



ON RESEARCH P. 12

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April 2022

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-12 After nearly four decades in soybean research, Greg Luce takes off his Missouri Soybeans hat to spend more time with friends and family.

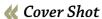


16 Three generations of Missouri soybean farmers highlight how participating in the Missouri Soybean Association Yield Contest each year pushes them to not only produce more but also focus on yielding a multigenerational legacy.



32 Cassette tapes, pagers and Polaroid cameras were some of the top technologies in the '80s. Since then, a lot has changed. The same can be said for the evolution of agricultural technology and agronomic practices.





Cover shot was supplied by retiring director of research, Greg Luce. The image was taken at a Pioneer Seed field days event in 1997.



Missouri Soybean Association

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From The Field

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Notes from Missouri Soybeans' Leadership Team

Want to thank my fellow farmer-leaders for electing me to serve each of you as the new Missouri Soybean Association president. As I write this, we are in the middle of a busy legislative session. There are several policy priorities facing Missouri soybean farmers in 2022, and your Association is remaining actively engaged to be proactive on your behalf.

Several concerns this season come to mind, and by the time you read this letter, we hope resolutions are achieved. In February, I testified in support of HB1720, speaking specifically to biodiesel. Missouri Soybeans worked closely with truck stops and retailers to draft a bill that would incentivize biodiesel consumption, not mandate it, by offering credit to the retailers. There is also an incentive for biodiesel producers in Missouri to help drive down the cost of production. The overall goal is to decrease costs for both retailers and consumers.

MSA is your voice. As a farmer, I know firsthand how these issues can impact you. Thank you for your trust as we work diligently to pivot policy to better rural Missouri. Thank you for your trust in me as the new president. And thank you for your support and membership to this organization.

Matt Wright - Missouri Soybean Association President



Research is creating new knowledge." These words from American astronaut Neil Armstrong outline the value your Missouri Soybean Merchandising Council places in the investigative work we fund on your behalf. As your soybean checkoff, research is a cornerstone of our pursuit of innovative solutions to the challenges we face as farmers.

While the challenges we face come in many forms, farmers' support of this research remains focused on addressing barriers and

strengthening our state's soybean farmers.

Your research portfolio has developed novel discoveries from biodiesel to SOYLEIC soybeans to increased potential for soybean oil in industrial applications such as electrical transformers, explosives and even golf balls. At the same time, research funded by your soy checkoff into aquaculture feed rations means soybean farmers will continue to be strong protein providers to a growing and diversified global meat demand.

When we survey farmers, increasing yields, pest management, soybean quality, new uses and protection of our natural resources are the goals you have outlined for us. We hope you can attend one of our research field days throughout the year to share in the new knowledge supported by your checkoff.

This comprehensive portfolio would not have been as strong without the tireless work of our retiring director of research, Greg Luce. We feature Greg's work on your behalf in this issue. His knowledge and friendship will be missed but not forgotten.

Kyle Durham - Missouri Soybean Merchandising Council Chairman

Letter from the Executive Director



mpowering Missouri soybean farmers through innovation. That is our vision. A strong investment in research can lead to a strong return. Our work across the organization is to maximize Missouri soybean farmer profitability.

Throughout this issue, you'll find we have a lot to tout at Missouri Soybeans. A couple years ago, we built our new Center for Soy Innovation because that's how we see ourselves – as innovators. We have grown, evolved and shifted to have a team of staff, board members and key industry partners to represent that innovation. And you'll be glad to know our

boards have invested your dollars in the most cutting-edge ideas to ultimately serve you better.

Since the last publication alone, we promoted two of our staff, Clayton Light and Bryan Stobaugh, and hired a new director of agronomy and research, Dr. Eric Oseland. These changes only maximize the power in the soybean portfolio and create a healthy bottom line for farmers. Not only are these hires moving the needle in innovation, but we also finally added the QualySense QSorter at the Bay Farm Research Facility to elevate trait research conducted across the U.S. Utilizing tools such as the QSorter aids in our continuous efforts around directed breeding and scaled commercialization within the protein ecosystem, working to make soy the most sustainable protein choice worldwide.

But the innovation doesn't stop there. The Missouri Soybean checkoff-funded research in Soybean Cyst Nematode (SCN) has made strides in finding new ways to combat SCN through genetics and management. We also are investing in Weed Zapper and Seed Terminator technology to mitigate waterhemp, Palmer amaranth and other destructive weeds.

And, you can't forget two of Missouri's biggest discoveries — biodiesel and SOYLEIC soybeans. We have been instrumental in recruiting, retaining and growing large soybean crush facilities and colocated biodiesel plants in Missouri. Biodiesel contributes \$1.13 to the bushel price of soybeans, and that number is growing. Additionally, SOYLEIC soybeans are making great progress and gaining momentum in both the private and public sectors, domestically and internationally. SOYLEIC soybean acres have more than doubled since 2020. Now and in the years to come, expect soybean oil to win a place back in the vegetable oil market.

Unfortunately, I am confined to a word count and can't express all the innovative products and research being conducted at Missouri Soybeans. However, I hope you discover more throughout this magazine. If you ever have questions about the discoveries we are making every day to better serve the farmer, let us know. If there's an issue on your farm we aren't addressing, then that's an issue.

The innovation starts with you, our farmers.

God Bless,

Gary Wheeler Executive Director/CEO

Missouri Soybean Association

Missouri Soybean Merchandising Council

Foundation for Soy Innovation

Soybean Policy Update



ouse hearings, standstills and EPA errors.

The 2022 Missouri legislative session started out just as it always does with a bang. While movement on the federal front has been tedious, activity in our state Capitol has more than made up for it. Issues of redistricting, department head nominations and excess funds in the budget made hallway conversations and floor debates exciting.

Still, I remain optimistic that the Missouri Soybean Association (MSA) and our farmer-leaders will prove successful in advancing and your operation.

matter of redistricting took priority. Countless hours of filibustering consumed the first half of session as a small group of senators held up the normal order of business over the topic of whether the General Assembly should propose a 7(R)-1(D) or 6(R)-2(D) map.

