

# Ohio Soybean News™

SEPTEMBER-OCTOBER 2019

A PUBLICATION OF THE OHIO SOYBEAN ASSOCIATION

## AG TECH

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# Ohio Soybean News

September-October 2019  
Vol. 9, No. 5

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## 5 CAUV Reforms Moving Farmers Forward

## 6 OSA "Ag"vocates in D.C.

## 8 OSA Applauds Passage of State Budget

## 8 USDA Market Facilitation Program Details

## 12 ASA, Corteva Agriscience Seek Young Leader Applicants

## 14 Roof Maxx Update

## 15 Study Provides More Details on Impact of Red Meat Industry on Soybeans

## 16 How Ag Technology Attracts International Buyers of U.S. Soy

## 18 Experiencing Food Science: From Field to Package

## 19 Get to Know Adam Vonderhaar

## 20 Longtime OSC Partner Helps Bring Soy-Based Success

## 22 OSCF Scholarship Spotlight: Anna Schmenk

## 23 Crop Update as of August 2019

### COVER STORY:

The Ohio Soybean Association works week in and week out to remove barriers to international markets. On their operations, Ohio soybean farmers can help entice international buyers by adopting the latest in farm technology, like variable seed rates and aerial imaging. Learn more about why these new technologies matter to international buyers on pages 16 and 17.



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Ohio Soybean news is published six times a year by the Ohio Soybean Association, 918 Proprietors Rd., Suite A, Worthington, OH 43085. Phone: 614-476-3100. For address corrections contact Ohio Soybean News at 918 Proprietors Rd., Suite A, Worthington, OH 43085.

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### Scott Metzger

Ohio Soybean Association President

Ross County soybean farmer

## A Letter From the President

I don't have to tell you what a challenging and stressful year it's been — you've been living it.

The U.S. Department of Agriculture is reporting over a million acres went unplanted in Ohio this year. That's the most unplanted acres our state has seen since the agency started keeping that specific record in 2007. I've spoken with some guys who have been farming for decades and they don't remember ever seeing it this bad. There are certainly some pockets where crops got in the ground and are looking okay. Others look stressed due to, ironically, a lack of rain. I know everyone is hoping to see a good mix of rain and heat for the rest of this summer and a nice long fall season so we can get the most out of our soybeans and corn as possible.

Being at the mercy of Mother Nature is part of farming — but that doesn't take away the stress that can come from it. It's tough out there and it's okay to need some support to get through. The first and most important thing to take care of on your operation is yourself.

Help is available and The Ohio State University College of Food, Agricultural, and Environmental Sciences have been compiling information that could be helpful, including where and how to access mental health resources. Those can be found at [go.osu.edu/AgCrisis](http://go.osu.edu/AgCrisis).

If you see a friend or neighbor struggling, reach out to them. Agriculture is and has always been a close-knit community. Let's help each other.



# CAUV Reforms Moving Farmers Forward

By Courtney Heiser

The recently reformed Current Agricultural Use Value (CAUV) program offers stability during 2019's record-setting wet planting season that derailed much of the state's agricultural efforts this spring.

In 2017, Governor John Kasich signed House Bill 49 (HB 49), Ohio's operating budget, into law which included changes for determining the value for farmland through the CAUV program. Prior to this updated CAUV program, Ohio farmland had seen up to a 300 percent increase in taxable value, placing a significant burden on family farms during times of low crop prices. The bill approved an updated method for determining CAUV value for land devoted to agricultural use.

Tax Commissioners must determine the capitalization rate used to compute CAUV values annually. The yearly rate is to be evaluated considering an equity yield rate equivalent to the greater average of the total rates of return on farm equity for the last 25 years, or the loan interest rate the Commissioner uses for the last year to calculate the capitalization rate. Commissioners are to assume a 25-year holding period for agricultural land to compute the buildup of equity or appreciation regarding that land.

Appraisals must reflect and consider the following standards:

- ▶ **Productivity of the soil under normal management practices**
- ▶ **Typical cropping and land use patterns**



- ▶ **Average price patterns of crops/products produced**
- ▶ **Typical production costs to determine net income potential to be capitalized**

With the passage of HB 49, the new CAUV system has eased concerns and reduced the financial burdens for Ohio crop growers. Changes enacted in the 2018–2019 budget put a cap on the taxable value of CAUV land used for conservation purposes. CAUV land enrolled in federal conservation programs to be valued at the lowest possible soil productivity type, serving as an additional incentive for farmers to participate in conservation programs necessary for healthy soils and clean water.

According to the Ohio Department of Taxation, CAUV values have declined by nearly 30% since 2016. The 2019 projected average value for cropland of all soil types is \$876/acre, down from 2018's \$1,015 average.

**A newly revised CAUV system should help farmers after a particularly wet planting season.** PHOTO BY CHRISTIAN COLLINS

The challenges farmers have faced thus far in 2019 are not to be taken lightly. Many farmers have never experienced a year as extreme as this. Governor Mike DeWine and Ohio Department of Agriculture Director Dorothy Pelanda have made efforts to work with the federal government to make this year easier for both farmers and agricultural businesses and organizations.

President Trump has approved disaster designation for ten Ohio counties and the reduction in CAUV values can only help farmers who were unable to plant crops in flooded areas.

With this challenging year, this newly revised CAUV system will provide farmers with predictability and stability for their operations. ♦



## OSA “Ag”vocates in D.C.

By Courtney Heiser

Advocacy is the core of the Ohio Soybean Association (OSA). In July, OSA farmer leaders traveled to Washington, D.C., to advocate for critical issues impacting the soybean industry. Board members also attended the American Soybean Association (ASA) board meeting and Soy Issues Briefing.

“We must advocate for these issues to educate our representatives as to what goes on our farms and explain how specific issues like the China 301 tariffs are affecting us at home,” said Bret Davis, who is an OSA board member, secretary of ASA and a farmer from Delaware County.

