

CHECKPOINT

NEWSLETTER FOR PENNSYLVANIA SOYBEAN PRODUCERS

STORED GRAIN POSES DANGER

If you have any grain left from last fall's harvest and plan to clean out your bins, remember not to enter a bin when unloading or breaking up a mass of grain. Anyone working around grain bins needs to be aware of the dangers of stored grain.

People can become trapped in three ways: by flowing grain, the collapse of a vertical wall of grain and the collapse of bridged grain.

Grain kernels may stick together in a grain bin, forming a crust. When grain is removed, a hollow can form under the crust, creating a bridge. That bridge can collapse under a person's weight and bury the person in seconds. Bridging also transfers more of the load to the bin wall, which may lead to bin failure during unloading.

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SAVE THE DATE!

2015 WINTER CORN AND SOYBEAN CONGRESS



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. Lunch is provided.

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.

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

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

Register by calling the Pennsylvania Soybean Board at 717-651-5922.

2015 PENN STATE CROP CONFERENCES

Don't miss the opportunity to learn about crop management research and issues at the 2015 Penn State Crop Conferences. The Conferences will be held at five locations statewide.

The Penn State Crop Conferences, supported in part by the Pennsylvania Soybean Board, focus on current crop management issues important to the productivity of Pennsylvania farmers.

Each conference offers a day-long program with at least two breakout sessions that give attendees the opportunity to select topics that are relevant to them and their agricultural operations. Topics are geared to key issues and the latest research from the Penn State Field and Forage Team.

In addition to hearing valuable research-based information from Penn State Field and Forage Crop Specialists, participants will also earn a minimum of two category and two core pesticide education credits. Learn about cutting-edge crop management strategies from Penn State Specialists at a location near you!



January 15, 2015 – Lancaster County

January 21, 2015 – Lehigh County

January 30, 2015 – Union County

February 3, 2015 – Westmoreland County

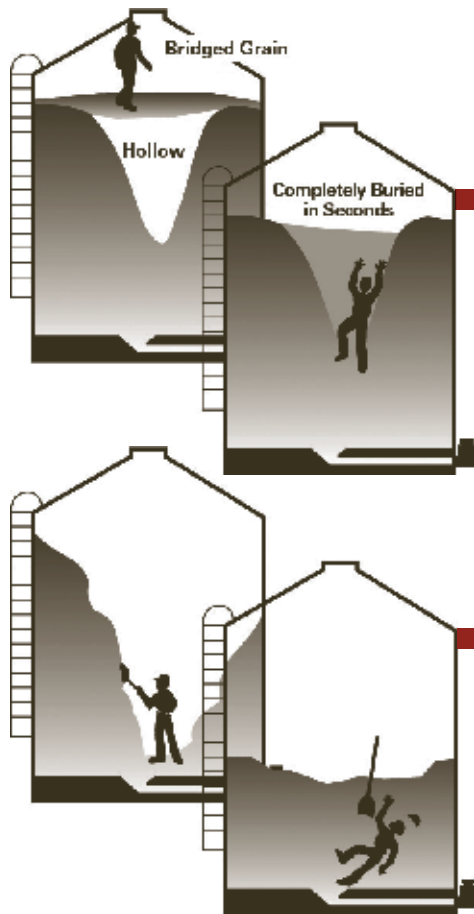
February 10, 2015 – Bradford County

To register, contact your local Penn State Extension Office.

Additional information is available at:

[http:// extension.psu.edu/plants/crops/courses/crops-conferences](http://extension.psu.edu/plants/crops/courses/crops-conferences)

STORED GRAIN POSES DANGER



WARNING

Grain kernels may stick together in a grain bin, forming a crust. When grain is removed, a hollow can form under the crust, creating a bridge. That bridge can collapse under a person's weight and bury the person in seconds.

WARNING

After some grain has been removed from a bin, some of the remaining grain can stick together and form a pile or wall. Trying to break this grain loose can be risky.