During the summer and fall months, we worked closely with House members, including Reps. Don Rone. Brad Pollitt and Mike Haffner, who led the charge on drafting HB1720. This bill serves as the main vehicle for agriculture legislation this session. Rep. Pollitt's

"I believe that real change occurs when genuine

Additionally, we hosted our annual MSA board meeting at the Center for Soy Innovation. During the meeting, soybean farmers were able to visit with policymakers to discuss issues facing all Missourians. I believe that real change occurs when genuine people share their stories. So, I was excited to see so many policymakers and stakeholders attend our annual legislative reception and afford us that opportunity. The next day, we saw how big of an impact those stories had on those stakeholders when our farmer-leaders took to the steps of the Capitol to discuss important policy initiatives.



"We strongly urge you to stay the prohibition on Enlist One and Enlist Duo in these counties for the 2022 growing season due to the harm these bans will inflict on already stressed growers and supply chains."

-Rep. Vicky Hartzler

Federal Legislation

On the federal front. the Environmental Protection Agency's (EPA) overreach on pesticide and herbicide approval has been a major focus. The EPA recently issued sevenyear registrations for two herbicide products, Enlist Duo and Enlist One, which restrict the use of the chemicals in many counties across the country, including five in Missouri: Barton, Bates, Cedar, St. Clair and Vernon.

> MSA sent an urgent letter to EPA on Feb.

pressure on the EPA to reconsider. U.S. Rep. Vicky Hartzler also issued a letter asking that the EPA stay the prohibitions in affected counties for the 2022 growing season.

"Due to the rising cost of inputs, inflation not seen in four decades. and significant, ongoing supply chain disruptions, alternative herbicides and seeds this close to the growing season will be unattainable for producers," wrote Hartzler. "We strongly urge you to stay the prohibition on Enlist One and Enlist Duo in these counties for the 2022 growing season due to the harm these bans will inflict on already

leadership to plant their boots on Capitol Hill and discuss Farm Bill legislation with members of Congress. visits yield meaningful conversations with our congressmen and congresswomen and have the power to influence future policy.

Want to know more?

MSA introduced a PAC newsletter this year to send updates on policy and regulatory movement in Jefferson City, Washington, D.C., and anywhere Missouri soybean farmers stand to be affected.

If you've contributed to our state or federal PAC, you'll receive this newsletter with more details on Missouri elections and the role MSA and you can play to impact the outcomes. Visit mosoy.org for details or scan our OR code.



Missouri Soybeans Endorses Lt. Gov. Mike Kehoe for Governor



The Missouri Soybean Association (MSA) is committed to supporting the entire soybean value chain on the political front. With thoughtful consideration and due diligence, Missouri's soybean farmers voted to endorse longtime agricultural advocate, Lt. Gov. Mike Kehoe, as the state's governor in the 2024 gubernatorial race.

"I'm proud to receive this important early endorsement for governor from the Missouri Soybean Association and stand with their hard-working farmers as we work to make Missouri's agriculture industry the best it can be," Kehoe said. "Soybean farmers and their industry's extraordinary economic impact in Missouri as one of our top commodities cannot be understated. Their success is Missouri's success, and we all have a critical role to play to ensure these hardworking producers have the tools they need to be successful."

Kehoe personally understands agriculture as a first-generation farmer, raising cattle in Jerome, Missouri. The consistency with which he has supported the agricultural community and soybean stakeholders on

key issues was noted by the Association's board of directions in its decision to endorse Kehoe for governor.

"It's critical that we have a friend of agriculture in the Capitol, serving with as much passion to better the industry as we are through the Association," said Matt Wright, MSA president. "Soybean producers are faced with issues every day that heavily impact the way we operate on our family farms. Having Kehoe in office offers our growers relief from stifling state policy."

The farmers strongly believe Kehoe has the vision to expand agriculture's reach in Missouri and will continue to build upon the Show-Me State's No. 1 commodity – soybeans.

As the growers' voice on policy for more than 50 years, the Missouri Soybean Association takes pride in its candidate selection and support.



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A beetle and the EPA want to send my farm back to the Stone Age



by Dane Diehl, MSA board member and state representative candidate

Pallid sturgeon, meet the American burying beetle.

I am proud to be a farmer. It's not easy work, but at my core, it is who I am. I wake up early, go to bed late and

spend countless months planning for the next growing season. Unfortunately, all of that hard work can go down the drain with even the slightest shift in the supply chain.

So much of farm life relies on the grace of God and factors that we can't control. We need good weather, good conditions and good health. We do all that we can to minimize the uncertainties that face us by controlling what we can and preparing for those we can't. But now, farmers in five Missouri counties — Barton, Vernon, Cedar, St. Clair and even my own, Bates — find themselves at the mercy of our federal government. All because of a beetle.

Soybean farmers like myself rely on special seeds and herbicides to help us grow crops more efficiently and make environmentally conscious decisions. One such brand is Enlist. Enlist herbicides and seeds help us to implement practices, such as no-till farming, to produce a better, more sustainable product. But it just so happens that, apparently, our farms are home to an uninvited guest: the American burying beetle. This beetle is listed as an endangered species, and the government believes it is susceptible to the Enlist line of herbicides, although recent studies have found little proof to back this statement.

To protect this beetle, Joe Biden's Environmental Protection Agency (EPA) ordered that farmers in these five counties cannot use Enlist products. So, for the sake of a beetle, the EPA has decided to bury farmers instead.

The timing of this decision could not be worse. As I said before, farmers have already spent months planning for the upcoming growing season. We've budgeted for our input costs, bought plenty of product and determined what growing practices would be best for our operations.

We are less than two months away from planting season, and now, all that planning has gone to waste. Many have already bought all the Enlist seed and Enlist herbicide they need for the season, and now the EPA says they may as well throw it all away. Many farmers must repurchase their entire stock of seed and utilize different practices, such as tilling the soil — which depletes the land of vital nutrients and leads to erosion — or search out different herbicide-resistant seeds. My fellow farmers and I are stewards of the land. We implement the most efficient practices to produce the best product with as little negative impact as possible. But when the EPA takes away the only tools we have to make a successful growing season, what choice do we have? You are asking us to kill our land to save a beetle, one that might not even be dying in the first place.

The impacted farmland from the EPA's decision accounts for 6% of all of Missouri's soybean production. It is important to keep in mind that to the impacted farmers, this decision represents 100% of their crop yield potential. It's easy for scientists and bureaucrats to make this decision with no connection to the people affected by it. I think it is unfair to make this sudden decision and expect farmers to just roll with the punches.