Coinciding with the visit was the third annual Ag Voices of the Future program, an opportunity for college-aged students to improve their understanding about policy issues directly impacting soybean farmers. The program also focuses on the importance of advocacy and networking with other agricultural leaders.

This year, a select group of ten students participated in the Ag Voices of the Future program. Ohio was represented by Kolesen McCoy of Springfield and Tyler Zimpfer of Anna.

“The two most important things to me in my future career are being with people and working in agriculture. I believe ‘ag’vocacy ties those two things together,” McCoy said.

**OSA board member Rusty Goebel and Representative Bob Latta discuss 2019’s agricultural challenges.**



**Pictured (L to R): Rusty Goebel, Kerrick Wilson, Jeff Magyar, Scott Metzger, Jennifer Wilson-Oechsle, Jeff McKanna, Jerry Bambauer, Kolesen McCoy, Tyler Zimpfer, Kirk Merritt.**

“The highlight of my trip consisted of the day spent advocating for soybean industry priorities on Capitol Hill,” Zimpfer said. “It was encouraging to feel the support from the people in my group. I always felt comfortable to share my thoughts towards issues, but also found great inspiration in hearing the wisdom each one of the farmers and professionals shared as well.”

OSA welcomed McCoy and Zimpfer during the visits with congressional leaders on Capitol Hill. Major topics of discussion during the Hill visits included USMCA, China tariffs, trade, biodiesel, and transportation.

► **USMCA:** OSA pushed for the completion and passage of USMCA. This trade agreement will restore market certainty to export markets for soybean growers. With the passage of USMCA, farmers will have access to a vital marketplace which will generate jobs to boost both national and rural economies.

► **China/trade:** Members of Congress are still aware of the China/trade issue, but the Administration’s next move is still unclear. However, board members took advantage of their time with their representatives to address their concerns and urge for the

removal of the China 301 tariffs to allow for more soybeans to be sold and reestablish the market.

► **Biodiesel:** OSA expressed

support for a multi-year extension of the biodiesel tax credit. This tax credit allowed blenders of biodiesel to claim a credit of \$1 per gallon against their U.S. federal tax liability and was crucial to sustain biofuels jobs, diversify the fuels market, and improve U.S. energy security. Approximately half of U.S. biodiesel is produced from soybean oil, which drives demand for soybeans.

► **Transportation:** Board members also highlighted the Mississippi River deepening project. A deeper river will allow both larger ships to be utilized and current ships being utilized to be loaded with more freight. Representatives understood the benefits to Ohio and seemed very supportive of the project.

While in D.C., OSA board member Rusty Goebel invited Rep. Bob Latta (R-Bowling Green) to visit his farm in Stryker, Ohio. At the beginning of August, Latta and his staff visited with local farmers, ag professionals, and industry leaders to talk about weather, trade, water quality and mental health best practices for dealing with stress.

Overall, the trip to D.C. was successful. The farmer leaders of OSA were able to address their concerns and express support on crucial issues currently facing the soybean industry. To learn more about the progress of these issues, please visit [soyohio.org/association](http://soyohio.org/association). ♦



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# OSA Applauds Passage of State Budget

Includes Funding for Water Quality and Nutrient Management Programs

The Ohio Soybean Association (OSA) applauds the passage of the state budget that includes beneficial tax policy changes for farmers, as well as long-term, financial support for water quality and nutrient management programs. OSA's farmer leaders have been working at the Statehouse throughout the process to ensure its members voices are heard.



"We thank the Ohio House, Ohio Senate and Gov. DeWine's Administration for working with all stakeholders to address water quality," said Trish Cunningham, OSA Policy Committee Chair. "Water quality has been a high priority for our organization for many years and we believe that H2Ohio is a step in the right direction. I'm also proud to see tax policies that will benefit family farmers who have been hit especially hard this year due to the weather and crop prices."

The over \$200 million H2Ohio fund will be used for agricultural, community, and nature water projects to address water quality.

In addition to H2Ohio, the budget also includes support for soil and water conservation districts in the Western Lake Erie Basin and funding for the Healthy Lake Erie program to promote 4R nutrient stewardship practices.

Additionally, OSA supported the following:

- **Clarification and expansion of qualified immunity related to existing nuisance protection laws.**
- **Increase from three to four years the amount of time that soil test results are valid for purposes of inclusion in a voluntary nutrient management plan approved by ODA.**
- **Friendlier tax policies toward small businesses.** ◆

## USDA Market Facilitation Program Details

Additional information and details about this year's \$14.5 million Market Facilitation Program (MFP) have been released from the U.S. Department of Agriculture (USDA). Payments will be provided in three tranches starting in August. Specific county rates, as well as additional program details, can be found at [www.farmers.gov/manage/mfp](http://www.farmers.gov/manage/mfp) or by contacting your local Farm Service Agency office.

The Ohio Soybean Association (OSA) and the American Soybean Association (ASA) appreciate the efforts by the Administration to offset the losses created by tariffs. However, OSA and ASA continue to advocate for a quick and positive resolution to the trade dispute with China.

"Ohio farmers are feeling a lot of pressure right now due to the tariffs effects on the market, as well as an unprecedented wet planting season," said Scott Metzger, OSA president and Ross County soybean farmer. "We appreciate this assistance and hope the program will be able to offset some of their losses."

Payment rates vary by county and are based on USDA's calculated damages from tariffs in each individual county affected — most in the \$50 to \$75 range per acre, according to USDA. The single-county rate will be multiplied by a farm's total planted acreage for all MFP-eligible crops in aggregate for 2019, not to exceed total 2018 plantings.

Second and third payments, each equal to 25% of the total qualifying payment, are slated for November 2019 and January 2020 contingent upon market conditions and trade opportunities. Farmers can continue to sign up through December 6, 2019.

Farmers who earn 75% or more of their income from agriculture will be eligible for up to the \$250,000 MFP payment limit and retroactively eligible for up to the \$125,000 payment limit for the 2018 program. MFP payments are limited to a combined \$250,000 for non-specialty crops per person or legal entity and a combined \$250,000 for hog or dairy farmers per person or legal entity. No applicant can receive more than \$500,000 total. ◆





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Find all the ways the Ohio Soybean Council and the soybean checkoff work for you at [OhioFieldLeader.com](http://OhioFieldLeader.com).

