

ALLIGATORS GO VEGETARIAN

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Learn About OSA's New
Member Benefits, **p. 9**

Meet Farmer and House Rep.
Roy Klopfenstein, **p. 11**

THE MEASURE OF SUCCESS

Five ways the soy checkoff delivers bottom-line results



1. FARMER ROI

According to an independent study by Cornell University, all U.S. soybean farmers have received an estimated \$12.34 in return value for every dollar they invested. In other words, the benefits in terms of the net additional soybean industry profits generated by the U.S. soybean checkoff program have far exceeded the cost of program expenditures over time.



2. PROFIT OPPORTUNITIES WITH HIGH OLEIC SOYBEANS

From increased food functionality to industrial uses, high oleic soybeans add long-term value for all U.S. soybean farmers by providing a product that meets the demand of new and emerging markets for soy. USB brought the industry together to work with the farmer-leaders in expanding the availability of high oleic varieties and increasing farmer adoption of these varieties.



3. INDUSTRIAL USES OF SOY

In 2019, more than 30 new commercial products have been introduced by companies that received checkoff funding. Currently, there are more than 1,000 different soy-based products available on the market, including everything from turf grass to machinery lubricants to tires and asphalt. The soy checkoff is collaborating with the industry across the supply chain to broaden use of high oleic and commodity soybean oils through other new and novel applications.



4. BIODIESEL

The soy checkoff helped to establish biodiesel, the only domestically produced and commercially available fuel to meet the EPA's definition of an advanced biofuel. Biodiesel and renewable diesel consumption in 2019 was 2.7 billion gallons. Because of this growth in consumption, the value of U.S. soybeans has increased 63 cents per bushel. The checkoff continues to promote biodiesel use, driving up the demand for U.S. soy oil.



5. U.S. SOY HAS A PLACE AT HOME

The soy checkoff has spent over the last two decades forging partnerships and creating relationships to not only grow new demand for soybean meal and oil, but also expand existing domestic soy markets. As a result, 97% of the U.S. soybeans processed for meal today is used to feed poultry, livestock and fish. Meanwhile, 68% of the oil from U.S. soybeans is used in food, with 25% becoming biodiesel and Bioheat® and 7% being consumed via industrial uses.



You're where the rubber meets the road.
And the engine. And the interior.

All soybean farmers, including you, are busy replacing petroleum with your soy oil. How? By pooling your resources through your soy checkoff. Learn how your soy checkoff is bringing tangible returns back to you and your operation at unitedsoybean.org/hopper.



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Moving You Forward.



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Ohio Soybean News

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COVER STORY:

What measures 15 feet long, weighs up to 1,000 pounds, and is Ohio soybean farmers' newest customer? The American alligator! Through soybean checkoff funding, researchers at The Ohio State University are looking into feeding America's largest reptile a soy-based diet. Commercially-raised alligators are highly valued for their skins, which are used to make luxury goods like handbags, as well as their meat. Learn how the Ohio Soybean Council is poised to take a bite out of this unique market on pages 14-15.

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Patrick Knouff
Ohio Soybean Association President
Shelby County soybean farmer

A Letter From the President

As we head into the spring, I wanted to wish all Ohio farmers a safe planting season in 2023. Given the weather we've experienced the last few years, maybe I'm too

optimistic that we all will be in the field before my letter in our May/June issue. A new growing cycle is a new opportunity to build momentum toward success. The Ohio Soybean Association (OSA) is striving to continue the momentum we gained in 2022 in ways that will benefit agriculture across the state.

A lot has happened within Ohio politically over the past several months. One update is the appointment of Agricultural Committees and Committee Chairs for the upcoming year. Our organization looks forward to working with the Ag Committees of the 135th General Assembly from both the Senate, led by Committee Chair Tim Schaffer, and the House of Representatives, led by Committee Chair Rodney Creech and Vice Chair Roy Klopfenstein, who has a featured Q&A on page 11.

We will be putting this into practice this month by heading to Washington, D.C., to advocate on behalf of Ohio soybean farmers. With that in mind, there is no better time to become an OSA member and get your voice out there. Membership is crucial to our organization and allows us to push for policies that benefit Ohio farmers. If you are already a member, there is always an opportunity to contact your OSA district representative to see how you can make an impact. More information on OSA memberships can be found by visiting soyohio.org/Membership.

One benefit of becoming an OSA member is our new program, the Farmer Action Network. The Farmer Action Network is open to current members of the Ohio Soybean Association and is free to join. It gives members another opportunity to get involved. You can read more about this program and learn how to join on page 6.

Animal agriculture, as we know, is essential to the success of Ohio soybeans, serving as the number one consumer of our product. That makes it even more important that your soybean checkoff continues to work hard to find different avenues of soybean production within this industry. One interesting checkoff investment the Ohio Soybean Council (OSC) has made involves developing soybean meal for alligators. Read more about this ongoing project on pages 14-15.

Thank you again for reading Ohio Soybean News and your continued support of our organization.

Patrick O. Knouff
Patrick Knouff



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WISHH is a program of the American Soybean Association and is funded in part by the United Soybean Board and state soybean board checkoff programs.

Beginning Farmer Tax Credit Goes Live

The Ohio Department of Agriculture (ODA) is helping to ensure the next crop of Ohio producers has the resources to provide for their families and those across the state.

The Beginning Farmer Tax Credit is now available to those who've recently entered the field and those who help beginning farmers.

"The Ohio Soybean Association (OSA) was proud to support the Beginning Farmer Tax Credit," said OSA President and Shelby County soybean farmer Patrick Knouff. "Reducing the financial burden it requires to start farming will bring more farmers into the fold and allow our industry to prosper."

To qualify, a beginning farmer is someone who:

- Is a resident of Ohio.
- Is seeking entry to or has entered farming within the last 10 years.
- Farms or intends to farm on land in Ohio.
- Is not a partner, member, shareholder, or trustee of the assets the individual is seeking to purchase or rent.
- Has a total net worth of less than \$800,000, including spouse and dependent assets, as adjusted for inflation each year.
- Provides majority of daily physical labor and management of the farm.
- Has adequate farming



Austin Heil is a young farmer from Hardin County who serves on the Ohio Soybean Association Board of Trustees.

experience or knowledge in the type of farming for which seeking assistance.

