



CHECKPOINT

PENNSYLVANIA SOYBEAN BOARD FISCAL YEAR 2014 ANNUAL REPORT



Our soybean checkoff.
Effective. Efficient. Farmer-Driven.

The Soybean Checkoff At Work

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 soy checkoff helps ensure a strong and profitable future for soybean farmers. Through the checkoff, each farmer contributes one-half of one percent of the price of each bushel, which elevators and processors collect at the first point of sale. The checkoff uses the funds for activities to improve the profit potential for all U.S. soybean farmers. Half of the checkoff collected in Pennsylvania goes to the United Soybean Board, and half is retained by the PSB.

Pennsylvania soybean farmer-directors make up the Board of Directors, overseeing the activities of the PSB to support the profitability of Pennsylvania soybean farmers and the soy industry.

The seven volunteer members of the PSB 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.

Pennsylvania Soybean Board 2014 Fiscal Year

Oct. 1, 2013 through Sept. 30, 2014

Income

| | |
|-------------------------|--------------------|
| FY'13-FY'14 Assessments | \$1,554,795 |
| Total Income | \$1,554,795 |

Expenses

| | |
|--|---------------------|
| 50% of FY'13-FY'14 Assessments to United Soybean Board | \$ 777,397 |
| Administration, Compliance, Audits, Insurance | \$ 122,180 |
| Communications | \$ 65,595 |
| Promotion/Education | \$ 182,825 |
| Research | \$ 175,100 |
| Total Expenses | \$ 1,323,097 |

| | |
|-------------------------------------|------------|
| Carryover available for FY'14-FY'15 | \$ 231,698 |
|-------------------------------------|------------|

Nominations to the 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 the Executive Director, Jennifer Reed-Harry, at (717) 651-5922 or contact@pasoybean.org. Diversity in age, sex, race, geographic location, and size of operation is encouraged on the Board.

As a Board member, you will:

- On average, attend 3 meetings per year
- Participate in monthly conference calls
- Help direct how checkoff funds are spent
- Collaborate and network with stakeholders and board members from across the industry
- Develop leadership and communication skills



Soybean Variety Top Factor in Improving Farm Yield

Variety selection is one of the most important crop management decisions a soybean producer can make.

With a performance difference of 14 or more bushels/acre, just by selecting the best-performing variety for your farm could result in a significant revenue gain. That's why for the past 23 years, the Pennsylvania Soybean Board has invested checkoff dollars into Penn State's variety trials, which study commercial varieties in Pennsylvania conditions.

The 2014 trials, conducted at three locations in Pennsylvania (Blair, Centre and Lancaster Counties) tested more than 50 varieties of early and late Round-Up Ready beans. Trials were also conducted on nearly two dozen varieties of double-crop Round-Up Ready varieties in Lancaster County and on more than a dozen varieties of non-Round-Up Ready varieties in Lancaster and Centre Counties.

Results of the 2014 Penn State Soybean Performance Tests are posted online at the Pennsylvania Soybean Board website, www.pasoybean.org, and are available from Penn State Extension educators.

"Variety performance is critical, since yields from commercial varieties can vary significantly," says Dr. Greg Roth, Professor of Agronomy at Penn State, who oversees the variety trials. "In these tests, soybean varieties varied

from 14 to 18 bushels per acre within a test plot. This range is much greater than we measure with other common soybean inputs that we evaluate [TABLE 1], so, it pays to study variety performance information to obtain top yielding soybean varieties.

"The Penn State tests also provide information on multiple maturity groups to help growers identify high-yielding, earlier soybean lines that help to facilitate cover cropping or early wheat or barley planting," says Roth. "Often there are some early varieties available that are quite competitive with later genetics.

"The tests also provide some feedback on the yield potential of some lines for double crop production," he continues. "In some years, early planted double crop soybean yields rival full season soybean yields. Also included in these tests are assessments of some of the leading non-GMO lines for growers who are interested in producing non-GMO or organic soybeans. These tests have shown that high-yielding non-GMO lines are available for those interested in pursuing these markets." ✓



Variety tests provide valuable feedback to producers on the performance of leading soybean varieties.

