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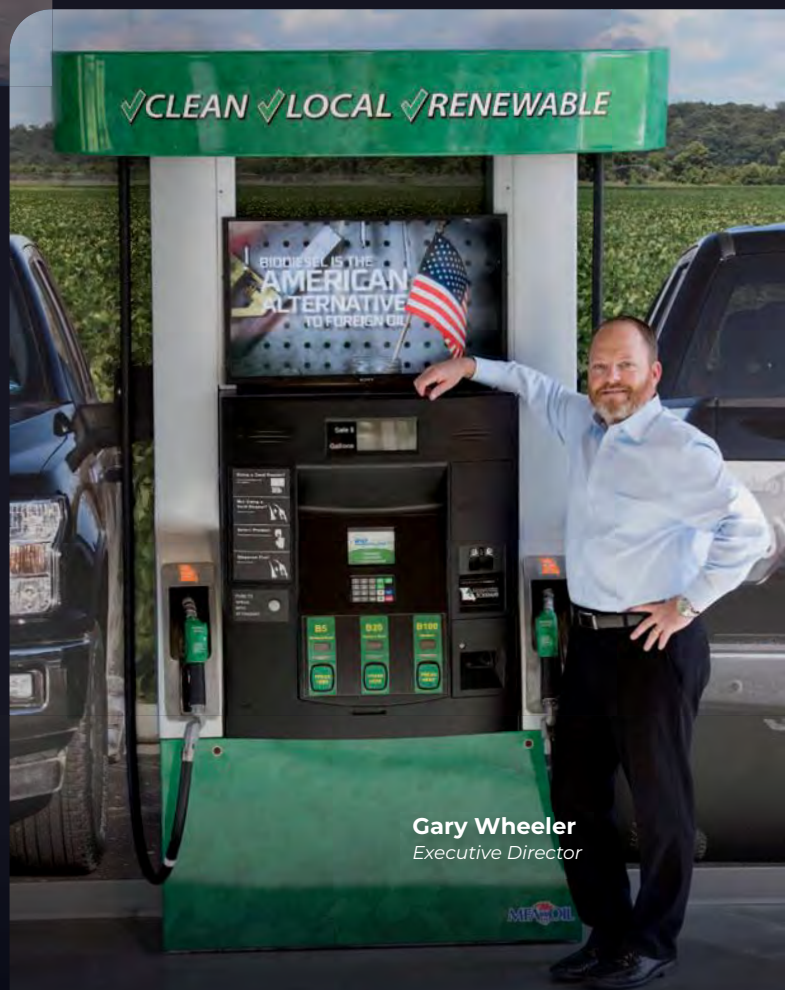
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Gary Wheeler
Executive Director

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MISSOURI Soybean Farmer

OCTOBER 2021 | VOLUME 25 | ISSUE 5

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« Cover Shot

The Robert Alpers Farm in Prairie Home, Missouri, is a beauty during harvest as seen on the cover in an image shot by Scott Biggerstaff of High 5 Communications.

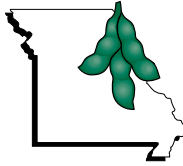


Missouri Soybean Association

734 S. Country Club Drive Jefferson City, MO 65109 | Phone: (573) 635-3819 | www.mosoy.org

Missouri Soybean Farmer is published six times annually and is an excellent opportunity to reach row-crop farmers. Contact Dave Larson at (515) 440-2810 or dave@larsonentllc.com for advertising information.

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From The Field

Notes from Missouri Soybeans' leadership team

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C. Brooks Hurst, Tarkio
Matt McCrate, Cape Girardeau
Ronnie Russell, Richmond

The harvest rush is upon us. My hope is that you've had a healthy and safe harvest season up to this point, and that it continues. The time has arrived for Missouri soybean farmers to reap the fruits of their labor. Some crops across the state will be good, some not so good. We have battled Mother Nature this year, just as we do in most growing seasons. Thankfully, we are experiencing better prices today than in years past to help make up for it.