- Submits projected earnings statements and demonstrates profit potential.
- Demonstrates farming will be a significant source of income for the individual.
- Participates in a financial management program approved by ODA.

Beginning farmers will need to complete a financial management program to qualify.

Along with beginning farmers, asset owners, or people or businesses that sell or rent farmland, livestock, buildings, or equipment to beginning farmers may apply as

well. In order for land to qualify as an asset, it must either total at least 10 acres or produce an average annual income of at least \$2,500 for farming.

The Beginning Farmer Tax Credit equals 3.99% of one of the following:

- In the case of a sale, the sale price. The credit must be claimed in the year of the sale.
- In the case of a rental, the gross rental income that the individual or business received during the first three years of the rental agreement. To qualify for the credit, an asset must be rented at prevailing community rates. In the

case of a rental, the credit is claimed over the first three years of the rental or share-rent agreement.

- In the case of a rental through a share-rent agreement, the gross rental income received during the first three years of the share-rent agreement. (A share-rent agreement is an arrangement by which, in exchange for the rented assets, the beginning farmer provides the owner of the assets with a specified portion of the farm products produced from the assets.) In the case of a rental, the credit is claimed over the first three years of the rental or share-rent agreement.

The Beginning Farmer Tax Credit was created when House Bill 95 was signed into law by Governor Mike DeWine on April 21, 2022. Primary sponsors for the bill were Rep. Susan Manchester (R-Waynesfield) and Rep. Mary Lightbody (D-Westerville). ♦

Let's Work Together

**By Emilie Regula Hancock,
Director of Policy & Membership,
Ohio Soybean Association**

The Agriculture Improvement Act of 2018 will expire in September, which gives Congress less than seven months to pass a new U.S. farm bill. Approving a farm bill should be one of the easiest votes a member of Congress could cast, but in the current political climate, the chances of a farm bill passing this year are looking slim.

The farm bill is indispensable not just for soybean farming, but for the everyday lives of all Americans. Every single American is impacted by this legislation. It is essential for feeding millions of Americans, stabilizing our food supply, and making grocery prices more affordable.

Political discord is a fact of life on Capitol Hill. We saw this with the election of the new U.S. speaker of the House. Disagreements within the parties can cause legislative stalemates. However, the farm bill should be a bipartisan priority, free from ideological disputes.

In order to overcome political obstacles, the 2023 farm bill will need support from top ag states, such as Ohio. But only eight of our 15 U.S. representatives voted in favor of the final Agriculture Improvement Act of 2018; five of those 15 weren't yet in Congress and have not yet had the opportunity to vote on a farm bill.

We ask our Congressional delegation to get a bill across the finish line this year. We also ask our OSA members to reach out to their members of Congress and ask them to make getting the farm bill done this year a priority.



Our priorities for the farm bill are:

- Improving the Title I farm safety net for soybeans
- Continuing the voluntary, incentive-based, flexible approach to conservation programs
- Investing into promotion of U.S. commodities globally
- Building biobased and biofuels opportunities
- Ensuring broadband coverage is accessible throughout rural America

Crop insurance is crucial to farmers and the bill must improve agriculture risk and price loss insurance programs for soybean

farmers. The farm bill must also continue voluntary conservation programs that improve soil health, water quality, and protect the environment. It's also important that the farm bill include nutrition component that supports food assistance initiatives. It was disagreement over this point which endangered the previous two farm bills, and it's the most significant barrier to passing a new one.

There has been more and more division over the past several years, but we should be able to agree on one thing — feeding families and supporting farmers. ♦

Farmer Action Network

The Ohio Soybean Association (OSA) recently launched a new program called the Farmer Action Network. We created this program based on feedback from the OSA Board of Trustees for farmers who want to be more involved than just a regular member of OSA. As part of the Farmer Action Network, this group of farmers will be the first to receive notices for calls to action, in-district political events and Ohio Soybean-hosted events.

What's the purpose?
The Farmer Action Network is a collection of engaged OSA farmer

members that can be called upon to advocate for soybean farmers.

How to I become part of the Farmer Action Network?
The Farmer Action Network is open to current members of the Ohio Soybean Association. There is no cost to be a part of the Farmer Action Network. To join, visit soyohio.org/FAN or contact Emilie Regula Hancock, Director of Policy & Membership, at eregula.hancock@soyohio.org.

What is the time commitment?
The time commitment is as much or as little as you are willing to give!

This is a voluntary group that will only be called to action as needed.

Why should I join?
You should join if you believe in the mission of OSA and want to get more involved. Maybe you are a former board member that misses the fun and excitement of OSA. Maybe you are someone who wants to eventually serve on the OSA board, but doesn't have the time or opportunity to serve now. Maybe you'd just like to become more involved in the advocacy process. Whatever reason you have for joining, we have a spot for you on our team. ♦



BECOME A LEADER IN YOUR FIELD

The Field Leader program from the Ohio Soybean Council and the soybean checkoff keeps you informed about the latest technologies, trends and research in the field, all in an effort to keep your operation moving forward and to help you become a leader in your field.

See how we are keeping you at the forefront of innovation by clicking the "Ohio Field Leader" tab at OCJ.com.




Brought to you by Ohio soybean farmers and their checkoff.

Soy-Biobased Product Discounts for Members

The Ohio Soybean Association (OSA) is offering three new soy-biobased product discounts to members with their new or renewed membership with OSA.

SKECHERS GORUN FEATURING GOODYEAR PERFORMANCE OUTSOLE – 30% Discount on Select Styles
A collaboration between the Goodyear Tire & Rubber Company and Skechers, this shoe uses a high-performing, soy biobased rubber technology containing a special polymer including sustainable soybean oil — a renewable, bio-based material used in some of the company's top performing tires.

SOFIA'S SOY CLEANER – 25% Off Your Order
Sofia's Soy Cleaner is a powerful



cleaning alternative derived from plant-based ingredients. Available in classic or relaxing Lavender scent, Sofia's Soy Cleaner leaves surfaces pristine at an affordable price.