TABLE 1

Impact of Various Inputs on Soybean Yield

| | |
|-------------------|---------------------|
| Varieties | 15 ^{bu/ac} |
| Seeding rates | 5 ^{bu/ac} |
| Fungicides | 3 ^{bu/ac} |
| Row spacing | 3 ^{bu/ac} |
| Growth regulators | 2 ^{bu/ac} |
| Foliar N | 1 ^{bu/ac} |

WINTER CORN & SOYBEAN CONGRESS

WHEN: February 19, 2015 9 a.m. – 3 p.m.

WHERE: Grantville Holiday Inn
Hershey Exit 80, I-81
Grantville, PA 17028



Be sure to mark your calendar for the Winter Corn & Soybean Congress, sponsored by the Pennsylvania Soybean Board and the Pennsylvania Corn Growers Association. All corn and soybean growers are invited to this informational session to learn the latest research findings in corn and soybean production.

Register by calling the Pennsylvania Soybean Board at 717-651-5922 or email contact@pasoybean.org.

- Educators and researchers from the University of Pennsylvania's New Bolton Center, Delaware Valley College, and Penn State will review the current research being done on behalf of corn and soybean farmers and their number one customer for soy meal, animal agriculture.
- Topics include grain handling and transportation, disease update, risk management, IP grain production and more.
- Lunch is provided.
- CCA & Pesticide Credits are available.

CHECKOFF

Pennsylvania's soybean producers are investing in research, promotions and education projects designed to provide reliable data to soybean growers, expand markets for soybeans, and educate the public. In Fiscal Year 2014 (October 1, 2013 – September 30, 2014), the Pennsylvania Soybean Board allocated more than a \$350,000 in checkoff funds for these projects.

FUNDED PROJECTS

CROP PRODUCTION RESEARCH

Cover Crops in Soybean Cropping Systems *Penn State*

Research to determine the profitability of using cover crops in soybean cropping systems. The objective is to determine the long-term benefits and cost effectiveness of consistently using cover crops in a primarily corn and soybean rotation. Crop yields will be tracked and compared with fields with a cover crop to those without to do a cost/benefit analysis.



Sentinel Plot Program

Penn State

A sentinel plot program in Pennsylvania soybean fields is run in collaboration with Penn State Extension to provide soybean growers with statewide assessment of insects and diseases active in soybean fields. Twenty soybean fields were scouted weekly for insect pest and disease population in 2014.

Soybean Variety Trials *Penn State*

Soybean variety trials were conducted at Penn State's research farms in Lancaster, Centre and Blair Counties. Commercial varieties and experimental cultivars were 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. The potential of alternative soybean lines, including Liberty Link and non-GMO varieties, were tested.



On-Farm Soybean Research Network

Penn State

This on-farm product testing network, which was initiated in 2009, focused on seed treatments, bio stimulants, fungicides and insecticides. Additionally, dedicated soybean production meetings were held at various locations throughout the state, and research results were disseminated through crop meetings and online resources.



EDUCATION

Overcoming Soybean Yield Restraints in Northern Pennsylvania

Penn State

Research was conducted by the Northern Pennsylvania Soybean Dairy Feeding and Soybean Production Focus communication group into overcoming yield constraints in Northern Pennsylvania soils. Field production information and educational outreach was extended to growers.

Expansion of Soybean Acres in Northeastern Pennsylvania

Pennsylvania Center for Beef Excellence

Through partnerships with Penn State University and T.A. Seeds, Inc., the planting and harvest methods for soybeans that can be grown in the moderate temperatures and soils of northeast Pennsylvania are being documented to expand the soybean acres planted, increase soybean production and expand soybean markets.

Researchers monitored the soybean production systems of two 20-acre tracts located in Pike and Lackawanna Counties. The information obtained in the research project will facilitate on-farm field day events at both locations to promote the results of the research.

Research summaries of checkoff funded projects are available online at www.pasoybean.org.

PROJECTS



Mobile Ag Lab

Pennsylvania Farm Bureau

Thousands of school children throughout Pennsylvania benefit from the ag education brought to their school by the Pennsylvania Farm Bureau's mobile ag lab.