Through my affiliation with the Missouri Soybean Association and position on its Policy Committee, I've be able to encourage action against the EPA — and action is underway. As a farmer and a board member, I urge the EPA to reconsider its decision to prohibit Enlist in these five Missouri counties and to expedite review of the data of Enlist's impact on the American burying beetle. After all, these beetles do not follow our established county lines, and a blanket ban on Enlist products for all five counties — without any reliable evidence of the impact of Enlist on those beetles — does no good for farmers.

Our farmers, particularly our generational and family farms, are often one bad season away from financial disaster. The American farmer is himself an endangered species, and our government should be working for our preservation, not just a beetle's.









It's not often that you see someone's eyes light up or a smile spread across their face when talking about dirt, or in the agricultural industry – soil. However, Missouri Soybeans' director of research, Greg Luce, is overjoyed to discuss soil health and best agronomic practices with anyone who asks.

With nearly 40 years under his belt in agronomy, Greg has decided to retire and pass along his expertise to a new staffer.

"I'm excited for Greg and his wife to enjoy retirement and their time together. He has most certainly earned it," said Gary Wheeler, Missouri Soybeans CEO and executive director. "I am truly going to miss Greg. I'll miss his brain, ideas and network, but mostly his kindness and uplifting attitude."

Greg joined the Missouri Soybeans team in 2015. He immediately began developing a new program at the organization's Bay Farm Research Facility and expanding the research portfolio. Greg was tasked with rolling up his sleeves and getting boots on the ground, literally, to help the organization create a true research department that would show a return on investment for farmer checkoff dollars.

Gary courted Greg for eight months, trying to get him to take this new position with Missouri Soybeans to help the organization move the needle.

The Path to Plants

Greg didn't grow up on the farm but was never too far from the family's operation. Growing up in Raytown, Missouri, Greg was not directly exposed to production agriculture. However, he spent time on his Uncle Herb's row crop and cattle farm near Montgomery City. Gaining an appreciation for the farm had a lot to do with his passion for land stewardship.

Greg attended Missouri State University – Southwest Missouri State at the time – where he originally wanted to be a veterinarian. After taking some classes in soils taught by professors Vernon Renner and Ben Fuqua, he knew he needed to make the switch and change his major to plant and soil science.

"Everything seemed to go back to the soil and soil being the 'root' of all agricultural practices," said Greg. "All through history, people have prospered because of good agricultural systems and ultimately the soil. If you can keep the soil productive and

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improve upon it, it's going to continue to be a significant contribution to society."

From his time spent on the farm, Greg knew farmers were some of the best conservationists and felt compelled to learn more and share insights with them to help them be more productive.

"All the farmers I know are good at conservation – probably more than they are ever given credit for," said Greg. "I was taught that soil is actually more than just a 'thing,' it is a living organism. It sounds cliché, but as a living organism, soil is a way for farmers to leave a living legacy on their operations."

Under the guidance of his two favorite professors, Renner and Fuqua, Greg decided to continue his education as a graduate student at the University of Missouri in Columbia (MU). While at MU, Greg studied with another outstanding soils professor, Jim Brown, and conducted research in soil fertility.

Greg received his master's degree in agronomy in 1983 and was eager to keep investing in his education as a doctoral student, but a full-time job opportunity came open that he couldn't pass up.

A 'Pioneer' in Agronomy

In 1983, Greg began working for Pioneer. It was actually when he went in for an interview with Pioneer that he first met farmer-leader and Missouri Soybean Merchandising Council (MSMC) board member, Robert Alpers.

"As Greg moved up the corporate ladder with Pioneer, we didn't see each other as frequently. So, when I saw he

would be joining Missouri Soybeans, I was very happy to say the least," said Robert. "Having Greg as the research director took such a load off the farmer directors. Greg brought so much knowledge, respect and leadership to the program, and through Greg, we became confident we were making good research investments."

Greg worked for Pioneer for 32 years in a variety of roles, each working to serve the farmer. Greg started his career working as a field agronomist and covered half of Missouri. He and his wife, Gail, eventually moved to Iowa and then back to Missouri while working with Pioneer. Over time, Greg got promoted to agronomy research manager, technical product manager and area manager.

In these roles, Greg did a variety of agronomic testing and hybrid plots, helped with research awards, funded projects valuable for the farmer and aided breeders in developing products that were the best choice for growers.

During Greg's years with Pioneer, he was a member of the Agriculture Leaders of Tomorrow (ALOT) Class III and became very involved the Missouri Certified Crop Adviser (CCA) Program. He enjoyed years of conducting training sessions for sales representatives and managers, and later students at MU.

For his leadership and diligence to the farmer, Greg also received several awards for being a "pioneer" in agronomy. Greg was presented with the North American Pioneer Agronomists of the Year award in 2000 and received the Pioneer Leaders of Distinction Awards twice in his career. After his service to the Missouri CCA Program, he also presented the Missouri CCA of the Year Award.

"As an agronomist with Pioneer throughout most of my career, I wasn't directly involved in sales but was more of a support person to provide information to farmers. And that's what I think Missouri Soybeans is all about - providing support to the farmer."

-Greg Luce

The Checkoff That Pays Off

Greg enjoyed what he did with Pioneer, but he did have a desire to work closer with research and testing. That is when Gary Wheeler started "courting" Greg to join the team.

"I was always interested in agronomic research and serving the farmer," said Greg. "As an agronomist with Pioneer throughout most of my career, I wasn't directly involved in sales but was more of a support person to provide information to farmers. And that's what I think Missouri Soybeans is all about – providing support to the farmer."

Greg further explained that his hankering for working closely with research again is what really interested him in joining the Missouri Soybeans staff. When Greg first started with Missouri Soybeans, it actually began as a dual role as a grain crop specialist with MU Extension. Greg worked in this capacity until 2020.

The biggest aspect of Greg's role was to work directly with the soybean checkoff to help the MSMC board select various research projects to fund. Greg shared that over the years, he's had the opportunity to help with the funding of a variety of projects from new uses that can create demand to biodiesel to long-term agronomic research such as overcoming soybean cyst nematode (SCN), drought- and flood-tolerant beans, high-oleic oil and much more.

Greg explained he enjoyed working on all the projects, but several stuck out. One was the SOYLEIC soybean research conducted in conjunction with MU, MSMC and the Unites Stated Department of Agriculture (USDA), with funding by the United Soybean Board (USB). In particular, he liked watching the evolution of the program. What started as a product planted only in research trials is now graining traction throughout most of the country and internationally.