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"My soybean checkoff investment means that farmers are willing to invest in our future. It makes me feel like somebody's out there putting their best foot forward for me. I can't be two places at once. I can't run a farm, raise a crop, reach out globally and prove to people that I grow a great product."

—WADE MCAFEE, DELAWARE, OH

## *Here in Ohio, We Grow Possibilities.*

We know you can't be everywhere at once. By investing in the soybean checkoff, farmers can concentrate on running their operations while the Ohio Soybean Council works to increase global demand, improve yields and create new opportunities for future generations.

Learn more at [SoyOhio.org/HereWeGrow](http://SoyOhio.org/HereWeGrow).



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OHIO SOYBEAN COUNCIL



# ASA, Corteva Agriscience Seek Young Leader Applicants

**T**he American Soybean Association (ASA) and Corteva Agriscience are seeking applicants for the 2019–20 Young Leader Program.

The Young Leader Program, sponsored by Corteva Agriscience and ASA, is a two-phase educational program for actively farming individuals and couples who are passionate about the future possibilities of agriculture. The women and men who participate in this program are the leaders who shape the future of agriculture.

“I’ve been active in other organizations and attended many events before, but this experience has by far given me the best network of fellow farmers across the country,” said Adam Vance, a soybean farmer from Highland County, who participated in the program last year.

Phase I of the 2019–20 Young Leader program takes place in Indianapolis, Indiana Dec. 3–6, 2019. The program continues Feb. 25–29, 2020 in San Antonio,

Texas in conjunction with the annual Commodity Classic Convention and Trade Show.

The Young Leader program has had a tremendous impact on agriculture, and we are grateful to Corteva Agriscience for continuing to invest in our future leaders,” ASA President Davie Stephens said. “The program encouraged and trained many soybean farmers guiding the industry today. The Young Leader program is special because it focuses on building the grower’s potential, while helping create meaningful and lifelong relationships with growers from across the U.S. and Canada.”

Soybean grower couples and individuals are encouraged to apply for the program, which focuses on leadership and communication, the latest agricultural information and the development of a strong peer network. Spouses, even those not employed full-time on farm, are encouraged to attend and will be active

participants in all elements of the program.

ASA, its 26 state affiliates, the Grain Farmers of Ontario and Corteva Agriscience will work together to identify the top producers to represent their state as part of this program.

“The young leader program cultivates agriculture advocates and has played a pivotal role in developing the next generation of engaged grower leaders for over three decades. Corteva Agriscience is proud of our longstanding collaboration with the American Soybean Association and is proud to support the young leader program,” said Matt Rekoweg, U.S. Industry Affairs Leader.

Applications are being accepted online now. Interested applicants should visit [www.soygrowers.com/education-resources/grower-education/leadership-development-programs/young-leader-program](http://www.soygrowers.com/education-resources/grower-education/leadership-development-programs/young-leader-program) for additional program information and to apply by **October 18**. ♦

## Apply for the 2020

Corteva Agriscience  
**YOUNG  
LEADER  
PROGRAM**  
American Soybean Association

### Influence, Inspire, Learn and Connect

#### Apply for the 2020 ASA Corteva Agriscience Young Leader Program!

The Young Leader Program, sponsored by ASA and Corteva Agriscience, provides training for actively-farming couples or individuals who are passionate about the possibilities of the future of agriculture.

This two-phase training program is unique in that your spouse (if applicable), even if not employed full time on the farm, will be an active participant in all elements of the training.

#### As a Young Leader participant you will:

- Engage in leadership-focused training that impacts not only your farming operation but other organizations in which you serve
- Gain tools to better enable you to tell your story
- Connect with soybean farmers from the U.S. and Canada, creating valuable new agricultural relationships

Corteva Agriscience  
**YOUNG  
LEADER  
PROGRAM**  
American Soybean Association

**ASA**  
American Soybean  
Association

#### Program information:

##### PHASE I

Tuesday, December 3 – Friday,  
December 6, 2019 at Corteva  
Agriscience in Indianapolis, Indiana

##### PHASE II

Tuesday, February 25 – Saturday,  
February 29, 2020 in San Antonio, TX,  
in conjunction with Commodity Classic.

The ASA Corteva Agriscience Young Leader Program is for those young in leadership, regardless of age.

For more information about the Young Leader Program and to apply for membership in the class of 2020, go to: [SoyGrowers.com](http://SoyGrowers.com)






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## Roof Maxx Update

By Kayla Weaver

**M**ike and Todd Feazel have been in the roofing business for nearly three decades. While they started out with a traditional roof replacement company, they have become innovators in the roofing industry with the development of Roof Maxx — a soy-based sealer that can extend the life of a shingle roof. Roof Maxx was developed with support from the Ohio Soybean Council and soybean checkoff, including research to help improve the original product.

While in the roofing business they saw a need for a product like this and sold their roof replacement business to pursue the development of what became Roof Maxx and launched their next small business, Roof Revivers, where they were able to get their product into the marketplace and see firsthand how well it was received by home and business owners that wanted to extend the life of their roof for a fraction of the cost of replacement.

Roof Maxx restores the flexibility and water repelling qualities in roofing shingles to extend the useful life for five to ten or even 15 years with additional



applications. Not only a money-saving option for the customer, Roof Maxx also has significant environmental implications, helping to reduce waste and keeping roofing materials out of landfills.

A successful product led to increased demand and allowed the Feazels to create one of today's fastest growing business franchise opportunities. In June of 2017 they developed Roof Maxx Technologies to expand their reach offering dealers the prospect of signing up for one or more territories where they are able to sell and apply Roof Maxx. Since last September, they have signed over 200 dealers accounting for nearly 300 territories across the nation.

