it may leach into food and drink stored or sold in the containers and could result in adverse health effects if high enough levels are reached.

The manufacturing industry responded by switching to BPS and BPF (Bisphenol S and F), satisfying many consumer concerns until research began to show BPS and BPF share a similar structure and behave much like BPA — potentially harboring the same health concerns.



for the Ohio Soybean Council (OSC) and researchers at Battelle resulting in a soy-based BPA free coating for interior can coatings and other industrial coating applications. The coating market for just metal beverages is \$30 billion and most of the metal coatings are BPA-based.

BPA, a petroleum-based chemical, has been used in the manufacturing of many household products since the 1960s, commonly found in plastic bottles, plastic food storage containers and the lining of tin food cans. The concern with BPA, although much conflicting research

Research results aside, consumers are looking for products with ingredients and packaging they feel are safe for their families and themselves. This means companies are looking for packaging solutions that meet their performance demands while providing consumers with a product that brings them a comfort level for food safety and satisfies concern about its effects on human health.

OSC and Battelle thought the list of demands would line up just right with the profile of a soy-based product. A soy coating can provide the same packaging and performance qualities while being a bio-based alternative to the petroleum derived chemicals it replaces.

"Between the consumer need for a replacement BPA coatings and the market size, OSC decided to reach out to Dr. Ram Lalgudi, a senior research scientist at Battelle, to develop a soy-based BPA free coating to fill these needs and increase demand for soybeans," said Gretchen Mossbarger, OSC board member and soybean farmer from Ross County.

Dr. Ram Lalgudi has played a key role in the research and development of this technology which was selected as one of ten new technologies to compete in an innovation pitch in the Netherlands earlier this year, helping to solidify its potential for success.

"Properties that are very important within this industrial coatings market are corrosion resistance and chemical resistance," said Barry McGraw, OSC's Director of Product Development and Commercialization. "Those are the properties we had to compete with, a new product couldn't just be BPA free, it has to perform just as well as BPA."

In addition to its use as a can coating and in other food packaging, the soy-based coating can be used in anything that provides or needs corrosion resistance. This allows for even more opportunity in medical coating applications or materials that need a very thin coating to provide resistance to breakdown from chemicals or corrosion.

The BPA free coating technology is currently being made available for licensing through Redwood Innovations and holds the potential to ease consumer fears as a popular alternative to BPA coatings.

For more information on soy biobased products and technologies, visit www.soyohio.org. •



NGFA and STC to Host Ag Transportation Summit

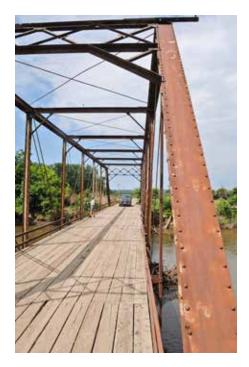
n August 4-5, the National Grain and Feed Association (NGFA) and the Soy Transportation Coalition (STC) will host the second Ag Transportation Summit: "Transportation Capacity — Overcoming the Challenges." The event, sponsored in part by the U.S. Department of Agriculture's Agricultural Marketing Service, will be held at the Westin O'Hare near Chicago. The inaugural summit occurred in July 2013.

"U.S. farmers continue to demonstrate an ability to feed a growing and hungry planet," said Scott Gauslow, a soybean farmer from Colfax, N.D., and chairman of the Soy Transportation Coalition. "However, in order to remain profitable, we must not only produce what customers demand but also be able to transport it to them in a cost-effective, reliable manner. Many aspects of our transportation system are not positioned to do so. These challenges must be addressed."

"This year's summit will focus on strategies and steps being taken to enhance capacity and efficiency within all transportation modes — highway, rail, barge and ports — to meet the continued, growing demand for moving freight to both domestic and export markets," said NGFA Chairman Gary Beachner, president and chief executive officer of Beachner Grain Co., Parsons, Kansas. "The U.S. transportation system remains a key competitive advantage for U.S. agriculture. But retaining that advantage requires a continued commitment and efforts by the leaders and stakeholders who will be part of this conference."