Several years ago, the Missouri Soybean Association fought for an increase in grain-hauling weight limits during the harvest season. A 10% increase was granted, helping us expedite harvest amidst waiting in those long lines at elevators and grain terminals. It's policies like these we must keep in mind during this time.

In Missouri, we have a U.S. Senate seat up for election in 2022. When considering candidates at both the state and national levels, it's important we think about our soybean ideals and what our elected officials do to support those and our farmers.

As harvest pushes on, I wish each of you a happy season filled with family, friends and, of course, good soybean yields. Thank you, and take care.

Ronnie Russell - Missouri Soybean Association President



As our soybean family has grown and evolved, innovation remains at the forefront of decisions made. Recently elected to a second term as your chairman, I deeply appreciate this priority and plan to do my part in ensuring it continues.

From recent growth in SOYLEIC™ high-oleic soybean oil to the new uses for soy showcased at the Center for Soy Innovation, checkoff investments are coming full circle this harvest. Whether it's new conservation practices, weed-termination techniques or soy-based products like biodiesel increasing demand, the farmer-leaders of the Missouri Soybean Merchandising Council (MSMC) have worked hard this season to make decisions that support the crop we'll be harvesting in the coming months.

In this way, the legacy of MSMC lives on. I am grateful for the opportunity to continue leading the board in supporting Missouri's soybean farmers through your checkoff. Have a safe and happy harvest.

Kyle Durham - Missouri Soybean Merchandising Council Chairman



Letter from the Executive Director

What is equally important to the checkoff investments, policy work and lobbying on your behalf here at Missouri Soybean? The answer is simple: building relationships and connections. Whether representing the Association, Merchandising Council or Foundation, the way we connect with our soybean farmers directly impacts how we serve them best.

Throughout August, we hosted pre-harvest soy socials in each of our soybean districts across the state. We shared a meal with Missouri's soybean farmers and industry partners while catching up on policy/politics and checkoff updates. We not only enjoyed meeting soybean growers at these events, but we also answered questions and addressed concerns brought up by the crowd or individually. I look forward to continuing these conversations at events to come.

Just as our farmers are in the midst of the harvest rush, things are staying busy at Missouri Soybean. Besides making sure we keep our export markets, we've been showcasing soy innovation at work for domestic use. Though some favorites have been high-oleic soybean oil fish fries at field days and soy doughnuts served at events, our research priorities extend well beyond food to innovations such as soy-based golf balls, state-of-the-art soy-based battery technologies and soy-based concrete and asphalt sealer.

As you dive into this harvest and have some windshield time in your combine, I encourage you to think about improvements in the industry you'd like to see. Maybe that's deeper research into a certain cover crop. Maybe it's a lesson to fill the gap in consumer education you've noticed in your community. Maybe it's even continuing research into new uses for soy or breaking into emerging markets. This feedback is important as we push forward in supporting your bottom line.

While our team carries out the priorities set by the boards' members, your Missouri Soybean organizations are truly farmer-led. Each farmer-leader brings feedback from their fellow growers in their area. Some issues will be filtered to the Merchandising Council where your checkoff dollars will be put to work. Others will be looked at through a policy lens by the Association. Either way, my staff and I work hard to be laser focused using your feedback provided by our boards of directors. We're here to serve you!

Thanks for all that you do for our state and country. Good luck and have a safe harvest.

God Bless.



Gary Wheeler
Executive Director / CEO
Missouri Soybean Association
Missouri Soybean Merchandising Council
Foundation for Soy Innovation





Casey Wasser serves as the Chief Operating Officer and Senior Policy Director for the Missouri Soybean Association and Merchandising Council. He represents Missouri soybean farmers on policy issues at the state and federal levels.

Soybean Policy Update

Although the summer is quickly drawing to a close, the Missouri Soybean Association hasn't slowed down one bit. The past several months have been full of opportunities that have helped our team work toward fulfilling our mission to the Missouri soybean farmer. Our mission has always been leading Missouri soybean producers into the future through legislative advocacy, communication and outreach. Each and every day, we make an effort to put this mission at the forefront of our minds as we represent the over 34,000 soybean farmers in Missouri on the state and federal levels. Looking forward, there is still much to be done as we begin gearing up for next spring's legislative session. However, there is also much to be proud of as we reflect on our summer as an association.