GEAR HEAD FIFTH WHEEL GREASE PAD – 25% Discount on Your Order
Gear Head Lube has reinvented the process of lubricating your truck's fifth wheel. Made with U.S. -grown soy, it's clean, safe on farmland and renewable. Gear Head Fifth Wheel Grease Pads are easier to

apply and eliminate waste when compared to traditional petroleum based fifth wheel grease packets. Each pad contains a proprietary, high-performance soy grease that outperforms the best petroleum-based fifth wheel lubricants. The pads are encased in a dry smooth coating that blends into the grease when the fifth wheel is attached to the trailer. Pitch the grease gun, stay clean and save time with Gear Head.



To join or renew your membership visit: soyohio.org/membership ♦



OHIO SOYBEAN ASSOCIATION

MEMBERSHIP TIERS

	STUDENT	FRIEND OF OSA	FARMER 1-YEAR	FARMER 3-YEAR	FARM & FAMILY 1-YEAR	FARM & FAMILY 3-YEAR
Add up to 5 people to your membership	✗	✗	✗	✗	✓	✓
Access To Seed Coupon and Biodiesel Bucks	✗	✗	✗	✓	✗	✓
Access To OSA Discounts	✗	✗	✓	✓	✓	✓
ASA Membership & Benefits	✗	✗	✓	✓	✓	✓
OCJ & The Progressive Farmer Subscription	✗	✓	✓	✓	✓	✓
Subscription to Ohio Soybean News	✗	✓	✓	✓	✓	✓

Ohio EPA Issues Draft Maumee River Watershed Nutrient Water Quality Improvement Plan

At the end of 2022, the Ohio Environmental Protection Agency (EPA) released the draft water quality improvement plan to reduce nutrients going into the Western Lake Erie Basin from the Maumee River watershed.

The objective of a total maximum daily load (TMDL) is to restore water quality for an impaired waterbody. TMDLs determine the pollutant loading capacity of the waterbody and distribute the load to different pollutant sources. A TMDL identifies the links between a waterbody use impairment, sources of impairment, and the pollutant load reductions needed to meet the applicable water quality standards. It serves as a roadmap for measures that can be taken to improve water quality.

The goal of the Maumee Watershed Nutrient TMDL Project is to remove use impairments for drinking water, aquatic life, and recreation in Ohio's Western Basin of Lake Erie due to harmful algal blooms. To achieve this goal, this draft report plans reductions to the phosphorus load delivered from the Maumee River watershed.

The Ohio Soybean Association (OSA) has been carefully monitoring the development of the TMDL draft since it was first

announced. OSA has submitted comments to the EPA regarding the TMDL and its impact on farmers in the Maumee River Watershed.

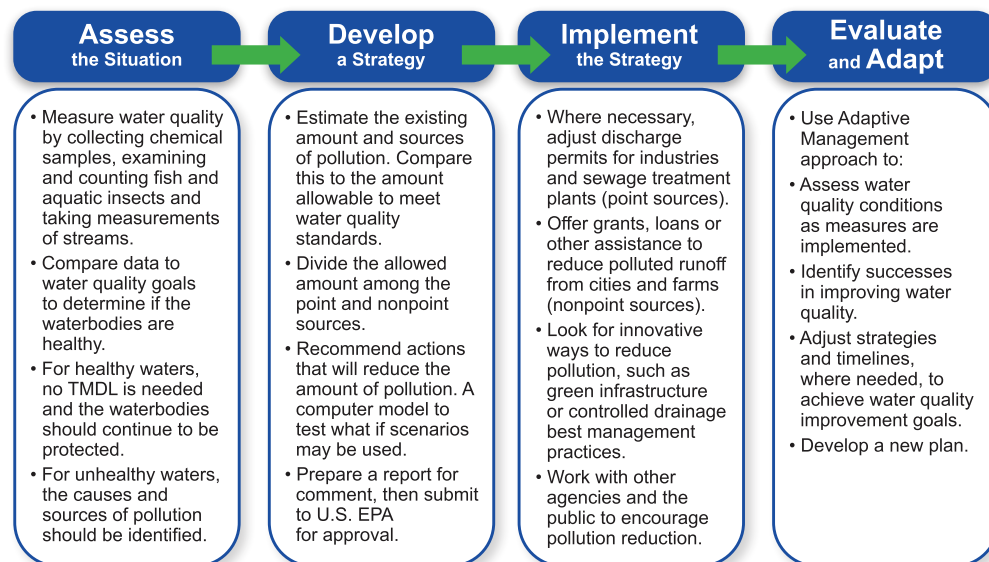
"We hope the EPA will take OSA's comments into consideration as they continue to refine the draft TMDL," said OSA Policy Chair and Clark County soybean farmer Bob Suver. "We look forward to continuing to work with them to ensure the TMDL can be reasonably followed by farmers in that area, while still achieving its goal to improve water quality."

The TMDL draft report contains a comprehensive review of phosphorus sources, including all point and nonpoint sources. Ohio EPA considered the relative contribution of each source, available technology to manage load reductions, cost of implementing technology, and other factors.

Weighing this information, Ohio EPA determined the reductions needed from different sources to meet water quality standards. Point sources are regulated by Ohio EPA and reductions are addressed through the Agency's permitting programs. Nonpoint sources, which make up the majority of the phosphorus load, have been the focus of much research in the Maumee watershed. The implementation plan included in the draft TMDL report shows how nonpoint source reductions will be addressed.

The TMDL draft report is the fifth step in a multi-step development process. Ohio EPA has been holding monthly webinars or meetings with stakeholders since October 2021 as this TMDL has been developed. To learn more about the TMDL process, visit epa.ohio.gov. ♦

Basic Steps of the TMDL Process Include...



Courtesy of Ohio EPA

Meet the Legislator: Representative Roy Klopfenstein

Representative Roy Klopfenstein represents the 82nd Ohio House District which includes Paulding, Putnam and Van Wert Counties. He was elected in November 2022 and is serving his first term in the Ohio House of Representatives. Prior to his election to the Ohio House, he served as a Paulding County Commissioner for the past ten years. He also operates a family farm in Paulding County.

Q: What inspired you to run for office?

A: I was quite content where I was serving as commissioner and farming with my sons. When Representative (Craig) Reidel decided not to run again there were a number of people that encouraged or asked me to consider serving in that role. The 82nd District is a wonderful place to live, work and raise a family and our strong values are something we wish to preserve and protect. I want the same opportunity for our children and grandchildren that we have had.