The goals of the summit are: 1.) To raise the awareness of the importance of transportation to the success and profitability of U.S. agriculture; 2.) To precipitate and motivate further action to promote a transportation infrastructure

that better serves the interests of U.S. agriculture; 3.) To provide a venue for advocates of U.S. agriculture to network and develop collaborations for the purpose of promoting the transportation needs of U.S. agriculture; and 4.) To build bridges between government and agricultural interests that will result in more effective promotion of agricultural transportation issues.



Confirmed speakers include key executives from most of the U.S. Class I railroads, including BNSF Railway, Union Pacific Railroad, CSX Transportation Co., Canadian National Railway; as well as the acting chairman of the federal Surface Transportation Board, Debra Miller, top officials from the American Trucking Associations and the National Retail Federation and the U.S. Chamber of Commerce. Invitations also have been extended to key members

of Congress, the U.S. Department of Agriculture, the grain industry and others to address the summit.

Specific topics and issues to be addressed during the summit include:

- Inland Waterways: The status of funding to upgrade locks and dams, and the potential timing of lock rehabilitation projects, as well as the significance of inland waterways to agriculture.
- Rail Transportation: Efforts underway by rail carriers to enhance capacity to serve growing freight demand from agriculture and other sectors. Performance of rail in transporting agricultural products. Trends in rail infrastructure investment.
- Surface Transportation: Challenges inherent in the current structure for funding improvements and maintenance of the highway system, as well as potential alternative financing arrangements. The status of potential changes to increase semi-truck weight limits, strategies for addressing the shortage of commercial truck drivers and hours-of-service restrictions.
- Ports: Productivity and reliability concerns confronting the nation's ports, needed investments and innovations at foreign ports.
- Panama Canal Expansion: An update on the status of the expansion project and its implications for agricultural trade and U.S. ports.

The day and a half event will begin at 8 a.m. on Tuesday, August 4, and conclude at noon on Wednesday, August 5. Those wishing to participate in the summit can register at www.soytransportation.org.

*Article provided by the Soy Transportation Coalition.



Late Summer is Time to Watch Insect Pressure

ultivating a successful crop while relying so heavily on the whims of the weather is an amazing feat in itself. Unfortunately weather is only one of the variables faced by soybean farmers who plant millions of seeds in the ground each spring in hopes there will be no interference in the growing season. In the late summer months, Ohio farmers need to be watching for tiny uninvited visitors who enjoy munching on their growing plants.

While slugs can be problematic in no-till fields with a wet spring, the majority of insect pests found in soybean fields in Ohio arrive in late July or early August. In the last 10 years, the soybean aphid has made a name with farmers and remains a top insect threat to soybean fields.

While it may be hard to imagine the tiny yellow aphid could have much of an impact on a fairly established plant, they are able to reproduce at amazing speeds. They are not a major concern until the population reaches levels that can have an impact on yields and in turn profit.

"If you have one adult aphid on a plant, by the end of the day you could have three small aphids. They reproduce that quickly," said Andy Michel, a state extension specialist in Field Crops Entomology at the Ohio Agricultural Research and Development Center (OARDC) in Wooster, Ohio.

"We have thresholds for soybean aphids; we recommend treating when populations reach 250 per plant. That can usually occur in mid-August. There are also some aphid resistant varieties, Ohio Soybean Council (OSC) and soybean checkoff has helped with

research on these, but there's not a lot of availability yet," said Michel.

They have also seen some patterns emerging with aphid populations seeming to be larger in odd numbered years, so producers may see an increased presence compared to last year.

As pods begin to fill out in August, stink bugs also make an appearance in Ohio soybean fields, including a newer invasive species — the brown marmorated stink bug. While finding a few of them in fields each year is not unusual, in the past three to four years Michel reports having fields every year that reach economic levels that should be treated.