On Aug. 13, local producers and MSA board members joined Rep. Jason Smith for breakfast at Rost Farms in New Madrid, Missouri, as a stop on his Summer Farm Tours. This was an opportunity to touch base with the congressman about policies that directly affect our farmers.

President Biden's proposal to nearly double the capital gains tax is a threat to family farms across the nation. Agricultural families work for years to pay off their properties in hopes that their children can one day continue to farm the land, without burdening them with

mountains of bills. By increasing the capital gains tax to as much as 39.6% and requiring the taxes due at the owner's death, the next generation of farmers who inherit land and equipment will struggle to run financially profitable operations. This tax increase will also make it difficult for young producers to begin farming.

Another issue our farmers brought to the congressman's attention is the labor shortage in their areas. When looking at a profitable farm model, dependable labor is a key element to its success. Labor shortages in rural areas impact family farms in every aspect of their day. For many of these families, dependable labor is an essential part of their operation's longevity. The inability to find reliable, capable workers threatens the success upon which their livelihoods depend. Shortened planting and harvesting windows due to limited available laborers affect annual yields, which determine the trajectory of the family's operation.

In July and August, we had a terrific turnout for our summer SOYPAC golf tournaments in Richmond and Dexter. Both were huge successes and helped raise more than \$32,000 for our SOYPAC. Our association's priorities when it comes to legislative advocacy are always to protect and promote the interests of our soybean farmers. The SOYPAC helps us do that effectively through providing funds that can support candidates and legislators who know our farmers and have their best interests in mind. Our summer golf tournaments are an awesome opportunity to raise funds while enjoying the (usually) beautiful Missouri weather and talk about issues that really matter to our members and industry partners. Whether it be federal or state, supporting the SOYPAC is supporting the soybean farmer.

“When looking at a profitable farm model, dependable labor is a key element to its success. Labor shortages in rural areas impact family farms in every aspect of their day.”

-Casey Wasser



MSA board members joined Rep. Jason Smith at Rost Farms in New Madrid, Missouri.

In federal news, the Environmental Protection Agency held the first of several public meetings regarding the Waters of the United States rule. Farmers across the country are demanding that the new WOTUS definition be practical when referring to the waterways that directly affect their day-to-day operations. Most states, including Missouri, currently have effective and efficient state-level water-quality protection programs implemented. These programs allow these states to successfully monitor their waterways and set regulations based on their specific needs. The broad, “one-size-fits-all” proposed regulations disregard key geographical differences in waterways and their uses throughout the United States.

Missouri uses a public GIS map-based dataset that monitors all of our lakes and streams, meaning that anyone can quickly access the water's classification through the Department of Natural Resource's webpage. Utilizing technology makes the jurisdictional determination process accessible, predictable and efficient versus unrealistic, bureaucratic rules that require teams of consultants and lawyers to wade through. Leaving adjacent and upstream water features to state authorities clears the way for federal authorities to handle navigable and relatively permanent water features, resulting in fewer headaches for our farmers.

The Missouri Department of Transportation recently received one of six Marine Highway Project designations in order to initiate a container-on-barge service on the Missouri River. The designation was provided by the U.S. Department of Transportation's Maritime Administration as a part of their America's Marine Highway Program. The container-on-barge

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project will expand the abilities of Missouri's inland waterways, including transporting goods from ventral Missouri to international markets in the Gulf of Mexico as soon as 2022. Container-on-barge services can help move Missouri goods in a more environmentally friendly way than the rapidly growing rail container method. In late August, the U.S. House passed a \$3.5 trillion budget resolution and pushed forward a \$1 trillion bipartisan infrastructure bill after a long stalemate that threatened to wreck the Democratic party's agenda. Speaker of the House Nancy Pelosi and the Democratic majority set a deadline of Sept. 27 to pass the bipartisan infrastructure bill in hopes that it will boost the economy and refresh our nation's transportation and utilities.