"People are seeing the value and there's never been anything like it. The bio-aspect adds a lot to it — the main driver is economics and saving people money — but being a green product helps, especially on the west coast and areas like Asheville, North Carolina, or Boulder, Colorado, where there are more people with that mindset. Across the board, if people can save money and be green, too, it feels good," said Mike Feazel.

Feazel estimates they've used 20,000 gallons of soy which could easily be 200,000 gallons next year

**Roof Maxx is a fast-growing roof rejuvenator made from soybean oil. Currently there are over 200 Roof Maxx dealers across the country.**

and will continue to grow as they continue to expand.

"We're in process of moving and expanding manufacturing, we've brought on new employees. We went from six to almost 20 in the last three months — our staff is growing quickly. I think it's nice for farmers to see where their dollars are going when the Ohio Soybean Council and checkoff support opportunities like these," said Mike Feazel.

The U.S. roofing industry produces more than 12.5 billion square feet of shingles each year. At the same time, the industry generates around 11 million tons of waste from tearing off shingle roofs that have passed their useful life. Roof Maxx is putting a significant dent in those numbers and only shows signs of growing. With a standard untreated shingle roof having about a 15-year lifespan, Roof Maxx can essentially double the life of those roofs and cut waste while supporting soybean farmers. ♦





# Study Provides More Details on Impact of Red Meat Industry on Soybeans

**B**eef and pork exports added 85 cents per bushel to the price of soybeans and 39 cents per bushel to the price of corn in 2018, according to the latest report by World Perspectives, Inc. (WPI). Over the past three years, WPI has analyzed the impact of U.S. red meat exports on the value of domestic feedgrains and oilseeds.

Among new information included in the latest report are statistics that point to the value of red meat exports to U.S. soybean producers. According to WPI, the market value of pork exports to the soybean industry in 2018 was \$783 million. WPI's updated study shows that without red meat exports, U.S. soybean farmers would have lost \$3.9 billion last year and U.S. corn growers would have lost \$5.7 billion.

"The World Perspectives study has been a very useful tool in quantifying the importance of red meat exports to our corn and soybean member organizations," said USMEF President and CEO Dan Halstrom. "Results of the study and the subsequent updates

demonstrate that maintaining global market access for U.S. beef and pork is critical to continued growth and to the continued value that meat exports bring to corn and soybeans."

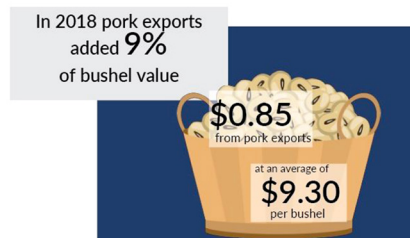
The updated study also looks forward, projecting that U.S. pork exports are expected to generate \$8.68 billion in market value to soybeans from 2019 to 2028.

"When the original study came out a few years ago, it gave us a good look at the value of U.S. beef, pork and lamb exports to corn and soybean farmers," said Dean Meyer, a corn, soybean and livestock producer from Rock Rapids, Iowa. Meyer, a member of the USMEF Executive Committee, noted that the WPI study continues to support the fact that exporting red meat drives demand for livestock, in turn driving demand for livestock feed.

Record-setting growth in red meat exports since 2016 — along with an uncertain global trade climate that has developed since the original study — led USMEF to request updates. Using final 2018 data and new 2019 to 2028 USDA baseline projections, WPI updated its analysis of red meat exports' impact on corn in 2018 and expanded the analysis on the value of pork exports to soybeans.

## Highlights from the updated WPI study include:

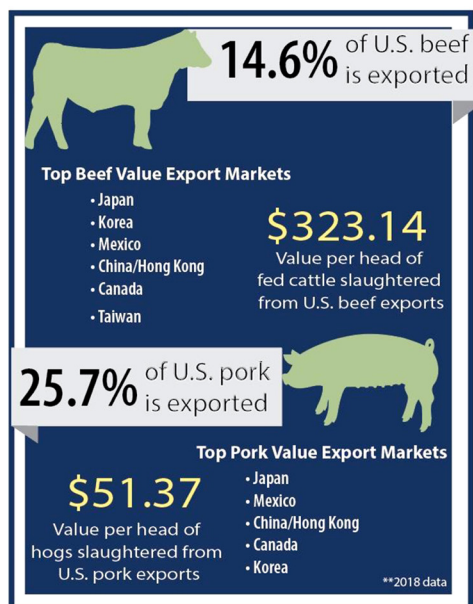
- Since 2015, meat exports represent the fastest growing category of corn and soybean meal use.
- In 2018, exports accounted for 14.6 percent of total U.S. beef production and 25.7 percent of U.S. total pork production, and accounted for 2 million tons of soybean meal disappearance, which is the equivalent of 84.2 million bushels of soybeans with a market value of \$783 million.



- It is estimated that in 2018 pork exports added \$0.85 per bushel to the average 2018 soybean price of \$9.30/bushel.
- Since 2015, one in every 10 tons of added feed demand for soybean meal use was due to pork exports.
- Over the next 10 years, meat exports are forecast to generate a projected \$30.8 billion in cumulative annual market value to corn and soybeans based on USDA's long-term forecast for crop prices.

## Here are some highlights from the updated WPI study specifically for Ohio soybeans:

- U.S. pork exports generated a market value of \$49.8 million to Ohio soybeans in 2018 (soybeans consumed by pork exports multiplied by annual average soybean price).
- U.S. pork exports are expected to generate a market value of \$498 million to Ohio soybeans from 2019 to 2028.
- Without pork exports, Ohio soybean farmers would have lost \$248 million in soybean revenue in 2018 (state soybean production multiplied by \$0.85/bushel). ♦





# How Ag Technology Attracts International Buyers of U.S. Soy

By Doug Winter, USSEC and  
USB Director

Understanding ag technology's significance in the sustainability of U.S. Soy may lead international customers to continue buying our products. On my southern Illinois farm, we use technology such as yield mapping, GPS, autosteer, variable rate seeding, grid soil sampling and variable rate fertilizing for the added efficiencies they offer. The benefits to the farmer using the technology often flow down to the end user, as farmers' savings add up and buyers get a sustainable product high in quality.

