



Bringing Agriculture to the Classroom: Inside the Mobile Ag Ed Science Lab

The Mobile Agriculture Education Science Lab is a 40-foot interactive mobile classroom that travels across Pennsylvania to work with students in grades K through 8th. The lab offers 30+ STEM experiments, 12 workstations and lessons with a certified teacher. It is part of the Pennsylvania Friends of Agriculture Foundation which is a charitable organization supported by the Pennsylvania Farm Bureau. The Pennsylvania Soybean Board has been a supporter of the lab for over 20 years.

We had the opportunity to sit down with Charlene Shupp - Espenshade, Executive Director of the Pennsylvania Friends of Agriculture Foundation, and Macy Grove, the Foundation's Communicators and Events Coordinator, to learn more about this innovative initiative, how it's funded, and why agricultural literacy matters more than ever.

How did the Mobile Agriculture Education Science Lab start?

The Mobile Ag Lab was born from the idea that we needed to implement more agricultural education into our schooling systems. With that in mind, our Pennsylvania Friends of Agriculture Foundation board decided to do some research in Maryland as they had an existing program and classroom trailer to go along with it. The board decided to make the trip down to see the trailer in person and in action. After seeing it, they decided it was something we could mirror and implement here in PA. And now the rest is history, 6 mobile ag labs and 20 years later!



When was the lab first operational?

The very first lab was first operational in 2003. It went out to visit its first school on September 23rd that year.

How many schools typically participate every year?

About 150 schools participate each year.

What types of activities are associated with soybeans and what do the students learn about them?

We have three soy-based lessons in the Mobile Ag Lab. The first one is called "Colorful Bean". In this lesson, students learn the difference between natural resources and renewable resources. They learn how products in their everyday lives can not only be made from agriculture, but also how that can be a renewable resource. They leave the classroom knowing that they can make an informed choice between the two when it comes to the products that they use. After the discussion, students take home a soy-based crayon the teacher has demonstrated how to make out of soy flakes and pigment.

The next lesson taught about soybeans is called the "Mighty Smooth Bean". Here they test the resilient strength and hardness of soybeans by mixing plaster of Paris with water and placing 5 beans in the mixture, half-way down. The plaster solidifies and the students can take that back to their classroom to put in the windowsill. About two weeks later, the beans start to sprout and crack through the plaster. The students are quite amazed as some of them may have never even seen a bean sprout before, let alone through plaster! Also, during that lesson, they have a demonstration about making lip balm using vegetable oil (made up of soy oil), beeswax, and peppermint extract.

Finally, is the "Magical Bean" lesson. In this one, students learn how soybeans are grown as well as all the products that soybeans are found in. They do two types of sorting exercises in this lab. For the first exercise, they differentiate the products that do and do not contain soybeans. For the second exercise, they differentiate the foods that do and do not contain soybeans. And, lastly, this lab also gets to see the lip balm demonstration that Mighty Smooth Bean gets to see.



"The Pennsylvania Soybean Board is a critical supporter of the Mobile Ag Lab program, helping to keep it **affordable and accessible** for schools so that they can have access to agriculture education. Through the partnership, we show students just how **versatile and integral** soybeans are to our product and food supplies."

Do sponsors have any input on what their donations can fund?

When it comes to donations, donors can give towards sponsoring a school so that it can have the Mobile Ag Lab or to a general fund for the Foundation.

How has PSB helped the mobile unit with their sponsorship giving?

PSB has been an integral part of getting the Mobile Ag Lab out to schools. We have been able to give schools part of their funding to sponsor their visit. It offsets the cost for the school to make the lab more affordable and accessible. We can hit a wider range of students with the help of PSB.



How long has PSB been a sponsor?

While we don't know the exact date or number of years, we do know that PSB has been a sponsor from the beginning. They were an early supporter and truly believed in the potential that the Ag Labs and its lessons could provide.

What is the most surprising thing the students learn about soybeans?

One of the most shocking or surprising things the student learns is the sheer number of products that contain soybeans. They regularly make comments about the versatility of soybeans, and the Magic Bean is really an eye-opening lesson for that reason. Students have no idea that soybeans are found in everything from their pancake mix they had that morning to the baked goods they will eat after dinner that night. It is amazing to see them learning that agriculture and soybeans touch their everyday lives.



Macy Grove,
Communicators
& Events Coordinator



Charlene Shupp -
Espenshade,
Executive Director

Preview of Upcoming Pa Soybean Board Related 2026 Events

Keystone Farm Show 2026

With over 400 Agricultural + Construction exhibitors, the Keystone Farm Show is the primary trade show for Pennsylvania farmers. The three-day event features vendors specializing in animal health, seed, banks, insurance, forestry, construction farm equipment and more. There also are Penn State Pesticide Certification Course opportunities so you can take advantage of this chance to cross that off your list. With experts on hand to assist farmers with virtually any program or needs they have and plenty of food options to fuel your visit, this really is “The Farm Show for Farmers”.