The international soybean markets are growing as the Government of India

officially opened its markets to soybean imports as of late August. They are now allowing products made from genetically modified soybeans. This is a big win for U.S. soybean producers, as India has been against genetically modified crops in the past. They will import close to 1.2 million metric tons of soybean to provide feed for pork and poultry production. China has also continued making large purchases of U.S. soybeans, importing roughly 263,000 metric tons in early August. These large purchases helped soybean prices rise to the highest they had all summer.

Biofuels continue to be a priority for MSA. USDA announced a \$26 million



MSA staff members meet with U.S. Sen. Josh Hawley.

investment in biofuels infrastructure. They hope to expand the availability of higher-blend renewable fuels at fueling stations. This funding will help increase the use of biofuels coming from U.S. grown agricultural products. It is also seen as an opportunity to prioritize climate-smart solutions that go hand in hand with President Biden's goal of zero carbon emissions by 2050. The project will invest in 23 states, including Missouri, California and Wisconsin, with an expected end goal of increasing biofuel sales by 1.2 billion gallons annually. ■



A grain barge passes through Jefferson City on the Missouri River.



YIELD [++] EXPERIENCE



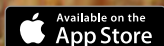
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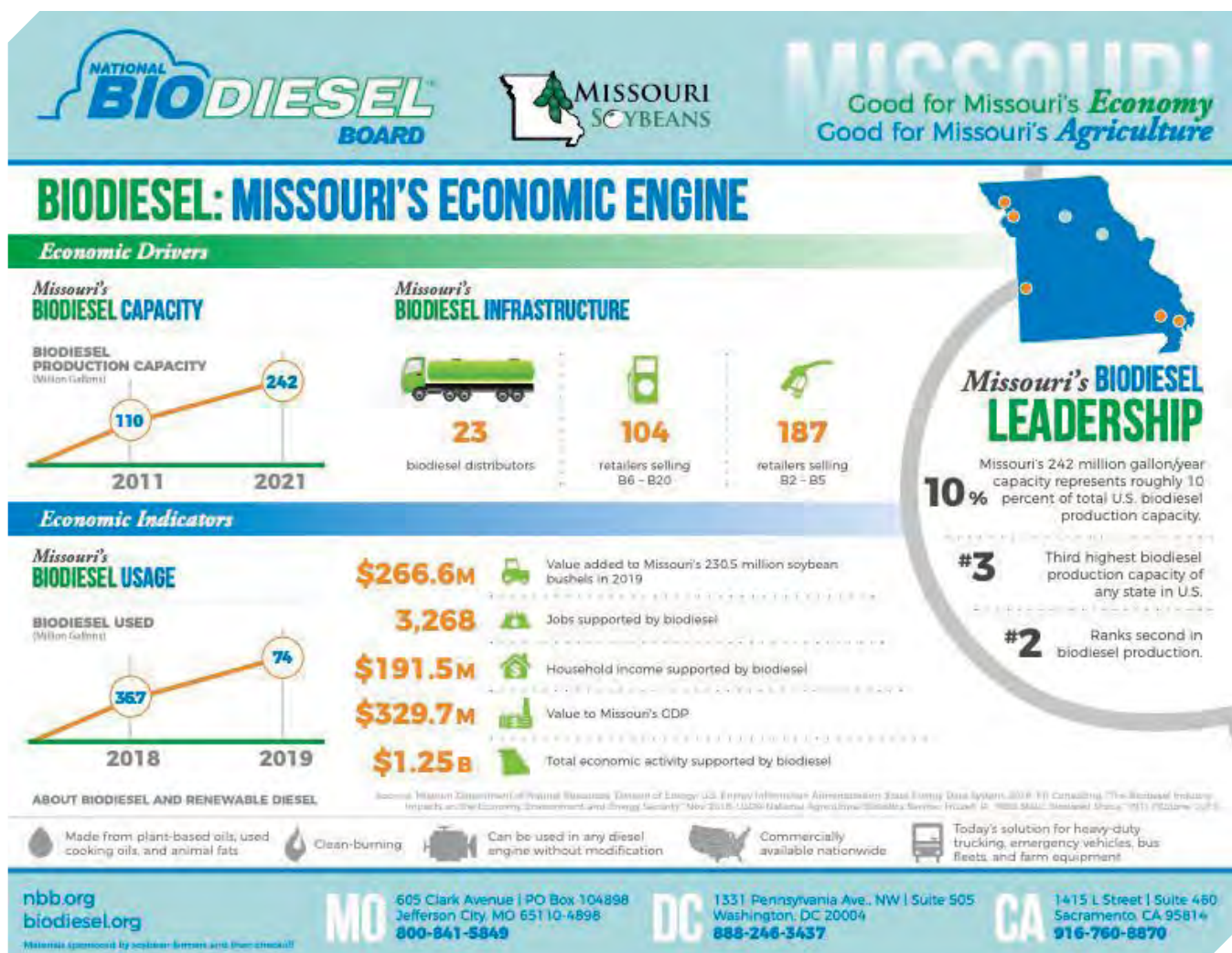
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The Economic Impacts of Homegrown Biodiesel