## What Is Ag Tech?

Agricultural technology, or ag tech, has been available, in some form, since the early 20th century. Some argue ag tech was born the first time Mendel, the father of modern genetics, conducted genetic experiments on peas in the mid-1800s. Plant breeding is a form of ag tech; it's not all gadgets and sensors.

The Green Revolution with improved irrigation and crop management techniques, the introduction of fertilizer and pesticide technology, advances in machinery, research in plant breeding and precision agriculture practices all fall within the ag tech realm.

## Where Tech Is Now

As with any technology, ag tech is constantly advancing, and tech-savvy farmers are constantly evolving. Many U.S. farmers use some type of technology on their farm, whether it be as simple as autosteer or as complex as aerial imagery. Technology adoption among U.S. farmers has increased significantly in the past few decades. Common forms of ag tech include autosteer, aerial imagery (drones,



satellites), yield monitors/yield mapping, grid soil sampling and variable rate seeding/fertilizing.

## Where Tech Is Going

Technology is continually advancing. A computer purchased one week ago is already outdated in the fast-paced world of tech. To stay current on ag tech while also remaining profitable, farmers must determine which tech to implement on their farms. They must choose what will maximize return on investment and increase efficiencies for their operations.

Satellite imagery helps farmers make data-driven decisions, leading to efficient management practices. Consumers and international buyers of U.S. Soy are concerned more than ever about their food and the environment, making sustainability a main goal of modern agriculture. Satellite imagery helps farmers gather data to manage their farms in a sustainable way. Minimizing inputs and maximizing

outputs is ideal. Knowing the problem areas of a field from satellite images, and managing them properly, makes this technology useful.

Thinking ahead in both short- and long-term forms of technology will lead to better management decisions and positive impact an operation.

## Short-Term

When mapping short-term goals, farmers must consider what they strive to accomplish within one year of production or sooner. The short-term focus is using existing technology to pinpoint smaller areas (e.g., areas within a field) for more accurate data and increased precision. Variable rate seeding, spraying, grid sampling and capturing aerial imagery will continue to be popular practices. From an ag tech perspective, seeing significant changes from using new technology during just one year is unlikely. Typically, and depending on the technology and farm,



farmers who adopt a new technology practice can expect to see changes in about five years.

### Long-Term

The next five to ten years will bring several ground-breaking tech advancements to the industry, as well as updates to existing technology to be used in new ways. Top of mind is artificial intelligence and automation.

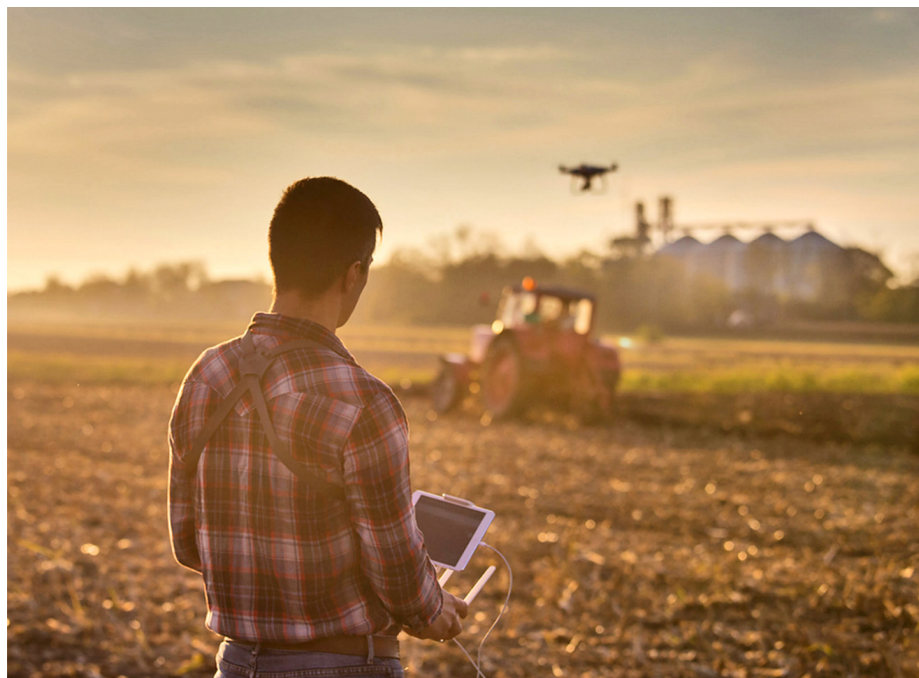
There are a few different words used to describe autonomy: autonomous, automated and driverless. These words are not interchangeable. Knowing the minor differences among these terms alleviates confusion. Simply put, autonomous machinery has less human intervention than automated machinery, and driverless requires no human guidance or interaction.

The thought of full autonomy may excite some efficiency-seeking farmers while worrying other farm workers. For the farm owners, having the ability to control equipment without being right there in the field and having only two or three hired operators is appealing. The labor shortage in agriculture may have met its match with these innovations. The question is what happens to those existing farm workers who depend on the labor demand from farmers.

The risks of having large machinery without a visible operator may seem high, which is why regulators may have trouble giving autonomy the go-ahead for widespread adoption. Similar to the auto industry, critics think of several ways things can go wrong with autonomous machines, while not considering all the benefits that could lead to increased efficiency and accuracy. The reality is autonomous technology will likely arrive on the farm by retrofitting machinery farmers already own. We'll begin to see more operations become autonomous before we see driverless machines in fields.

### Opportunities for International Customers

International buyers of U.S. Soy are looking for a quality product at a



reasonable price with a reliable supply. For years the U.S. has been No. 1 in customer service, consistently giving buyers what they ask for. Along with the reliance on a quality product, international buyers can have peace of mind, knowing they are getting truly sustainably grown U.S. soybeans. U.S. soybean farmers grow a top-quality product which is produced efficiently and safely. U.S. Soy has proven better nutritional quality with the following attributes:

- ▶ **Superior amino acid profile and amino acid digestibility**
- ▶ **Increased metabolizable energy**
- ▶ **Lower fiber content**
- ▶ **Higher total phosphorus**

Ag tech is a fast-moving machine, with no signs of slowing. Technology adoption among farmers isn't slowing either. Staying on top as a soybean farmer means staying current on the ag technology available. Identifying what's out there and what will add benefit to an operation is what U.S. soybean farmers must continue to examine.

