

Fall 2018

# MICHIGAN SOYBEAN NEWS<sup>®</sup>

Volume 10 - Issue 4

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A publication of the Michigan Soybean Association



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# Michigan SOYBEAN NEWS

Fall 2018  
Volume 10 - Issue 4

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**Magazine Circulation: 14,500**  
Michigan Soybean News is  
published quarterly.



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See what MSA is doing for its  
members.



Zeeland Farm Services, Inc.®

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*Comments and suggestions  
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### Michigan Soybean Association's Mission Statement

To improve and advocate for the Michigan soybean industry.

# From Your MSA President...



Dave Williams

## Demand:

A dictionary definition is “the desire of purchasers, consumers, clients, employers, etc. for a particular commodity, service or other item.” As I write this, the United States and China (our largest customer), along with Canada, Mexico and other countries are involved in a tit for tat Trade War. I doubt this is news to farmers who unfortunately are stuck in the middle of this dispute. Even though these customers (countries), along with other customers have a

preference for U.S. Soy, the tariffs serve as a tax on our exports which puts the cost of U.S. soybeans higher than our competition – Brazil, Argentina, Canada and other soybean producing countries – which reduces our DEMAND.

The preference for U.S. Soy didn’t happen overnight. It came about over decades of work with our customers, showing them the best ways to use U.S. Soy, showing them the benefits of the amino acid profile of U.S. Soy and showing them that we can supply soybeans for their needs – the soybeans they grew to DEMAND. A normal supply and demand scenario is what we’ve become accustomed to working with for decades – customers demand more, we supply more; customers demand less, we supply less. The tariffs have placed an artificial barrier on the commodities we grow instead of the marketplace we’re used to.

The United States Soybean Export Council (USSEC), which is funded by the American Soybean Association (ASA), the United Soybean Board (USB) and industry partners, has a worldwide network which provides support to our customers’ use of U.S. Soy. USSEC, along with the United States Department of Agriculture’s Foreign Ag Service (USDA-FAS), have worked together for decades promoting U.S. Soy. This investment was made possible by the forethought of U.S. soybean farmers through USB and by U.S. taxpayers through the policy of the USDA.

I was in Washington, D.C. in mid-July along with Matt Stutzman, a Michigan Soybean Association (MSA) Director and Michigan’s representative to the ASA. We met with legislators to reinforce how much the tariffs were hurting Michigan’s agriculture sector and asked them to tell the Administration how much it was hurting our economy. During this visit I also met with USDA-FAS and attended a briefing by Paul Burke, USSEC’s Regional Director covering North Asia which includes China. Paul pointed out that the Chinese are a proud people and probably wouldn’t give into the tariff threat – that they would “save face” which is what they’ve done for centuries.

The encouraging part of my visit to D.C. was hearing how USSEC and FAS plan to identify new customers for U.S. Soy and U.S. agriculture respectively. Both organizations are systematically identifying where we can develop new DEMAND. I was impressed and gratified with how much effort was being put into seeking new customers.

DEMAND – another dictionary definition is “a pressing requirement.” I encourage all growers to indicate to the Administration and Congress the pressing burden these tariffs place on your family, your livelihood and your farm. Tell them how it puts your farm in jeopardy and let them know you want them to negotiate trade deals rather than DEMAND trade deals – which brings me to the last dictionary definition - “an insistent and peremptory request, made as if by right.” I don’t think anyone likes to have something DEMANDED of them.

MSA BOARD OF DIRECTORS	
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Regards,  
Dave Williams  
MSA president



WE ARE U.S. SOYBEAN FARMERS



## SUSTAINABILITY NEVER GOES OUT OF SEASON

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### DECISION FARMING

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**Customers prefer U.S. soy because it's sustainable.** But demands for sustainability continue rising. Making informed management decisions by using data from all aspects of your operation helps you minimize inputs and maximize yields. Adopting this practice is another step forward in improving your sustainable footprint. Show your commitment to sustainability with a free truck magnet available at [unitedsoybean.org/sustainability](http://unitedsoybean.org/sustainability)





# MEMBER BENEFITS

People making decisions in Lansing and Washington, D.C. are getting further and further away from the farm. In the past, families had someone who was a farmer they could visit, but now generations are far removed and don't have a direct connection. "I've met several legislators that have never set foot on a farm. We as farmers need to be visiting with legislators and representing our land," stated Jay Ferguson, MSA director. "There is a lot of education that needs to occur to our politicians and the public."

Paying the soybean checkoff does not make you a Michigan Soybean Association member. Checkoff dollars cannot be used for lobbying.

## NEW LIFETIME LOYALTY MEMBER PROGRAM

As of October 1, 2016, if you have been an MSA member for 15 consecutive years, you will no longer need to pay dues - you have become a LIFETIME LOYALTY MSA MEMBER!

Call the soybean office at 989.652.3294 to check on your membership.



Are you receiving the MSA eNews?  
Email [soyinfo@michigansoybean.org](mailto:soyinfo@michigansoybean.org) to sign up for this informative membership e-newsletter.

## PROTECT YOUR FARM AND WAY OF LIFE, JOIN THE MICHIGAN SOYBEAN ASSOCIATION TODAY!

### SOME MEMBERSHIP BENEFITS:

- 5% member discount purchase incentive on all IntelliFarms equipment and free admission to grain school and workshops
- Through Auto-Owners Insurance/Cedar River Insurance Agency, an offer of premium discounts up to 10% on select policies is available
- Scholarship opportunities for your children and grandchildren
- Preferred pricing on the purchase or lease of most new Chrysler, Dodge or Jeep vehicles
- Cabela's gift card purchase discount
- Discounted registration to the Commodity Classic

### 3-YEAR OR LIFETIME MEMBERSHIPS:

- **NEW** for 3-year or Lifetime memberships is a \$300 Specialty seed certificate with a minimum order of 30 units
- \$50 certificate good for LG Seeds Roundup Ready 2 Xtend™ soybean seed **AND** a \$50 soybean seed certificate good for Renk Seed
- 2-\$25 Soy Biodiesel certificates **OR** 2-\$25 Soybean Meal Bucks certificates

The MOST IMPORTANT MSA membership benefit: *Having a voice in Lansing and Washington, D.C.!*

# MEMBERSHIP APPLICATION



## MSA MEMBERSHIP APPLICATION

First Name: \_\_\_\_\_  
 Last Name: \_\_\_\_\_  
 Address: \_\_\_\_\_  
 City/State/Zip: \_\_\_\_\_  
 Phone: \_\_\_\_\_  
 Cell Phone: \_\_\_\_\_  
 Email: \_\_\_\_\_

Payment Amount & Method:  
 1-yr: \$75     3-yr\*: \$190     Lifetime\*: \$750

Check (Payable to MSA) or Credit Card  
 Credit Card Type: \_\_\_\_\_ Expiration Date: \_\_\_\_\_  
 Credit Card #: \_\_\_\_\_  
 Signature: \_\_\_\_\_

**Mail application with payment to:**  
 Michigan Soybean Association  
 PO Box 287, Frankenmuth, MI 48734

*Dues are not tax deductible as a charitable contribution for federal tax purposes, but may be deductible as a business expense. 18% of member dues are allocated to lobbying activities and are not deductible.*

\*3-year and Lifetime memberships can choose between receiving either (check one):

- 2-\$25 Soy Biodiesel Bucks certificates or
- 2-\$25 Soybean Meal Bucks certificates

Date of Birth: \_\_\_\_\_  
 Number of Soybean Acres: \_\_\_\_\_  
 Total Farm Acres: \_\_\_\_\_

Occupation (circle one):  
 Farmer     Retired     Other

What issues interest you most?  
 (Check all that apply)

- Biodiesel/Biobased Products
- Farm Bill
- Transportation Infrastructure
- Trade Agreements
- Conservation
- Soybean Rust
- Biotechnology
- Freedom to Operate
- International Marketing
- Soy and Nutrition
- Other: \_\_\_\_\_



# MSA DIRECTOR OPPORTUNITIES IN 2019

The Michigan Soybean Association (MSA) is seeking nominations for board positions in the following districts:

- District 3 – Lenawee, Livingston, Monroe, Washtenaw and Wayne counties
- District 6 – Clinton, Genesee, Ionia and Shiawassee counties
- At-large – any county in the state

In order to appear on the ballot, nominations must be received by **OCTOBER 24, 2018**. All elected directors will hold the office for a term of three years. To be eligible for a seat on the board one must be a soybean farmer residing in the district that he/she is seeking election for and be a member of MSA in good standing.

According to current bylaws, elections will be held via U.S. mail. Ballots will be mailed to all members on November 7, 2018, and must be returned to the MSA office by December 7, 2018.

Election results will be announced at MSA’s Annual Meeting, which will take place during the Great Lakes Crop Summit on January 30, 2019.

The MSA board typically holds quarterly meetings plus other events such as Legislative Outreach Farm Tours, a legislative luncheon at the Capitol, representation at legislator and industry outreach events and more.

MSA works on important issues such as trade expansion, transportation and infrastructure, environmental regulations and the Farm Bill. Your service on the board will help Michigan soybean farmers’ voices be heard and have a greater impact in Lansing and Washington, D.C.

If you would like to nominate someone for one of the above districts or be placed on the ballot yourself, please contact MSA Executive Director Gail Frahm at [gfrahm@michigansoybean.org](mailto:gfrahm@michigansoybean.org) or 877.769.6424.

Thank you for your dedication to the Michigan soybean industry.



# GOVERNMENT AFFAIRS NEWS

The legislature has recessed for the summer, most growers are busier than ever and MSA has accomplished much for the industry in the first half of the year!

MSA continues to be involved with educating legislators through our annual Legislative Lunch event, our membership in the Agricultural Leaders of Michigan and by advocating for the Fiscal Year 2018-2019 state budget that supports agriculture.

Another piece of public policy that MSA was involved with earlier this year was House Bill 5638, sponsored by Rep. Aaron Miller, which was signed into law by Governor Snyder. For those farmers that irrigate, this may help some of the issues with the Water Withdrawal Assessment Tool (WWAT).

## HERE IS A NARRATIVE ABOUT HOW THE BILL BECAME LAW –

After the first hearing in which several stakeholder groups raised concerns about the bill and the Water Withdrawal Assessment Tool (WWAT), the committee chair asked Rep. Miller to spearhead a workgroup to address the concerns with the bill with the goal of substantially reforming the WWAT. Those workgroup meetings proved fruitful as businesses, environmental groups and agriculture forged a compromise.