From higher commodity prices to jobs, taxes and so much more, the benefits biodiesel brings to the local, state and national economies are widespread and varied — and they continue to evolve.

By Ron Kotrba

RonKo Media Productions

From an economic standpoint, the beauty of biodiesel is an ability to source feedstock, as well as the opportunity to manufacture, transport and consume the fuel domestically, regionally or, in many cases, even locally. This, of course, allows the numerous economic benefits up and down biodiesel's value and supply chains to stay within the community, region or country. Rare-earth minerals and solar panels, for instance, are vital to America's emergent push toward electrification, but these are often mined and manufactured overseas in sometimes adversarial nations.

On the other hand, Missouri farmers grow soybeans and can have a significant ownership stake in the processing and refining of those locally sourced oilseeds into soybean meal, a high-

“The added value biodiesel brings to a bushel of soybeans in Missouri, and the entire nation, has a huge impact.”

-Ronnie Russell

protein animal feed that can then be sold to local livestock producers; soybean oil, an increasingly valuable commodity that satisfies food and fuel needs; and biodiesel further refined from that bean oil, which can be — and more and more in Missouri is — sold and consumed within the state. Furthermore, aspects such as the transportation of those goods must also be considered, as well as a plethora of other ancillary benefits, ranging from taxes that benefit the state and communities to the local spending of wages at neighborhood shops, restaurants and stores.

Like an intricate web, this remarkable network touches a wide array of points all the way to the periphery, but at the center lies the spider that made it. In the case of biodiesel, the one at the center of this economic web is the farmer.

State Economics

In 2011, Missouri had the capacity to produce 110 million gallons per year (mgy) of biodiesel. Nine years later, this figure nearly doubled, reaching biodiesel production capacity of 216 mgy in 2020 — helping secure a Top 3 spot among states in both actual production and capacity.

Even more impressive, Missouri has recently taken great strides in increasing its consumption of biodiesel, helping retain all the economic — not to mention the health and environmental — benefits associated with its use, which is the last piece of the economic puzzle in the value chain. In 2018, Missouri consumed less than 37 million gallons of biodiesel, according to information gathered and presented by the National Biodiesel Board from state, federal and private sources. One year later, consumption of biodiesel doubled to 74 million gallons.

As a result of this in-state production and consumption of biodiesel, Missouri benefitted from \$1.25 billion in total

economic activity supported by biodiesel in 2019. Nearly \$192 million in household income and 3,268 jobs were supported by biodiesel in the state. The mean average of this household income per job approached \$60,000.

“With the exception of a few, most of those jobs are in rural areas,” says Ronnie Russell, president of the Missouri Soybean Association. “Those areas suffer a lot when it comes to good jobs. By employing those rural residents in good, beneficial jobs, the money they bring home and put back into their community has a big economic impact in Missouri.”