"Stink bugs have a relatively low threshold of around two bugs per foot of row, which can be quite significant in a field," said Michel. "We recently had a field in Wooster with a stink bug presence and saw about a 30% yield loss in the field just from stink bugs."

Hotter and drier weather tends to encourage the stink bug population with 2012 seeing some rather significant numbers compared with other years.

Bean leaf beetles are another insect that frequently shows up in soybean fields. While they maintain a presence throughout most of the season, recent years have seen them feeding on pods as they begin to fill out.

"We've seen significant pod feeding in recent years, and with prices where they are, losing one or two seeds per plant can lead to a potential economic loss. They not only chew quite heavily on the pods, but the bite marks leave plants susceptible to pathogen outbreaks," said Michel.



Another pest on the radar at OARDC is the kudzu bug which was found in Georgia in 2009 and is currently being monitored for in Ohio with support from the Ohio soybean checkoff.

"A couple counties in Kentucky is as close as it is to Ohio. There is not a strong insect presence in southern



Ohio, but I know there are some kudzu patches. It likes kudzu, but later in the season it also feeds on soybeans. Wherever we see patches of kudzu, we run the risk of having high kudzu bug infestations," said Michel. "We'll be looking to see what the range is this year in June and July. The expansion so

far seems to be in the Gulf Coast and Mid-Atlantic states."

While there are likely some insects feeding on soybeans throughout the growing season, fields with good canopy closure and no stress factors should have an easy mid-season. Pest activity

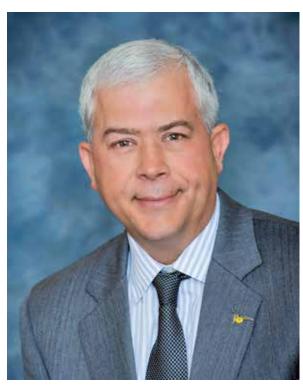
increases when the pods come on because the insects want the same thing producers do — a high quality soybean. Scouting fields and monitoring insect pressure as pods fill out will go a long way in making sure any unwanted visitors are dealt with before they impact yields. ◆



Ohio Soybean Farmer Recognized for Outstanding Water Stewardship

he sustainability of U.S. soy is an important factor for consumers both at home and abroad. In fact, conservation practices and sustainable measures are key to soy's marketability and the livelihood of the farmers who grow it.

In addition, protecting water is important, and a variety of farmmanagement techniques, including



Terry McClure, Ohio Soybean Council Vice Chairman was recently recognized by the United Soybean Board for Outstanding Water Stewardship.

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conservation tillage, nutrient management and technology improvements in seed and equipment, can improve water quality and conserve water use. Managing water has economic benefits, too. Tools such as precision-agriculture applications and soil tests help farmers apply the right amount of nutrients and chemicals for each field. This helps them reduce applications, improve water quality and boost profitability.

Realizing that water quality is a localized issue, the soybean checkoff

recognized four soybean farmers for outstanding water stewardship in their own communities. Among the farmers were Terry McClure, Ohio Soybean Council (OSC) Vice Chairman and soybean farmer from Paulding County.

Terry is committed to community involvement and proactive water management. He is an Ohio Nature Conservancy board member and volunteers his farm for research conducted to ensure he is maintaining the lowest levels of nutrient runoff on his operation. Terry is a member of Ohio Farm Bureau, Ohio Corn & Wheat Growers Association. Ohio Cattlemen's Association, Ohio Pork Producers Council and serves on the Board of

Trustees for Nationwide. Terry is a fifthgeneration farmer on both sides of the family. Along with his father, Terry's son Ryan has also joined the family farming operation that includes 4000 acres of corn, soybeans and wheat in northwest Ohio near Grover Hill. Since 2005, they have also served as contract growers, raising 8000 hogs for another farming operation.

