



CHECKPOINT²⁰¹⁷

PENNSYLVANIA SOYBEAN BOARD FISCAL YEAR **2017 ANNUAL REPORT**

THE SOYBEAN CHECKOFF AT WORK

NOMINATIONS TO THE PENNSYLVANIA SOYBEAN BOARD OF DIRECTORS

The Pennsylvania Soybean Board is currently accepting nominations of individuals within the Commonwealth who would be willing to serve on the Board of Directors. To be considered for the Board, you must raise soybeans in the State and have the time and talent to offer your expertise in support of the soybean farmers and the soybean industry.

If you, or someone you know, is interested in being nominated to serve as a farmer/leader on the Board, contact Jennifer Reed-Harry at 717-651-5922 or jrharry@pasoybean.org. Diversity in age, sex, race, geographic location, and size of operation is encouraged on the Board.

The Pennsylvania Soybean Board (PSB) consists of a farmer-driven board responsible for managing Pennsylvania's share of funds received from the national soy checkoff program. The Board's mission is to invest soybean checkoff resources to advance soybeans in the Commonwealth, enhance sustainability, and provide opportunities for Pennsylvania Soybean Growers.

The ten Pennsylvania soybean farmer-directors who make up the Board are responsible for the collection and administration of the soybean checkoff program within the State. The authority given to PSB under the Federal Act and Order are specific to soybean education, promotion, communication and research. Two members of the PSB also represent Pennsylvania growers on the United Soybean Board.



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CHECKOFF WORKS TO BUILD PREFERENCE FOR U.S. SOY

The U.S. soybean industry is turning a corner. This year, soy acres closed in on corn acres, narrowing the gap between the two crops. The booming supply of soy was a topic of discussion at the United Soybean Board in Fiscal Year 2017 – as is the need for continued strong demand.

Conversations are shifting from increasing volume to maximizing value to set farmers up for long-term profitability.

As USDA reports a record high of 89.5 million planted acres, the farmer-leaders who administer the checkoff are investing checkoff dollars both inside the bean to improve

the meal and oil, and beyond the bean to meet evolving end-user demands sustainably. Continuous improvement in U.S. soy keeps preference strong.

Finding, launching and leveraging profit opportunities for all U.S. soybean farmers is a constantly evolving mission for United Soybean Board in order to maximize value for U.S. soy and maximize profit opportunities for U.S. soybean farmers.

In terms of soybean meal, there's a growing interest by farmers in who is purchasing and using U.S. soy and how to meet their needs for a quality product through innovative

research and measurement.

For soybean oil, the Board looks to leverage rapidly expanding technologies, including high oleic, and to also diversify the investment portfolio through industrial uses. The Board also elevated the conversation on sustainability and tools to meet the needs of the future, including plant breeding innovations.

This portfolio of investments helps to maximize farmer profit opportunities long term.

U.S. soybean farmers and their checkoff are working toward the best of both worlds – quantity and quality—to get more value per acre returned to farmers.

Pennsylvania Soybean Board Officers

William Beam, Elverson, PA
Chairman

Michael Gerhart, Ephrata, PA
Vice Chairman

Steve Hykes, Greencastle, PA
Secretary/Treasurer

BOARD MEMBERS

Daryl Alger, Lebanon, PA
Brian Kreider, Lebanon, PA
Andy Fabin*, Indiana, PA
Emily Landis, Pennsylvania Furnace, PA
Dustin Kiefer, Rebuck, PA
Justin Knoebel, Elysburg, PA
John Harrell*, Lebanon, PA

Ex-Officio Members
Del Voight, Penn State Extension Educator

EXECUTIVE DIRECTOR

Jennifer Reed-Harry
jrharry@pasoybean.org
(717) 651-5922



* Also serves on United Soybean Board

PENNSYLVANIA SOYBEAN BOARD 2017 FISCAL YEAR

Oct. 1, 2016 – Sept. 30, 2017

INCOME

Carryover from FY '15-16 \$ 337,042

FY '16-17 Assessments \$1,050,000

TOTAL INCOME \$ 1,387,042

EXPENSES

50% of FY '16-17 Assessments to United Soybean Board \$ 524,873

Administration, Compliance, Audits, Insurance \$ 112,090

Communications \$ 58,187

Promotion/Education \$ 157,192

Research \$ 249,816

TOTAL EXPENSES \$ 1,102,158

CARRYOVER

Carryover available for FY '17-18 \$ 284,884

CHECKOFF FUNDED RESEARCH & EDUCATION PROJECTS

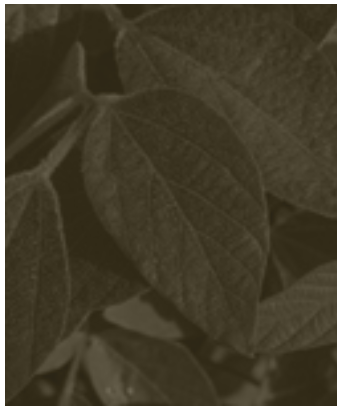
The Pennsylvania Soybean Board awards grants for research projects focusing on crop management practices that will directly impact the state's soybean producers.