Alan Weber, a longtime advise to NBB and partner at the MARC-IV consulting firm, says, “The jobs you do see at biodiesel production facilities — particularly those in communities of 12,000 or even 25,000 people — the salaries of these positions are good. From a tax standpoint, that’s a positive.” Naturally, the taxes collected help the local community pay for everything from schools and infrastructure to emergency services.

The economic impact biodiesel has on the state of Missouri includes \$267 million in added value to the more than 230 million bushels of soybeans Missouri farmers harvested that year. The percentage increase touted most often in recent years is 13% — that is the price rise farmers reap from each bushel of soybeans thanks to biodiesel.

“The added value biodiesel brings to a bushel of soybeans in Missouri, and the entire nation, has a huge impact,” Russell says. “Those are some things that Missouri farmers, and Midwest farmers

in general, really don’t look at when they see the increased value. A lot of soybean oil will be used for biodiesel production. Subsequently, the meal that’s been produced from crushing goes into the livestock feed chain as supplemental protein meal, so biodiesel also helps reduce livestock producers’ costs.”

Historically, no one planted soybeans for the oil. It was a byproduct of soybean meal production and did not drive the market. But with more recent demand from biodiesel and other diesel fuel alternatives, this may be changing.

The economic argument Russell makes about reducing livestock feed prices goes something like this. Biodiesel production increases, which provides a return on the oil byproduct and improves the overall profitability of soybeans and soybean processing. The oil is no longer a drag on the market. As biodiesel production continues to increase, soybean oil demand also continues to rise. Soybean crush rates increase. With oil constituting only about 20 percent in soybeans, the

main product of bean processing — the other 80% — is protein meal. So, for every ton of soybean oil produced, which can make roughly 260 to 270 gallons of biodiesel, 5 tons of soybean meal is generated. Thus, if oil begins to drive planting and crush rates, this will generate more protein meal and therefore lower feed and livestock production costs. Under this scenario, soybean prices could still rise but there may be a shift in the balance of value between the oil and the meal. The oil may increase in value while the meal could decrease.

“By just producing biodiesel, this adds to lower feed costs for livestock producers,” Russell says. “Soybean meal is a major source of protein for livestock, in particular the poultry and swine industries.”

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To follow the trail of economic benefits even further, lower livestock production costs could lead to lower meat prices for consumers. Moreover, the effect could initiate livestock producers to raise more chickens and pigs, which continues to lower the prices and adds to the availability of more feedstocks for biodiesel production, such as poultry and choice white greases.

When one just begins to scratch the surface of this phenomenon, it is easy to see the wide-reaching effects biodiesel has on the economy. Overall, the biodiesel industry added \$330 million in value to Missouri's gross domestic product (GDP) in 2019.

National Economics

On a broader level, this same profound economic impact from the U.S. biodiesel industry is seen nationally. According to a study released in August 2019 that was commissioned by NBB and conducted by LMC International, the biodiesel industry generated \$17 billion in total economic impact, 65,600 jobs, and \$2.5 billion in wages paid in 2018. The analysis was based on the 2018 market of 2.5 billion gallons of biodiesel and renewable diesel consumed in the U.S. that year, 87% of which was domestically produced while 13% was imported.

The mean average wage per job surpasses \$38,000. Nearly 38% of those 65,600 jobs generated as a result of the U.S. biodiesel industry — representing the single-biggest chunk by far at 24,700 — was in oilseed production, i.e., farming. Nearly a quarter of the total number of jobs, or 16,000, was directly related to biodiesel production. And 8%, or 5,200, was in the oilseed crushing subsector.

“Crush margins are healthy now,” Weber says. “But if we were to look back in history when biodiesel was expanding and plants were being built, they were not as good then.”

In some cases, co-locating a biodiesel plant with a crush facility may have even saved oilseed processing centers from closure. In these instances, growers benefit because they still have a local



crush plant to deliver their crops to, but also because the basis — the difference between the futures price and the local cash price — is typically stronger when an ag-processing facility is located nearby.

