

CHECKPOINT

NEWSLETTER FOR PENNSYLVANIA SOYBEAN PRODUCERS

STANDING GUARD AGAINST YIELD ROBBERS

Every year, soybean growers face two formidable foes in their fields: insect pests and disease.

To give growers an edge on dealing with these potentially yield-robbing problems, the Pennsylvania Soybean Board, in collaboration with Penn State Extension, will again undertake a sentinel plot project this year. The sentinel project involves scouting 18 fields every week for insect and pest populations, and will be executed by a team of 13 county-based Extension Educators, with assistance from college student interns. "By one estimate, annual soybean yields are decreased approximately 10% by insects, and a further 10% by plant pathogens," says John Tooker, Assistant Professor of


Entomology at Penn State, who heads the program. "But in outbreak years, these pests hold the potential to reduce yields by as much as 25-30%."

To manage these threats to crop production, Extension Specialists typically recommend an integrated pest management program that relies heavily on understanding local populations of pests and the threats they pose to crop fields. That's where the information from the sentinel plot programs comes into play. Although scouting is time consuming, the information gathered is critically important in determining whether it's in the growers' best economic interest to apply a management tactic.

Tooker notes that although the Pennsylvania PIPE (Pest Information Platform for Extension and Education) online system can assist growers by indicating when certain pest species may be active based on temperature and weather data, it does not provide what he calls "ground-truthing."

"Just because a pest should be active does not mean it will colonize fields and cause economic losses," notes Tooker. "The state-wide sentinel program's scouting efforts will help growers understand what pest populations are doing on a regional basis, which should prompt growers to initiate

Continued inside ...



"It's an important message for growers to hear: pest populations are not pervasive and always threatening soybean yields."

THE HEXANE DISCUSSION

There's been a lot of discussion lately on the topic of hexane, so we asked Gordon Denny, a leading consultant in production agriculture relating to soybean and grain production and processing, to shed some light on the subject.

Understanding the use of hexane in soybean processing

Article by Gordon Denny, Gordon Denny, LLC

To understand the use of hexane in the processing of soybeans and other oilseeds, there are three areas to consider: safety, efficiency/productivity, and healthy characteristics of the process.

Safety

Most of the soybeans and other oilseeds grown in the world today are processed using hexane, which has been safely used throughout the world for this purpose for nearly 80 years. Hexane is a stable, long chain organic solvent that has a high affinity for soybean oil and has the perfect characteristics for producing safe, healthy soybean meal and oil.

Efficiency/productivity considerations

The expeller process is much less efficient and leaves significant amounts of residual soybean oil in the finished soybean meal product. The oil is worth over twice the meal and has more value sold as oil than meal.

The large amounts of electrical energy required to press soybeans, combined with

problems inherent with the presence of significant amounts of residual oil, makes this process much less productive than hexane-extracted meal. For example, handling of oil-laden meal can be problematic due to the sticky nature of the meal. Also, longer term storage of oil-laden meal is suspect, as the oil could oxidize and potentially become rancid due to the free fatty acids that are exposed to oxygen.

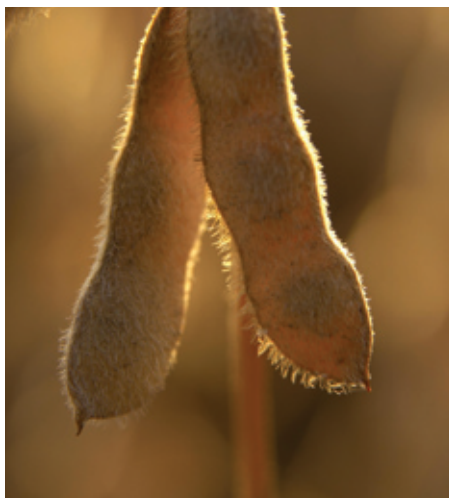
The modern hexane extraction plant in the U.S. will typically lose only between 0.10 and 0.15 gallon of hexane per ton of beans processed, across five sources of loss (ambient, mineral oil system vent, meal, oil, DTDC stacks). Considering that a gallon of hexane only weighs 5.67 pounds per gallon, the actual weight of hexane lost from all five sources is merely ounces per ton of soybeans processed (~0.6 pound per ton of soybeans processed). Thus, the amount left in soybean meal is insignificant and of no consequence.