HB 5638 is the first substantive reform of the WWAT since its inception more than a decade ago. An alternative analysis is now allowed by WWAT because of its ability to report there is no adverse resource impact through new modeling. Additionally, it gives the Department of Environmental Quality (DEQ) a specified time period in which to review

*By: Justin Clement, The Frederick Group*  
and approve/deny permits so that applicants are not left in limbo for months on end. If you utilize high capacity wells to irrigate, this will streamline the approval process and require the DEQ to use more data and science when making decisions.

MSA supported this important legislation and are proud to report that it is now law, Public Act 209 of 2018! MSA is engaged on many fronts on behalf of the industry. Your involvement and support make the industry and the association successful.

Lastly, don't forget to vote in the November 6 General Election!

As always, The Frederick Group is here to represent you and advocate for your issues in Lansing. If you have any questions or if we can be of service, feel free to contact the office at 517.853.0413. We wish you a successful harvest and a great fall!

*Justin Clement is part of your Frederick Group team, which advocates for MSA members and promotes the Michigan soybean industry in the halls of state government.*



## MSA VOLUNTEER PROGRAM

**The Michigan Soybean Association (MSA) volunteer program is designed to promote soybeans and share the political interests of soybean farmers to farm and non-farm families throughout Michigan. The key objective of the MSA volunteer program is to promote the association and obtain memberships across Michigan. The more volunteers we have promoting the importance of MSA, the bigger voice the soybean farmers have in Lansing and D.C.**

**To request a volunteer promoter application, call Noelle at the soybean office – 989.652.3294 or email [soyinfo@michigansoybean.org](mailto:soyinfo@michigansoybean.org).**

# ZFS Ithaca – A Game Changer for Michigan’s Soybean Industry

*By: Gail Frahm, Executive Director*

Slowly, but surely, the skyline of the city of Ithaca, a small town in rural mid-Michigan, is evolving. The view of the horizon to the east of Interstate 127, once dotted primarily with tall, lanky wind turbines whirring lazily in the breeze, now features four gleaming steel grain storage bins, each more than 15 stories tall, a pair of equally tall cement silos, and a grain receiving tower that soars more than 200 feet into the air. It will soon include a 16-story tall prep building with a 190-foot bucket elevator, a 12-story tall soybean meal loadout building with a 165-foot leg tower, and a scale house plus offices.

They are all part of the ZFS Ithaca, LLC soybean processing facility, now under construction in Gratiot County on a 435-acre parcel that was annexed into the city of Ithaca prior to the beginning of construction. ZFS Ithaca is an affiliate of Zeeland Farm Services,

Inc., the owner and operator of Michigan’s first soybean plant. When the Ithaca facility is completed it will be four times larger than its counterpart in Zeeland.

“We are not building and sizing the facility for today, but for tomorrow. This is a long-term, 40 or 50 year investment in Michigan agriculture,” ZFS Ithaca President Cliff Meeuwse said when the plans to build the plant were unveiled two years ago. “We are building a legacy plant that will fulfill all of Michigan’s soybean processing needs for decades.”

The grain storage capacity will be about four million bushels, and when operating at full capacity the plant will be capable of processing more than 38 million bushels of soybeans annually. ZFS Ithaca will be able to crush 3,300 tons of soybeans a day, producing 2,400 tons of soybean meal and 1.2 million pounds of crude soy oil daily.



*Photos credited to  
ZFS Ithaca*



When both the Zeeland plant and ZFS Ithaca are running at full capacity, ZFS will have the ability to process more than half the soybeans grown in Michigan. So, while the plant is physically changing the landscape of Ithaca, it will metaphorically change the landscape for soybean farmers throughout the state.

The Michigan Soybean Promotion Committee and Michigan Soybean Association are excited to have been a part of Zeeland Farm Services' growth for more than two decades and are pleased to see the Ithaca soybean processing plant coming closer to being a reality. Livestock, poultry and aquaculture farmers will greatly benefit from having additional Michigan-grown soybean meal available to their industries. Also, soybean farmers will enjoy additional opportunities to provide soybean oil for the human consumption and industrial use markets. This processing plant is a win for everyone involved.

The grain storage facility has been under construction for well over a year, and is moving closer to completion every day. It is not known when ZFS Ithaca will begin taking soybeans, but the company encourages farmers to visit [www.zfsithaca.com](http://www.zfsithaca.com) for information and updates.

Construction started on the soy plant late in the spring, and there have been about 150 workers from general contractor, Fagen, Inc., working furiously to get things on track to start processing in the Fall of 2019. A large portion of the concrete flat work has

been completed, and some steel has been erected for the prep and extraction buildings, as well as various storage facilities, but there is much work yet to be done.

"It took a lot of teamwork with the city of Ithaca, Gratiot County and the State of Michigan to get to this point. A lot of work was done ahead of the shovels going into the ground to get the project on track," said Eric Meeuwsen, general manager of ZFS Ithaca. "It took a lot of people to bring this together, and now we are all working hard toward the end goal of getting the plant up and running."

ZFS Ithaca is expected to bring about 75 well-paying jobs to the region and could increase soybean production in Michigan by more than 20 percent. It represents the first time since Zeeland Farm Services built its Zeeland plant in 1996 that a significant new market has been opened up to Michigan soybean farmers.

It is, in the words of Michigan Agri-Business Association President Jim Byrum, a "game changer."

"Having a processor that large nearby will increase the demand for local soybeans," Byrum told Rapid Growth GR for an article about ZFS back in July. "It'll, bottom line, help farmers with their profitability."





Your Soybean Checkoff

# 2018 Soybean Harvest Equipment Field Day



*By: Mike Staton, MSU Extension Soybean Educator*

**O**n average, harvest losses reduce marketable soybean yields by one to two bushels per acre. Given the projected soybean market prices, this translates into \$9.25 to \$18.50 per acre of lost income. However, harvest losses can be much higher in fields where the plants are lodged, have green and tough stems, have undergone several wetting and drying cycles after initially drying to 13 percent or are short due to drought conditions.

To help soybean producers reduce harvest losses, the Michigan Soybean Promotion Committee, Michigan State University Extension, Burk Farms, AWS Airbar Systems, Bader and Sons Co., Burnips Equipment Company, Delta College, Janson Equipment, and LG Seeds are cooperating to conduct the eighth annual Soybean Harvest Equipment Field Day on Thursday, September 13. The program will begin at 11 a.m. with a presentation on how to reduce the field-to-field spread of herbicide resistant weed seed by cleaning out the combine. The field day site is located in Bay County on Hotchkiss Road just east of the Delta College campus entrance. This is about three quarters of a mile east of Mackinaw Road.

Participants will learn new information about how soybean harvest losses occur and how equipment selection, maintenance and operation can reduce them. They will also have an opportunity to see the

latest harvest equipment demonstrated in the field. Equipment company representatives will be on-hand to discuss specific recommendations for fine-tuning their combines. Equipment demonstrations will include draper heads, auger heads and air-assisted reels. We will also measure harvest losses in the field.

To demonstrate how operator skill affects harvest losses, we will ask each combine operator to harvest an area with the combine set and operated to minimize harvest losses. Then we will ask each operator to make one change representing a common error and harvest a second area. Operating the combine too fast for the conditions and positioning the reel too far forward were shown to increase harvest losses at previous field days.

There is no charge for the field day. However, pre-registration is requested by calling 269.673.0370 ext. 2562 before noon on Friday, September 7, as a complimentary lunch and educational materials will be provided. The field day will be rescheduled if the weather, soil or crop conditions are not conducive to harvesting as the equipment demonstrations are an important part of the event. Please call the phone number listed above after noon on Wednesday, September 12 for updated information regarding the field day.



**Mark Your Calendar for the Eighth Annual Soybean Harvest Equipment Field Day Thursday, September 13.**

**Pre-registration is requested by September 7: call 269.673.0370, ext. 2562**

# NCSRP Celebrates 25 Years

By: Allie Arp, NCSRP Communications Liaison

In 2017 the North Central Soybean Research Program (NCSRP) members celebrated 25 years of collaborating together to improve farmer profitability.

"It seems like just yesterday that we formed NCSRP," said Dave Schmidt, NCSRP's first president and farmer from Iowa City, Iowa. "The states weren't talking to each other about research, researchers weren't talking to each other about projects and that's how NCSRP came about; with a common goal and passion for basic research."

NCSRP is a farmer-led organization that invests soybean checkoff dollars in regional research. In addition to Michigan, eleven other state soybean boards actively participate and fund NCSRP including Illinois, Indiana, Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. The group meets three times a year to discuss research proposals, the progress of current projects, common issues among the states and the direction of future research.

Over the last 25 years the board has funded more than 45 million dollars in soybean research — an investment researchers around the region have noticed.

"I think on behalf of the university researchers across the North Central region, we can't thank you enough for everything you've done," said Anne Dorrance, Ph.D., The Ohio State University. "Thank you for your support all these years, without it we would not have been able to double soybean yields in the last 20 years. Thank you for all you've done."

The 12 NCSRP-member states grow nearly 85 percent of the soybeans produced in the United States and represent more than 350,000 farmers. The farmers representing these states on the NCSRP board

**NCSRP** NORTH CENTRAL SOYBEAN RESEARCH PROGRAM



have a shared vision and commitment to regionally coordinated research and communication efforts. From pest management to farmer communication, the group has had a major impact on the soybean industry at the state, national and regional level.

While it may have had a historical impact on the soybean industry, the directors of NCSRP don't

plan to rest on its past accomplishments.

"It's pretty amazing what this organization has accomplished in its 25 years of existence," said Gene Stoel, NCSRP's current president and farmer from Lake Wilson, Minnesota. "We have to celebrate our successes. Just getting a group of people like this together will bring us more ideas of what we need to do next. We know what we need to get done and we know what we need to research."

Michigan's production concerns and areas of interest have been consistently shared over the life of NCSRP. This is thanks to the longevity of commitment shown by the Michigan Soybean Promotion Committee's (MSPC) two farmer representatives, whose combined service spans nearly the full 25 years of NCSRP's existence. Michigan's current NCSRP representative is Ed Cagney of Scotts, who has served on the board for over 12 years. Current MSPC board member Alan Moore also served on NCSRP for 10 years before Ed. Additionally, former MSPC Executive Director Keith Reinholt attended the inaugural meeting in Chicago in 1992 and was active in the organization until his retirement in 2015. Michigan State University researchers have also been involved in multiple NCSRP research projects over the years.