Keep in mind that while technology changes overnight, farmers cannot constantly add or change their tech to keep pace with the industry. There will be a lag in adoption, but not a decrease.

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**Using technology on the farm not only helps create bigger yields, but also better relationships with international buyers.**

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Farmers must consider what the best fit for their operation is. Technology is not one-size-fits-all. It's dynamic, and it's progressive.

For farmers to tackle every possible technology option available all at once is expensive and unrealistic. Agriculture is a story of evolution when considering the developments in equipment, seed, crop protection and fertilizer applications farmers use to maximize profit opportunities and production efficiencies for their operations. The emergence of precision technology and digital agriculture data are part of this evolution and will continue playing a greater role in the farming and agricultural industry. ♦

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A longer version of this article originally appeared on [ussoy.org](http://ussoy.org), a collaboration between the United Soybean Board (USB), American Soybean Association (ASA) and US Soy Export Council (USSEC) to demonstrate the U.S. Soy Advantage to international buyers.



# Experiencing Food Science: From Field to Package

**D**o you like yogurt? Salsa? What if you could make it from scratch and learn about the science involved? The Experience Food Science: Field to Package workshop, funded by the Ohio Soybean Council (OSC) in partnership with the Center for Innovation in Food Technology (CIFT) and AgCredit, gave teachers a chance to do some hands-on food science labs and learn more about the new food industry credentials.

The workshop was a part of GrowNextGen, the Ohio soybean checkoff-funded program to connect science and technology to classrooms through the lens of agriculture. The workshop, which was similar to past GrowNextGen workshops like Ag Biotech Academy, was held in and around Perrysburg in Wood County. Through the workshop, educators learned how to best introduce students to food science as a potential career area. After all, Ohio's food and agribusiness sector contributes \$16.4 billion to the state's economy annually and employment in food manufacturing totals about 70,000 with an additional 78,000 employed in farming and ranching.

"We thought it was important to connect food science and technology to the soybean industry and there's no better partner for that than CIFT," said Tom Fontana, OSC's director of research and education. "We'd seen success with our Ag Biotech Academy workshop and wanted to expand on that by providing teachers with other ways to connect agriculture to the classroom."

Day one began at Penta Career Center, where GrowNextGen teacher leaders Rachel Sanders and Jennifer Foudray led participants through a lab considering how plant-based yogurts compare to



milk-based yogurts. Four types of yogurt were made, with home-made and store-bought soymilk and whole milk. On the second day, the Gram staining technique was used to classify the bacteria in the samples, and the types were compared according to pH, color, odor, consistency, and texture/mouth feel.

Next the group headed to the Northwest Ohio Food Cooperative Kitchen (NOCK) which is managed by CIFT. There, teachers turned into salsa chefs with small groups developing their own special recipe while working with basic ingredients such as tomatoes, chilies, spices, onions, and black soybeans. Teams also learned about the business side of food science, which included developing their own brand by creating product names and packaging labels.

"The demand for skilled workforce is a growing concern for food companies," said Rebecca Singer, CIFT president and CEO. "The CIFT student credentials provide a welcome solution to this need, and we look forward to working with academic institutions as well as companies employing the participants in an effort to enhance the industry."

The first day of the food science workshop concluded with a dinner at NOCK, connecting participants with industry experts. CIFT staff was present, along with guests from Willy's Salsa,



Campbell's Soup Supply Company, the Ohio Development Services Agency, OSC board member and Wood County farmer Nathan Eckel and Ohio Senator Teresa Fedor, who represents Toledo and the surrounding area.

Senator Fedor emphasized the importance of helping students be prepared to enter the work force. "We are not relying on high-stakes testing anymore," she said. "Students should be ready to work, not ready to take a test."

Bryan Ellis from Toledo Natural Science Technology Center said he appreciated the networking opportunities. "To be able to hear specifically from those in the career tech field was valuable. Our programs rely on students getting jobs. If they don't get jobs, we suffer. Having more partners brought to the table can really help us to help the students gain employment."

Reynoldsburg High School teacher Trevor Horn said he liked "seeing people with different perspectives on food all wanting to learn more and work together to teach students about the importance of feeding a growing population." ♦



# Get to Know Adam Vonderhaar

By OSU student Sydney Snider

For some of us, it takes years to discover our true passion, but that wasn't the case for 22-year-old Adam Vonderhaar. For him, he discovered what his life's work would be at the young age of 15.

"Working to plant a soybean crop during the summer after my freshman year of high school, I realized watching the product of my work grow and flourish was something I would always take great joy in. I knew I wanted to work alongside my parents and grandfather full-time following graduation," said Vonderhaar.

The Vonderhaar family has been farming in Preble County since the 1950s. They primarily farm soybeans, corn and wheat. Currently, Adam's grandfather and father farm the family's land and he is excited to join them now that he's earned a degree in agricultural

systems management, but that wasn't the program he originally pursued.

"I found my fit in agricultural systems management going into my junior year at OSU," said Vonderhaar. "Before that, I was an agricultural business and applied economics major, but I realized it wasn't for me. I contacted Dewey Mann, the chair of the agricultural systems management major, and he gave me a tour of the facilities and a description of the classes I'd take. After that, I was sold."

Vonderhaar shared how thankful he is for his education at OSU and believes his coursework and experiences have prepared him to help expand his family's knowledge and capabilities in the precision-agriculture sector.

Despite being the only one with plans to return to the farm, Adam isn't the only Vonderhaar sibling with a passion



for agriculture. His twin brother, Ryan, graduated from OSU in May 2018 with a degree in agricultural communication and is now a leadership consultant for FarmHouse fraternity. Their sister, Caroline, is currently studying animal science at the University of Findlay.