Healthy characteristics of the solvent process

The processing of soybeans and other oilseeds using hexane involves high temperatures, vacuums and steam. They all contribute to a process that kills mycotoxins, bacteria and other potential contaminants/impurities in soybeans that might persist in soils or other storage/handling of the raw soybeans. The process is highly computer controlled, with strict temperatures and time considerations that give the finished products longer shelf life, make the meal more palatable by killing the trypsin inhibitors, and provide a consistent, safe and healthy product.

What is hexane?

Hexane is an alkane of six carbon atoms. Hexane is used as a solvent to extract the vegetable oil from crops such as soybeans, canola, sunflowers and corn.



PENNSYLVANIA SOY STATS

In 2012, **530,000** acres of soybeans were planted in Pennsylvania.

390,000 were no till acres

45,000 acres were conventional till

95,000 were other conservation tillage

In 2011, **500,000** acres of soybeans were planted in Pennsylvania.

350,000 were no till acres

51,000 acres were conventional till

99,000 were other conservation tillage

SOURCE: USDA-NASS, Harrisburg Office

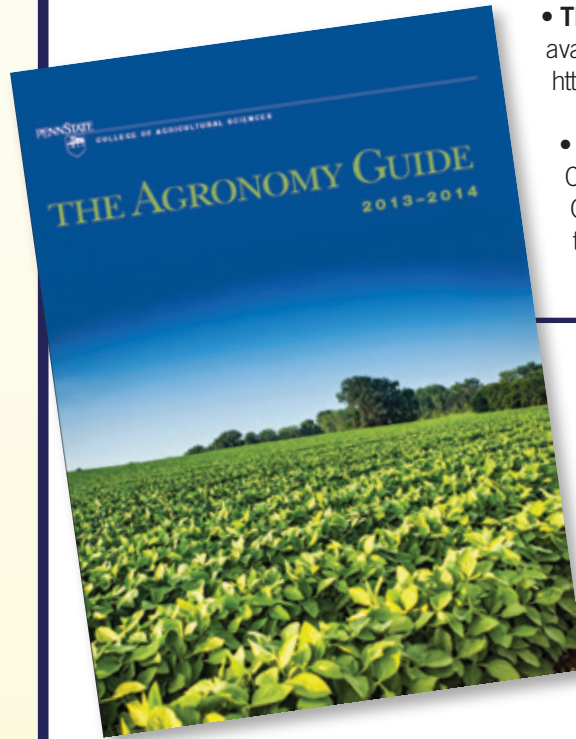
In 2012, soybean production in Pennsylvania was **up 16%** from 2011, with an average yield of **48 bushels** per acre, **up 4 bushels** per acre from 2011.

SOURCE: USDA-NASS, Harrisburg Office



Penn State Agronomy Guide

The new 2013-2014 Penn State Agronomy Guide is a comprehensive publication on crop and soil management and pest management for farms of all sizes.



• The 2013-2014 Agronomy Guide is available online at <http://extension.psu.edu/agronomy-guide>

• Purchase hard copy for \$20
Contact your local County Extension Office or the Publications Distribution Center to order (*Publication No. AGRS-026*).