PA Soybean Production Workshops

Penn State Extension

Day-long workshops teach soybean producers new integrated pest and cultural management practices covering the entire growing season, from planting to harvest. The workshops featured topics that ranged from cultural practices to pest management and harvest management.

One popular session is the farmer panel in which a local successful grower shares his/her tips for making soybeans work in their geography. The workshops are offered throughout the state at sites that are convenient for growers to attend. Growers use the information shared at the workshops to increase their soybean yields. In some cases, growers reported growing soybeans for the first time gaining over 60 bu/acre the first year on virgin soil.

ANIMAL AGRICULTURE

Varietal Difference in Soybean Composition to Enhance Feeding Value in Dairy Cows

Penn State

Research explored the varietal difference in soybean fatty acid and amino acid composition to enhance the feeding value of Pennsylvania soybeans to lactating dairy cows. The research addressed the effect of soybean fatty acid profile on milk fatty acid composition in dairy cows, and explored the opportunity to use varietal differences in soybean amino acid profile to increase the feeding value of soybean meal for animal production.

Controlled Disease Exposure in Loose-Housed Swine

University of Pennsylvania's New Bolton School of Veterinary Medicine

Research to optimize controlled disease exposure in loose-housed swine in anticipation of the next animal welfare challenge. ✓

Pennsylvania Soybean Board Mission Statement

The Pennsylvania Soybean Board is committed to advancing soybeans in the Commonwealth and investing soybean checkoff dollars in programs and initiatives that fund research; outreach and education; promotions and alternative uses.



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

Ex-Officio Members

Jim Musser*, Mount Joy, PA
Del Voight, Penn State Extension Educator

Executive Director Jennifer Reed-Harry

** Also serves on United Soybean Board*

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Penn State Study Investigates Effect of Manure on Soybean Ground

Results in a three-year research project study conducted by Penn State University indicate that applying manure at lower rates to soybeans will result in neither a positive nor negative impact on the crop.

The study, funded by the Pennsylvania Soybean Board through the soybean checkoff, was designed to determine if manure applications to soybean ground had any effect on the incidence of disease, weed pressure, soil nitrate levels, nodulation and yields.

“The study is important to Pennsylvania growers,” says Penn State Extension educator Del Voight, who along with Dr. Doug Beegle, Dr. Greg Roth and Penn State Extension educators Paul Craig and Jennifer Bratthauer, was one of the investigators in the study. “Although there has been some research done on this topic in the Midwest, little research has been done in Pennsylvania to determine if manure land applications positively or negatively affect soybean yields.

“Soybeans are becoming an integral part of crop rotations throughout Pennsylvania, and many farmers rely on their soybean ground to provide the amount of land needed for their manure applications.”

Based on this research study, there appears to be no management advantage or disadvantage to applying manure to soybeans. The fact that the soybeans in this trial were not impacted from the manure nitrogen indicates that manure could be applied if necessary to supply phosphorus and potassium to soybeans.

Finally, the lower residual nitrate-nitrogen levels at the end of the growing season indicate little increased potential for nitrogen loss to the environment through leaching if manure is applied to soybeans.

“There has been concern that manure (nitrogen) applications on soybeans will negatively impact their nodulation,” says Voight. “However, this was not observed in this trial. At the end of the season,



Results of a Penn State study funded by the Pennsylvania Soybean Board indicate that applying manure does not adversely impact soybean production.

there was no difference in residual soil nitrate-nitrogen due to the manure applications, and the soil nitrate-nitrogen levels were at typical background levels for soil nitrate-nitrogen in Pennsylvania.”

Three field locations

The study looked at three separate field locations, each applying a different type of manure. Location #1 utilized liquid dairy manure, Location #2 utilized liquid swine manure and Location #3 spread poultry (turkey) manure. Each location consisted of replicated strip trials, three treated (manure applied) and three untreated. All three types of manure were applied with the broadcast method.

All the plots were scouted on a regular basis (approximately every 7 to 10 days) throughout the growing season to determine if there was a higher incidence of weeds and diseases in the plots that had received manure applications versus the plots that did not receive manure. In the first year of the study, the poultry manure plots showed an increase in weeds.