Additionally, the Board provides research grants for projects related to education and market development, as well as projects in support of Pennsylvania's animal agriculture industry. Animal agriculture is the largest domestic user of soymeal and the largest sector of Pennsylvania's agricultural industry.

Research projects designed to provide reliable crop production data to soybean growers, to support Pennsylvania's animal agriculture industry, and to increase markets for soybeans were awarded checkoff grants in Fiscal Year 2017 by the Pennsylvania Soybean Board.



CROP PRODUCTION



SENTINEL PLOT PROGRAM – PENN STATE

The sentinel plot program is run in collaboration with Penn State Extension to provide soybean growers with statewide assessment of insects and diseases active in soybean fields. Soybean fields throughout the state were scouted weekly for insect pest and disease population.



HERBICIDE RESISTANT MARESTAIL AND HORSEWEED EDUCATION – PENN STATE

Glyphosate-resistant marestail and invasive pigweeds have become a significant pest management problem for no-till soybean producers in Pennsylvania. This project focuses on educating producers on best management practices for prevention and management of herbicide

resistant weeds, including proactive monitoring programs, use of herbicide programs that include multiple modes of action and adoption of integrated weed management strategies.

SOYBEAN VEIN NECROSIS - PENN STATE

Pennsylvania soybean production may be facing a new threat in “SNVaV” tospovirus, a viral disease that has been reported in most soybean growing states. The disease causes development of shriveled, deformed seeds with reduced germination percentage and decrease in oil percentage, seed weight, protein content and fiber content. This project will help understand the disease incidence, distribution and impact on crops.



INCREASING YIELDS & PROFITABILITY FOR MID-ATLANTIC DOUBLE CROP SOYBEAN - VIRGINIA TECH

In collaboration with Pennsylvania and other states in the region, this project coordinates research to help accelerate double crop soybean growth and yield by providing insight and data to support management recommendations for double crop soybean production.

PA ON-FARM NETWORK - PENN STATE

This on-farm product testing network, which was initiated in 2009, tests products and management practices on Pennsylvania farms with Pennsylvania growers. Additionally, dedicated soybean production meetings are held at various locations throughout the state, and research results were shared through crop meetings and online resources.



SOYBEAN VARIETY TRIALS - PENN STATE

Annual soybean variety trials are conducted at Penn State’s research farms in Lancaster and Centre Counties. Commercial varieties and experimental cultivars will be evaluated. The continuing search for higher yielding varieties, quality traits, the onset of new diseases and insects, and the new focus on value-added traits in the future is essential to soybean producers in Pennsylvania. 2017 marks the 26th consecutive year for the trials, which are designed to evaluate soybean varieties for their performance under Pennsylvania conditions.





NEW USES

MITIGATING ULCERATIVE COLITIS BY SOY FIBER SUPPLEMENTATION – PENN STATE

This research examines the colitis-related health effects of soy fiber by investigating the ability of soybean fiber to mitigate colon inflammation and oxidative stress. Such fiber from other sources have been found to have protective effects from inflammatory bowel disease.

ANIMAL AGRICULTURE



IMPACT OF HIGH OLEIC SOYBEANS ON MILK FAT AND RUMEN UPSET – PENN STATE

Soybeans are a valuable source of protein for dairy cow rations, but the inclusion of conventional whole roasted soybean is limited by the amount of polyunsaturated fatty acids in the ration. This

study focuses on the impact of high oleic soybeans, which have a more favorable fatty acid profile, as both a protein source and as a substitute for other oilseeds and fat supplements in dairy rations.

REDUCING CALF MORTALITY – PENN STATE

Coronaviruses (CoVs) are a major cause of diarrhea resulting in calf mortality. This research aims to isolate and characterize the genomes of CoVs from calves in Pennsylvania. The project also evaluates the benefits of all soybean plus corn ration compared to a mixed vegetable protein supplement plus corn in reducing calf diarrhea due to naturally occurring CoV.