Q: How did your previous jobs/ experiences prepare you to serve as a legislator?

A: Serving as Paulding County Commissioner the past ten years was an excellent education and preparation for the Ohio legislature. I have also had the opportunity to farm the past forty plus years with

first my dad and brother and now the next generation with our son. Being in business, employing people who serve on local, county and state boards was also good experience.

Q: What are the most important things you are currently hearing from constituents in your district?



A: While campaigning the most frequently asked questions were on abortion, jobs, inflation and government overreach in healthcare, personal freedom and responsibility, government bureaucracy, pretty much in that order.

Q: What does it mean to you to represent a rural district?

A: We have so many wonderful things living in a rural district that we all want to preserve. From our small town festivals to our quality schools, to just the help-your-neighbor attitude is something big cities wish they had. The quiet,

peaceful communities is one reason why we love it so much.

Q: What do you believe is the most pressing issue for soybean farmers right now? How do you plan to address it?

A: Cost of production and inflation are forefront now, but long term

regulation, open and fair trade regulations, immigration and labor, and consumer education. My preference is just get government out of the way, but we unfortunately know that probably is not reality. Working together on issues with OSA and other farm groups is the path forward.

Communication is key, between us as farmers, between us as consumers, and between us as constituents.

Q: What can Ohioans expect from your bills this year?

A: As I write this, the dust is not settled from a contentious speaker election, yes here in Ohio. I am an optimist, I am a farmer, good things will happen. Stay tuned.

Q: Anything else you'd like to add?

A: Thanks for the work you do on behalf of Ohio farmers and soybeans growers. ♦



SOYBEAN RESEARCHERS FISH FOR BEST FEED RATIONS



RESEARCHERS HAVE TAKEN THE BAIT – working on rations to feed fish with soy to increase global fish supplies and provide consumers with the protein they increasingly demand in their diets.

The Soy Aquaculture Alliance (SAA), with funding from the soybean checkoff, is guiding efforts to help the aquaculture industry get more soy into fish rations. Current research includes finding better ways to increase protein content of soy products, removing anti-nutritionals in soy, and finding the right complementary products to complete rations for 30 popular species.

THE AQUACULTURE INDUSTRY BENEFITS FROM A NUTRITIOUS FEED ALTERNATIVE:

- Aquaculture diets traditionally contain large amounts of fish meal. However, bait fish populations used in the meal have waned due to overfishing.
- Soybeans are cheap and plentiful relative to fish meal and other substitutes. The amino acid profile of soy matches closely with dietary requirements of many fish species.
- Each species has different requirements and tastes. Catfish can manage up to 51% soy in their diets, based on commercial feed mill formulations, while shrimp rations can include up to 28% and salmon up to 15% soy.¹
- Commercial feed products may contain up to 70% crude protein content when made from soy, according to various product specifications. One checkoff research project is fine-tuning formulations to further enhance soy digestibility.²

CONSUMERS CAN BENEFIT WITH MORE FISH AVAILABILITY THROUGH AQUACULTURE GROWTH:

- Seafood is the fastest growing food sector in the world, and a rise in production is needed to meet demand. Aquaculture can fill the void and feed a growing global population.
- The trend is away from wild capture fisheries. Two-thirds of the world is overfished.
- The U.S. imports more than 90% of the seafood consumed within its borders.
- Domestic fish farming is already growing to meet health-conscious consumer demand, which now exceeds pork and beef as the top animal protein source for humans.
- U.S. aquaculture is increasing nationwide. Trout that grow on plant-based diets is in commercial production in Idaho. Catfish is expanding out of the southern U.S. into other states. Salmon production is expanding in Florida and Maine and off the West Coast.

The Soy Aquaculture Alliance (SAA) works to create new opportunities for soybean farmers within the growing domestic aquaculture market. SAA funds efforts that increase U.S. soybean use in fish and shrimp diets through affiliations with academic and private researchers.

The Soybean Research and Information Network (SRIN) is a joint effort of the North Central Soybean Research Program and United Soybean Board. The online resource contains checkoff-funded soybean production challenge research findings with direct links to the respective underlying scientific studies housed in the National Soybean Checkoff Research Database.

Funded by the soybean checkoff

¹ https://www.soyaquaculture.com/_files/ugd/04a5d8_21f3fe9aa8b84fef85e571bd4d7ae755.pdf

² <https://prairieaquatech.com/me-pro-platinum/>

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[SOYBEANRESEARCH
INFO.COM](http://SOYBEANRESEARCH.INFO.COM)



INVESTING IN NEW MARKETS FOR U.S. SOY

From promoting the profitability of using high-quality soybean meal in India to training animal producers on nutrition in Colombia, the soy checkoff is working behind the scenes to develop more market opportunities for U.S. soy. We're looking inside the bean, beyond the bushel and around the world to keep preference for U.S. soy strong. And it's helping make a valuable impact for soybean farmers like you.

See more ways the soy checkoff is maximizing profit opportunities for soybean farmers at unitedsoybean.org

Brought to you by the soy checkoff.

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Gators Go Vegetarian

According to scientists, alligators' ancestors (or at least some of them) were vegetarians. It seems these reptiles, or at least the farmed ones, may soon revisit their dietary roots.

“By 2050, the global population will be nearly 10 billion. The world won’t be able to provide humans with the protein sources they need. So starting now and getting ahead of the game is smart for sustainable production.”

So says Mark Flint, whose soy-based alligator feed project is being sponsored by the Ohio Soybean Council (OSC). A conservation wildlife veterinarian with The Ohio State University, Flint works with wild-sourced production animals, determining the best ways to maintain their welfare and numbers in the wild — and safeguarding our own future and that of our planet by using sustainable resources.

Commercially-raised alligators, which are prized for their hides and

their meat, comprise a significant and growing industry. Production of farmed U.S. alligators is expanding, with a farm gate value of nearly \$80 million in 2020 (up

The alligators' pens were fitted with cameras that record behavior and activity levels.



A research subject smiles for the camera.

