CHECKPOINT

NEWS FOR PENNSYLVANIA SOYBEAN GROWERS   www.pasoybean.org

Creating a Preference for U.S. Soybeans

ST. LOUIS, Mo. — With concern about soybean exports to China in the headlines, United Soybean Board Chair Lewis Bainbridge, a soybean farmer from Ethan, South Dakota, said, "I want to assure farmers that their soy checkoff will continue to invest in new market opportunities to build a portfolio of global demand for U.S. soy products."

The soy checkoff helps to support the U.S. Soybean Export Council (USSEC), an organization that is working to differentiate and create preference for U.S. soy around the world. Through a global network of international offices and strong support in the U.S., they help build a preference for U.S. soybeans and soybean products, advocate for the use of soy in feed, aquaculture and human consumption, and promote the benefits of soy use through education. As the international marketing arm of the U.S. Soy Family, they represent U.S. soybean producers, processors, commodity shippers, merchandisers, allied agribusinesses and agricultural organizations.

The international market is the largest customer for U.S. soy: an average of 60 percent of the soy produced in this country is exported. Within the next 30 years, the world must feed 9 billion people, and a growing middle class will create more demand for higher value animal protein at an affordable price. As this trend continues across the globe, U.S. soy is well poised to accommodate the demand.

Much of the work at USSEC focuses on promoting the U.S. Soy Advantage to international customers. The foundation of the U.S. Soy Advantage is centered on quality composition and consistent supply of U.S. soy and soy products, as well as the sustainability practices of U.S. soybean farmers.

U.S. soybeans have an elite meal nutritional bundle (protein, amino acids, and energy) and superior oil functionality and performance. These attributes give U.S. soy an edge over the competition with ongoing innovation in the pipeline to ensure the U.S. remains the leader in the soy industry. And, the U.S. has an abundant supply of soy that can be reliably moved from the field to domestic end users or to the coasts for export using the best transportation infrastructure in the world.

Demonstrating U.S. soybean farmers' sustainability performance is increasingly important to international customers who want to be assured that the products they are purchasing are sustainably grown. Currently, over 90 percent of U.S. soybeans are certified sustainable, according to the U.S. Soybean Sustainability Assurance Protocol (SSAP). The guidelines included in the SSAP set required steps for U.S. soybean farmers to continuously improve their sustainability performance Through their commitment to continuous improvement, U.S. soybean farmers are taking care of the environment, being good citizens, and producing their crop as efficiently as possible to deliver the most sustainably grown soy in the world.

The SSAP is just one of the U.S. soy industry's key differentiators. Buyers of U.S. soy and soy products can be assured that the vast majority of farmers in America have followed guidelines for responsible farming. The constant willingness to incorporate new, environmentally friendly management strategies on U.S. farms means that others in the value chain can be confident in the value and sustainability of U.S. soybeans.

Photo: Holly Slegowski

Last fall, Bill Beam, Pa. Soybean Board chairman, hosted soybean buyers from Asia and Europe at his Elverson, Pa., farm through a program sponsored by USSEC. The program was designed to show foreign buyers the sustainability of U.S. soybeans.

UNDERSTANDING THE UNSEEN:
SOIL SAMPLING
In Three Easy Steps

① COLLECT soil samples soon after harvest.
This ensures test results are ready in time for spring. Common soil samples range 0-6 inches in depth, but ask for the recommended soil testing depth for your lab.

② SEND soil samples for analysis.
Submit the sample according to the lab's instructions. To search for labs certified by The North American Proficiency Testing (NAPT) program, go to *www.naptprogram.org.*

③ INTERPRET the results.
Reading your own test can help you select the correct kind and amount of fertilizer. Watch AgPhD's "Reading Your Soil Test" on YouTube to learn more about analyzing your soil test results.

KEEP IT GROWING
Consistently monitoring fertility helps you plan more effectively, so repeat the process every 2 or 3 years. Sample at the same time of year, using the same soil depth and field location. Use the same lab for future tests to keep your sample analysis consistent.

Our Soy Checkoff
Progress Powered by U.S. Farmers

Real-World Soybean Research in Pa. Growers' Fields

HARRISBURG, Pa.— Midway through the growing seasons, soybean producers throughout Pennsylvania are actively participating in research projects through the On-Farm Network. The program is funded by checkoff dollars through the Pennsylvania Soybean Board and administered by researchers and Extension educators at Penn State. Currently, 54 trials are being conducted in 21 counties in Pennsylvania. This year's trials include monitoring slugs and examining the impact of seed treatment fungicides and plant populations on yield.