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Another passion project has been the MU strip trial program led by John Lory. This program is an integrated research, education and demonstration project helping producers validate management decisions and document environmental stewardships. Practices the compared during program include nitrogen timing, phosphorus application comparisons and cover crop impacts on corn and soybean yields. Greg shared he enjoyed seeing how a practice performed over a larger landscape would or would not work on a farmer's field.

Lastly, Greg found it rewarding to help oversee the long-term research being conducted in soybean breeding by researchers, Andrew Scaboo and Pengyin Chen. Greg appreciates the dedication put in by these researchers to improve soybean composition, traits and yield for the benefit of Missouri producers.

from MSMC, has been a hub for research focused on controlling SCN and root knot nematode (RKN). Going back to Sam Anand and the development of the SCN-resistant soybean variety, Hartwig,, to the RKN-resistant varieties that researchers Grover Shannon and Chen, released, to the breakthroughs made by Melissa Mitchum, the checkoff has continuously discovered ways to enhance tools for the farmer.

"Greg is one of the best soybean agronomists I have ever had the pleasure to work with. Greg always has Missouri soybean farmer's profitability and productivity in mind when making tough research funding decisions," said Scaboo. "I'll miss leaning on Greg for his honest opinion on our research, as well as his vast knowledge of soybean agronomy and the entire soybean value chain."

Greg will retire from Missouri Soybeans at the end of spring and assist with the onboarding of the new director of research and agronomy, Eric Oseland.

"Working with our Missouri farmers to improve their operations gave me a real sense of purpose," said Greg. "I knew I was doing something for a good reason. It was more than a job; it was more than a paycheck. Working for Missouri Soybeans has been very rewarding, really trying to improve something worthwhile and to just get back to my roots."

After years in this industry, Greg looks forward to starting this new chapter. Greg and Gail plan to spend more time doing the things they love. For the Luces that includes spending time with their sons, Ethan and Matt, camping, fishing and hunting. Greg hopes to stay close to Missouri Soybeans and agriculture. He looks forward to seeing the progress being made – watching from afar in his camper.



Feature















YIELDING A LEGACY

by Madelyn Warren

Three generations of Missouri soybean farmers highlight how participating in Missouri Soybean Association Yield Contest each year pushes them to not only produce more but to also focus on yielding a multigenerational legacy.

Any farmer will tell you that it takes a little bit of luck and a whole lot of hard work to have the perfect growing season. For this year's Missouri Soybean Association (MSA) Yield Contest winners, their record-breaking yields were the result of countless hours of research, diligent labor and a multigenerational decision-making approach.

"You have to show interest and not just sit back and think, "Well I can throw this out there and it'll work," said Charles Hinkebein, yield contest winner and farmer from Cape Girardeau, Missouri. "You can throw it out there all you want, but if you don't do it at the right time and with the right products, it won't get you anywhere."

Located in southeast Missouri, Hinkebein, 70; son-in-law Carl Landewee, 50; and grandson Joseph Landewee, 22, were the winners of both the irrigated and non-irrigated categories. Their first- and second-place winning yields were 104.3 and 103.57 bushels per acre in the irrigated category and 104.93 and 103.31 in the non-irrigated category. For

both top yields, the Landewees planted Asgrow AG38XF1 seed.

This year, the Landewee-Hinkebein family more than doubled Missouri's 50 bushels per acre average.

"Our annual soybean yield contest is an opportunity to amplify the hard work our growers are putting in at each corner of the state," said Ronnie Russell, former MSA president and farmer from Richmond, Missouri. "Our organization enjoys the opportunity to spotlight these farmers and extend a reward for their stewardship and steadfastness to production agriculture. It's always impressive to see the yields from various parts of Missouri and show our counterparts what the Show-Me State is made of."

Charles began farming at just 11 years old when his father gave him 35 acres of his own and impressed upon him the importance of financial independence.

"Dad always said you have to pay the landlord his part, and you have to pay your expenses" said Charles "If

you make money, you make money. I learned that at a young age, and I've worked with my family since then to make sure we do everything we can to remain profitable. That means doing your research, being an early adopter and putting in the work."

His son-in-law, Carl, later became a partner when he left his job at the local quarry and took up the family business. Since then, Carl's son, Joseph, has lent his perspective to the management of the operation. The family makes most of its decisions at the table amongst the three of them.

"Winning the yield contest shows that we are using the land and our equipment to its fullest potential," said Joseph.

Today, the multigenerational operation raises corn, soybeans and wheat along the Headwater Diversion Channel near the Mississippi River. The lack of flooding allowed the family to plant earlier than usual and focus on perfecting a formula for the growing season.



Profile

"Last year, everything just kind of fell in place like the perfect storm," said Charles. "The weather was right. We didn't have high water, and we were able to get our fertilizer on in the fall."

The family planted Group 3 soybeans this year and treated their beans normally, which incorporated a heavy, dry fertilizer program.

Carl attributed some of their success to the work they did with Concept Agritek. The family consulted with the company to determine which biologicals and micronutrients best fit their needs. They also incorporated the use of 3 to 4 pounds of sugar per acre to hold fungicide and insecticide on the plant longer and push the beans to the next level.

"You are trying to take the acres that you have and get the most of them," said Carl, winner of the non-irrigated category. "It has gotten to the point where you can't buy land anymore, so you have to make the best with what you have."

Charles also emphasized the importance of planting your boots in the field.

"You don't see everything driving, you have to walk your fields," Charles said. "Sometimes, I'm in the field at 5:30 in the morning. It's just — well it's peaceful out there. You're all alone, and you can see a lot of things that other people don't normally."

No stranger to MSA's yield contest, the family has won a combined total of 18 awards and isn't stopping anytime soon. They advocate to their fellow farmers the benefits of participating in the contest and even advise their neighbors on some of their own practices to help improve yields.

"I don't try to hide anything I'm doing. I want to see other people try to make the yields I'm making. It's optimal. Everybody can do it; you just need to throw a little more effort into it. That's why I join these contests because I want to see what our operation and other farmers can do. It costs a little bit

more but if you can make another 20 bushels per acre, those 20 bushels are going to outweigh anything you had to put into it."

Each year, MSA's Yield Contest showcases the best of what the industry has to offer and proves the power of soybeans. The Landewee-Hinkebein family exemplifies what it means to be true stewards of the land. So, while it may take a little bit of luck to reach these yields, no luck was needed in the making of their legacy.