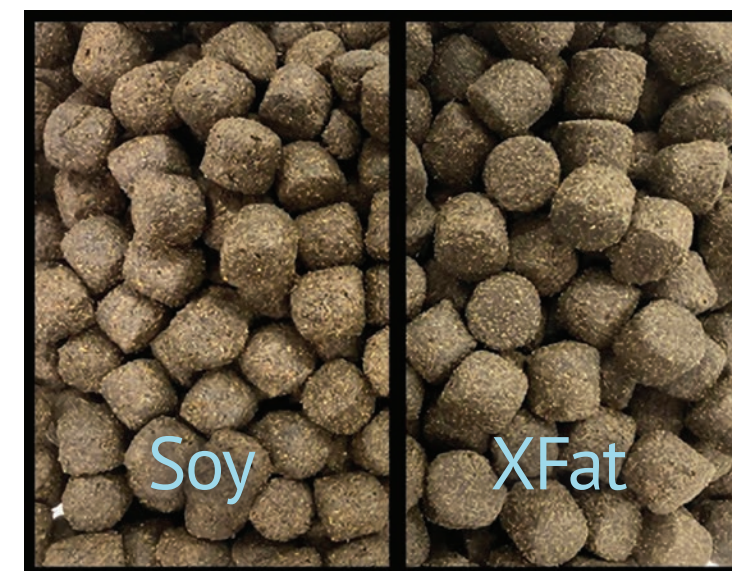
from around \$30 million in 2010). These animals were historically fed chickens, but their handlers moved away from raw meat diets for more stable diets. The industry then moved to a pelletized diet — an animal-based feed that has remained largely unchanged since it was first developed in the 1990s. However, nature cannot support using protein bases so high on the food chain as ingredients — at least, not indefinitely — and this approach leaves a large carbon footprint.

Flint saw an opportunity. “Soybeans are great alternative to animal-based protein sources. Soybeans have a lot of potential. There are many strains, so you can pretty much select what you want in terms of protein levels and alkaloid levels ...

“Besides, we’re in Ohio, so we looked for a local product that would allow Ohio to contribute to this global enterprise.”

Enter the Ohio Soybean Council. Flint met Barry McGraw (who leads soy-based product research and commercialization efforts for OSC) through the Ohio Agriculture Association. "We literally met over a cup of coffee, and we started talking about potential projects," says Flint.

Perhaps a bit surprisingly, alligator feed is a natural next step in OSC's research portfolio. The Council sponsored the development of EnzoMeal™, a sustainable food source for aquaculture, or "fish farming." Aquaculture faced what is clearly becoming a widespread dilemma: standard fishmeal's primary ingredients — wild



The two feeds are almost indistinguishable.

fish and shrimp — are rapidly dwindling resources. However, conventional soybean meal, when used at high levels in producing fish feed, contains carbohydrates that fish cannot easily digest. OSC and its research partner, Battelle, developed a technology that removes nondigestible carbohydrates and increases crude proteins in the soybean meal, resolving the challenges that to date have limited a high level of soybean use as a substitute fish feed protein. When EnzoMeal entered the marketplace, OSC received an R&D 100 Gold Special Recognition Award — the highest level of this prestigious award for invention and innovation — in the Corporate Social Responsibility category.

"I quickly recognized a similar opportunity in Mark's project," says McGraw. "The Ohio Soybean Council board is always looking for innovative new uses of soybeans, and we'd already had success in animal agriculture. A soy-based diet for alligators is an excellent exploratory project."

If this research is successful, we'll increase soybean demand by helping a growing industry — and help that industry reduce its carbon footprint in the bargain."

SO HOW'S THE PROJECT GOING? SO FAR, THE RESULTS ARE PROMISING.

As with all commercially-managed species, good alligator herd health is essential to optimal production. The project had to

confirm that switching to a soy-based feed would have no negative impacts on the animals' weight gain, hide quality, behavior, health or overall welfare. Researchers began with 1,728 newly hatched alligators and fed each of them one of two diets: a standard commercial alligator feed (Cargill XFat) or the soybean-based feed. Other than protein source, the two feeds were nearly identical in composition. The alligators were then monitored (e.g., for activity levels that indicate well-being) and tested (e.g., for health impacts) over the next two years. Researchers concluded that, regardless of diet, the animals' health and welfare was excellent and their mental state was positive.

WHAT'S NEXT?

"In the second phase, we will look at different concentrations of soy and try to refine the protein levels," says Flint. "Nobody knows exactly how much protein an alligator needs to remain healthy. If we can reduce the level of protein enough that soybeans can be the sole protein source, we won't have to add any byproducts. Then we can use a milled soybean product for a far more cost-effective feed." ♦

Feeding the Fish with Ohio Soy

By Matt Reese

In Ohio farm country it is no secret many people likely enjoy a higher percentage of meat, eggs and dairy in their diets than other segments of our agriculture society. The foods raised by Ohio agriculture feed the people of Ohio agriculture. Often overlooked though, on rural Ohio farms, is fish.

“The average person in the U.S. only eats around 17 pounds of seafood per year, even though recommendations for a healthy heart are more than triple that number,” said Matt Smith, program director, aquaculture extension, Madison County Extension Office. “There is probably a local seafood farmer near you — shop local.”

Even if it has scales and gills instead of hooves, aquaculture is a growing part of domestic agriculture.

“There are some segments of U.S. aquaculture that are exploding in growth. In particular, our coastal states are seeing significant growth in shellfish production. There are well over 1,500 shellfish farmers now along the East Coast. Indoor recirculating aquaculture systems, specifically for salmon production, is another segment of aquaculture that is seeing substantial investments and growth,” Smith said. “In Ohio, we know that in 2021 there were over 170 individuals holding Ohio Division of Wildlife aquaculture permits, but only 59 responded to USDA National Ag Statistics Services’ 2018 Census of Aquaculture. Of those who responded, 33 produced food and 29 produced aquatic animals for sport. The total farm-gate sales for Ohio were \$6.6 million, compared to \$1.5 billion in farm-gate in the U.S. The major food species produced in Ohio are rainbow trout, tilapia and largemouth bass. Ohio raises over 30 species that are ultimately



Harvesting yellow perch from Brehm's Perch Farm in West Liberty.

Photo provided by Matt Smith.

stocked into private and public waters for forage, fishing, environmental remediation, etc. Examples of pond stocking species are largemouth bass, bluegill, yellow perch, golden shiners and even tilapia.”

MUCH OF THE DIET FOR OHIO AND U.S. AQUACULTURE INCLUDES SOY.