For the past nine years, the On-Farm Network has taken soybean research studies out of the lab and small test plots into the fields of Pennsylvania soybean growers. The Network works by conducting research in real-world conditions on test plots planted by farmer/collaborators throughout Pennsylvania on their own farms with their own equipment.

"The 2018 growing season has been challenging given the wet spring weather we had," says Dr. Paul Esker, Penn State Field Crops Extension Plant Pathologist. "We were initially concerned that we would lose several On-Farm sites due to planting delays or fields not being planted at all. Nonetheless, at this stage of the year, we're very happy with the current number of trials and participants. For several of the trials, this is the first year of multiple years of monitoring, so we feel that these results will definitely help us understand the environmental component that affects soybean production in Pennsylvania."

For the results of past studies from the **On-Farm Network**, go the Pennsylvania Soybean Board website at **www.pasoybean.org**.

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Double-Crop Soybean Research Aims to Increase Yields

Planting soybean early following high-moisture wheat harvest is an excellent management practice for increasing yield

HARRISBURG, Pa.– Preliminary findings in a research project partially funded by the Pennsylvania Soybean Board indicate that planting soybean early following high-moisture wheat harvest is an excellent management practice for increasing double-crop soybean yield for growers in the Mid-Atlantic region.

"Other practices help, but are not nearly as important," says Dr. David Holshouser, Associate Professor and Extension Agronomist at Virginia Tech, who headed the multi-state research project. "Furthermore, early wheat harvest resulted in greater wheat yields and quality. This research provides the strongest and most comprehensive data ever developed in the Mid-Atlantic region that supports early high-moisture wheat harvest."

Holshouser notes that soybean following winter wheat is the most prevalent double-cropping system in the United States. Nearly half of Mid-Atlantic soybean acres are planted after small grain harvest. "Although the advantages of double-crop wheat-soybean systems are many, the late planting date historically results in 10-30% less yield versus full-season soybean," says Holshouser. The research project aims at increasing yield and profitably for Mid-Atlantic double-crop soybean by evaluating cropping practices that improve soybean yields following winter wheat.

The research evaluated the effect of early high-moisture wheat harvest on wheat and double-crop soybean yield and quality through coordinated multi-state trials across five Mid-Atlantic states including Pennsylvania, Maryland, Delaware, Virginia and North Carolina during 2015 to 2017. According to Holshouser, the research of more than 20 site years is the strongest and most comprehensive data set ever developed in the Mid-Atlantic region that supports early high-moisture wheat harvest.

"The next step is to begin intensive dialog with buyers of wheat and soybean and with dryer manufacturers that will allow higher-moisture wheat harvest," says Holshouser. "Harvesting wheat at higher moisture (15-20%) can increase wheat yield by reducing test weight loss and increasing quality. Additionally, double-crop soybean yield increases by allowing earlier planting. This practice may increase overall double-crop income. However, we must recognize that drying costs could increase, especially if specialized drying is needed. Future efforts will focus on an economic analysis and beginning a discussion with grain buyers to encourage them to purchase high-moisture wheat without dockage."

Photo: Holly Slegowski

Free App Predicts Need for Fungicide to Control White Mold

Sporecaster uses university research to turn a few simple taps on a smartphone screen into an instant forecast of the risk of apothecia being present in a soybean field, which helps growers predict the best timing for white mold treatment during the flowering period.

The app, which is free to use, was developed with support from the Wisconsin Soybean Association and Wisconsin Soybean Marketing Board. It was programmed by personnel in the UW-Madison Nutrient and Pest Management Program.

To use the Sporecaster app, download it onto your smartphone from the Apple Store or Google Play. The app allows the user to locate and setup multiple fields and run the apothecial risk prediction model using weather data from a third-party provider (Dark Sky API).

SOURCE: University of Wisconsin

Screen shots from Sporecaster, a new smartphone application designed to help farmers predict the need for a fungicide application to control white mold in soybean.

September 1 Deadline to Enter Yield Contest

HARRISBURG, Pa. — If you know what it takes to produce great soybean yields, you could be a winner in the 2018 Pa. Soybean Yield Contest. The state is divided into five regions, with awards presented to regional winners as well as an over-all state champion. To be eligible for a prize, participants must use non-irrigated soybeans, but are not restricted as to variety, fertilization, spacing or other cultural practices.

In addition to bragging rights, the state champion will receive a trip for two (the winner and one other individual with a direct financial interest in their farming operation) to the 2019 Commodity Classic in Orlando, Fl. The top yield winner in each region will receive a trip for the winner to the Commodity Classic.

New in 2018!

For the 2018 contest, special recognition will be made for irrigated bean yield and for oil/protein quality. The grower with the highest oil/protein in each region will be awarded with a plaque. Plaques will also be awarded to the grower with the highest irrigated bean yield in the state and for the 90 Bushel Club.