Twenty-five years of innovation and collaboration for the betterment of soybean farmers. With the support of all 12 states, the next 25 are going to be even better.

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***While it may have had a historical impact on the soybean industry, the directors of NCSRP don't plan to rest on its past accomplishments.***

# Reducing Soybean Harvest Losses in 2018

By: Mike Staton, MSU Extension Soybean Educator

**A**verage soybean harvest losses range from one to two bushels per acre under normal conditions. However, harvest losses can increase significantly when harvesting plants with green and tough stems, lodged plants, short and drought-stressed plants or plants that have undergone repeated wetting and drying cycles. At the time of writing (July 25) I am predicting that Michigan soybean producers will either harvest short/drought stressed plants if the dry conditions persist into August or plants with green and tough stems if adequate to abundant rain occurs in August. The recommendations provided in this article will help soybean producers reduce their losses under either scenario.

## **HARVEST TIMING:**

Properly timing your harvest operations is critical to reducing harvest losses. Harvest operations can begin any time after the beans have initially dried to 14 to 15 percent moisture. Depending on weather conditions, this is usually about five to 10 days after 95 percent of the pods have reached their mature color. Try to harvest as much of your crop as possible before the moisture level falls below 12 percent to reduce splits and cracked seed coats. Shatter losses have been shown to increase significantly when seed moisture falls below 11 percent and when mature beans undergo multiple wetting and drying cycles.

## **EQUIPMENT MAINTENANCE:**

Before harvest operations begin, inspect and repair the cutting parts on the header. Make sure that all knife sections are sharp and tight and all guards are properly aligned. Check the hold-down clips to ensure they hold the knife within 1/32 of an inch (thickness of a business card) of the guards. Adjust the wear plates so they lightly touch the back of the knife. Check that the speed of the knife is correct and that drive mechanisms such as belts are not slipping. Make sure the knife is in proper register with the guards. Rotate the knife through one complete cycle and make sure the tips of the knife sections are centered on the

guards at the beginning of a cycle and end up centered on the guards at the end of the cycle.

## **EQUIPMENT ADJUSTMENT AND OPERATION FOR PLANTS WITH GREEN AND TOUGH STEMS:**

Plants with green and tough stems and dry pods can be difficult to cut and cause uneven feeding into the rotor or cylinder, which increases the potential for plugging and threshing problems. The following recommendations will help producers overcome these challenges.

- The most important thing to remember when faced with plants having green stems and dry pods is don't wait until the stems are dry to begin harvesting. If you wait for the stems to dry, shatter losses occurring at the header or before the combine enters the field will be excessive.
- If shatter losses are excessive, consider combining earlier in the morning or later into the evening when the pods have regained some moisture and are less brittle. This may however increase plugging problems.
- Reduce your ground speed to three mph or less if necessary. This will reduce shatter losses and plugging at the cutter bar by providing a crisp sideways cut.
- Harvest at an angle of about 20 to 25 degrees to the rows. This will improve cutter bar performance and provide more even feeding of the crop into the threshing cylinder or rotor. This may be the single most beneficial practice.
- Draper heads should also reduce plugging problems when harvesting soybeans with green stems as they provide more uniform feeding into the threshing cylinder or rotor.
- If the cutter bar is plugging, make sure all knife sections and guards are sharp and tight.
- Maintain the reel speed at 10 to 20 percent faster than the ground speed. Fore and aft reel position is important to reducing slug feeding.

Generally, positioning the reel as close to the auger as possible promotes even feeding into the combine. The height of the reel should be adjusted so that it contacts the top one third of the plants.

- Threshing problems result from worn parts on the cylinder or rotor and improper cylinder or rotor clearance or speed settings. Adjustments made to the cylinder/rotor clearance and speed is a balancing act between threshing losses and seed damage and split beans. Make one adjustment at a time and inspect the clean grain tank to determine your progress toward minimizing threshing losses and maximizing seed quality.

### **EQUIPMENT ADJUSTMENT AND OPERATION WHEN PLANTS ARE SHORT AND DROUGHT-STRESSED:**

The main problems that occur when harvesting short beans are not gathering the short plants into the combine after they have been cut and excessive shatter losses due to brittle pods. The following recommendations will help producers reduce these important sources of harvest loss.

- Position the cutter bar as close to the ground as possible.
- Consider purchasing an air-assisted reel as the air stream produced by this equipment effectively moves short plants and loose beans and pods to the auger or belt.
- If you do not have an air-assisted reel, consider removing the stone guard on the cutter bar if it is preventing short plants, loose beans and pods from moving to the auger or belt.
- Harvest on an angle in fields planted in 15 inch or 30 inch rows. This will help the short plants feed into the combine more uniformly.
- Reduce the reel speed and/or raise the reel if beans are being flailed out of the pods (bouncing off the windshield).
- Shatter losses can be reduced by harvesting in the morning or the evening when relative humidity is higher.

You should use the recommendations provided in this article, in your operator's manual and by your local equipment dealer to solve any soybean harvest challenges you encounter this fall.



*Green stems with dry pods.*



# Commodity Marketing:

*It's about revenue per acre, not price per bushel*

*By: Nick Reigler, Grain Merchandiser - MAC Lansing*

Farmers are a natural long in the agricultural grain markets year in and year out. This means that soybean growers have a continuous position in the markets, owning the bushels at their cost of production. That is why it is critical that growers know their individual cost of production each year. How do you know what to sell something for if you don't know what it cost you to produce? These cost starting points are never set in stone. However, entering into a multi-year lease means growers have already taken a position in the market place for the duration of the lease, whether they know it or not. That lease is a large portion of their cost of production.

A grower needs to hedge their risk by contracting grain at profitable values beyond that of the cost of production. This means conservatively starting to lock in prices when the market conditions allow, sometimes one to two years in advance. We suggest producers scale into profitable prices and not get too hung up on the fundamentals. This can be done by simply making many small sales into a climbing market instead of waiting for one specific price to hit.

The chart below shows the seasonality of the soybean market over the last three years. Note that some of our best opportunities to price the crop are in the May-July timeslot as the market adds a risk premium into the unknown summer weather.



The good news is there are ways producers are able to take advantage of these sales opportunities, including choosing to implement target pricing orders to take advantage of any market volatility throughout the day as well as night sessions. These orders allow producers to place orders above the market at profitable levels; once these orders are in



producers don't need to worry about missing opportunities when they get busy. Many companies, including MAC, work these orders at no charge to the producer.

Another marketing tool for growers with on farm grain storage is to look at the deferred months for locking in soybean sales rather than gut-slot harvest. With the current market conditions implying a 580 million bushel U.S. soybean carryover for the 2018/19 crop year (July 12 USDA Report), we are seeing the market structure increase the spread between futures months to entice the industry to store soybeans. Increased soybean acreage compiled with adequate moisture levels leave the USDA expecting a near record large crop. While we are seeing a decrease in exports due to the Chinese trade war, domestic crush demand has increased with strong margins, pushing plants to run at maximum capacity.

We are currently in a market down trend which can lead to producers turning a blind eye to current marketing opportunities. As we progress through the harvest season, a key thing to remember is focus on maximizing revenue per acre, not price per bushel. This will allow you to remain profitable as you know your exact production into harvest.

# NEW AND RENEWING MSA MEMBERS

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Chris Creguer, Unionville  
Tom McLeod, Brown City

**RENEWING:**

Brian & Anthony Bierlein, Reese  
Cornerstone Ag Enterprises, South Haven  
Roland Cousino, Temperance  
Carlton Blough, Lowell  
Neil French, Munger  
Larry Gould, Morenci  
Jim Guse, Cassopolis  
Scott Heath, Milan  
Scott Jirgens, Kalamazoo  
Dan Keenan, Merrill  
Tom Kendle, Edwardsburg  
James Kleinert, Munger  
Amanda Kutchey, Macomb  
Robert Letterman, Birch Run  
Paul & Brad Lubbers, Hamilton  
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# Field to Market - Mission to Indonesia

By: Kathy Maurer, Financial and International Marketing Director

**I**ndonesia is currently the third largest buyer of U.S. soybeans – accounting for 2.5 million metric tons annually.

R. Alan Moore, a farmer from Bannister and a director on the Michigan Soybean Promotion Committee board participated in the AG Supply Chain Asia 2018 conference along with growers from Illinois, Ohio and Iowa. The event was held in March in Surabaya, Indonesia. Each farmer talked about their farms and answered questions regarding the sustainability of their operations. It's important for buyers to learn where their soybeans come from to build confidence in U.S. soybean quality and sustainability. Farmers were able to learn about the global supply chain's challenges and opportunities as well as quality and sustainability concerns.

Over 95 percent of the soybeans imported to Indonesia are made into tempeh, a traditional staple food. Tempeh is one of the few soy foods which didn't originate in China. The team visited different Tempeh operations and were able to see bags of U.S. soybeans in the warehouses.

Tempeh is a large economic driver for Indonesia. The government is protective of the small tempeh operations. No more than 15 employees are allowed at each location. Many are family owned and operated. There is a movement for better hygiene in the tempeh plants as many operations are using wooden containers and poor sanitation.

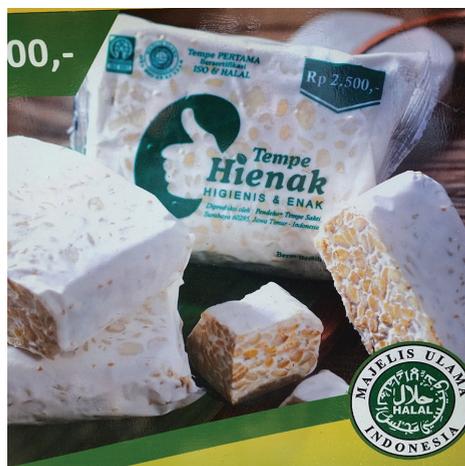


Panel at AG Supply Chain Asia 2018



Rumah Tempeh Indonesia (House of Tempeh)

*Tempeh is marketed with hygiene on the packaging. Traditional tempeh is wrapped in banana leaves. One brick will feed a family of four for the day and costs five cents. Tempeh is one of the only protein sources available to many Indonesian families.*



There are no crushing plants in Indonesia and they are among the top 10 global aquaculture producers. Unfortunately U.S. soybean meal only makes up 1.6 percent of the market share at 68 metric tons.