“Nutritional needs and diet tolerances vary by species. Many species, such as our U.S. catfish, are extremely tolerant to high soybean meal concentrations in their diet. Other species, such as salmon, are less tolerant of soy in their diet. Fish meal and fish oil are currently the main ways of providing high-quality protein and fats to carnivorous species that do not tolerate soy well, such as salmon. However, substantial research, largely funded by soy associations throughout the country, including the Ohio Soybean Council, is being conducted to understand how to increase soy in diets of major carnivorous aquaculture species. One example is by removing any anti-nutritional factors that may impact a specific species. As fish meal and oil continues to increase in price, and research advances, we can expect the demand for soy to increase right here in the U.S. This will support domestic demand for soy,” Smith said. “U.S.

catfish farmers continue to purchase the largest amount of soybean meal of any U.S. aquaculture sectors. There has been an increase in U.S. catfish production since 2014 after a sharp decline in the early 2000s.”

Along with market ups and downs, Ohio aquaculture faces challenges similar other types of agriculture.

“Most aquaculture researchers who have a significant understanding of U.S. aquaculture agree that the regulatory environment is substantially complicated and burdensome for our farmers. Data from Virginia Tech and other universities have shown that the costs of maintaining regulatory compliance is significant. Virginia Tech’s results showed that regulations account for approximately 25% of total baitfish and sportfish farm costs. For U.S. catfish, total regulatory costs are estimated at \$45 million annually. In my opinion, other significant challenges include limited access to capital, limited ability to process our seafood, lack of social license to operate, and significant required time commitment,” Smith said. “Aquaculture is agriculture, and agriculture is hard work. Many of our aquaculture farmers are also up before the dawn to check oxygen and feed fish. We must fix and build things, prepare for the next phase of production, harvest, and direct market our products. Additionally, just as those families in traditional agriculture, most aquaculture farmers have at least one person in the farm household that has a job or income off the farm.”

And, ultimately, Smith said, more regularly adding domestically raised fish to dinner plates in rural Ohio can be a nice way to mix up diets and support Ohio’s farmers.

“Supporting U.S. aquaculture, by default, supports soy producers,” he said. ♦

On World Food Day and every day, WISHH’S strategic partners take local action.



Connect with WISHH
www.wishh.org



WISHH is a program of the American Soybean Association and is funded in part by the United Soybean Board and state soybean board checkoff programs.

Ohio Soybean Supports Global Marketing Efforts of Meat & Egg Groups

According to a checkoff-funded study done by IHS Markit, Ohio produced 3.14 million short tons of soybean meal during the 2021/2022 marketing year. That is meal from 132.1 million bushels of Ohio soybeans. That is nearly half of Ohio's total soybean production. The high-protein meal is used to feed animals in the U.S. and abroad, making animal agriculture soybean farmers' number one customer. That's why your soybean checkoff

the Southeastern Poultry & Egg Association (SPEA), now known as the U.S. Poultry & Egg Association. USAPEEC operated as a division of SPEA from March 15, 1984 – Sept. 30, 1985.

In the intervening years, USAPEEC has evolved from an association whose major purpose was the promotion of U.S. poultry and egg products through its network of 14 international offices and consultants, to an organization

PROJECTS

The Ohio Soybean Council (OSC) has been a member of USAPEEC for 16 years. OSC has been funding projects with USAPEEC for 13 years. Since 2010, OSC had invested more than \$555,000 dollars with USAPEEC to promote U.S. poultry and egg consumption around the world.

Most recently, OSC has supported USAPEEC's Poultry Meat Processors Educational Program. This program

“Desmenuzando la conversacion con USAPEEC”. This podcast is structured as a casual conversation in an interview format, one of Mexico's most popular formats. Each episode lasts 30-45 minutes, divided into three segments. Between segments, there are two sections, one ‘debunking’ a common myth related to poultry protein consumption, and the other is poultry fact, ranging from production, functionality, etc.

Additionally, with the support of OSC, USAPEEC hosted a Caribbean trade delegation and 20 exhibitors at the America's Food and Beverage Show in Miami, FL in September 2022. Members participating in the event enjoyed the added benefits of meeting with reverse trade mission participants from the Caribbean who were carefully selected by

producers and feeders, pork producers and feeders, lamb producers and feeders, packers and processors, purveyors and traders, oilseeds producers, feed grains producers, farm organizations and supply and service organizations.

USMEF carries out market development activities in more than 80 countries. These activities fall into several primary areas: marketing, trade servicing and market access.

USMEF is funded from a variety of sources, including membership dues, private contributions and beef, pork, lamb, corn and soybean checkoff programs. In addition, as a cooperator with the U.S. Department of Agriculture, USMEF also receives funds through the Market Access, Emerging Market and Foreign Market Development programs.

According to USMEF's website, beef export volumes reached 1.36 million metric tons (mt) during January to November 2022, valued at nearly \$11 billion. Pork exports reached 2.43 million mt, valued at just under \$7 billion during the same period.

PROJECTS

A continuous project OSC has funded with USMEF is the promotion of pork in Japan. Specifically targeting retailers stocking their shelves with Canadian pork, USMEF is swaying consumers with digital/online campaigns and intensified social media activity to displace competition and further develop demand for U.S. pork. As such, 2022 marked the continuation

of the “Eat at Home” nationwide campaign encouraging Japanese consumers to enjoy U.S. pork purchased at retail as a regular part of home meal/dinner planning, with promotional activity ramping up from April through June, thanks in part to funding support from OSC.

Funds from OSC also supported the launch of two new U.S. pork products during a 10-day Golden Week promotion at 823 outlets of Japan Aeon supermarkets in April 2022. Building on positive consumer response to a roast rib product developed last year and a roast pork campaign in December, USMEF worked with Aeon on the development of additional easy-to-prepare roast rib products. Aeon also promoted numerous U.S. pork cuts during a five-week American Pork Fair during the spring, including loin, butt and picnic. USMEF supported this promotion through distributing two kinds of small sauce packages to attach to American pork consumer packages, yakibuta (Japanese roast pork) sauce and salty lemon sauce, as well as a special sticker that was exclusively developed for American pork spare rib.

With leveraged OSC funding, USMEF later supported Ito-Yokado, one of the largest supermarket chains in Japan, during a comprehensive “American Fair” sales promotion in May 2022 featuring various U.S. food products including red meat, wine, fruits and processed items.