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YIELD ROBBERS

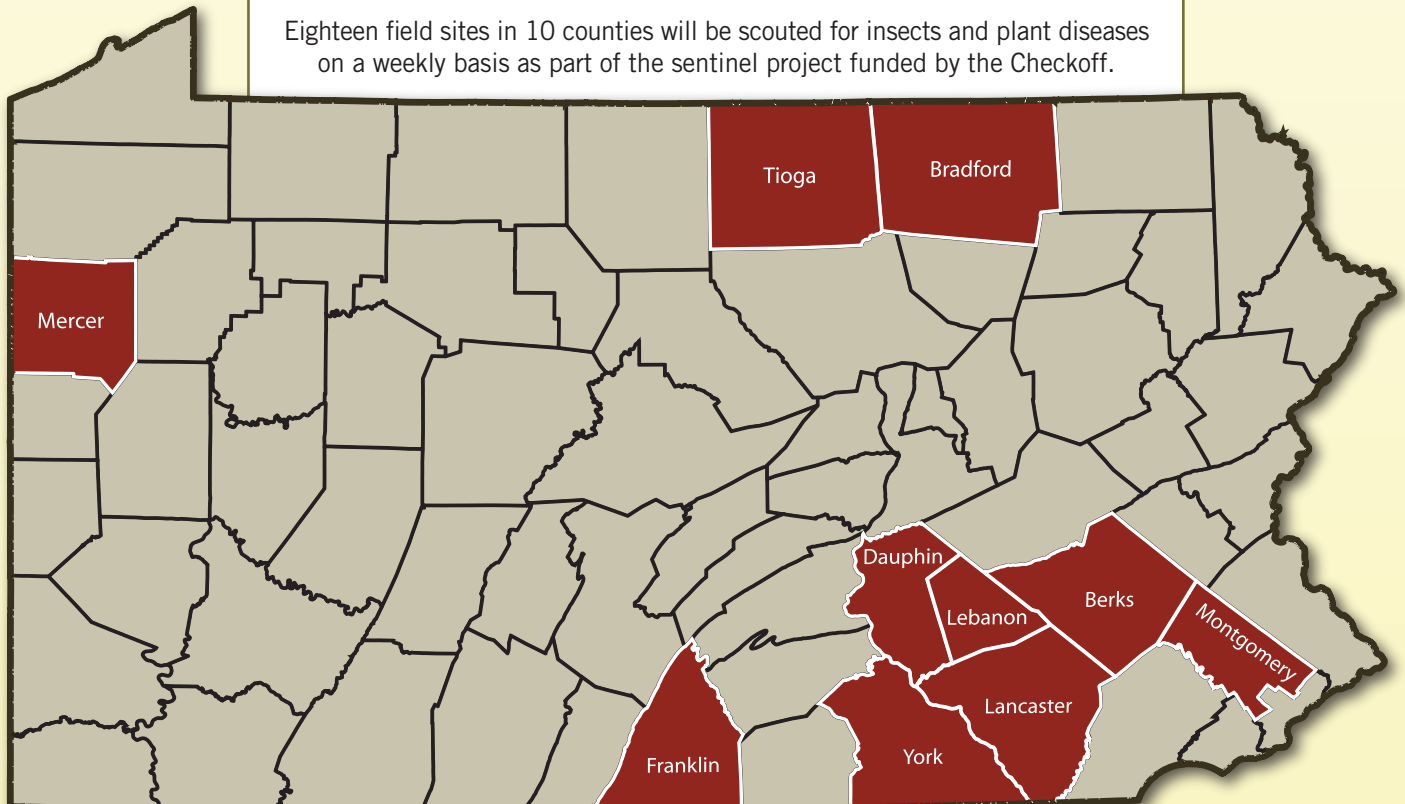
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their own scouting efforts to gauge actual population sizes and risk to their fields.”

Last year, scouting efforts discovered a range of insects and other pests, including slugs, bean leaf beetles, grasshoppers, brown marmorated stink bugs, and a few diseases, including Downy mildew, Cercospora leaf blight and Septoria leaf spot.

“It’s an important message for growers to hear: pest populations are not pervasive and always threatening soybean yields,” says Tooker. “In fact, in many locations, and in most years, pest populations do not develop and pesticide use should provide no advantage. Last year, for example, none of the pest populations exceeded economic thresholds in the fields scouted, so none of the fields required pesticide treatments.”

Eighteen field sites in 10 counties will be scouted for insects and plant diseases on a weekly basis as part of the sentinel project funded by the Checkoff.



BIODIESEL TECHNICAL TRAINING OFFERED FOR AUTOMOTIVE PROFESSIONALS

Diesel mechanics and service technicians are often the first point of contact for users of biodiesel, so they need to be well-informed about the use of biodiesel products. People listen to their automotive technicians, and if there is an information gap there, techs are not likely to recommend the use of biodiesel to their customers.

To provide this critical education, the Pennsylvania Soybean Board, in cooperation with the National Biodiesel Board, will offer a training seminar to educate and inform diesel mechanics and service technicians about the benefits of using commercial biodiesel and biodiesel blends in a variety of diesel engine technologies and use in the field.

The National Biodiesel Board has the first and only Automotive Service Excellence (ASE) certified biodiesel training curriculum for diesel technicians in North America. The ASE certified curriculum is designed to deliver both technical and application information from biodiesel basics and utilization. With this education, technicians will be able to better advise their customers and other technicians about the true impacts of using biodiesel and biodiesel blends in diesel equipment.

The program also allows diesel technicians to more accurately diagnose the root cause of problems with equipment for service as it relates to both petrodiesel and biodiesel issues, and how these problems can be avoided in the field, regardless of the root cause.