The MSA's Yield Contest is made possible by generous contributions from the Missouri Sovbean Merchandising Council, Beck's Hybrids, Baker Implement Company, Missouri Crop Improvement Association. Sydenstricker Nobbe John Deere, Asgrow, Pioneer, ProHarvest - Resor Seeds, Southern FS, JD Legacy, Stine Seed Co., DONMARIO, BASF, Bayer, Nutrien, Corteva, Stratton Seed, FMC, Ursa Farmers Coop., MFA Incorporated and MFA Oil.

"I don't try to hide anything I'm doing. I want to see other people try to make the yields I'm making. It's optimal. Everybody can do it; you just need to throw a little more effort into it."

-Charles Hinkebein















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† Source Modern Tire Dealer (2020 Facts Issue). 2020 Facts Section: 2019 US Replacement Tires (see page 32); 2019 OE Consumer Tires (see page 33).



Soy Scholarships Yield Success

The Foundation for Soy Innovation invested in two students interested in soybean research for the 2021 scholarship.

by Samantha Turner

The Foundation for Soy Innovation brings together soybean farmers, industry partners and those who work along the soy value chain, working collaboratively toward a stronger future. Launched in 2018, one of the primary initiatives of the Foundation is to pursue grants and develop scholarship programs for hands-on work to advance innovation and create demand for soy.

The Foundation continues to support the future of soybeans with the selection of Eduardo Beche of the University of Missouri-Columbia and Anthony Ribolzi of Missouri State University for the 2021 Soy Innovation Scholarships. The scholarship will help fund the education and research conducted by these two individuals working to solve problems farmers are facing. The scholarship serves as an investment into the future of soybean innovation and empowers those working to further the soybean industry.

"The future of soy has a tremendous opportunity," said Matt McCrate, chairman of the Foundation. "Through the Foundation for Soy Innovation, we're working to support those who need to be at the table to raise the bar on the work farmers are doing. Through this scholarship, we are investing in the next generation to discover new uses for soy and make

Ribolzi is a senior working on his bachelor's degree in agricultural business. After graduation, he plans to work in commodity oil processing production for animal feed and human consumption. His introduction to the soybean industry and interest in agriculture began when he joined the United States Soybean Export Council as a summer intern.

"Throughout my span of work, I earned a greater understanding of the soy industry," said Ribolzi. "I participated in projects that involved the uses of U.S. soy in oil, feed, aquaculture and sustainability practices."

Ribolzi will be directly applying this scholarship toward tuition to help further his education and final semester at Missouri State.

Beche recently finished his doctoral degree in plant breeding, genetics and genomics. He graduated with a master's degree in crop science in 2013 and a bachelor's degree in agronomy in 2010.

continued on page 21...



News

Beche is currently a research scientist at MU working as an associate breeder in Andrew Scaboo's breeding program. One of his areas of focus is increasing genetic diversity in soybeans and identifying favorable alleles from wild soybean (Glycine soja) that can be used in a commercial breeding program.

"My goal is to develop better soybean varieties with valuable traits for farmers," said Beche. "I am particularly interested in improving protein quality and amino acids for human consumption."

He plans to use his scholarship funds to attend the World Soybean Research Conference 11 in Novi Sad, Serbia. This is a conference that happens every four years and covers several research topics including breeding, genetics, diseases, pests and agronomy. He plans to present his research on improving soybean seed protein and amino acids at the conference.

The farmers behind the Foundation envisioned supporting early-career faculty and students in their work across the soy value chain through this scholarship program. Both Ribolzi and Beche expressed gratitude toward those farmers for awarding them scholarships to help further their academic and professional careers.

The Foundation for Soy Innovation exists to advance technology, ingenuity and partnerships integral to the future of soy. The Foundation is chaired by Matt McCrate of Cape Girardeau. To learn more about the Foundation for Soy Innovation, explore soyfoundation.org.



Beche sorts seed in Hawaii for a soybean breeding program.



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SEED TENDERS



Missouri Soybean Merchandising Council's

Where the Money Goes

Statement of Activities, Fiscal Year 2021

Transparency is paramount for Missouri soybean farmers and their checkoff. Each year, this financial report appears in Missouri Soybean Farmer magazine as part of that committment.

The Missouri Soybean Merchandising Council (MSMC), under the guidance of elected, volunteer farmer-leaders and with the support of professional staff, invests Missouri farmers' soybean checkoff dollars to improve the bottom line and future for soybean and soybean farmers. The budget can be summarized under the following categories:

Research

This budget area provides for collaborative work on pest and disease resistance, flood and drought tolerance, and soybean breeding, as well as other work at the Missouri Soybean Association's (MSA) Bay Farm Research Facility.

Producer Communications

This budget area includes the many ways checkoff funds are used to connect with soybean growers via radio, grower meetings, field days, educational tours, etc.

Consumer Information

The Consumer Information budget area is the home for efforts to connect Missourians not living on a farm or ranch to the importance of soy and agriculture.

Administration

This budget area includes the cost of overseeing and investing Missouri's soybean checkoff dollars, including management, personnel and facilitating elections and meetings of the MSMC's board of directors.

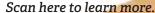
Industry Information

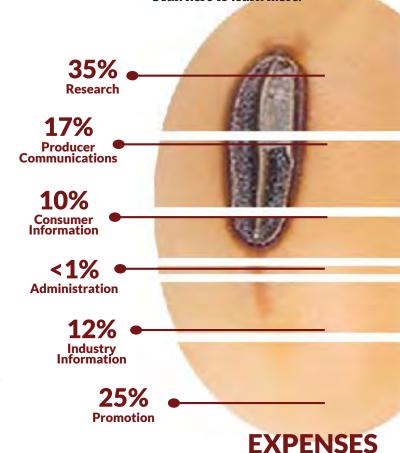
Initiatives in this budget area include policy education, commodity support and working with industry partners to identify new management practices and uses for soybeans and soy products. This area encompasses business development and relationship building programs as well.

Promotion

This section includes efforts to raise awareness within the market for Missouri soybeans and build demand for Missouri soybeans and soy products around the world.







REVENUES
TOTAL: \$ 9,076,170

TOTAL: \$ 6,560,530

Increase in Net Assets \$2,515,640 Net Assets, Beginning of Year \$9,226,134 Net Assets, End of Year \$11,741,774

*Soybean checkoff dollars may not be used for lobbying, membership or similar efforts.

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MISSOURI SOYBEANS GROWS STAFF

ver the past several months, Missouri Soybeans has seen several changes in staffing, optimizing opportunity by streamlining positions to create a more efficient organization.