The Ohio Soybean Council's continued partnerships with USAPEEC and USMEF increase indirect exports of U.S. soybeans by increasing exports of U.S.-produced meat and poultry products. To learn more about the checkoff's investment into animal agriculture and international markets visit soyohio.org, usapec.org or usmef.org. ♦



invests in projects with the USA Poultry & Egg Export Council (USAPEEC) and U.S. Meat Export Federation (USMEF). Increasing demand for meat, poultry and egg consumption increases demand for Ohio soybeans.

USAPEEC

After being created as a Foreign Agricultural Service cooperator organization and undergoing several name changes, the USA Poultry & Egg Export Council was established in 1984 under the direction of

that is an advocate for the industry on trade policy issues.

Since its inception 39 years ago, U.S. poultry and egg exports have reached \$113 billion. In 2022, total poultry and egg export value is projected to set a record at over \$6.1 billion, up 11 percent from 2021.

Because of its status as a not-for-profit entity, USAPEEC does not lobby, but the organization can and does act as an intermediary with USDA, in Washington, D.C., and at embassies and Agricultural Trade Offices around the world.

supports local processing companies to continue to push themselves to launch new value-added products made with poultry proteins to the public. The companies working with support from USAPEEC, OSC and other state soybean organizations launched 13 new value-added products to the market in 2022.

The Council's contribution supported the Mexican Association of Specialists in Poultry Science's (ANECA) 15th Poultry Processing and Food Safety Course as well as USAPEEC Mexico's podcast

Conference-goers explore the trade show portion of the Americas Food and Beverage Show, where USAPEEC brought a trade delegation from the Caribbean.

the USAPEEC Latin America/Caribbean consultants. Following this year's event, survey respondents attributed \$4.85 million in annual sales to the event.

USMEF

USMEF represents beef/veal





Feeding Sustainable Animal Protein Growth

When feeding their animals, hog, poultry and aquaculture producers need a feed ingredient that includes energy and nutrition to fuel efficient growth in livestock, poultry and fish. This is especially critical as, due to increased global demand, there is more pressure to provide sustainable protein from both plant and animal sources.

U.S. Soy delivers high nutrient density, a superior amino acid profile and necessary vitamins and minerals to animal agriculture throughout the world. It's evident that the animal agriculture sector realizes this as, globally, animal agriculture consumes 97 percent of

all U.S. soybean meal.

U.S. soybean farmers are committed to meeting this demand by delivering nutritious animal feed to customers at home and abroad and also providing high quality plant-based protein. Luckily, with U.S. Soy, both can be done.

GROWING GLOBAL DEMAND FOR PROTEIN

In 2022, the global population reached 8 billion people. According to United Nations' projections, the world population will be at 8.5 billion by 2030 and 9.7 billion by 2050. Based on this projection, the world is poised to see major growth in protein demand, a trajectory

occurring over the last decade and predicted to continue through 2030. This growing demand for protein is due to an exponential increase in population and rising incomes and standard of living around the globe. With more mouths to feed and more people able to afford to add meat to their diets, the world is going to need every source of protein available to meet the population's needs.

This puts pressure on the animal agriculture sector to produce more. Globally, the meat production sector has done this before, having grown from about 70 million metric tons in 1961 to more than 335 million metric tons in 2018,

according to the UN Food and Agriculture Organization (FAO). In addition to the global population consuming more protein, people want to know more about how their food is produced. As a result, meat and seafood producers are being asked to produce more as sustainably as possible.

Enter U.S. Soy. Not only do soybeans have the protein, nutrient and energy components that growing animals need, but U.S. soybean farmers are also working to continuously improve their on-farm practices to deliver sustainable animal feed. U.S. soybean farmers are increasingly sharing this information with their customers and consumers who want to know more about how their food is grown.

FEEDING ANIMALS U.S. SOY

Soybeans are crushed for the oil and meal, with oil making up about 19% of the bean and 70% being meal including protein and nutrients. The majority of U.S. soybean meal goes to feeding animals at home and abroad. For poultry, livestock and seafood, U.S. soybeans have protein, essential amino acids and energy

content that growing animals need.

Soybean meal provides energy and can be an important part of feeding for efficient weight gain in swine. Making U.S. Soy a key ingredient in hog diets. Soy isoflavones, which have been shown to have benefits for humans such as the ability to reduce the risk of coronary heart disease, osteoporosis and certain forms of cancer, have positive impacts on pigs as well.

U.S. Soy's protein and nutrition advantages translate to better animal performance and profitability. This is especially critical in poultry production, which is likely to see increased growth as more economies increase their intake of animal protein. The U.S. Soy industry has seen increases in U.S. soybean meal consumption in countries like Egypt and Pakistan as these countries expand their poultry production.

As the fastest growing segment of the feed industry, with production expected to grow to 109 million metric tons by 2030, an increase of 32% compared with 2018 according to the FAO, the aquaculture industry is benefiting

from including U.S. Soy in feed rations too. Fish and seafood benefit from the same attributes of U.S. Soy as pork and poultry: amino acid content, energy availability and protein.

SUSTAINABLY MEETING PROTEIN DEMAND

U.S. Soy is in a unique position to be able to provide feed to animals and fish being raised for animal protein for humans and a high quality plant protein. Because U.S. soybean farmers understand this challenge and the added need to preserve the planet for future generations, they are focused on using sustainable practices. Specifically, U.S. Soy is focused on reducing land use impact, reducing soil erosion, increasing energy use efficiency and reducing total greenhouse gas emissions.

With the increasing demand for protein, the world is going to need all options including animal protein and plant protein from soybeans and other sources. U.S. Soy is providing solutions to meet these and future challenges sustainably. ♦

ASK THE BOARD

Why is the relationship between soybean farming and hog farming important?



Using soybean meal as a way of feeding swine gives more nutrition than other synthetic products. It offers a much better diet for pigs.

Patrick Knouff
Shelby County



Many of our soybeans grown in Ohio are used in hog feed whether it's for meal or oil in the feed, making it a great natural-grown product.