"My favorite memory growing up in agriculture was every adventure I went on with my twin brother and little sister around the farm," said Vonderhaar. Now that he plans to return to the farm, he hopes he can share those adventures with his future children.

"Farming is a career my family is blessed to work in, and I'm happy and excited to continue our legacy," he proudly stated. Farming is a valuable family business and with his growing passion, it's something many future generations of Vonderhaars are sure to experience. ♦

Adam Vonderhaar with his parents, twin brother Ryan and sister Caroline.



This story originally appeared on Future Eats. Future Eats, funded by Ohio soybean farmers and their checkoff, is the Ohio Soybean Council's consumer outreach program to educate non-agriculture students at The Ohio State University.



## Longtime OSC Partner Helps Bring Soy-Based Success



Few people have worked with the Ohio Soybean Council (OSC) and soybean checkoff longer than Dr. Ram Lalgudi. Lalgudi, who works with OSC on the development of new uses for soybeans, has collaborated with the checkoff since 2003. He started out at Battelle, a Columbus-based science and technology development company, and has since started his own company, Aries Science and Technology. His first project was developing a soy-based pressure sensitive adhesive.

"I feel very fortunate that I've been able to continue working on soy-based research funded by the Ohio soybean checkoff," Lalgudi said.

Lalgudi went on to explain that he works strategically with OSC to create sustainable consumer and industrial products using soy-based feedstocks. In fact, Lalgudi has even assisted in

commercializing OSC-funded projects like Soy-PK, a safer replacement for BPA in can coatings; Roof Maxx, a soy-based roof rejuvenator (learn more about Roof Maxx on page 14); and EnzoMeal, an aqua feed that is easier to digest than standard fishmeal. OSC licensed EnzoMeal to Matrix Sea Food India Ltd. in 2018. Matrix has a goal of producing 50,000 tons of EnzoMeal annually by 2020 — which will require more than 1 million pounds of soybeans.

Lalgudi pointed out that much of the inspiration for his projects comes from consumer demand.

"Today, consumer awareness forces many industries to develop non-toxic, environmentally-friendly and sustainable products," Lalgudi explained. "The checkoff investments encourage researchers like me to develop soy products that address

**Collaboration is a huge part of Ram Lalgudi's work with the Ohio Soybean Council. Between researchers, farmers and OSC staff, successful soy-based products are in development at all times.**

consumer demands. Furthermore, OSC encourages researchers to work directly with industrial partners to bring soy-based solutions for an existing problem."

The process is two-pronged. "First, we identify commercial companies that are currently using or could potentially use soy-based products. We reach out to those companies; present our capabilities and ask about their unmet needs," Lalgudi explained. "We prioritize the needs and present our solution with opportunities and risks to the OSC board for approval." Researchers also conduct market



research to ensure that the products created are what consumers want.

However, he explained that research ideas have also come directly from farmers, like the idea for EnzoMeal which was suggested to him by Keith Kemp, a Preble County farmer and OSC board member.

For Lalgudi, EnzoMeal has proven to be one of the most fascinating projects to work on. “I learned a lot during the product development and struggled to find a producer who can produce our technology on a larger scale,” Lalgudi said. “I received tremendous support from OSC board members and staff during the EnzoMeal product development.”

Lalgudi described how fortunate he feels to work on checkoff-funded projects to help Ohio soybean farmers. “In my new role, I have the freedom to directly work with commercial companies and identify the research areas that will bring bigger and quicker returns on checkoff dollars,” he said. “OSC’s board, which is totally farmer-run, also encourages us to conduct our own internal projects, which helps to identify future needs, and perform research that will utilize larger volumes of soybeans.”

Lalgudi doesn’t see the opportunities for soy-based products going away any time soon. “The benefit of using soy is that it is sustainable and provides performance features that are not typically available from petroleum-derived chemicals,” Lalgudi said.

He went on to say that the demand for non-toxic and environmentally-friendly products will only increase in the future, with both consumer demand and environmental regulations playing roles in the demand.

More and more, consumers are looking for greener, healthier alternatives to existing products. Recent polling shows that 71% of Americans would prefer to purchase a bioproduct rather than a petroleum-

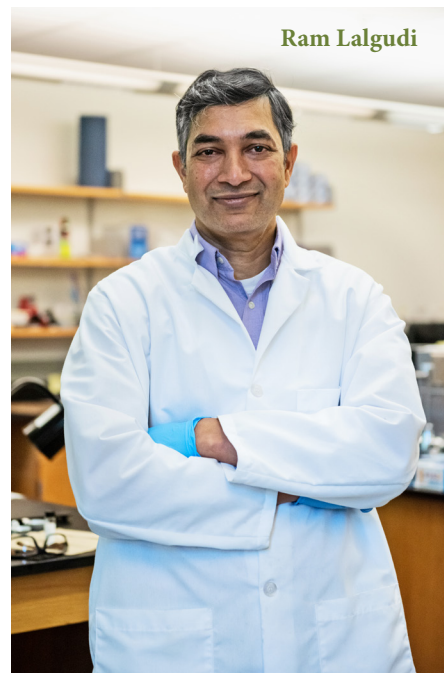
or chemical-based product if the cost is equivalent. OSC is ready to help meet these consumers demands, which helps Ohio farmers increase the profitability of their soybeans.

Soy is versatile, which gives it a leg-up in many ways. “Beyond being green and sustainable, it provides functional benefits without affecting the consumer health and environment,” Lalgudi said.

The best part about developing soy-based products? For Lalgudi, it’s seeing the product go to market. “The greatest accomplishment is to see the product we developed using checkoff funds reach the customer and then receive kudos from the customers,” he said. He also mentioned that it is an honor when OSC-developed products receive accolades, like R&D 100 Awards, the Presidential Green Chemistry Award and several others from reputed organizations. “This means a lot for researchers like me, and I am very thankful to the board for their support and OSC staff for the constant encouragements.”