To increase soybean market options, Bryan Stobaugh will now work under the title of director of licensing and commercialization. This position will create further movement in the commercialization of soy-based products and create a strategic view for soybean market potential.

Additionally, the organization has promoted Clayton Light as the new director of conservation agriculture and farmer operations. This is an effort to develop Bay Farm Research Facility operations and grow relations with leading agricultural conservation organizations. Clayton previously served as conservation programs manager.

"The promotion of Bryan and Clayton creates a greater return on investment for Missouri soybean farmers," says Matt Wright, Missouri Soybean Association president and Marion County farmer. "The new positions will allow us to not only grow a more sustainable bean, but also expand the market value of soybeans and soy-based products."

With the announcement of Greg Luce's retirement, the organization hired Eric Oseland as the new director of agronomy and research. Eric will work to lead agronomic research projects for the organization and oversee checkoff funded projects impactful to Missouri soybean farmers.

Finally, to better serve our farmers in southeast Missouri, the organization brought on Brad Thielemier as an extension of the field services team. He will work with Baylee and Dylan to create connections with farmers in the region and allow Missouri Soybeans to better serve them as an organization.

"This growth is a direct reflection of the hardworking soybean growers we have in the state," said Gary Wheeler, CEO and executive director. "Without their diligence onfarm, investments and overall crop management, we wouldn't have such an excellent commodity to represent. Our soybean producers should feel proud and excited about this growth because with each new program, we are better able to meet the needs of the farmer."

These changes will serve as a worthwhile investment for both Missouri Soybeans and the farmers who support the organization.



Bryan Stobaugh



Clayton Light



Eric Oseland





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MISSOURI SOYBEAN ASSOCIATION ELECTS NEW LEADERSHIP

arion County farmer, Matt Wright, takes the helm as the Missouri Soybean Association's (MSA) new president. Wright was elected unanimously to lead the Association through 2022 by his fellow farmer-leaders at MSA's annual meeting in January.

Wright is a farmer from Emden representing District 3 on the board. He grows corn and soybeans and manages a cowcalf operation. He has been a board member for more than 10 years, serving in various leadership roles including vice-president. This is his first term serving as the Association's president.

"I am honored and humbled to serve as the new president for the Missouri Soybean Association. As the advocacy arm of Missouri Soybeans, I am proud of the strong grassroots support we have developed and continue to grow each year," said Wright. "Our impact, as we work together as farmers and agricultural advocates, will create a strong future for soy in our state."

Renee Fordyce, a farmer and rural health professional from Bethany, was elected as the Association's vice-president. Renee represents District 1 and previously served as the MSA secretary.

Also moving up in leadership is Peter Rost Jr. from District 7. He is a farmer from New Madrid and was previously seated as MSA treasurer. Joining the executive committee as treasurer is Cody Brock, representing District 2 from Norborne.

"This board is pivotal in advancing not only the soybean industry, but also our nation's agricultural sector today and in the future," said Gary Wheeler, Missouri Soybeans CEO and executive director. "I admire the board's leadership, hard work and dedication to the association, advancing and protecting the interests of all Missouri soybean producers."

The past president, Ronnie Russell, will continue to serve on the board of directors, where he represents District 1.

"It was rewarding to serve Missouri Soybeans in this capacity for the past two years," said Russell. "I am confident Matt will serve our farmers well and advocate at the grassroots and federal level on issues impacting our growers in the state."

In addition to the newly established executive committee, 12 other farmer-leaders remain on the board. Committee assignments for MSA directors will be determined during the summer board meeting, currently planned for July.







Join MSA Now

Recipes

Set the Table with Soy

by Ryan Siegel

he joy of food is rooted in the hard work and worn hands of farmers and chefs. The relationship between cultivators and culinarians is an important connection to ensure everyone eats.

The historic significance of soybeans as a crop and source of protein is a connection that spans generations. From the original domestication in Asia that created products such as tofu, soy sauce and miso to the rise in demand for products such as soy milk, oil and flour, the uses of soy are endless.



Adobo, Recipe on P. 29

TOFU ICE CREAM

Ingredients:

- 2 cups of heavy cream
- 1/4 cup sugar
- 1 tablespoon vanilla extract
- One, 8-ounce block of tofu
- One, 14-ounce can of sweetened condensed milk

Directions:

- 1. Warm 1 cup of the heavy cream and 1/4 cup of sugar on the stove until sugar is dissolved.
- 2. Whip the remaining heavy cream and vanilla in a mixer until stiff peaks are achieved.
- 3. Blend tofu, warm sugar and heavy cream mix, and sweetened condensed milk in a blender or food processor.
- 4. Fold in whipped cream in tofu mix.
- 5. Freeze for 4-5 hours and enjoy.

CHICKEN ADOBO

Marinade Ingredients:

- 4 boneless, skinless chicken thighs
- 2 garlic cloves-minced
- 1/3 cup soy sauce
- 1/4 cup white or rice wine vinegar
- 2 fresh bay leaves or 3 dried

Cooking Ingredients:

- 2 tablespoons (soy) vegetable oil
- 2 garlic cloves-minced
- 1/2 yellow onion-sliced
- 3/4 cup water
- 2 tablespoons brown sugar
- 1 tablespoon cracked black pepper

Marinade:

- 1. Mince garlic cloves.
- 2. Mix soy sauce, vinegar, garlic and bay leaves.
- 3. Add chicken to marinade and let sit for 2-24 hours.

Cooking:

- 1. Heat oil on medium-high in a 10-inch pan.
- 2. Pat chicken dry, add chicken thighs to the pan and brown for 4 minutes per side. Be sure to save the marinade for later.
- 3. Remove browned chicken from the heat and drain any excess liquid.
- 4. Add minced garlic, sliced onions and oil, if needed, to the pan and sauté until tender.
- 5. Remove bay leaves from the marinade and add marinade, water, brown sugar, and black pepper to the pan of onions and garlic.
- 6. Heat mixture until slightly thick.
- 7. Once slightly thick, add chicken back to the pan and glaze. Enjoy.

Faith & Family

Farmer-leader, rural nurse and mother, Renee Fordyce, shares her story of agriculture and farm life.

Q: Tell us a little about yourself.

A: I did not grow up on a farm, but agriculture surrounded me daily. I was active in the Hazel Dell 4-H Club, and thanks to my wonderful mom, I still have my ribbons and project books. My husband, Richard, and I have been blessed with two children, Ethan and Emma, who are both pursuing careers in agriculture.