Rusty Goebel
Williams County

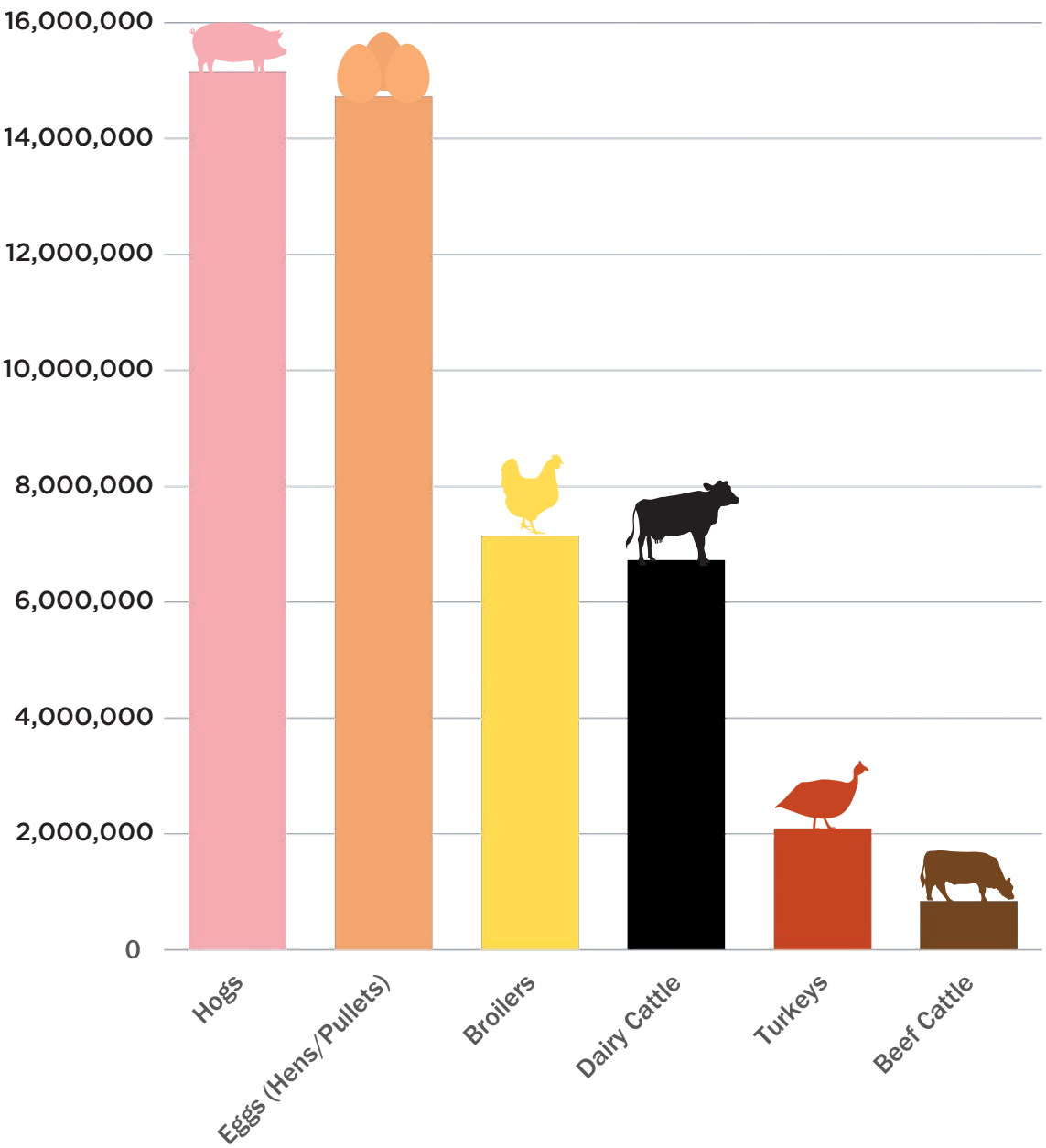


The relationship between the two and the benefits are obvious. Our soybeans make meal, which in turn is the largest protein source for our animals.

Ryan Rhoades
Marion County

Annual OHIO

Soy Meal Usage in Bushels



Information from IHS Markit - Marketing Year 2021/2022

Behind the Beans: Fulfilling A Lifelong Animal Ag Passion

By Emilie Regula Hancock, Director of Marketing and Outreach, Ohio Soybean Council

I grew up on a small family farm in Stark County, taking Hereford steers to the county fair. When I started to think about my career, I knew I wanted to do two things — policy and agriculture. I wanted to do something that supported the community I came from and that my family has been a part of for the last 100 years. I spent a few years with Ohio’s General Assembly which then led me to the Ohio Soybean Association and Council. For the last six years I’ve had the opportunity to manage OSC’s animal agriculture project portfolio. I’ve always understood the importance of how our cattle provide beef for my family, but throughout my time with the Ohio Soybean Council, I’ve developed a greater appreciation for what feeds our livestock. While beef is



not the number one consumer of soybean meal, soybean meal is a staple in the diet of poultry and

hogs. Most soybean meal is turned into animal feed because it is rich in quality protein and digestible energy. Poultry consumes about half of the soybean meal in the United States. OSC works with several industry partners and commodity groups to help support animal agriculture (Ohio Pork Council, Ohio Poultry Association, Ohio Cattlemen’s Association, and Ohio Livestock Coalition) to help increase demand for Ohio’s chicken, turkey, eggs, beef, dairy and pork. I’ve learned so much about the relationship between soy and animal agriculture — more than I thought I would ever know! I never thought I’d be learning about how soy can be incorporated into an alligator’s diet or the practices and technology of modern aquaculture farming. I hope I can continue to learn and teach my son the same lessons. ♦





"It goes right back to our return on investment. Farmers are really seeing the checkoff programs are of value. They see the **new products, the new research, it's very hands-on and every farmer can be involved with it.**"

- KEITH KEMP, SOYBEAN GROWER
WEST MANCHESTER, OH

HERE IN OHIO, WE GROW POSSIBILITIES.



OHIO SOYBEAN COUNCIL

Being involved and informed on soy-based innovations is an important part of moving your operation into the future. By investing in the Ohio Soybean Council, farmers get a firsthand look at the new products and research that are revolutionizing the industry, helping to further global demand, improve yields and create new opportunities for future generations.

Learn more at SoyOhio.org/HereWeGrow.