In 2013, however, there were no noticeable differences in the growth and prevalence of weeds at any of the locations.

The incidence of plant diseases did not seem to be affected by manure applications. The plant diseases that were identified occurred in all 18 of the plots (nine treated and nine untreated). As in many soybean fields, the first occurrence

of disease was Septoria brown spot in all three locations in all of the plots.

Some of the other diseases identified throughout the plots were downy mildew, frogeye leaf spot and Phytophthora stem rot. When the diseases did appear, they appeared at the same time throughout the plots. Manure applications did not seem to cause a difference in the timing and severity of the diseases.

“One of the concerns with applying manure to soybeans is the increased incidence of white mold,” says Voight. “No evidence of white mold was found during scouting of the plots. However, it is important to note that the three fields in this study did not have a history of white mold.

“Yields in these trials were good at over 60 bu/acre, and there was no impact of manure application on yield,” he continued. “There was no apparent increase in weeds or diseases. There was an increase in soil nitrate nitrogen and consequently in early season plant nitrogen where manure was applied as might be expected, but this did not carry through to have any impact later in the season.” ✓

To see the results of this study and other research funded by the soybean checkoff to provide reliable crop production data to soybean growers, please visit the Research Summaries at www.pasoybean.org.

Thank you, Jim Musser



Jim Musser, one of the original members of the Pennsylvania Soybean Board, has recently retired as a Board member.

As one of the original members of the Pennsylvania Soybean Board (PSB), Lancaster County farmer Jim Musser has spent many years sharing his insights and knowledge as a soybean grower, livestock producer, and owner of a grain drying and storage facility. But, he says, he's received as much as he's contributed.

Jim, who retired as a Board member in December, says, "Over the years, I've really learned a lot by being on the Board. It's been an honor to represent our industry and share my knowledge and learn from them. We have the job of investing our checkoff dollars wisely in support of all soybean farmers. It's not a responsibility we take lightly – we weigh our decisions carefully to make sure we're doing the best we can. Over the years, our Board has had some really great farmers who were willing to volunteer their time on behalf of Pennsylvania's growers, and it's been a privilege to serve with them."

"We've been fortunate to have Jim as part of our Board for many years," says Bill Beam, chairman of the PSB. "We valued his dedication, his input, and the perspective he provided as both a farmer and a first-purchaser."

During his career, Jim has received the American Soybean Association's Market-Builder award, the Mid-Atlantic Soybean Young Leader award and is in the Young Farmers Hall of Fame. More recently, he was named a Master Farmer by *American Agriculturist*.

While sons Dustin and Cody have taken over the farming operation, Jim and his wife, Sue, are still quite active serving the agricultural community. Although Jim is no longer a voting member of the PSB, he still remains on the PSB in an advisory capacity, and is in the second year of his second three-year term as one of directors of the United Soybean Board. He's also a member of the Lancaster County Ag Council and on the Farm & Home Center Board.

As for the next generation of young farmers, Jim has this advice: "For any farmer, but especially for a young farmer, it is well worth your time to serve on a board. You'll learn an awful lot, and your ideas will help shape the industry in the future." ✓



Bill Beam

PA Soybean Board Chair Elected to USB Executive Committee

Pennsylvania Soybean Board chair Bill Beam has been elected to serve on the United Soybean Board's (USB) executive committee, and will chair the USB Freedom to Operate Action Team. Beam will join eleven other farmer/leaders from throughout the nation on the USB executive committee in overseeing the soybean checkoff to keep it effective, efficient and farmer-driven.

As the leader of the USB's Freedom to Operate Action Team, Beam will oversee the checkoff investment in education and research into the obstacles that affect a farmer's freedom to operate. These issues are critical to farmers' profitability, and the checkoff is there to address them on behalf of farmers and their customers. Some of the issues the soy checkoff monitors involve biotechnology acceptance, sustainability demands, transportation infrastructure breakdowns and public opinion of today's farming practices. ✓



Emily Landis

Centre County Farmer Appointed to Pennsylvania Soybean Board

Emily Landis, of Pennsylvania Furnace, Centre County, Pa., is the newest farmer/leader to serve on the seven-member Pennsylvania Soybean Board.