AGRICULTURAL EDUCATION



PENN STATE CROP CONFERENCES

Pennsylvania soybean growers and other crop producers had the opportunity to learn about the latest crop management research and issues at Penn State Crop Conferences. Supported in part by the Pennsylvania Soybean Board, these sessions focus on current crop management issues important to the productivity of Pennsylvania farmers.



PENN STATE SOYBEAN PRODUCTION WORKSHOPS

Soybean Production Workshops are day-long workshops designed to teach soybean producers new integrated pest and cultural management practices covering the entire growing season, from planting to harvest. Support for the workshops is provided in part by the Pennsylvania Soybean Board through the soybean checkoff.



MOBILE AG LAB - FRIENDS OF AGRICULTURE

The Mobile Agriculture Education Science Lab program brings agriculture education directly to schools across Pennsylvania. Available to any school in Pennsylvania, the Mobile Ag Lab program provides

a fully equipped classroom on wheels where students in grades K-8 come to complete hands-on science experiments related to agriculture. Lessons directly related to soybeans are included in the curriculum.



LOOKING BEYOND YIELD

Farmers often look to yield first. But the future of profitability lies in meeting end-user composition needs. To this end, the checkoff is constantly working to increase U.S. soy's opportunities with end users. Through research, innovation and measurement, we're improving U.S. soybeans to meet end users' needs – from animal ag to the food industry to industrial uses.

U.S. soybean farmers aren't in the soybean business – or even the farming business. They're in the animal feed business and the

commercial baking business and the consumer goods business. So it's important to think beyond your field and consider your end-users' needs.

End users don't need soybeans. They need the protein and oil that come from soybeans.

The commodity soybean market is based on decades of well-established practices that reward high-volume, low-cost production, so farmers tend to focus almost exclusively on yield when making operational decisions. But the true value

to end users comes from what's inside the soybean; principally, its protein (as a proxy for essential amino acids) – representing approximately 65 percent of the value of the soybean – and oil, representing the other 35 percent.

New measurement technologies are now available to estimate the value of protein and oil when farmers deliver their soybeans, providing new opportunities to establish market signals to motivate everyone along the value chain to produce higher value soybeans, leading to benefits across the industry.

This is generally referred to as a Constituent Value (CV) system, or approaches to improving the overall value of U.S. soybeans.

This is especially critical when one considers soybean competition is increasing and protein levels are declining, potentially threatening U.S. soy's market share. U.S. growers are faced with a number of competitors, domestically and abroad. South America has grown substantially as a global supplier of soybeans. Consequently, remaining competitive requires the soybean industry to take advantage of new technologies to

advance compositional quality, convenience and sustainability.

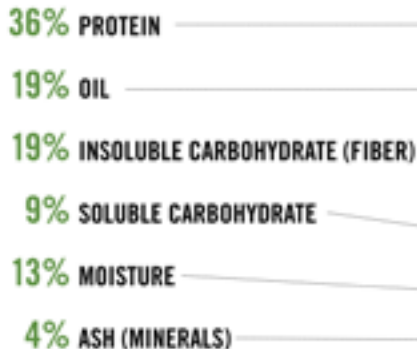
A great example of improving the competitive position of U.S. soybean oil is the development and current expansion of high oleic soybeans. Additional opportunities to improve competitiveness exist on the meal side of the equation.

The checkoff is leading efforts with the rest of the soy value chain to explore options to better meet customer demands for higher quality meal and oil. This could include implementing tools to better measure the oil

and meal quantity and quality, and compensating farmers based on the value they deliver.

With technology that measures the composition of soybeans constantly improving, the potential for soybeans – or more correctly, soybean meal and oil – is endless. Realizing any potential changes to the way soybeans are grown and marketed may seem like a long race, but the U.S. soybean industry, with support and leadership from the soy checkoff, will no doubt lead the way.

SOYBEAN COMPOSITION





IS THE COMMODITY CLASSIC VALUABLE?

YES!

The Commodity Classic is America's largest farmer-led, farmer-focused convention and trade show—unlike any other farm show in the country. When asked if there was value in attending the 2017 Commodity Classic, the PA Soybean Yield Contest winners answered with a resounding “Yes!”

For three days, some of the top cash crop farmers from across the country travel to the Commodity Classic to network and learn. Educational sessions are designed to help farmers get answers, information, ideas and inspiration for their operation. At the trade show, America's best ag companies showcase their newest technology,

equipment and innovation, and they bring their top people to talk with farmers one-on-one.