The Pennsylvania Soybean Board will have a booth and representatives onsite to answer any questions and share research information and provide giveaways specific to soybean growers. Visit the Keystone Farm Show website for more information: <https://www.keystonefarmshow.com/>

Date and Times: January 6th, 9:00 AM - 4:00 PM, 7th, 9:00 AM - 4:00 PM, and 8th, 9:00 AM - 3:00 PM



Crops Conference and Crops Days 2026

Penn State Extension Crops Conference and Crops Days runs from January to March of 2026 and offers educational programs in 12 locations as well as virtually. It features expert-led sessions on crop management, new technologies, and best practices in agriculture. Events are held across the state with each Crops Day featuring a region-specific agenda for the year ahead. These events provide invaluable networking opportunities for businesses and participants alike. Stay tuned for specific 2026 dates. Visit the Penn State Extension website for more information. <https://web.cvent.com/event/7ab8a7ad-b8ba-42cd-a2e3-155046552c5d/summary>

Dates: Running from January to March of 2026

Lebanon County Crops Conference 2026

Pennsylvania Soybean Board will once again be a sponsor for the Lebanon County Crops Conference in 2026. We are looking forward to attending soybean research seminars, discovering agronomic innovations and congratulating the 2025 PA Soybean Yield contest winner as well as enjoying a buffet lunch. Visit the website for more information:

<https://extension.psu.edu/crops-conferences>

Date and time: February 4th, 8:30AM-3:00 PM, 2026



Ag Progress Days 2026

The Pennsylvania Soybean Board will have a booth again this year at the upcoming 2026 Ag Progress Days. Featuring over 400 exhibitors from dozens of states as well as several Canadian provinces, this is Pennsylvania's largest outdoor agricultural exposition. We will be on hand with giveaways and to provide soybean research information and PSB representatives to answer any questions. Visit the website for more information: <https://agsci.psu.edu/apd>

Dates: August 11th through 13th, 2026

The Value of the Soybean Checkoff

The soy checkoff is supported entirely by soybean farmers who individually contribute 0.5% of the market price per bushel sold each season. The enterprises of the checkoff are led by the 77-volunteer farmer-leaders at the direction of the United Soybean Board. The goal is to increase profitability and production for all US Soybean Farmers.

The checkoff focuses investments in the key areas of education, promotion and research. Through education and promotion, the checkoff establishes relationships with consumers and organizations in various spaces ranging from industrial use to consumer packaged goods and beyond. By educating consumers of all types, they help foster demand for U.S. soy.

The soy checkoff is dedicated to research to increase profitability at the farm level. They partner with programs to develop tools and methods to give farmers an opportunity to improve their yield and the quality of their crops. Whether it's through finding untapped markets for soy (oil and meal) both in the US and abroad, researching leading and innovative production practices, or creating new partnerships to foster industry growth, the soy checkoff is investing their funds for maximum return on investment for all farmers.

PSB and USB Board Members Recruitment

The Soybean Board is always looking for interested and dedicated PA soybean farmers with a desire to serve on the volunteer board of directors. These volunteer members of the PSB are responsible for the collection and administration of the soybean checkoff program within the state.

The Board is committed to increasing leadership that reflects a diversity of perspectives and opinions that reflect size of operation, experience of members, methods of production and distribution, ethnicity and gender, marketing strategies and other factors that will bring different perspectives and ideas to the table.

The Board typically meets three times per year or at the will of the Chair and convenes via conference calls as on as-needed basis. The initial term of a board member is three years. If you know of someone who may be interested, please contact Jennifer Reed-Harry at the Pa Soybean Board Office (jrharry@pennag.com, 717-651-5922).



PSB Board Directors pictured with Pennsylvania FFA officers.

2025 Research and Annual Report and 2025 Soybean Yield Contest Report Will Be Available Early 2026

The 2025 Pennsylvania Soybean Board Research Report and Fiscal Year Annual Report will be mailed to PA soybean growers in early 2026.

This Research Report encompasses 2025 PSB funded soybean research conducted by the Penn State Extension team as well as research results at the state and national levels. It will include the outcomes of the 2025 Pennsylvania Soybean Yield Contest winner as well as regional winners with a snapshot of their soybean management practices. The Fiscal Year Report breaks down where the checkoff funds were used to support research, education and communications of the Pennsylvania soybean industry.

The PA Soybean Yield Contest Report has purpose beyond seeing who can produce the largest yield. It was created to bring attention

to skills and practices that will boost soybean production and profitability. It does this by providing crop management practices of the top growers in the competition plus additional data on growers who submitted their harvest forms for the contest. This report is also a way for the Penn State Extension team to collect data of soybean growers across the Commonwealth. This data is then examined by the team and provided as a report back to the PA Soybean Board.



This information is also available as a free download to growers on the PSB website. Please take a minute and download the 2024 report today.

< Scan here to learn more!



The Pennsylvania Soybean Board is a farmer-controlled Board responsible for managing Pennsylvania's share of funds received from the nationwide Soybean Checkoff program. The funding is available under an assessment program, approved by Congress in 1990, under which soybean farmers contribute 50 cents of every \$100 they receive for their beans at the first point of sale. Funds are used to develop markets, educate consumers, and research new ways to utilize and produce soybeans more efficiently.

Learn more at pasoybean.org



For the latest news, events, research updates and more:

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