A graduate of Penn State University with an undergraduate degree in Agricultural Systems Management and a graduate degree in Animal Science, Landis is employed as a commercial lender with a focus on business development at Jersey Shore State Bank. She and her husband, Wendall, operate a Registered Angus and Hereford cow-calf operation, Hidden Pond Farms, in Ferguson Township. Together with her parents Jim and Sandy Rogers, they also operate a 300-acre cash grain operation with 70 acres of hay.

In addition to serving as a member of the Pennsylvania Soybean Board, Landis is also president-elect of the Centre County Farmland Trust and chairs the Pennsylvania Beef Quality Assurance Commission. ✓

New Calculator Can Help Soybean Farmers with Seed Decisions

How much does growing high oleic or other IP soybeans really cost?

Facing lower soybean cash prices this year, farmers are looking for opportunities to add to their bottom lines. Growing identity-preserved (IP) soybeans is one option for additional profit opportunities, but the costs can seem overwhelming to farmers thinking about getting started.

U.S.-soy-industry-led board QUALISOY developed a calculator that can help farmers determine how much profit they can add by growing IP soybeans, including high oleic varieties.

The calculator, based on a Purdue University study, helps farmers navigate the typical steps required to produce and segregate IP soybeans and gives them an estimate of added profit potential. The United Soybean Board's Value Task Force funded the study.

"The charge of the Value Task Force is to try to find the next big thing that could really create opportunities for soybean farmers, and we feel that there is a lot of opportunity in IP soybeans," says Dan Corcoran, a soybean farmer from Piketon, Ohio, and chair of the Value Task Force. "Whether a farmer has ever grown IP soybeans before or not, this tool will help determine the potential value that is out there."

This calculator, available for use on the Pennsylvania Soybean Board website

at www.pasoybean.org, also gives a quick look into the limited costs associated with growing IP or high oleic soybeans.

"The soybean calculator is easy to access and has straightforward questions," says Corcoran. "It takes you on a logical path to get a basis for non-IP products and what it takes to deliver a crop. Then it goes into the additional costs and revenue associated with growing IP soybeans.

"This tool helps you make an educated business decision by removing a large amount of guesswork. It gives soybean farmers a good overview of exactly what we need to invest when we choose to grow IP."

Right now, opportunities available for soybean farmers to grow IP include non-GMO, food-grade and high oleic soybeans. However, high oleic soybeans have easier handling procedures compared with other IP soybeans. The calculator takes those factors into consideration when delivering its results.

"With the current state of soybean prices, it is important for soybean farmers to grow a product that has increasing demand," concludes Corcoran. "This concept of growing a product that customers are demanding is beneficial for farmers in general." ✓

Here's What a Pa. Farmer Has to Say About Growing High Oleic Beans

Lancaster County farmer Allen Esbenshade, who grows soybeans on his farm in Mt. Joy, planted high oleic beans for the first time in 2014, and was satisfied with the results.

His 30 acres of high oleic beans averaged 58 bu/acre, while his 40 acres of double crop beans were in the 40 bushel range. "We dried off in August and didn't have the rain we needed to fill out the pods," he said. "That impacted yields. If the weather would have been better, I expect the high oleic beans would have produced as well as any other full season bean."

Allen says he's always interested in trying something new, and because he lives near the Purdue grain elevator and processing plant, which buys high oleic beans, he wanted to give this new variety, Pioneer Plenish™, a try.

As far as crop production, he didn't do anything differently. He had to keep the high oleic beans segregated, but that wasn't an issue for Allen. These beans were the first crop he harvested after wheat, so the combine had already been cleaned. And, as he does with all his grain, Allen makes sure the trucks are spotless before transporting the beans.

For his high oleic beans, Allen received a 50 cent/bushel premium at the elevator. "The price of beans had dropped in the summer, so it was nice knowing that I had these beans coming. From what I've read, it looks like there's good acceptance and growing demand for the high oleic beans. To me, it makes sense to grow a bean that has added value. I plan to grow them again this year."



When harvesting IP beans of a different variety than the previous field harvested, thoroughly clean out the combine to remove any trapped beans.