Tim Stewart, the Southeast Region winner, said the convention was fast-paced and three days wasn't enough time to take in everything it had to offer. “The trade show was huge, and the educational sessions



PA Soybean Yield Contest winners with United Soybean Board Chair John Motter, CEO John Becherer and Pennsylvania Soybean Board Chair Bill Beam at the 2017 Commodity Classic.

were great,” says Stewart. He attended a number of workshops and presentations with top industry experts on topics such as breaking through the yield barrier, a look at the 2017 ag economy barometer, attending to soil health, and the genetic potential of today's hybrids.

Matt Ahern, Northern Region winner, also gained a lot of insight into what was new in the industry. “It was very informative,” he says. “I was able to spend a lot of one-on-one time talking with other farmers and speakers.” He says, thanks to the seminars he attended, he plans to put some weed control management practices he learned

about into action on his farm.

Western Region winner **Rick Telesz** has a goal: to reach the 100-bushel mark in his soybean crop. “I really enjoyed hearing what other farmers are doing to achieve high yields, and taking their knowledge and experience and applying it to my operation,” says Telesz. As a result of what he learned, Telesz plans to implement several seed treatments and tissue analysis on his farm.

For **Leslie Bowman**, the Central Region winner, seeing the new technology at the trade show, attending “what's new” sessions, and picking up brochures and other information to study at home, was the highlight of his

experience. “I learned more about Xtend bean herbicides and spray tips,” he says.

State-wide winners **Glenn and Linda Krall** are no strangers to the Commodity Classic. But every time they go, they learn something new. “You get a lot of information you can use on your farm,” says Glenn. “With the information I learned, I think I'll be able to do a better job of marketing my grains.”

Winners of the 2017 PA Soybean Yield Contest will attend the 2018 Commodity Classic, which will be held in Anaheim, California, from February 26 to March 1, 2018.



TELLING THE SUSTAINABILITY STORY

Buyers of U.S. soy are increasingly concerned about the sustainability of the products they buy. The sustainability of U.S. soy is an important differentiating factor separating U.S. soy from its competitors in the international and domestic marketplace, and is one of the soy checkoff's strategic objectives.

A group of international soy buyers from Southeast Asia and Europe got a first-hand look at the sustainability of U.S. soy during a visit to Beam Farms in Chester County, Pa.

The international buyers' tour, coordinated by the U.S. Soybean Export Council (USSEC), was designed to build preference for U.S. soy by

demonstrating that the U.S. soy crop is produced under a system of sustainability that includes everything from soil and water conservation to energy use.

Bill Beam, a farmer-leader who serves as chair of the Pennsylvania Soybean Board, welcomed more than a dozen guests from Thailand, South Korea, Taiwan, the U.K. and Holland to his farm to explain the practices he uses to ensure sustainability.

Beth Sassaman, District Conservationist, USDA-NRCS, and Jessica Gerhart, Executive Director of the Farm Service Agency (USDA), Chester-Delaware, outlined the services provided to farmers through the Conservation Technical Assistance (CTA) program, which provides voluntary conservation technical assistance in planning and implementing conservation systems. Del Voight, Penn State Extension educator and crop specialist, was also on hand to answer questions about the conservation and nutrient management plans used by the state's soybean growers.

Beam invited the international buyers to his fields as he outlined the sustainable

farming practices implemented on his farm, including crop rotation and variety selection, the use of cover crops for water management, reduced and no-till, as well as pest management and nutrient management.

Of particular interest to the group was the use of precision farming to increase on-farm efficiency. A number of the buyers took the opportunity to ride with Beam in his combine to see the yield mapping technology in action.

"I see sustainability as a three-legged stool," Beam told the group. "To stay in business, I have to be profitable. Second, I have to be concerned with conservation – taking care of the soil that will take care of me. And third, I'm always looking to improve. U.S. farmers are external optimists, and constant improvement is something we're always after – in our machinery, in our soil, and in the protein and quality of our beans."

During their week-long U.S. trip, the international buyers group spent time in Washington, D.C. at the office of the USDA National Resources Conservation Service (NRCS) and at a farm in Indiana.





SOYBEANS GAINING GROUND IN NORTHERN PENNSYLVANIA

Although northern Pennsylvania has traditionally been a forage-based agricultural system with very little grain production, that is changing. At one time, small dairies dominated the landscape. Today you'll still see dairies, but more and more, you'll see soybeans.

"Thirty years ago, I don't know that you'd see more than two or three soybean fields in the whole county," says Rick

Telesz, a soybean grower in Lawrence County. "Today, I wouldn't be surprised if at least a third of the acres are in beans."