Q: Tell us about your farm.

A: We grow corn, soybeans and have a cow/calf operation. We believe in cover crops and no-till with a focus on improving soil health.

Q: What is your involvement in agriculture?

A: I serve as vice-president of the Missouri Soybean Association. I have served on the Harrison County Community Hospital District Board since 1997, previously as board secretary and now as District 4 board member. I have also completed the AgriSafe Nurse Scholar Program, which focuses on ag-related health issues, diagnoses and treatment.

Q: Should tractors be red or green?

A: My husband and son believe green is best, however, we do use a few red implements.

Q: Tell us about your favorite memory on the farm.

A: When Ethan and Emma were younger, I took them and our dog, Riley, to a creek in the pasture for an "adventure." It was adorable to watch Riley protect his kids and the kids learn about nature.

Q: What is your favorite planting or harvest snack?

A: I inherited the title of "lunch lady" after my mother-in-law retired. She set the bar high, with a hot meal and a fresh pie. My guys learned quickly the hot meal was fine, but I did not bake pies – cookies would have to do!

Q: How do you take your coffee?

A: Sugar free French vanilla creamer please! I'm such an addict I bring it with me when I travel.

Q: What are you listening to while working?

A: I work as a nurse at a hospital down the road, and I listen to Christian music on my way there, which helps start my 12-hour workday on the right foot.

Q: Who is your biggest influence?

A: Faith, family and farming. Jesus first and family second; everything else falls into place when my priorities are right.

Q: What would you tell your kids, or other next-gens to encourage them to be involved in agriculture?

A: Join FFA! This organization will be a huge stepping stone in the right direction for whatever you want to pursue. FFA will expose you to all things from production ag to ag communications. Whatever you are passionate about, you'll find it in FFA.

Q: Who is your favorite farm influencer

A: My favorite ag influencer is my husband, of course! There isn't an individual on this earth that is more passionate or more engaged on agissues than him. I also love CommonGround and Uptown Farms, among others. I'm always impressed with those who can speak to the consumer in a way that educates and endears the reader to farm life.















Editorial

Soybean Changes Over the Years

BY GREG LUCE

assette tapes, pagers and Polaroid cameras were some of the top technologies in the '80s. Since then, a lot has changed. The same can be said for the evolution of agricultural technology and agronomic practices since I began working with Missouri farmers.

Planning for Planting

Perhaps, one of the biggest changes since I began working with soybean growers is the recent push to plant beans early. In the early 1980s, planting soybeans early showed positive results. But, "early" then meant after corn planting was done, which typically meant around late April to early May. Now soybean farmers are getting a head start, putting beans in the ground starting in at traditional corn planting time. While planting early can have yield advantages, keep in mind there are potential hazards.

Besides the chance of freezing temps to exposed growing points, other things to consider are seedling diseases and Sudden Death Syndrome (SDS). These pathogens can be combatted by using varieties with good tolerance and seed treatments that can help reduce disease impacts. However, if planting is late, it is reassuring that the resilient soybean can be planted in various conditions while still producing good yields.

Rows and Rates

Another change in soybean production is that many acres were drilled in 7.5- or 8-inch row spacing. When I began my career, seeding rates for drilled soybeans often exceeded 200,000 seeds per acre. Although there were acres planted with a planter, it really took off as split row and 15-inch planters became commonplace. The improved seed placement from using a planter helped to reduce the seeding rates considerably.

Additionally, the use of seed treatments, especially due to the development of fungicides controlling wet molds such as phytophthora and pythium became more standard. This was especially true as seed treatment technology and equipment progressed to the point where more retailers and seed dealers offered local treatment. With improved stands from treatments, added to the benefits of better seed placement, soybean planting rates dropped even further. Today, 140,000 seeds per acre is a more typical soybean seeding rate.







Editorial

Bean on Bean

In the years of the VCR and bag phones, "bean on bean" was common practice. However, continuous soybean fields had several issues, and a big one was soybean cyst nematode (SCN). There were not SCN-resistant varieties available across maturities at that time. Continuous soybean fields often had extreme SCN pressure and were often stunted, with telltale potash deficient symptoms. As soybean crop management progressed, more consistent rotation took place.

This planting season, for economic reasons related to fertilizer inputs, some growers may choose to plant more soybean acres, therefore planting bean on bean. In some parts of Missouri this is not uncommon. After all, we have about 5.8 million acres of soybeans in the state.

Rotation has many benefits, and Midwest research studies show that the best soybean yields come from fields that have not had any soybeans planted for several years. However, the good news is that soybeans planted the first year following soybeans takes only a small yield decrease compared to soybean planted after corn. If planting bean on bean is the economically prudent thing to do, growers should keep several things in mind:

- Plant a different variety than last season and utilize one with an excellent disease resistance package.
- Use a quality fungicide seed treatment and avoid soybean on soybean in a field that is prone to SDS.
- Soybeans are a big user of potassium (K), and if there was a large soybean yield last year, it is important to know the soil K level. A 50-bushel per acre soybean crop removes more potash than a 200-bushel per acre corn crop.
- Play close attention to the field and scout for diseases and insects on a regular basis.

Cover Crops

The next big shift was the use of cover crops on the farm. Cover crops have taken off and now occupy more than a million acres in Missouri. Most of the cover crop acres are cereal rye being planted to soybean. We are still examining the best plan for cover crops planted after soybeans ahead of corn. An interesting point to me is the use of wheat in the rotation, more specifically the lack of wheat in rotation.

In the 1980s, wheat was grown across the state, and we had years where wheat exceeded 2 million acres. As we look to various cover crops and rotations that could benefit the soil, I often reflect on the opportunity to return acres to wheat. Wheat is a good cover and cash crop and has tremendous carbon source returned to the soil.

Controlling the Concerns

Today, roughly 95% of the soybean acres in Missouri are grown using a GMO trait. The reason for most GMOs grown is simply weed-control. The glyphosate era has come and gone as the primary weed-control program. We then moved to Liberty Link, and now Xtend and Enlist for the solution to waterhemp and Palmer amaranth. Farmers must be diligent in management to avoid history repeating itself with resistant weeds.

No matter what the primary herbicide, farmers should use a combination of a pre-emergent and post-applied applications that include multiple modes of action and overlapping residuals. No matter what herbicide technology is chosen, to control waterhemp and Palmer amaranth, it takes a solid two-pass program.