The visit to Nusa Prima Logistik Agri Port highlighted a modern and efficient port. It is the largest agricultural port facility in the country - the capacity of its integrated transit warehouse is 200,000 metric tons, which consists of 80,000 metric ton of silo storage and 120,000 metric tons of flat storage for a throughput of up to 5,000,000 metric tons per year.

Indonesia is not only an important market for the U.S.; Michigan directly exported \$24,782,416 worth of soybeans in 2017.

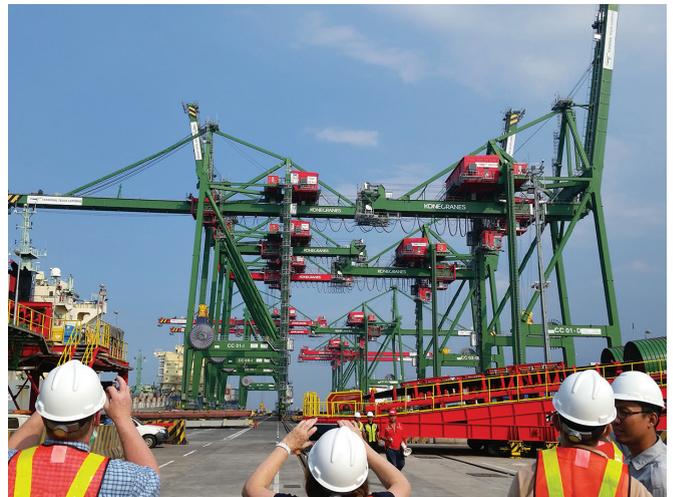
“Indonesia, with its ever increasing population and desire for quality food presents a real opportunity for the U.S. soy market if we can avoid trade barriers and stay price competitive,” says Moore.”

With a growing population of 74 million middle-class and affluent consumers, which is expected to double by 2020, there is a lot of opportunity for U.S. soybeans.

*The intermodal facility is able to off load directly from the ship to truck and rail.*



*Tempeh is delivered fresh daily by a scooter with a refrigerated box. Many in Indonesia don't have access to refrigeration. Alan Moore is thinking about a second career.*



## 2017 MICHIGAN SOYBEANS BY THE NUMBERS

- ♦ 2.27 million acres and 12,000 soybean farmers
- ♦ 96.48 million bushels
- ♦ 12th largest soybean growing State of 30 States
- ♦ 13% of Soybeans are Processed in State
- ♦ 87% of Soybeans Leave the State
- ♦ Soybeans contribute \$1.87 billion to Michigan's economy
- ♦ Soybeans contribute to more than 14,000 jobs



# Cover Crops and Soybean Cyst Nematode Research

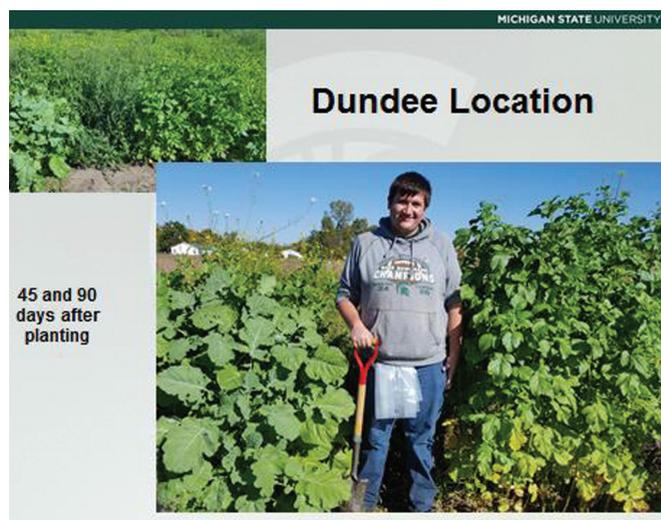
By: George Bird and Jeff Shoemaker, Michigan State University

**D**uring the past four years, the Michigan Soybean Promotion Committee (MSPC) has funded research to assist Michigan soybean growers in the selection of cover crops appropriate for use in soybean cyst nematode (SCN) infested fields. The research has been conducted by Jeff Shoemaker, a graduate student in the Department of Entomology at Michigan State University. The project consisted of 20 separate experiments, ten conducted under greenhouse conditions and ten under soybean field conditions. While there are numerous reasons to use cover crops, including pest management, very little is known about their use under SCN infestation conditions. It is well known, however, that cereal species such as corn, wheat, oats, rye and others are not hosts of SCN. These can be used safely in soybean production systems. It is also known that legumes such as field peas, snap beans, alfalfa and clovers are hosts of SCN and can enhance populations or increase the risk of fields becoming infested. The objective of the MSPC project was to determine the SCN host status of specific varieties of brassicas such as mustard and radish. This is especially important because several oilseed radish varieties are used by Michigan sugar beet growers in their beet cyst nematode (BCN) management programs. These varieties (e.g. Adagio, Colonel, Defender, Image and Maximus) were bred by German scientists for the purpose of trapping BCN. It is also important to know that oilseed radish is only one of five radish subspecies (Wild, Garden, Horse, Daikon and Oilseed). Although some cover crop labels make broad claims in regards to nematode management with radish, very little is known about the brassicas in regards to SCN.

The results of the research clearly indicate the SCN populations used in the greenhouse trials and present at all three locations are aggressive and reproduce on soybean varieties derived from both PI88788 and PI437654 x PI88788 sources of resistance. Short-term periods of fallow resulted in very limited SCN population reductions. In general, the cover crop cultivars developed from oilseed radish (*Raphanus sativus oleiferus*) and mustards such as (*Brassica carinata*, *Brassica juncea* or *Sinapis alba*) were identified as

non or poor hosts of SCN. The results were similar for daikon radish varieties developed from *Raphanus sativus longipinnatus*. Although the research was not able to demonstrate that oilseed radish varieties tested were true trap crops for SCN, they were the same varieties developed as trap crops for BCN.

Cover crop blends are becoming popular and it was decided to continue the trap crop research with a three species blend containing a cereal rye, oilseed radish and PI437654 x PI88788 soybean. This is being evaluated in 2018 under field conditions at three locations. Because SCN populations are aggressive on PI88788, it is anticipated that the results will not be as good as desired. To rectify this, a pure source of PI437654 was obtained and is being increased in 2018 by a Michigan seed company for use in SCN trap crop research in 2019. It is anticipated that a blend of a cereal rye, oilseed radish and PI437654 will make a suitable SCN trap crop for use in Michigan following wheat. If this works as planned, it will provide soybean growers with an important and effective additional tool for management of SCN.



Yes, Jeff knows how to grow cover crops!

# The New Soybean Cyst Nematode Coalition

By: Marisol Quintanilla, Michigan State University

**A** New Soybean Cyst Nematode Coalition was launched at the 2018 Commodity Classic. It is designed to assure that soybean growers have the best possible soybean cyst nematode (SCN) recommendations for use on their farms. SCN is the number one yield robber for soybeans in Michigan and the United States. The primary management method for soybean cyst nematode is the use of resistant varieties. Unfortunately, most of the resistant varieties developed during the past twenty years utilized a single source of resistance (PI88788). Because of this, SCN populations have become aggressive and reproduce on resistant varieties. This means that yield losses due to SCN occur on many farms using resistant varieties. In some states this happens on a majority of soybean farms. This is a disaster waiting to happen.

The motto of the first SCN Coalition was Take the Test, Beat the Pest. It was implemented in the 1990s and was highly successful. A recent national survey of more than 1,000 U.S. soybean growers, however, indicated a distinct need for a second SCN Coalition. Because SCN resistance management is more complex than just SCN detection, the motto for the new Coalition is Know Your Numbers. Are you meeting your farm and individual field yield goals? Are your SCN populations increasing in fields or parts of fields, even though you are planting resistant varieties? This information is essential to prevent a "train wreck" and assure profitable yields in the future. Part of the funding for the Coalition is coming from your MSPC, NCSRP and USB checkoff dollars, as well as private businesses. The new Coalition consists of more than 30 agribusinesses, grower organizations and state partners. Complete details about the new Coalition can be found at [www.theSCNCoalition.com](http://www.theSCNCoalition.com). In addition, the new Coalition will be featured at Michigan soybean grower meetings during the winter of 2019. So you do not have to wait until after you have ordered your seed and seed treatments for 2019, the following is a description of SCN Resistance Management practices



you should be considering this fall.

## SOYBEAN CYST NEMATODE RESISTANCE MANAGEMENT

Regular soil testing for SCN should be done once every three years to determine if populations are increasing. Submit the samples to the MSU Plant Diagnostic Lab. The cost

for SCN sample analysis is covered by your soybean checkoff dollars. If an SCN problem is detected, the management practices typically recommended for SCN include planting resistant varieties, rotating sources of resistance, rotating varieties, rotating with non-host crops, controlling weeds and maintaining clean farm equipment to avoid further spread. There are, however, limitations to these practices. Research suggests that soybean cyst nematode is now able to reproduce on resistant varieties due to the extensive use of the PI88788 source of resistance. Rotate sources of resistance and keep soybean cyst nematode numbers low in the field in order to maintain effectiveness of our currently used resistant varieties. Crops in rotation with soybeans must be carefully chosen to ensure they are not also hosts of soybean cyst nematode. Because of this, avoid other legumes such as hairy vetch, field pea, snap beans, red clover, etc. Certain weed species can also be hosts of soybean cyst nematode, so weed management programs should be implemented. See "Winter Annual Weeds and Soybean Cyst Nematode Management" by Purdue University Extension for more information on weed hosts of SCN. Soil health strategies, such as using certain types of manures during the corn rotation has been found effective in some trials (i.e. swine liquid manure or chicken manure). Another important practice is to look at soybean roots for white SCN females. This can be observed in the field before they turn brown and become cysts.

Please stay updated on new developments of this important SCN production topic and Coalition. More information can be found at: <https://www.thescncoalition.com/resources> and <http://www.canr.msu.edu/news/soybean-cyst-nematode-resistance-management>.



# From Field to Board Room – A New Perspective

By: Sarah Peterson, Director and Farmer from Niles

If you drive past our farm on the highway you may notice rolling green fields, some dotted with cattle, others with row crops. If you decide to take an extra minute and turn onto the county road you might slow down and notice that we plant in 30 inch rows. We have soil that varies from sand to muck, with crops that currently range in growth stages and contain areas that have drowned out from a spring season of heavy consistent rains ... but from the county road it would still paint a green picture of country charm.