These tips and information come courtesy of North Dakota State University.

SAFETY TIPS

- Never enter a bin while unloading grain or to break up a grain bridge. A wall of grain can collapse without warning and cover a person in a few seconds.
- After partially unloading a bin, look for a funnel shape on the grain surface. If the surface appears undisturbed, the grain has bridged and a cavity has formed underneath.
- Stay outside the bin and use a pole or other object to break up bridged grain. Attach the pole or other object to the bin with a rope so you can retrieve the pole or other object if you drop it.
- When breaking up a grain wall or other large mass from the top of the bin or through the bin door, do not break up more than is necessary to keep the grain from crashing into the wall or flowing out through the door.
- Do not unload grain from an opening in the grain bin door or the sump on the side of the grain bin. Unloading grain from the side can damage the bin and cause it to collapse.
- Do not allow people to work around stored grain until warning them about the hazards.
- Never enter a bin without stopping the auger and using the "lock-out/tag-out" procedures to secure it. Use a key-type padlock to lock the auger switch in the "off" position.
- Never enter a grain bin alone. Have at least two people ready outside the bin to assist in case of problems. Use a safety harness and line when entering a bin.

Take these steps if someone gets trapped

- It is dangerous to enter the bin to assist an entrapped person without being secured to effective anchorages and attached to a lifeline and full body harness. The same hazards that entrapped the first person could still be present.
- Rescuers should form retaining walls around the person with plywood, sheet metal or other material to keep grain from flowing toward the person, then remove grain from around the individual.
- Don't try to pull out anyone engulfed in grain up to the waist or higher. The grain exerts tremendous pressure on the body, so pulling a person out could damage his or her spine.
- Cut holes in the bin's sides to remove grain if the person is completely submerged or is having great difficulty breathing.
- Ventilate the bin using the fan if the person is completely submerged or having great difficulty breathing.
- Use a cutting torch, metal-cutting power saw or air chisel to cut at least two V- or U-shaped holes on opposite sides or more holes equally spaced around the bin. Grain flowing from just one hole may injure the trapped person and cause the bin to collapse. ✓



NON-NODULATED SOYBEANS: A PERSISTENT ISSUE

By Dr. Greg Roth, Department of Plant Science, Penn State

“When planning soybean production on virgin soils, develop a strategy to improve your odds of achieving good nodulation.”

~ Dr. Greg Roth

Soybean acres continue to grow in the Keystone State and that means more acres of soybeans are being planted into virgin soils where there has been no recent history of soybeans. Sometimes achieving good nodulation is tricky, even for experienced growers. This appeared to be true again in 2014.

Lack of nodulation is due to a lack of viable bacteria in the inoculant or environmental conditions that are not conducive to nodulation. Very wet or very dry conditions can inhibit nodulation. High N fertility can also limit nodulation. Sandy or low pH levels in soils can reduce bacteria levels and cause parts of fields to show less than ideal nodulation.

Viability of the inoculant bacteria can be caused by exposing seed or inoculants to high temperatures prior to planting. Inoculants' viability can also be reduced through extended exposure

to the insecticide or fungicide seed treatment. (Inoculant manufacturers have guidelines for the interval between treatment and planting.)

Producers should begin to see nodulation occurring in many May-planted fields in early June and ideally these plants should have 8-20 nodules by early flowering. Nodules will form on both the taproot and the lateral roots. Those on the taproot are more likely associated with the inoculant applied.

Eventually fields that are non-nodulated will appear light green and likely have patches or patterns of nodulated and greener areas of the field. Note that these differ from K-deficient fields that have yellow leaf margins. The goal of early scouting is to identify non-nodulated fields prior to the onset of severe deficiency.