"We sustain life in this country—in

the world really—on a thin sliver of productive top soil. Protecting that soil for the future is so important," said McClure. "There's too much value not to utilize the land and care for it the best ways we can."

Other farmers recognized for their environmental stewardship include:

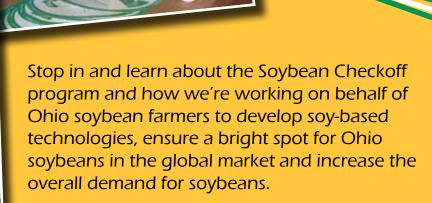
- Mike Starkey, Indiana Soil and Water Conservation District president and soybean farmer from Brownsburg, Indiana: Starkey continually searches for ways to fine-tune his cropping system and has implemented conservation tillage for 15 years. He farms near Indianapolis and works to prevent erosion and sediment in the urban water supply.
- Jimmy Thomas and family, soybean farmers from Timberlake, North Carolina: The Thomas family focuses on soil health and waterway maintenance. They use a variety of structures on the farm to direct water flow and filter runoff, including terraces, grass waterways, field borders and filter strips. The Thomases also keep an eye on the earthworm populations to monitor soil health on the operation.
- Hans Schmidt, Maryland
 Association of Soil Conservation
 Districts president, Maryland Soybean
 Board chairman and soybean farmer
 from Sudlersville, Maryland: Schmidt
 is an advocate for water quality among
 consumers. Schmidt hosts farm tours
 and invites key influencers, such as
 legislators and government delegates,
 to his farm so they can learn about the
 practices that many farmers employ to
 improve water quality. ◆

*Portions of this article provided by the United Soybean Board

OSC wants to see you at the Farm Science Review



The Ohio Soybean Council Building is #441 on Friday Avenue







Soybean Research Maximizing Checkoff Dollars

By Matt Reese, Ohio's Country Journal

hough it may seem counterproductive for one researcher to breed soybeans and another researcher to kill them, it is exactly this unique synergy of efforts that is taking place to benefit the profitability of Ohio soybean growers.

"I am a soybean breeder and geneticist so I aim to develop cultivars with a good profile of disease resistance as well as good yield and good quality traits. A lot of the cultivars we develop are for the food grade industry so they need high protein and large seed size," said Leah McHale, director the Ohio State University Soybean Breeding and Genetics Lab.

"Then I try to kill what she develops, literally," said Anne Dorrance, OSU Extension plant pathologist. "That is because we want it to grow in Ohio. Ohio has many soil types that are heavy clay and poorly drained so there are a plethora of problems. With that in mind, we screen for resistance in the lab trying to identify the lines that will hold up under Ohio's tough conditions. We need to grow varieties that can stand up to a whole season to get a high yield and a profit at the end of the season. Especially in the low price years, it is really important to get the highest yield, and that is what it is all about."

Though they work at opposite ends of the soybean life cycle, both McHale and Dorrance are funded by Ohio Soybean Council checkoff dollars to bring a better soybean seed to the market for farmers to plant in their fields. There is tremendous cooperation required for success — even across completely separate areas of study — for the development of soybean genetics with a strong disease package.

"We first have to identify what sources of resistance should be used. We have to identify where the starting point should be. The second part is that we go and develop these populations where we identify the genetic regions to find

The Ohio Soybean Council spends a significant amount of checkoff funding on research efforts to improve the bottom line of Ohio's soybean farmers.

> those markers that are associated with that source of resistance," Dorrance said. "That facilitates not only the breeding that goes on here at Ohio State but there are also companies using that information as well in the development of their own cultivars."

> In terms of the soybean breeding program at Ohio State, it has been a busy and successful year.

"We released four cultivars this year, which is the most that we have released in any year since I have been here," McHale said. "These came from disease screening that Anne had done. She screened hundreds of potential breeding lines for us and these four rose to the top as being the most resistant. They also have high yield and two of them are

for the food grade market so they have high protein and other traits that are important for tofu production.