It would take a dedicated person to turn off the county road and into my driveway; dodging kids' bikes and random farm toys that have been left in the sandy drive, and continue out into the farm lane behind our barn that will take you through the majority of the crop ground.

Once there, you will see the soybean plot to the east that we put in with my DSM (district sales manager). In the plot you might notice a few weeds that also dot the fields and fence lines.

From that point you could walk with me into the field where we would notice that the weeds are marestail and that they have a collar of vegetation showing a glyphosate product was applied and the marestail proved to be resistant.

While crouched down looking at the marestail, it's noticeable that we have a good amount of corn fodder on the ground between the rows of beans, which have yet to canopy, and that the soil was only worked in a strip where the beans were planted.

Finally you will notice that the beans are just beginning to flower with no noticeable pod set and that this plot is in the R1 growth stage. You may even realize that there are small drops of water on the leaves - telling of an early evening rain shower that makes us check the rain gauge and delay starting our irrigators, saving on input costs.

It isn't until we have reached the closest view of the field, that moment when we witness what agronomic decisions are starting to pay off and what ones are not, that we can gather the information needed to start planning our next year.

Much in the same way the soybean checkoff board of directors has the opportunity to leave the highway view behind and focus on an up-close view of how our checkoff funds are invested.

As producers, we all invest in our farm's financial future. Whether it is choosing the best hybrid, building up our soils, or determining when and how we market our crop, we invest large amounts of time and capital to ensure the future of our operations.

As directors on the soybean checkoff board we also invest in the future of all soybean operations in our state through our management of checkoff funds.

Discussing the needs of the crops in the rows and in between is only a small part of what we do as a checkoff.

It took me serving as a director on the board to get the close up view. A view that

educated me on the need for our resources to be used both domestically and internationally for market development to assist in creating markets in developing countries and to sustain and grow the markets that we currently have.

I was impressed when we were able to leave the board room behind and were given the opportunity to meet international purchasers from three countries. The experience of going on a crop tour with a translator and hearing the stories of how our Michigan soybeans have affected their children's nutrition was an eye opening experience that changed the way I look at the soybeans we as Michigan farmers produce.



Most producers probably know why we turn off the highway and take the lane back into the fields. Why we walk out through the headlands and scout the rows of plants. We do it to ensure our future, to gain knowledge of our crops, to help gain insight on decisions to be made and to create a successful operation.

It is this same attention to detail, the same drive and determination for success that is needed on our checkoff board. Our funds and the allocation of them are not static. They are malleable and need to be guided by producers who are interested in looking at the closer view to help ensure the sustainability and profitability of our soybean operations both today and long term.

I encourage all producers to reach out, either at your local SMaRT (Soybean Management and Research Technology) meeting, or make a phone call to the soybean office (877.769.6424), and learn how you can apply to serve on the Michigan Soybean Promotion Committee.



***As directors on the soybean checkoff board, we also invest in the future of all soybean operations in our state through our management of checkoff funds.***

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# MSPC Builds New Markets Through ASA/WISHH

Michigan Soybean Promotion Committee's (MSPC) President Laurie Isley returned from Guatemala and El Salvador where she witnessed how MSPC checkoff investments have diversified soy export markets through the American Soybean Association's World Initiative for Soy in Human Health (ASA/WISHH).

"WISHH serves a critical purpose in developing relationships for new soybean markets," said Isley. "What I saw most clearly was the wide range of activities ASA/WISHH is involved in and their intentional approach to looking at markets for the future."

The WISHH trade team included soybean growers from other states and ASA CEO Ryan Findlay. WISHH received MSPC checkoff funding to conduct activities in Central America and has leveraged state soybean checkoff resources with government funding and sizeable investments by the Central American companies who use U.S. soy in their products.

The trip to Central America showed Laurie new uses of U.S. soybeans in human foods, ranging from beverages to cereals and more. Products made with U.S. soy were readily available in stores for all income levels. ASA/WISHH supply chain partners are working to develop and market a variety of new products, such as a soy-based drink for diabetics.

She says it was eye opening to meet with companies and government officials who are building demand for U.S. soy through institutional programs for school, hospital and prison meals. Governments are purchasing a fairly large amount. The education WISHH is able to share with decision makers shows the value of soybeans as a perfect avenue to add more protein in an economical way.

"I see growth potential, particularly as their governments become more stable and recognize the nutritional needs of their populations. They will continue to see a role for soy," Isley continues. "Regardless of whether you are working with a non-profit organization or government institution, someone is purchasing those products for the end user."

As part of the trade team, Isley was able to present to Central American food companies and share knowledge about Michigan soybeans. The team

visited food factories and saw how soy isolates, soy flour and raw soybeans were used. "One of the nice things about this trip was that we were able to talk about our operations and how we raise our soybeans sustainably in order to ensure a high-quality product for our customers."

"The seminars WISHH holds are critical in maintaining our customer relationships with international companies and governments. It's a great way to reinforce the nutritional value of soybeans and how they can help provide foods with higher protein than other products which are currently available."

Isley found food company representatives who had participated in WISHH training had a greater level of understanding. "The buy in and commitment to U.S. soy compared to soy from other places was evident," she shared. "Having gone on the trip showed ultimately someone is buying soybeans regardless of where the final product ends up. Some start small, but in almost every case these customers saw potential for growth by adding new products."

One of WISHH's key strengths is the development of relationships with industries and helping to educate their customers.

WISHH is the only organization in the soybean family that develops new markets for soybeans. Building relationships builds confidence in quality, sustainably-grown U.S. soybeans, which ensures future market shares and adds to Michigan farmer's profitability.



*Alimentos representative explaining the different soy products to Laurie Isley.*

# History Repeats Itself with Yield-Robbing Pest

By: Allie Arp, NCSRP Communications Liaison

An old problem has become new again for Michigan farmers. Soybean cyst nematode (SCN) is reappearing across the state in large numbers.

"We've had SCN in Michigan since the late 1980s," said George Bird, professor emeritus in the Department of Entomology at Michigan State University. "It has increased its distribution, so now more than 50 percent of soybean fields have SCN. In addition, over time, the number of fields with aggressive populations has increased significantly."

In order to combat the resurgence of this pest, Michigan, along with the North Central Soybean Research Program (NCSRP) and nearly 40 other checkoff, university and industry organizations, worked to form the second SCN Coalition in the fall of 2016.

The original SCN Coalition formed in the 1990s, when SCN issues first appeared. Its goal was to teach thousands of farmers the importance of protecting their crops from a yield-robbing SCN infestation.

At the time, the Coalition was successful with their "take the test, beat the pest" campaign helping thousands of farmers save their soybean yields through resistant genetics. But those genetics are starting to falter.

Research presented to the SCN Coalition examined the level of reproduction on 61 different soybean varieties, 58 of which were labeled resistant, in a greenhouse study. All but one of them allowed reproduction above the scientific threshold of resistance. With the same varieties in a field setting, 40 of the 61 varieties allow high rates of reproduction. These reproductive rates exist because SCN is overcoming the two most common soybean breeding lines, PI548402 (commonly known as Peking) and PI88788.

"The best way to manage SCN is through resistant varieties so the situation will get much worse if we don't have them," Bird said. "We need to get better varieties with different sources of resistance for the future."

In addition to the regional and national efforts to combat SCN, Michigan is taking additional steps to help their farmers. Four partners, the Michigan Soybean

Promotion Committee, MSU Extension, the Michigan Agri-Business Association and Michigan Farm Bureau have formed a partnership to address the problem in The Great Lakes State. The group has already met with a number of industry representatives to discuss the mission of the Coalition and how to help combat SCN together.

One of the first activities of the group was sponsoring an SCN workshop, which was held on June 20 to introduce agribusiness representatives to the new Coalition. Six meetings are planned for this winter to focus the coalition's research at the farmer level and share strategies about preventing future SCN problems.

"This type of communication between growers and companies and the educational component are needed to make the progress we have to have for optimal soybean yields in the future," Bird said.

Bird pointed to other successful resistance management programs — such as those for weed resistance — as proof that a program like this works and is beneficial for farmers. He encourages all farmers and stakeholders to learn more at the SCN Coalition's website, [thescncoalition.com](http://thescncoalition.com).

This article is brought to you by NCSRP. NCSRP is a farmer-led organization that invests soybean checkoff dollars in regional research. Twelve state soybean boards actively participate and fund NCSRP including Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota and Wisconsin. For more information about research funded by NCSRP visit [soybeanresearchinfo.com](http://soybeanresearchinfo.com) or [soybeanresearchdata.com](http://soybeanresearchdata.com).



Photo credit: Iowa Soybean Association

# *Consumer Program Strategies: Learning From Others*

**S**tep into a consumer's shoes to determine how agriculture fits into his world. If you were a consumer, what questions would you have about today's food system or farming practices? As a farmer, it's easy to come up with questions about products you don't grow and you can most likely consult a fellow farmer to get your questions answered. Working in the agricultural field, you may not be skeptical of the "industry," but you should be curious, right? That's what today's consumers are doing ... without the benefit of knowing who to ask or where to look online.

In April 2018, Michigan Soybean Promotion Committee's communication director, Sonja Lapak, and Michigan Ag Council's program coordinator, Elaine Bristol, attended The Center for Food Integrity's North American Leaders Session on Agricultural Technology and Innovation. The meeting hosted people from 33 diverse groups to share about programming strategies to reach influencers and regulators with agricultural messages.

"The meeting ties into MSPC's strategic objectives to build consumer confidence about today's farm and food system, to increase influence on targeted audiences and increase awareness of soybean products," said Lapak.

"Agriculturalists are innovators in every way, including methods of reaching consumers in addition to their day-to-day farming tasks," Bristol said. "This meeting helps the Michigan Ag Council learn about projects to implement that have been successful in other parts of the country to be the unofficial public relations team for Michigan farmers. The Council is designed to be the credible source for Michigan agricultural information in consumer spaces online and in local communities."

One program featured in discussion was CommonGround ([findourcommonground.com](http://findourcommonground.com)). The program helps consumers and farmers connect on

what's real and what's relevant to everyday life. North Dakota farmer and rancher Val Wagner said, "We always share the beauty of farming, but it's not always realistic because farming's not always pretty. Sometimes we have to be vulnerable and show what's real." Val also reminded people that when it comes to consumer outreach, your return on investment keeps going beyond when you're looking.