Dates and times for the on-site training will be announced on the PSB website.



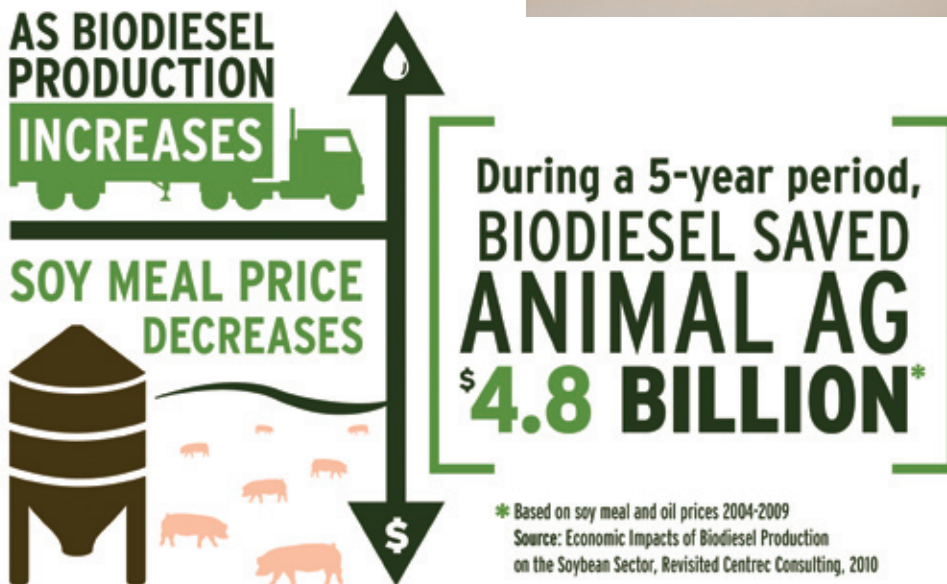
Online biodiesel training seminars

The National Biodiesel Board's continuing education program is aimed at educating diesel automotive instructors, service, service technicians, and OEM representatives nationwide about biodiesel and biodiesel blends. Three online biodiesel training seminars are available at www.BiodieselAutomotive.org.

Biodiesel Technical Overview (BIO 1.0), provides a comprehensive training seminar about biodiesel production, use, performance, quality, and emissions. Participants will understand the importance of biodiesel fuel quality and the BQ-9000 program and will be able to answer general questions about biodiesel.

Biodiesel Fuel Quality and BQ-9000 (BIO 2.0) gives a basic understanding of diesel and biodiesel fuel properties. Technicians will understand both the ASTM diesel fuel and biodiesel fuel quality parameters. The goal of this course is to understand the key differences and similarities between biodiesel and diesel fuel.

Biodiesel Vehicle Performance & Maintenance (BIO 3.0) provides technical instruction on biodiesel's impact toward engine performance. Participants will be able to discern issues between normal diesel problems and poor quality biodiesel imposters. They will also be able to properly diagnose and make recommendations regarding biodiesel use and vehicle maintenance.



Andy Fabin



INDIANA COUNTY GROWER TAKES PART IN 'SEE FOR YOURSELF' TOUR

Last August, Indiana County soybean producer Andy Fabin joined nine other American soybean growers for the United Soybean Board's 2012 See for Yourself tour. The tour gives soybean farmers a chance to see first-hand how their Checkoff investment works to maximize the profit opportunities for all U.S. soybean farmers.

Andy Fabin is no stranger to soybeans. After graduating with an Agribusiness Management degree from Penn State, he returned to his family farm to help grow the business. Last year, Andy's father Rick and his Uncle Stanley opened Fabin Brothers Farms' soybean extrusion operation where they produce soy oil and soy meal.

Andy Fabin and nine other soybean growers spent the first day of the tour at USB headquarters in St. Louis where they received an overview of the organization and learned about the different activities of each Checkoff program area and how the Checkoff works on behalf of growers domestically. They toured a barge-loading facility on the Mississippi River, met with a soybean researcher to discuss advancements in growing soybeans and visited Lambert-St. Louis International Airport, where much of the equipment runs on biodiesel.

The next stop was Mexico, the U.S. soy industry's second-largest international market. They visited a company that imports more than 600,000 tons of U.S. soybeans each year to crush and process for oil in the frying and baking industry. Next, they visited two food production companies that enrich their products with soy for extra protein. They also went to two dairy farms that use U.S. soy meal in their cattle feed.