"In our yield trials we do not always have the same disease pressure that you'd find on Ohio farms, that is where Anne comes in. We used to only send Anne the top yielding varieties for her to evaluate, but she was killing them all. Now we send her hundreds of lines and she goes through and screens all of

those for resistance. We pick the best ones."

The key diseases being studied in Dorrance's research include Phytophthora and Pythium.

"In a year we are individually inoculating an acre of plants one by one — that is 180,000 to 220,000 plants. There are multiple things coming out

of that effort," Dorrance said. "We are identifying sources of resistance for future varieties and finding markers associated with the genes so companies can use that to identify genetic regions that are controlling the resistance in their lines. We have multiple purposes for everything we are doing."

Though they work on different OSU campuses, McHale and Dorrance regularly talk to stay informed about what is happening in their separate labs.

"Everybody can't be an expert on everything so I take on the breeding and genetics part and Anne takes on the pathology part. We are happy to be experts in our own fields and to benefit from each other," McHale said. "We meet with each other regularly and work



together well. We even finish each other's sentences sometimes — I don't hold it against her for killing my plants."

It takes this kind of teamwork and joint efforts across a wide range of research fields to create a complete portfolio of research to enhance overall soybean profitability. With this in mind, the decisions about what research should be funded to maximize the return on investment of the soybean checkoff require careful consideration.

For more, visit the Soybean Rewards web page at **www.soybeanrewards.org.** Also, see the related video at **ocj.com** by searching for keywords "Soybean synergy."

OSU researchers Anne Dorrance and Leah McHale work together on different ends of the soybean life cycle to bring a better soybean seed to the field.

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Summer II 2015 Ohio Soybean News—21



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.

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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

THE RESIDENCE OF A STREET WHEN AND THE STREET WHEN

ENVIRONMENTAL SCIENCE

ENGINEERING

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Sponsored by Ohio soybean farmers and their checkoff.





OSC Talks Bioproducts at Columbus Home and Garden Show

ummer in Ohio is celebrated as a time to enjoy some fresh air, warm temps, open windows and the great outdoors. For many homeowners a vision of this begins in the spring and drives them to spruce up their homes with a little spring cleaning and perhaps take on a few home improvement projects to make their house and outdoor retreats more useful and enjoyable.

For ideas and motivation, this year thousands of people attended the 2015 Columbus Dispatch Spring Home and Garden Show at the Ohio Expo Center. The Ohio Soybean Council (OSC) was one of more than 350 vendors who brought displays, products and expert information to the make this year's show another success.

In an effort to promote the use of soy-based products, the display

on behalf of Ohio soybean farmers exposed consumers to a wide variety of products including cleaning supplies, candles, beauty products, outdoor home improvement supplies and much more. OSC's goal at the Home and Garden Show is to show consumers how versatile soybeans are and how soy-based products can be used inside the home, in the garage and out in the yard.

"OSC was excited to meet with and educate consumers while creating a demand for soy-based products," said Patrick Knouff, OSC Chairman and soybean farmer from Shelby County.

"We always look forward to occasions where we are able to engage with consumers in a positive way."

To encourage use, more than 1,500 samples of cleaning products, crayons, craft paint, paint stripper, degreaser, wood and concrete stain,

and stainless steel cleaner — all of which contain soy — were handed out to those who visited the OSC booth. With the samples serving as a conversation starter, many consumers were educated about the ability of soy to replace petroleum in household products while growing a market for one of Ohio's top commodities.

Another item that attracted visitors was a couch from Broyhill Furniture which more than 800 attendees registered for a chance to win. Broyhill strives to use environmentally friendly materials for their products, which includes a soybased foam in their cushions.

Furthering outreach efforts, and a take away for consumers, were resources guides with directions to online resources and a pdf booklet offering details on a variety of soy-based products available.



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