There's no doubt the region is capable of rivaling areas of the Midwest for yield per acre. Telesz, Western Region winner of the 2016 PA Soybean Contest, recorded a yield of 77.10 bu./acre. Bradford County farmer Matt Ahern, the Northern Region winner,

recorded 74.36 bu./acre.

Due to the climate in northern Pennsylvania, there's a general lack of nematodes and other pests that invade as a crop is grown over several years. This makes soybeans valuable as an on-farm feed resource and a cash crop with rotational benefits for farmers in the northern region of the state.

The largest obstacle to the success and future of soy in the region is knowledge and experience, says Del Voight, Penn State Extension Educator and coordinator of

the Pennsylvania On-Farm Network. That's why Penn State Extension, in conjunction with the Pennsylvania Soybean Board, held an On-Farm Network field day in Bradford County for soybean growers and those interested in adding soybeans to their crop rotation.

The field day, at the farm of Matt and Kylie Ahern in Ulster, Pa., showcased the research being conducted on behalf of soybean growers through the On-Farm Network. Ahern was one of 20 On-Farm cooperators in 12 counties throughout the Commonwealth participating in the On-Farm Network in 2017. The On-Farm Network is designed to validate soybean research in real-world conditions by having research done on test plots planted by farmers with their own equipment on their own farms.

In 2017, the On-Farm Network research focused on fungicide seed treatments and foliar treatments of insecticides and fungicides. The growers who attended the field day viewed plots with varying populations to see the impact of plant density on soybean growth and yield, and saw field plots where trials of

12 competitive herbicides programs were conducted. A similar field day was held on the Lebanon County farm of Glenn and Linda Krall, statewide winners of the 2016 Pennsylvania Soybean Yield Contest.

"Growers in northeastern Pennsylvania face a number of agronomic conditions unique to their area. They experience relatively cool, wet springs, so treatment of insecticide/fungicide can be important for successful germination and thus we need to determine the value and return of these treatments," says Voight.

"Many fields have little or no history of soy production so the challenge of establishing the required rhizobium in the soil in northern locations is extremely important."

Growers interested in learning more about soybean production are encouraged to contact their Penn State Extension Crop Team Member.

For the results of past studies from the On-Farm Network, go the Pennsylvania Soybean Board website. During the growing season, updates are available on the Field Crop News website from Penn State.

WINTER CORN & SOYBEAN CONGRESS

The Pennsylvania Corn Growers Association and the Pennsylvania Soybean Board partner to host the annual PA Corn and Soybean Winter Congress. Farmers from throughout the state come to learn the latest information on research that can impact their bottom line.

Industry experts and university educators discuss current trends. In addition, exhibitors showcase their latest advancements in an ag trade show that runs throughout the day. The keynote speaker for the 2017 Congress was noted agronomist John McGillicuddy, who provided practical advice on crop management from an agronomist's point of view.



DON'T MISS THE 2018 WINTER CORN & SOYBEAN CONGRESS

**FEBRUARY 22, 2018
8 AM – 4 PM**

Grantville Holiday Inn, Grantville, PA

Watch for more information and registration instructions on the "Events" page at www.pasoybean.org

PA SOYBEAN YIELD CONTEST

The PA Soybean Yield Contest was launched by the Pennsylvania Soybean Board in 1992 to focus farmer attention on agronomic and management skills that will increase soybean yield. While yields are always important when harvest time rolls around, many processors and buyers are starting to take a look at the overall quality of the soybeans. Changes in the Pennsylvania's 2018 Soybean Contest will reflect that increasing emphasis on quality.

The state will continue to be divided into five regions based on maturity zones. (See map at right.)

For the yield portion of the contest, Pennsylvania farmers can grow any variety of non-irrigated beans. 90-Bushel Club growers will receive a plaque for their accomplishment. Regional yield winners will be awarded a trip to

the Commodity Classic and the state-wide winner will receive a trip for two to the Classic.

Winners of the 2017 Yield Contest will be recognized at the Winter Corn & Soybean Congress in February, 2018.

The contest will change slightly in 2018. In addition to the yield awards, the grower in each region with the highest oil/protein quality will be acknowledged with a plaque. Additionally, the grower with

the highest irrigated yield in the state will also receive a plaque.

For complete contest rules and information on the PA Soybean Contest see www.pasoybean.org.

A summary of the crop production practices from the 2017 contest entrants will be available at the Pennsylvania Soybean Board booth at the 2018 Keystone Farm Show in York, Pa., and at www.pasoybean.org.