An online entry form and full contest details are available at **www.pasoybean.org** or by contacting Penn State Extension-Lebanon County, 2120 Cornwall Road, Lebanon, PA 17042. Phone: 717-270-4391.

Application to enter the contest must be postmarked or submitted online by September 1, 2018.

Visit us at Ag Progress Days

Be sure to stop by the Pa. Soybean Board booth located in the Ag Choice Building at Penn State's 2018 Ag Progress Days, August 14-16, 2018. Soybean producers who complete a short questionnaire will receive a special gift.

White Mold Considerations in 2018

By Dr. Paul Esker, Penn State Associate Professor of Field Plant Pathology

White mold has impacted soybean production in Pennsylvania in most years since 1996. Will 2018 be any different?

STATE COLLEGE, Pa.— Last summer, many days were cool with lots of morning fog. Although these conditions were excellent for soybean development, it's not surprising that the conditions also set the stage for white mold (S. sclerotiorum) to impact production in many areas, especially given the history of the disease in Pennsylvania over the past 20 years.

Taking a look at our 2018 growing season, things have been rather different. In July, we entered a period of hotter weather around the state with temperatures into the 90s with a mixed forecast for rain. This may mean that we will not see the same degree of problems as last year, when white mold was rather severe in many production areas.

To help guide our forecast, we are currently testing a new app that was developed in the Midwest called Sporecaster. The purpose of Sporecaster is to assist farmers in making management decisions for white mold in soybean. The best time to manage white mold is during flowering (R1 and R2 growth stages) when apothecia (small, mushroom-like structures) are present on the soil surface. Apothecia release spores which infect senescing soybean flowers, leading to the development of white mold.

University research has indicated that the appearance of apothecia can be predicted using several variables including weather and amount of soybean row closure in a field. Based on this research, Sporecaster models have been developed to forecast the risk of apothecia being present in a soybean field. Farmers can easily input site-specific information about their soybean field into the app, which combines field information with the research-based models to predict the best timing for white mold treatment in that field.

In the fields that we visited in July, the Sporecaster model indicated a moderate risk for white mold in fields that were grown on 15-inch row spacing. A foliar fungicide would not have been recommended based on the risk. In the last week the risk has dropped in the fields we continue to monitor given the higher temperatures with little rain.

Even when it is too late to consider a fungicide application to manage white mold, growers should focus on obtaining accurate information by assessing the incidence of the disease as they move into harvest. This information is important to accurately document the impact of the disease in terms of yield loss, as well as to help make decisions regarding the best management options to reduce the impact of white mold in the future.

For fields where white mold has been noted, it's very important to measure the incidence of white mold at maturity (growth state R7). This assessment will help quantify the potential yield loss due to white mold. Disease incidence can be estimated by examining different areas of the field. To do this, growers need to

Dr. Paul Esker *Photo: Holly Slegowski*

count the number of plants with white mold and divide that number by the total number of plants evaluated.

For example, if 100 total plants were assessed, and the number of plants with white mold was 42, the incidence would be 42%. Yield loss can be calculated by considering the following: for every 10% increase in the incidence of white mold observed at R7, yield can be reduced by two to five bushels per acre.

It's important that fields with white mold be harvested last. The sclerotia of S. sclerotiorum will probably end up in the combine, and without proper cleaning, it will be very easy to spread the disease from one field to another. Growers may need to clean the combine several times during the harvest, especially if they are moving from one farm to another in their operations.

Looking towards the future, by knowing and documenting the incidence of white mold for each field, growers can consider several different management options. First, variety selection is important and by working with a local seed person, a grower can consider pathogen-free seed, selecting varieties with the best available level of resistance, and using the most appropriate maturity group for his or her production region. No variety is completely resistant to white mold, but several varieties with partial resistance are available.

Cultural practices like reducing plant populations and increasing row width, rotating with non-host crops, using alternate tillage practices, controlling weeds that can be hosts of S. sclerotiorum, and using cover crops that help to reduce inoculum density may help to minimize the impact of white mold in the future. For example, forage legumes like alfalfa and clovers can be infected with S. sclerotiorum, while small grain cover crops like oat, wheat or barley may stimulate early emergence of apothecia, which enables the soybean crop to escape the period of infection. Depending on the field history, a longer rotation may be required with non-host crops like corn or small grains.

White mold in soybean. *Photo: Paul Esker*

The **Pennsylvania Soybean Board** is a farmer-controlled Board responsible for managing Pennsylvania's share of funds received from the nationwide Soybean Checkoff program.

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