One new documentary to put on your radar is "Science Moms," available in full on YouTube now. Dr. Anastasia Bodnar, a woman featured in the film and a speaker at the conference, encouraged people speaking on behalf of an industry to target the average people and undecided middle who are receptive to good sources and information. Think about the people in your communities who need information most and think about how you could reasonably speak with them. She recommended being accessible and finding connection points, even if it's simply "I care about [blank], too."

Sometimes it's not what we say, but how we say it, that resonates with consumers. However, what we are saying does have an impact on consumer trust. So many industries are making claims of being "sustainable" that it's green-washing our marketplace. In short, it's nothing more than a buzzword. Instead, it's recommended that we are consistent in talking about "modern agriculture" and the tools and technologies we're using to be forward-looking and global to make small, measured changes in today's farming practices. Instead of making blanket statements about sustainability, consider providing examples of ways you're using less water, reducing energy consumption and maintaining our land for current and future generations.

*No matter how, when or where consumer outreach takes place, we know that it's crucial to the future of Michigan agriculture. If you're interested in engaging, contact Sonja Lapak at [slapak@michigansoybean.org](mailto:slapak@michigansoybean.org).*





# BIODIESEL®

## ASK FOR IT – USE IT

*By: Noelle Byerley, Executive Assistant*

Every time you start an engine on your farm, you make an environmental impact. As customers continue to demand sustainable production, you can reduce your carbon footprint and support American grown soybeans with one simple decision: filling up with biodiesel blends. Biodiesel is America's first Advanced Biofuel. It is a renewable, clean-burning diesel replacement that is reducing U.S. dependence on imported diesel, creating green jobs and improving our environment.

Michigan soybean farmers receive an average of 63 cents more per bushel because of biodiesel. In 2017, that meant \$26 more per acre, or an additional \$143,000,000 for Michigan soybean farmers. In July, USDA raised its 2018/19 forecast of soybean oil use for biodiesel by 500 million pounds to 7.8 billion. Total domestic consumption of soybean oil in 2018/19 would be boosted to 21.8 billion pounds from 20.7 billion in 2017/18.

In North America, diesel powertrains are expected to continue dominating the commercial vehicle segment in forecasts through 2025. Michigan is ranked No. 2 in the nation for the fastest growth of diesel cars and SUVs, No. 8 for total new generation clean diesel school buses, No. 13 for total diesel pickup trucks and No. 24 for the highest percentage of new generation clean diesel heavy duty trucks. Visit [www.dieselforum.org/michigan](http://www.dieselforum.org/michigan) for more information.

152,500 new technology diesel engines were manufactured in Michigan in 2016 and over 8,200 jobs in Michigan are supported by the diesel engine and biodiesel industries. Automaker support for the use of biodiesel blends in their diesel vehicles has grown immensely over the last decade and the domestic diesel transportation market continues to grow. The latest analysis shows that every major manufacturer producing diesel engines or vehicles for the U.S. market supports at least 5 percent biodiesel blends (B5), with the vast majority supporting up to B20.

For the approved biodiesel vehicle list, visit <http://biodiesel.org/docs/default-source/ffs-basics/diesel-vehicle-list.pdf?sfvrsn=20>.

### **Biodiesel Information Videos:**

*Biodiesel 101:* <https://www.youtube.com/watch?v=y2hX3yhD0CA&feature=youtu.be>

*Growth of the Industry:* <https://www.youtube.com/watch?v=D7D49PFbcjE&feature=youtu.be>

*Biodiesel Frequently Asked Questions:*  
<https://www.youtube.com/watch?v=MhcSSmdBqMI&feature=youtu.be>

*Best Practices for Storage, Handling & Use of Biodiesel:* <https://www.youtube.com/watch?v=IouR0MS7AqE&feature=youtu.be>

**Biodiesel is out there. Ask your fuel distributor to carry it!**



*Rob and Ron Steenberg*

*"We have been consistently and successfully using a biodiesel blend in our farm equipment since 2000."*

# Legislative Lunch at the Capitol

By: Sonja Lapak, Communication Director

The Michigan Soybean Association (MSA) hosted another successful Legislative Lunch at the Capitol in May. Legislators and staff were able to meet with soybean farmer directors on the MSA and Michigan Soybean Promotion Committee boards to discuss issues important to growers. The setting allowed for laid-back conversations and offered time for growers to share more about themselves, their farms and the issues they find most important to the soybean industry.

The menu featured soybean-fed brown trout (fried in soybean oil) provided by Harrietta Hills Trout Farm, as well as french fries fried in soybean oil and coleslaw made with soybean vegetable oil.

MSA appreciates the opportunity to share their priorities with the legislators and their staff and is looking forward to holding another luncheon in 2019.



Watch a short highlight video of the event at [https://youtu.be/Y\\_Lp1KWFhfA](https://youtu.be/Y_Lp1KWFhfA)



Michigan Soybean Promotion Committee  
The Soybean Checkoff  
[michigansoybean.org](http://michigansoybean.org)

# Grow a Fish – Feed the World

By: Kathy Maurer, *Financial and International Marketing Director*

Our oceans are overfished and we have growing populations. Soybeans are an excellent solution to help take the pressure off the wild caught fish industry and increase success to feed growing populations as middle classes are able to afford more meat protein.

“As soybean farmers across the U.S. look for opportunities to build demand for their products, aquaculture is becoming a larger opportunity all the time,” says Andy Tauer, Executive Director for the Soy Aquaculture Alliance (SAA).

Fish meal has typically been made from scrub fish caught in nets while catching high value fish. With the now shortage of scrub fish, due to overfishing, soybean meal is available as a sustainable alternative protein. Other protein replacements such as the soldier fly and algae have also been researched. Soybeans however, continue to be preferred as they meet the necessary amino acid profile, consistent quality and affordability. Other proteins are expensive, which limits their viability.

Understanding the fish’s sweet spot for optimal growth is the job of Jessie Chappell, Associate Professor and Extension Specialist for the School of Fisheries, Aquaculture and Aquatic Sciences at Auburn University in Alabama. Finding the correct volume of water, feed formulas, frequency and timing of feeding for each individual species helps to optimize the best value for feed conversion and health of the fish. No two species are the same. Auburn University is currently researching pompano, shrimp, tilapia and catfish.

Auburn University is the birthplace of the raceway technology which has been a game changer for the aquaculture industry globally. The raceway system concentrates fish in cells, rather than allowing them to swim in the entire pond. Water is circulated by dividing the pond in half with a barrier in the center for the water to move around. Air blowers are used at each end to keep the water moving.

Keeping fish in the cells allows for a more uniform size. Observing the fish health at each feeding is easier when in one spot. It makes for ease of treatment if necessary. Rather than treating the whole pond you are able to just treat one area. It allows for proper monitoring of feeding to reduce waste feed. Oxygenation can be tested only where the fish

are, rather than needing multiple sensors to check the whole pond. It also allows for different sizes and species of fish in the same pond. Harvest is easier as the fish are all in one area.

“Moving the water allows for optimum nutrients for the fish,” says Chappell. “No matter how much you move water, you don’t wear it out.” Moving water is key to processing the waste load efficiently.

Survivorship is 93 to 96 percent in a raceway system. A cell can be covered easily with a net system to protect from birds, snakes, otters, etc. who are hunting for a free lunch. Open ponds, on the other hand, have a survivorship of 65 percent. Fish in raceway systems are healthier and have less stress than those in whole pond systems. “They don’t have to spend their life trying not to be eaten,” continues Chappell. “That puts a lot of stress on an animal.”

Most importantly, 20,000 pounds of catfish can be raised in a cell annually, versus the 7,000 to 8,000 pounds raised in open pond during the same time period.

Catfish feed rations are 50 percent soy protein. This feeding system offers an efficient feed conversion ratio; 1.4 pounds of meal gains one pound of fish.

At the end of the raceway is a collection point for excess feed and fish waste. This matter is collected and used as fertilizer on campus, similar to other animal manures used in farming. It is good for the health of the fish to remove the waste from the water and is also an additional revenue stream for the operation.

“The biggest barrier to the future of the catfish industry is the aging farmers,” said Chappell. “They are not willing to invest in infrastructure for an operation they will be retiring from soon. The culture needs to change. If the industry is going to compete with international imports for their domestic markets, farmers need to take their operations to the next level. It means changes.”

The United States imports 90 percent of all seafood consumed. The opportunity for expansion of aquaculture and the income opportunities for farmers is tremendous. Pushing the envelope for efficiency is key to the growth of the industry, as is a willingness to change.

“Whether it be in the global market or closer to home, domestically aquaculture presents a great

opportunity for U.S. soybean farmers. This is where SAA comes in - 13 farmers representing 11 states evaluate research proposals annually that are aimed at growing demand for soy in aquaculture diets," continues Tauer. "The projects funded by SAA will help us grow the domestic aquaculture and seafood market, as well as provide resources to the U. S. Soy Export Council to be used in their international work. With this collaboration we are working to make sure wherever aquaculture is expanded, domestically or internationally, that the diets fed contain high levels of soybean."

While soybean farmers are finding new market opportunities, they are also providing a healthy, safe, sustainably grown product for consumers. Eating fish is an important part of a healthy diet.

"Omega 3 is to brain health as calcium is to bone health," says Linda Cornish, President of the Seafood Nutrition Partnership. "The average American can increase health benefits for their heart and brain by eating two servings of seafood per week."

Consumers are looking for sustainably sourced seafood. One of the barriers to eating seafood is the lack of confidence in buying and cooking it. The Seafood Nutrition Partnership is working with SAA to promote the use of seafood by working with dietitians and chefs. Supplying tools for their customers to be confident in choosing seafood as part of their regular diets.

**"THE DAY WILL COME WHEN PEOPLE WILL DEMAND FARMED FISH ON THEIR PLATES THAT'S FARMED WELL AND FARMED HEALTHY - AND REFUSE ANYTHING ELSE."**

**-JACQUES COUSTEAU**

There is still much work to do in the aquaculture industry. Learning what each species' sweet spot is for optimal efficiency is key to the success of the industry. Soybean farmers are helping solve the problems of today for a sustainable tomorrow.