During the trip, Fabin not only saw about how the Checkoff works for soybean growers, he also enjoyed the camaraderie with the other growers from across the U.S., learning about their operations and different production practices.

"The trip definitely opened my eyes quite a bit. I was amazed at how much research the Checkoff is involved with at the international level," says Fabin. "They are improving our soybean genetics and expanding uses for our domestic market as well as abroad. I never realized how much involvement they have with foreign growers and research."

Andy Fabin now has a new, more informed appreciation of the Checkoff program, and feels confident that farmers are getting a lot of value for their Checkoff dollars.



The Pennsylvania Soybean Board administers the national soybean checkoff program, approved by Congress in 1990. Under its terms, farmers "check off" 50 cents on every \$100 at the first point of sale of their beans. Half goes to the state, with the remainder to the United Soybean Board. The money is used to fund or support soybean research, market development and education.

The Pennsylvania Soybean Board promotes the growth and development of Pennsylvania's soybean industry. The board membership is composed of soybean producers from across the state.

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

Contact us at:

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www.pasoybean.org



www.pasoybean.org



2013 Ag Progress Days

Technology, information, and fun! You won't want to miss Ag Progress Days at the Russell Larson Ag Research Center in Rock Springs!

WHEN:
August 13 - 15, 2013

WHERE:
Russell Larson Research & Education Center
2710 West Pine Grove Road
Pennsylvania Furnace,
PA 16865

You'll find Pennsylvania Soybean Board representatives at the Ag Choice Building. Be sure to stop by!



YOU'RE INVITED! SOYBEAN FIELD WORKSHOPS

Growers are invited to participate in Soybean Field Workshops, which are conducted by Penn State Extension Educators and sponsored by the Pennsylvania Soybean Board. The workshops, which are offered free to current and potential soybean growers, will be held at ten locations throughout the state.

Two workshops will be held at each site, one a few weeks after planting, and the other later in the season around canopy closure. The post-planting workshop will focus on plant emergence, populations, soil fertility, row widths, and growth stages. The canopy closure workshop will address pests, diseases, crop scouting, populations, nodulation and reproductive growth stages.

The workshops will be formatted as Growers' Panels where growers will hear from the field host and other producers who are willing to share their experiences in producing soybeans.

Be sure to contact the Extension Educator for the time and date of the workshops:

Erie County

Location: Woods Dairy Farm
13200 Water St. Ext.
Edinboro, PA
Contact: Joel Hunter
Extension Educator
(814) 333-7460 or
(800) 982-9019, ext. 460

Fayette County

Location: Robert Dorazio Farm
4460 Morgantown Road
Lake Lynn, PA
Contact: Alicia Spangler
Extension Educator
(724) 548-3447

Indiana County

Location: Fabin Brothers Farms
231 Bethel Church Road
Indiana, PA
Contact: Alicia Spangler
Extension Educator
(724) 548-3447

Jefferson County

Location: Terry Shields Farm
Mt. Pleasant Road
Corsica, PA
Contact: Nicole Santangelo
Extension Educator
(814) 274-8540

Potter & Tioga Counties

Location: Metzler Soybean Field
Airport Road, next to the
Wellsboro Airport
Wellsboro, PA
Contact: Nicole Santangelo
Extension Educator
(814) 274-8540

Franklin County

Location: Burk-Lea Farms
520 Kohler Road
Chambersburg, PA
Contact: Jennifer Bratthauer
Extension Educator
(717) 263-9226

York County

Location: Bupplyn Farm
Near exit 8, I-83, at the
intersection of Potosi Road
and Park Road
York, PA
Contact: John Rowehl
Extension Educator
(717) 840-7408

Lancaster County

Location: Penn State College of Ag.,
Southeast Ag Research and
Extension Center (SEAREC)
1446 Auction Road
Manheim, PA
Contact: Jeff Graybill
Extension Educator
(717) 394-6851

Lebanon County

Location: Randy Ziegler Farm
147 Ziegler Lane
Fredericksburg, PA
Contact: Del Voight
Extension Educator
(717) 270-4391

Berks County

Location: Kurtz Farm
1116 Baldy Road
Fleetwood, PA
Contact: Mena Hautau
Extension Educator
(610) 378-1327