Troubleshooting non-nodulated fields

Troubleshooting non-nodulated fields is often difficult. Often there are patterns of nodulation or green spots in the field that are difficult to explain. Sometimes differences can be attributed to inoculation or seed handling practices. In one case, nodulation was good on the beans planted on Saturday, but those planted after a warm weekend on Monday failed to nodulate. Often

Non-nodulated (left) and nodulated (right) soybeans in the same field in Centre County.

it's difficult to ascertain whether the bacteria on the seed or in the inoculant was viable at the time of application. The patterns are likely mostly caused by variations in soil properties across the field.

There is limited data on N fertilization of non-nodulated beans, but most experts feel that applying 40-70 pounds of a dry N fertilizer product before R3 would be beneficial. One two-year study from Kansas State showed a 10 bushel/acre response from a 60 lb. N application to non-nodulated soybeans applied in late July. They found another 6 bushel/acre response to another 60 lb. for a total of 120 lb./acre. In this study, non-nodulated soybeans yielded about 60-70% of the fertilized soybeans.



RECOMMENDATIONS

Our basic recommendation is to double inoculate using two different methods of inoculation (ex. Peat or liquid and pre-inoculated seed) and then follow up with scouting in June for nodulation and applying a supplemental nitrogen application if necessary. Also consider not planting virgin fields too early, since cool temperatures can inhibit nodulation.

At the Pennsylvania Soybean Board Soybean Congress last winter, Extension Educator Mike Staton from Michigan State suggested that some producers there had better luck when applying a liquid inoculant in the row as one of the tactics in these situations. He suggests producers may also want to plant soybeans back-to-back and use inoculation both years to build up the native rhizobia populations.

We get questions about application of inoculant suspensions to help non-nodulated soybeans but I can find little data to support these.

DEVELOP YOUR STRATEGY

When planning soybean production on virgin soils, take time to develop a strategy to improve your odds of achieving good nodulation. This will help to avoid the extra cost and yield loss associated with non-nodulated soybeans.

- Handle pre-inoculated seed and inoculant carefully
- Avoid planting too early
- Consider a second inoculant strategy
- Monitor the field for nodulation in mid to late June

REGISTER NOW FOR SOYBEAN YIELD CONTEST

It's time to show what you grow in the Pennsylvania Soybean Yield Contest.

The annual Soybean Yield Contest recognizes and awards the state's top soybean producers. It focuses farmer attention on agronomic and management skills that will increase soybean yields and profitability. The contest is sponsored by the Pennsylvania Soybean Board in association with Penn State University Extension.

In addition to bragging rights, there are some great prizes!

This year, the top state winner will receive a plaque and a trip for two to the 2015 Commodity Classic, the annual joint convention of the American Soybean Association, National Corn Growers Association, National Association of Wheat Growers, and the National Grain Sorghum Producers, in Phoenix, Arizona.

The top grower in each of the five regions of Pennsylvania will also win a trip for one to the Commodity Classic. The state is divided into five regions based on maturity maps to make the competition more equitable for all growers.

Additionally, growers who reach the 90-bushel mark will also receive recognition.

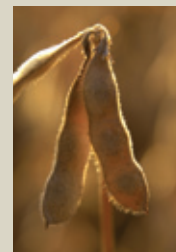
Contest rules and reporting forms are available for growers by calling the Pennsylvania Soybean Board at (717) 651-5922 or by going to www.pasoybean.org to download the form.

SIGN UP TODAY!



Deadline for registering for the Pennsylvania Soybean Yield Contest is **September 1, 2014.**

Entrants must also submit and complete a harvest form in the fall with their yield information.



PENNSYLVANIA HOSTS ANNUAL SUMMER MEETING OF UNITED SOYBEAN BOARD



The Pennsylvania Soybean Board hosted the 70 volunteer farmer-leaders who serve as directors of the national United Soybean Board (USB) as they gathered for their annual summer meeting in Hershey, Pennsylvania, from July 15-17, 2014.