An exciting area of study that MU weed specialist Kevin Bradley is focused on is the inclusion of non-chemical and precision methods of weed control. Weed seed grinding, weed electrocution and the use of precision spraying, including robotics, have great potential to add to the arsenal of weed-control technologies.



continued on page 34...

WISHH serves as an international soy industry incubator, spurring innovation by connecting local entrepreneurs with industry-specific resources and business knowledge.



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Editorial

Soybean Gains Respect

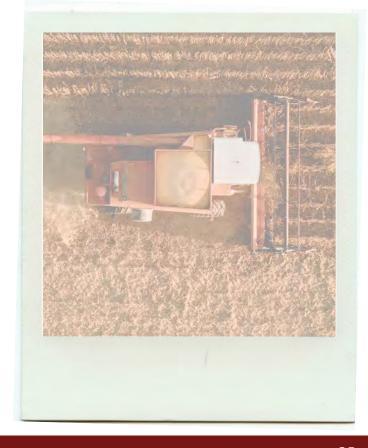
When I started my career as an agronomist, corn was the crop that garnered the most management attention. Soybean, grain sorghum and wheat were more commonly thought of as requiring less management. Soybeans were expected to produce with only the fertilizer from the previous corn crop. While two-year fertilization programs are a great idea, the problem was that applications were generally only adequate for the needs of the corn crop. Growers continually have paid greater attention to the entire management of soybean production including fertility, weed control, planting practices, disease and insect control.

Over my time in Missouri agriculture, I have seen tremendous changes in crop-management practices on farms across the state. When I began my career as an agronomist in Missouri, soybean yield averages were in the 20s and 30s. Today, yields are consistently averaging around 50 bushels per acre, and our annual yield contest brought in entries with more than 100 bushels per acre.

Certainly, genetic improvement has played a large role in soybean yield gains over time. However, I believe the attention Missouri soybean farmers have placed on production management is the reason for the yields we see today.

It has been my pleasure, and an honor, to work with Missouri Soybeans on behalf of the farmers. The days of roll-up windows and no cell phones are looked upon fondly, but investments in future technology will aid sound agronomic practices to do better and be better. There are so many good things happening at Missouri Soybeans, and I truly believe the future is bright.







CLEAN FUELS ALLIANCE AMERICA TO LEAD FUTURE OF LOW-CARBON FUELS

BY LIZ McCune, Director of Communications for Clean Fuels Alliance America

n March 18, we celebrated National Biodiesel Day and honored Rudolph Diesel on his birthday. This year, it was especially meaningful as our industry celebrates 30 years of clean fuels innovation and recognizes how far we have come since the early days of biodiesel. Today, we are witnessing an explosion in demand for low-carbon fuels such as biodiesel, renewable diesel and sustainable aviation fuel. It is because of that growth and diversification that the National Biodiesel Board recently announced a new name and new brand — Clean Fuels Alliance America.

During our annual conference in January, the organization formally transitioned to Clean Fuels Alliance America to help further our position as a proven, innovative part of America's clean energy mix and better represent all industry members: biodiesel, renewable diesel and sustainable aviation fuels. The goal of Clean Fuels is to continue connecting people to accelerate America's clean fuel future and drive industry growth, with biodiesel remaining the foundation on which the industry was built.

Alan Weber, an economist and farmer from Missouri, has been involved with biodiesel from the beginning, helping a once nascent industry soar to heights never imagined 30 years ago. Weber's story is unique and his passion for the industry is contagious.

"I've been involved in the biodiesel industry for essentially 30 years now," Weber said. "The first 10 years were focused on research and answering baseline questions. Then the focus shifted and for about 20 years, that focus has been on the commercial phase."

As a student at the University of Missouri in the early 1990s, Weber approached the agricultural economics chair with a concern that had been plaguing him for some time: "The cash flows on our farm were terrible, and I wanted to do something that helped create demand," he said.

The chair suggested Weber talk to another professor who had some ideas about taking vegetable oils and turning them into fuel. At the time, Europe was already doing just that, but it was not yet happening in the United States. Weber was excited about the prospect and started working alongside the professor analyzing this new opportunity. He traveled to Europe to learn more about their process, spent time in underground coal mines in Kentucky and with urban bus fleets looking at tailpipe emission reductions with biodiesel.

Fast forward to today and Weber said, "Carbon is very much on the forefront of people's minds. We can actually, through our farming practices, have an impact on the carbon intensity score of the fuels that we use such as biodiesel and renewable diesel, and that is something we can do right now. I've been involved for approximately 30 years in this industry and in some ways, I think we're just starting to get to some of the exciting stuff. I'm all in!"

The clean fuels industry has seen and will continue to see significant growth as the world further prioritizes clean energy. We're excited to be an integral part of the solution for sustainable energy that's not only affordable but also scalable and available now. We are grateful for our origins on the farm and to those who had the vision to develop the biodiesel industry over the past three decades. Now we enter the next phase of growth and diversification with biodiesel continuing to lead the way.

Weber is excited to still be a part of the Clean Fuels story.

"I continue to be involved in this industry for probably one simple reason," he said. "This is the nexus of agriculture and the environment. I can't think of anyplace I'd rather be. How do I have a bigger impact on our economy, the environment and the planet all at one time? Simple as that."

continued on page 37...



News





Scan the QR Code to learn more about Weber's history with biodiesel and why he is proud to be part of Clean Fuels Alliance America.









RECOGNIZING RETAILERS

BY SAMANTHA TURNER

What started with a rich history in Missouri has grown to be a 3-billion-gallon industry nationally, with consumer demand coast to coast. With investments from the farmer-leaders who created the fuel, biodiesel is now becoming readily available

in each corner of the Show-Me State. In March, as the much of the industry celebrated National Biodiesel Day, Missouri Soybeans applauded the retailers who work hard to distribute the soybean-based diesel.

"There are nearly 300 retail locations across Missouri offering biodiesel blends, and biodiesel capacity has reached more than 240 million gallons of production capacity," said Matt Amick, Missouri Soybeans director of biofuels and new uses. "With demand continuing to grow, we will be able to get biodiesel into more tanks."

A few of these retailers and fuel suppliers including Casey's General Store, Deluxe Truck Stop, MFA Oil and Ozarks Petroleum all shared why they are selecting biodiesel for their locations and why consumers should fuel up at the pump. Check out each of their stories by scanning the QR-code.



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