To learn more about OSC’s investment in soy-based research visit [soyohio.org/council/product-research](http://soyohio.org/council/product-research) or contact

Ram Lalgudi



OSC's Director of Product Development and Commercialization, Barry McGraw, at [bmcgraw@soyohio.org](mailto:bmcgraw@soyohio.org). ♦

Ram Lalgudi has been working with the Ohio Soybean Council since 2003, and is one of the longest standing collaborators of the Ohio soybean checkoff.





## OSCF Scholarship Spotlight: Anna Schmenk

**A**нна Schmenk is a former Ohio Soybean Council Foundation Scholarship recipient who graduated from The Ohio State University College of Food, Agricultural and Environmental Sciences with a B.S. in Food Science and Technology.

**Q: What inspired you to pursue your degree?**

**A:** Growing up on a soybean and corn farm and working on my uncle's dairy farm feeding all those hungry workers had a huge influence on me pursuing a degree in Food Science. I began cooking and gardening from a very young age with my mom and grandma. 4-H and FFA activities, including placing at the State FFA Food Science CDE, furthered my love of the science behind food and agriculture.

**Q: How are you using your degree in your current position? Are you still connected to the agriculture industry?**

**A:** Every day at work, I use the knowledge I gained from a degree in Food Science to design powdered food products that are both safe and function well. I continue to learn new knowledge every day and this degree gave me a good base to build upon. I am still very much connected to the agricultural industry because at my company we source and use food ingredients that initially came from farmers. We then sell our product to other companies who make the products that customers buy on the store shelves.

**Q: What is your current position and where are you located?**

**A:** I am a food technologist at Balchem Ingredient Solutions in Defiance, Ohio. The division I work in makes powdered food ingredients. My job includes designing new products and providing technical assistance if



any problems should come up with existing products along with much, much more!

**Q: What has been an accomplishment you are most proud of in your career?**

**A:** The first product I designed that was made in production is now an ingredient in a canned coffee beverage being sold to consumers. The food powder is meant to add some more nutritional value to the beverage.

**Q: How has the Ohio Soybean Council Foundation Scholarship helped you pursue your passion?**

**A:** Receiving an Ohio Soybean Council Foundation Scholarship helped me immensely to pursue my passion for food science. Since I was paying for my own college, it allowed me to focus on classes and other activities such as volunteering to put on the FFA Food Science CDE, conducting research on high oleic soybeans, and developing a new food product. All of these experiences aided me in landing the job that I have today.

**Anna Schmenk with her fiancé  
Craig Higbea**

**Q: What do you like to do when you're not creating new food products?**

**A:** When not at work, I love to cook and garden, help with the family farms, and am in the midst of planning my wedding.

**Q: Share some words of wisdom:**

**A:** As a recent alumnus some advice I would have for those still in school is to make sure to network with industry professionals as much as possible. Not only will this help you figure out if your current chosen career path is right for you, it can also help you to land a future job. (Networking helped me get my job!) ♦

For more information about the Ohio Soybean Council Foundation and its scholarship program visit [www.soyohio.org/council/scholarships](http://www.soyohio.org/council/scholarships). The 2020–2021 application will open in late October 2019.



# Crop Update as of August 2019

By Kayla Weaver

After a rough spring, Ohio farmers are somewhat divided in their experiences this year. While some farmers are tending to business as usual, a large number of farmers in Northern Ohio, especially in the far Northwest counties, have been changing things up out of necessity. With an unprecedented amount of rain keeping farmers out of their fields, many have spent the summer navigating seed returns, crop insurance claims, and whether they should plant a cover crop, forage crop, or do nothing with prevent plant acres.

Nathan Eckel, an Ohio Soybean Council (OSC) board member who farms in Wood and Henry counties, is reporting that about 80 percent of his beans look really good at this point in the year with the 3.6 maturity variety doing the best. Most have been post-sprayed and, without an early frost, should have a good harvest. However, there are still some fields of short beans that are already starting to blossom, which Eckel notes is not a good sign for early August.

The soybeans seem to be the bright spot this year, since Eckel had more than 500 acres of corn he was prevented from planting, and what did get planted has uneven stands as it's starting to

tassel. Late planted corn intended for silage is actually looking the nicest, which Eckel credits to more ideal soil conditions when it was planted, also noting this is the first year he has even planted corn in July.

In spite of this year's many challenges, Eckel has found it afforded him the opportunity to try something different. He recently finished planting about 120 acres of oats for himself along with custom seeding nearly 500 more acres in the area. Hoping for adequate rain to get them up and growing, they will be used for forage. The rest of those acres he plans to plant to wheat since there's not likely to be opportunity after this fall's harvest. He's hoping for an early wheat harvest next year to allow for double crop beans. Overall, he's making an effort to keep the ground covered and prevent fallow ground syndrome for next year's corn crop.

Further south, Scott Metzger, a board member for both OSC and the Ohio Soybean Association (OSA), who farms in Ross and Pickaway counties, is grateful that crops seem to be only a month behind the normal stage for recent years. The more gravel-based soil in the area drained well and even the heavier soils fared okay for April plantings. However, crops planted in



Scott Metzger

May on some heavier soils have more noticeable areas of drowned out crops.

Despite those drowned out pockets, plants are looking good with a majority of first crop beans podding up fine at this stage. Double crop beans are looking nice as well but need some continued moisture and additional heat units to finish strong.

Metzger reports an average wheat crop harvest and outstanding crop for malting barley over the summer. Meanwhile, corn has begun silking and is looking fair, but uneven in fields that have spots where water laid in the Spring. Slow root growth has also added some stress to the crop. In contrast to Northern Ohio, Metzger notes only 2-3 percent of fields being prevented from planting which is not that unusual in any given year.

Despite increased moisture, disease pressure remains light with some preventative aerial applications on some acres that are more susceptible. As long as the frost holds off until the end of October, Metzger is optimistic looking toward this year's harvest, and thankful as he realizes he is one of the lucky ones in Ohio this year. ♦



Nathan Eckel



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