“On behalf of the Pennsylvania Soybean Board and the nearly 4,000 soybean growers in the Commonwealth, we were honored to welcome the soybean farmers from throughout the country who are directors of the United Soybean Board and to thank them for their dedication and service to our nation’s soybean industry,” said William Beam, a Chester County farmer who serves as the chairman of the Pennsylvania Soybean Board as well as one of Pennsylvania’s representatives on the United Soybean Board.

During their meeting in Hershey, the USB directors

reviewed soybean checkoff program proposals, discussed strategic plans, and set fiscal year 2015 funding levels for research, educational, market development and other programs designed to maximize profit potential for soybean farmers. The directors also heard from industry leaders on topics of importance to the future of the soybean industry and received updates on the progress of the current work being undertaken by USB’s four Action Teams, which concentrate on issues related to Meal, Oil, Freedom to Operate and Customer Focus.

To wrap up the meeting, the group traveled to historic Gettysburg where they enjoyed dinner and a tour of the Museum, Visitor Center and cyclorama at Gettysburg National Military Park.

“My fellow farmers of the national soy checkoff appreciated the warm hospitality of the Pennsylvania Soybean Board,” said Jim Call, a soybean farmer from Madison, Minnesota and chairman of the United Soybean Board. “Pennsylvania has sent some talented and dedicated soybean farmers to serve on the national checkoff board for many years, representing a state with a rich history and a promising future in agriculture. We are grateful, and know your state will continue its important role in today’s agriculture industry.” ✓

Pennsylvania Secretary of Agriculture George Greig joined the Pennsylvania Soybean Board members as they hosted the directors of the United Soybean Board at a dinner in Gettysburg.

Left to right: PSB Board members Jim Musser, Brian Kreider, Steve Hykes, William Beam, Secretary Greig, Daryl Alger, Penn State Extension Educator Del Voight and Michael Gerhart.



- William Beam, Chairman, Elverson, PA
- Michael Gerhart, Vice Chairman, Ephrata, PA
- Steve Hykes, Secretary/Treasurer, Greencastle, PA
- Daryl Alger, Lebanon, PA
- Andy Fabin, Indiana, PA
- Brian Kreider, Lebanon, PA
- Jim Musser, Mount Joy, PA
- Del Voight, Ex-Officio Member, Lebanon County Senior Extension Educator

Contact us at:

Pennsylvania Soybean Board
Jennifer Reed-Harry, Executive Director
Northwood Office Center
2215 Forest Hills Drive, Suite 40
Harrisburg, PA 17112

Phone: (717) 651-5922

Fax: (717) 651-5926

contact@pasoybean.org

www.pasoybean.org



POULTRY AND LIVESTOCK FARMERS REAP BENEFITS FROM INCREASED BIODIESEL PRODUCTION

Last year’s record-breaking biodiesel production means record-breaking industrial demand for U.S. soybean oil and bigger profits for U.S. soybean farmers. It also means reduced soy meal prices for livestock and poultry farmers, the biggest users of U.S. soybean meal.

The reason is simple: increased demand for soybean oil from biodiesel manufacturers leads to expanded crush and, in turn, more soybean meal. That larger supply of soybean meal reduces the prices poultry and livestock farmers pay for animal feed. In fact, a checkoff-funded study says that the biodiesel industry’s demand for soybean oil has lowered meal prices by as much as \$48 per ton. Poultry consumed the majority of that soybean meal: 46 percent; hogs consumed 24.5 percent; and dairy and beef cattle consumed almost 20 percent combined.

U.S. soybean oil remains the primary feedstock for U.S. biodiesel production. However, livestock and poultry farmers also benefit from increased animal carcass values, as animal fats can be used to make biodiesel, too.

The soy checkoff partners with the National Biodiesel Board to conduct research on biodiesel’s benefits and promote its use. Biodiesel brings a major return on investment back to the U.S. soybean farmers who helped start the industry more than 20 years ago and have continued to support it ever since. Research has shown that the biodiesel industry’s demand for U.S. soybean oil increased soybean value by 74 cents per bushel between 2006 and 2012. ✓