**Soy Aquaculture Alliance**



*Raceway system at Auburn University, Alabama*



*Collection pods for excess feed and fecal matter*



**SEAFOOD  
NUTRITION  
PARTNERSHIP®**

# Using Computer Imaging to Assess Soil Macropores

By: Jason Smith and Steve Safferman, MSU Department of Biosystems and Agricultural Engineering

Although non-point runoff from farm fields has been reduced, many assume soluble phosphorus (P) is contributing to surface water impacts because of fertilizers leaching through the soil, to tile drains, and then to surface water. This has led to discussions on more stringent winter manure management guidelines and limiting nutrient application rates, potentially resulting in lower crop yields. However, the science is not clear and research on a soil's site-specific P holding capacity is a necessity to both maximize beneficial plant P uptake and minimize P transport to surface water through tile drains. One of the key mechanisms for nutrient loss through tile drains identified by researchers and agriculturalists is macropore flow. Macropores are pathways in soil that allow for preferential flow of water soluble nutrients from the surface of the soil to subsurface strata. This is compared to evenly distributed or "matrix" flow of water, as this allows more soil contact time and thus more opportunity for soluble nutrients to bind with the soil. An exaggerated depiction of this difference is shown in Figure 1.

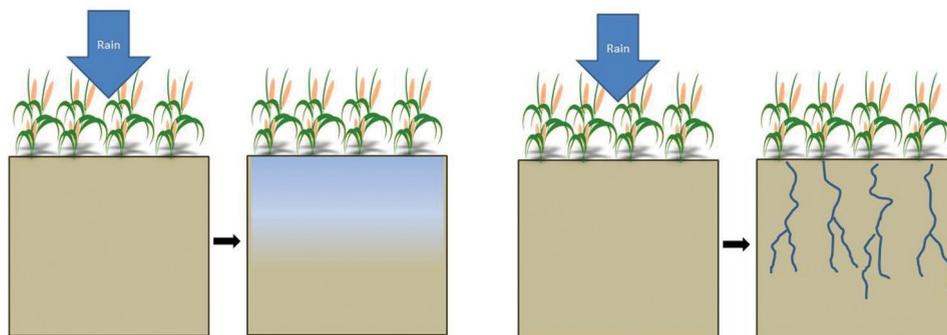


Figure 1: Visualization of Matrix (left) and Macropore Flow (right)

A common practice for viewing macropores is to allow dyes to infiltrate into the soil and later excavate that location. While this method is a useful visual tool, it doesn't allow calculations on the extent of macropores. These calculations would be useful for modeling to gain a better understanding of the exact extent to which agricultural management practices promote or limit the formation of macropores. The purpose of this research project was to develop a methodology for systematically and quantifiably characterizing macropores within the soil structures, including their depth and density.

To accomplish this, the researchers adopted and modified a dye tracer study popularized by Cey & Rudolph<sup>1</sup>. Dyes were applied in contained areas to fields that were representative of those across Michigan to investigate the effect of till/no-till practices as well as soil horizons on macropore formation. Sites subjected to dye were excavated and analyzed for depth and density using software based imaging technologies. Figure 2 summarizes the protocol.

## FIELD STUDY RESULTS

This method was applied to several sites in Michigan with varying soil types and tillage practices in an attempt to determine to what extent these factors impact soil macroporosity.

<sup>1</sup>Cey, Edwin E., and David L. Rudolph. "Field study of macropore flow processes using tension infiltration of a dye tracer in partially saturated soils." *Hydrological Processes* 23.12 (2009): 1768.

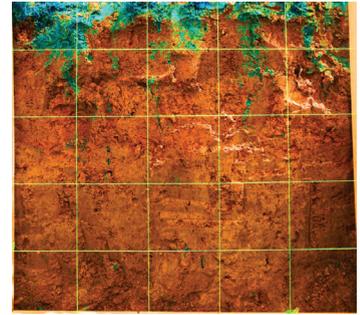
Figure 2: Summary of Protocol to Quantifiably Measure Macropores



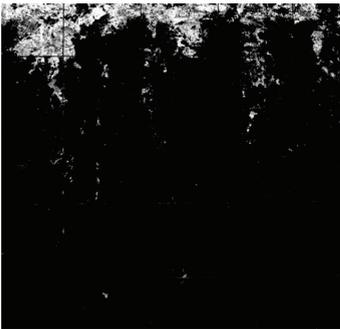
*Dye Square: Selected 1 m x 1 m field soil plots are treated with 7 mm of blue dye and irrigated overnight.*



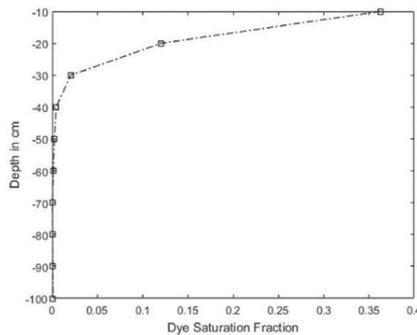
*Excavated Dyed Soil: After 12 hours, the test plot was excavated to a depth of 1 m and photographed. The grid seen here is 1 m x 1 m with 10 cm squares. No less than three excavations and pictures are performed for each plot.*



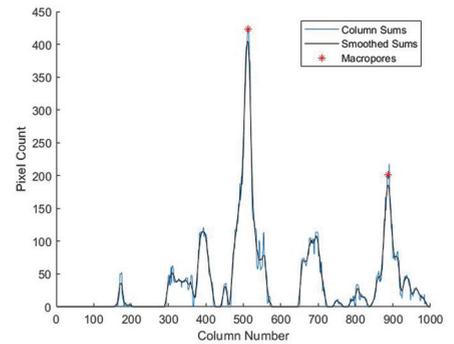
*Enhanced Soil Excavation Image: Using image processing software, the picture is first de-skewed in accordance with the grid pattern in order to avoid any issues with parallax induced error. Colors are then enhanced in order to optimize visibility of the blue dye.*



*Black and White Soil Image: Image processing software is again used to remove the gridlines and convert all green and blue pixels to white, while all other pixels are converted to black, leaving a black and white image of dye infiltration patterns.*



*Dye Distribution Graph: Software is used to count the white pixels found at various depths in the soil profile, allowing for quantifying what fraction of dye pictured is found at depths of 10 cm intervals.*



*Macropore Finding Graph: Software is also used to count the pixels in each column of the image and identify peaks in these counts. The peaks which extend beyond the soil's k-sat region are identified as macropores. Length and number of macropores can be calculated from this graph.*

The clear trend appears to be that no-till soils produce more and larger macropores than do tilled soils. It is also apparent that soil type plays a role in macropore formation. These results were anticipated, but the true value of this work is in its ability to put numbers to these relationships.

## FUTURE WORK

Further research entails the application of this method to more fields of similar soil type and tillage history. This will allow for better statistical verification of results. This will be accomplished over the next several years thanks to funding from the Michigan Soybean Promotion Committee which allows for the construction of a mobile laboratory capable of conducting these procedures for four sites in any given field at one time. It is the hope of our research team that the creation and large scale implementation of this laboratory will allow for the furtherance of scientific understanding of the impacts of all BMPs on soil structures, and their relationship to vertical nutrient displacement along the soil profile.

# SOYLOCK HOLMES PRESENTS THE FREE SOYBEAN EDUCATION KIT

By: Noelle Byerley, Special Projects Coordinator

Kids are back to school and once again the Michigan Soybean Promotion Committee (MSPC) is offering a FREE "Soybeans Go To School" education kit to all Michigan teachers. The kit is recommended for grades three through five. Since 1999, MSPC has sent out over 6,300 education kits and reached over 196,500 students in Michigan.

Ms. Brenda Wilkey's class from Bishop Baraga Catholic School in Iron Mountain took advantage of the six weeks of lesson plans provided by the soybean office. "The lessons were relevant to science content and investigations related to real-world scenerios. It nicely allowed for making interesting connections to other areas," stated Ms. Wilkey.

From Ashley Elementary, Ms. Amber McAllister also taught the lessons to her fourth graders. She said, "We loved all of the lessons. Students were very engaged and enjoyed the material."

The "Soybeans Go To School" kit includes lessons in which Soylock Holmes solves the mystery of soybeans. The elementary classes are able to learn about:

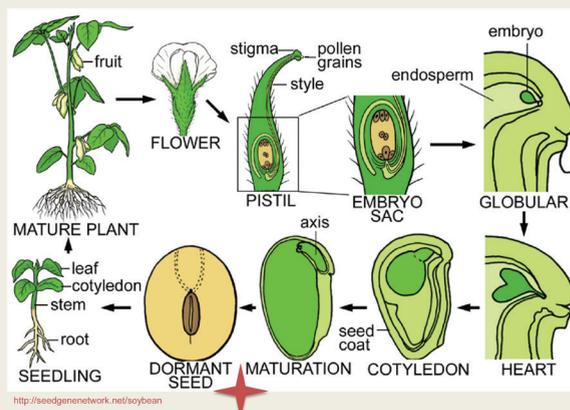
- The life cycle of the soybean plant and actually grow a soybean.
- How soybeans touch our lives every day in the foods we eat and the different products we use.
- The history of the soybean and the effect on different cultures.
- Different researchers such as George Washington Carver and Percy Lavon Julian with the many discoveries they had regarding soybeans.
- The innovations of Henry Ford and the fact that, to this day, Ford vehicles still use soy.

This soybean education kit is compliments of Michigan's soybean farmers through their investment in the soybean checkoff. Thanks also to the generous product donations provided by Star of the West-Fairgrove and Michigan Farm Bureau.

As we gear up for the 2018-2019 school year, look for our lessons and order form online. To review lesson plans or to place an order, visit our website at [www.michigansoybean.org](http://www.michigansoybean.org).



## Soy Plant Life Cycle



The Michigan Association of Non-Public Schools (MANS) is hosting their 2018 convention on October 18-19, 2018, in Grand Rapids. The Michigan Soybean Promotion Committee will be exhibiting at the event to promote the "Soybeans Go To School" kit for Michigan teachers.

# Michigan High Schools Watching FARMLAND

*By: Noelle Byerley, Special Projects Coordinator*

**I**n 2016 the Michigan Soybean Promotion Committee (MSPC) started offering the FARMLAND DVD and lesson plans to Michigan high school teachers. To date, MSPC has reached over 250 classrooms and over 7,200 students. This offer is compliments of Michigan's soybean farmers through their investment in the soybean checkoff. With a goal to build consumer confidence about today's farm and food system, MSPC offers the movie to high school teachers and students to engage them with a first-hand glimpse into agriculture using lessons, activities and movie clips that bring to life critical issues such as sustainability, the new science behind farming, and entrepreneurship.

The U.S. Farmers & Ranchers Alliance® and Discovery Education partnered on an initiative to engage urban youth with a first-hand glimpse into modern agriculture. The lessons are based on clips from the documentary and are designed for grades 9 through 12. The lesson plans align with Next Generation Science Standards and agribusiness standards under the National Association of State Directors of Career Technical Education Consortium.

Lesson plans include:

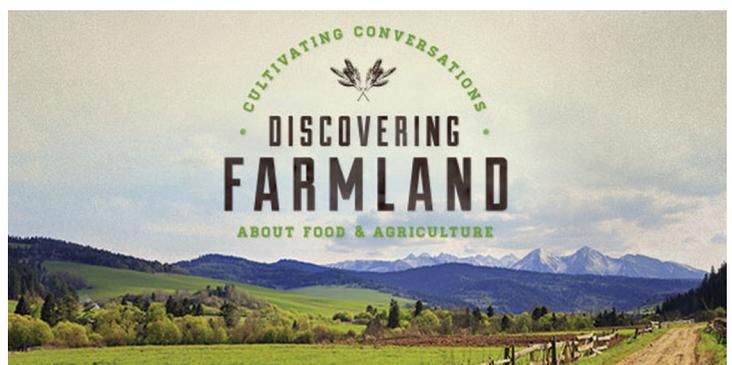
- Farming as an Industry: Students can examine how agriculture has evolved into today's modern farming and ranching industry. They can analyze data to construct explanations around environmental dependencies in agriculture, and investigate how agricultural products are developed in the U.S.
- Educated Consumers: Students can investigate case studies that highlight media influence of agricultural demand and the impact on farmers and ranchers.
- Breaking Down Stereotypes: Using strategies such as mind mapping, questioning, and group discussions, students can explore common stereotypes around farmers and ranchers.
- Challenges in Farming and Ranching: Students consider the challenge that farmers and ranchers face and the impact of those challenges on the availability of food, the financial well-being of farms and ranches, and the ways in which new technology can enhance agricultural practices.

Survey comments from participating high schools included:

- Chippewa Valley High School - "Students gave positive feedback throughout our workings with the materials."
- Ogemaw Heights High School - "The lessons seemed to be engaging and well constructed."
- Cass City Jr/Sr High School - "I appreciate all the effort and hard work that Michigan Soybean has put into supplying movies and lesson plans to programs all over the state."

Feedback from teachers and students has been overwhelmingly positive and the Michigan Soybean Promotion Committee is looking forward to reaching more students this year as the program continues.

"FARMLAND, a film by James Moll" is available for viewing on several platforms - view the list at [www.farmlandfilm.com](http://www.farmlandfilm.com).



# Training Day for Lapeer County Road Commission

*By: Kathy Maurer, Financial and International Marketing Director*

Road commissions do a great job of keeping us safe. No one wants farm equipment or a school bus full of kids to fall through a bridge. As it currently stands, many roads are tested visually by well-trained engineers. This conservative system has served us well over the years. However, when weight limits are put on rural bridges the inconvenience is costly. Rerouting around a restricted bridge to move inputs and commodities cuts directly into farmer's profit margins.

Farmers, through their soybean checkoff dollars, are partnering with County Road Commissions with a cost sharing project to provide technology that can assist engineers in their decisions regarding weight limits on bridges.

The Michigan Soybean Promotion Committee (MSPC) and the Lapeer County Road Commission (LCRC) have partnered to add sensor technology to their engineer's tool box.

Testing with sensors gives an added layer of information when calculating an accurate weight limit. The results of testing with the sensors can lead to one of three outcomes:

1. The bridge is determined to be accurately posted.
2. The bridge is in greater disrepair than previously determined.
3. The bridge can safely have weight capacity limits removed or increased.

Each test is considered a success as it gives information for accurate posting and asset management.

Peter Vanerzee of LifeSpan Technologies from Atlanta, Georgia spent the day training LCRC and MSPC on the use of the sensors and equipment.



*Bridge Sensor*



*Bridge Cleaning*

Step 1: Properly cleaning the surface of the bridge. The sensors, which are only the length of an ink pen, will adhere to concrete, steel and wood. They can also be affixed to the side support structures.

Step 2: Apply the adhesive in the cleaned areas. Place the sensors on the adhesive and secure with magnets or Gorilla duct tape to hold in place while drying. This process should be done for at least 12 hours.

Step 3: Unlock the sensors. Tiny Hex L-wrenches are used on each side of the sensor at the same time, moving in opposite directions to unlock the sensors. Imagine doing this while standing on a ladder, in a creek with moving water, while working above your head.

Step 4: Plug the sensor into the reader. As a loaded truck moves over the bridge, numbers register on the reader. This data is then collected and put into a spread sheet which allows engineers to determine the stress of the bridge under the load. Multiple sensors can be attached at the same time to register the stress throughout the bridge.

Sensors can be left on the bridge as long as needed. The sensors are reusable, which makes the equipment a good investment.

## Your Soybean Checkoff ✓

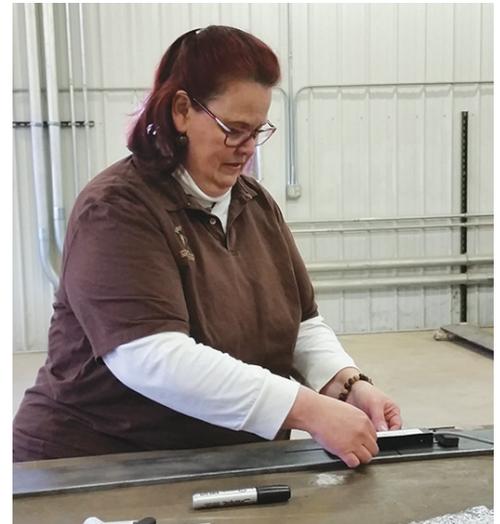
The Midland County Road Commission participated in the pilot project last year. The three bridges tested in Midland County all had the load limits safely removed. Lapeer County participated this year.

"We are excited to have been selected and receive funding from the Michigan Soybean Promotion Committee in 2018 to purchase 10 bridge sensors," says Destain Gingell, County Highway Engineer for the Lapeer County Road Commission. "Lapeer County has over 90 bridges that span over 20 feet, in accordance with the National Bridge Inspection Standards; 17 currently have load postings based on traditional visual inspection methods. These sensors will be a great tool for our tool box when determining load ratings and will be vital to agriculture commerce within our community when evaluating if a bridge needs to be posted."

If your county road commission is interested in the bridge testing project, please contact Kathy Maurer at 989.652.3294 or email [kmaurer@michigansoybean.org](mailto:kmaurer@michigansoybean.org).



*Bridge  
Adhesive*



*Bridge  
Unlock*

*Plug into reader*



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***Farmers working with road commissions to solve real challenges.  
A win-win for everyone.***

# Ag Leaders of MI Connect with State and National Leaders

By: Gail Frahm, Executive Director

The Agricultural Leaders of Michigan (ALM) is a coalition of agricultural, commodity and agribusiness leaders committed to promoting Michigan agriculture, participating in an ongoing dialog about issues affecting our industry and harnessing agriculture's power and potential to further grow Michigan's economy. ALM members include: Greenstone Farm Credit Services, the Michigan Agri-Business Association, the Michigan Milk Producers Association, the Michigan Pork Producers Association and the Michigan Soybean Association(MSA)/Michigan Soybean Promotion Committee.

Education and engagement with legislators around issues that directly impact the farm economy are a top priority for ALM. In 2018, the focus has been on the overall state of the farm economy, trade and the farm bill.

As much as we know about agriculture, there are many who haven't had the opportunity to grow up in this environment and get to know the issues that matter to us. So, this spring, ALM launched a series of educational forums across Michigan to help political candidates and current lawmakers learn more about Michigan agriculture. This was the first time ALM took the lead on hosting candidate forums, which proved to be successful events for both members and candidates.

All representatives of ALM had an opportunity to visit for 10 minutes on topics of importance to their industry, and answered questions from the candidates.

Initially, two candidate education forums were scheduled in Zeeland at Zeeland Farm Services, Inc. and in Frankenmuth at Star of the West Milling



Gail Frahm presenting at an ALM Candidate Forum

Company. These events drew more than 40 candidates running for seats in the Michigan House and Michigan Senate. Due to increased interest in these forums, a third forum was added in East Lansing and held at GreenStone Farm Credit Services. The last session was primarily attended by members of the Michigan Legislature who were not able to attend the earlier forums, as well as other candidates from throughout mid-Michigan. We had nearly 30 attendees at the East Lansing briefing.

In July, ALM hosted a D.C. Ag Breakfast which MSA President Dave Williams and MSA Director Matt Stutzman attended. This event

is always well attended by members of Congress, Congressional staff and individuals from Michigan who are working on Capitol Hill in various positions connected to agriculture. The exchange of information and networking opportunities are invaluable.

U.S. Senator Debbie Stabenow, the ranking member on the U.S. Senate Agriculture, Nutrition and Forestry Committee spent time with ALM members answering questions about trade and the farm bill. Additionally, attendees received a briefing from the professional staff of the Committee, including staff directors Joe Shultz and Jacquyn Schneider. This was a special opportunity to learn what the Senator and the Committee are working on, and ask questions that specifically impact Michigan farmers.

Matt Stutzman said, "It was a great opportunity to meet the Michigan delegates together and talk in a more relaxed setting than the same office they work in."

# Apply for the 2019 Young Leader Program



## Influence, Inspire, Learn and Connect

The Young Leader Program, sponsored by ASA and Corteva Agriscience™, Agriculture Division of DowDuPont, is a two-phase educational program for actively farming couples or individuals who are passionate about the possibilities of the future of agriculture.

Spouses, even those not employed full-time on the farm, are encouraged to attend and will be active participants in all elements of the program.

### As a Young Leader participant you will

- Explore opportunities and advancements in agriculture to better enable you to tell your story
- Take part in training that is leadership focused and will have an impact on not only your farming operation but other organizations in which you serve
- Connect with soybean farmers from other states and Canada

**DEADLINE IS SEPTEMBER 26, 2018!**



## Program dates:

### PHASE I

Tuesday, November 27 – Friday, November 30, 2018 in Johnston, Iowa

### PHASE II

Tuesday, February 26 – Saturday, March 2, 2019 in Orlando, Florida in conjunction with Commodity Classic

For more information about the Young Leader Program and to apply for membership in the class of 2019 go to: [soygrowers.com/learn/young-leader-program](http://soygrowers.com/learn/young-leader-program)



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WORD GO

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