Also, keeping a crush facility operating not only prevents job loss, but it also avoids a shortage of cost-effective protein meal feed, which then of course has a rippling effect into the livestock-producer side, consumers, area equipment dealers and elsewhere up and down the chain and throughout the community.

With U.S. hydrotreated vegetable oil, or “renewable diesel,” production capacity on a precipitous rise, the economic effects of a 4-billion-gallon market of

domestically manufactured biobased diesel — both methyl ester biodiesel and hydrotreated renewable diesel — is worth considering. LMC International investigated this scenario in its study. Total economic impact under this hypothetical situation would reach \$21 billion, 81,700 jobs generated and \$3.1 billion in wages paid.

One important aspect to note about the LMC International study is the price of soybeans and soybean oil. “Subdued prices are a continued theme in agricultural commodity markets,” the study states. “This weighs on the prices for vegetable oils and oilseeds, which remain near their lowest levels since 2009. When commodity prices move beyond their current lows, we can expect the economic impacts of the

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biodiesel industry to rise, especially in the farm sector.”

Soybean and soybean oil prices skyrocketed in early 2021. Considering a ballpark average of 30 cents a pound (give or take) for soybean oil in 2018, prices in the first half of 2021 more than doubled. While prices retreated in June, the inflated economic impact as a result of higher prices should not be discounted. While no one knows what the long-term effects of shifting market dynamics and global weather patterns will have on prices, based on LMC International’s statement, it is safe to say that given the lows of prices when the study was conducted and the highs seen in 2021, the impacts of biodiesel on the economy are likely far greater than what LMC International concluded.

Economic Benefits of Carbon

Many of the world’s advanced, industrialized economies are moving toward a goal of net-zero carbon emissions to mitigate climate change. As progressives in the U.S. federal government are steering policies in this direction now, many of the policymakers and regulators appear to be singularly focused on electrification as the most important means to achieve their climate goals.

Meanwhile, the western U.S. states of California, Oregon and, most recently, Washington have enacted low carbon or clean fuel standards, which establish reductions in the carbon intensity (CI) of fuel. In simple terms, the market places a price on carbon and, conversely, a value on carbon reduction in order to help meet these targets. In California, for instance, a gallon of waste-based biodiesel with a very low CI score may bring an additional \$2 a gallon in carbon-credit value. Many other state legislatures and regional coalitions are considering similar programs.

Soy biodiesel can reduce lifecycle greenhouse gas emissions by more than 50% compared to the baseline petroleum diesel fuel, while some waste-based varieties can achieve nearly 90% reductions. Thus, what has emerged from these types of programs is an

“In terms of not GDP or jobs but carbon, being able to have a technology such as biodiesel or renewable diesel that has significant carbon reductions, and can do that now, we are better off from a societal standpoint to do what can now reduce carbon versus waiting five to 20 years to get significant market penetration from electrification.”

—Alan Weber

economic value directly attributed to the ability of biodiesel to reduce carbon emissions.

“I look at this nationwide, and I see what other states are doing, and I think right now the political environment is such that we in the agriculture industry need to start pushing this to those who are promoting a green environment and lower carbon,” Russell says. “We have the ability to produce this in the U.S. — a clean, low-carbon fuel that’s not electric.”

Russell says politicians must continue to be educated about the environmental and economic benefits of biodiesel. “For us in agriculture, so many times we find ourselves in a defensive rather than offensive mode,” he says. “We should be the driver of these ideas rather than trying to catch up.”

He points to politicians’ focus on electric vehicles and battery technology. “Sure, it sounds great to people, but you need a way to produce the energy to charge the batteries,” Russell says. “But what are we going to do when the batteries are done? What environmental impact does that have? We have the ability to manufacture a product right now — biodiesel — that is renewable, environmentally and economically friendly, reduces carbon and creates and sustains jobs, so why aren’t the politicians and regulators looking at this more seriously? It’s a win-win for both sides of the political aisle. It boggles my mind.”

Weber points to an important calculation emerging from the biodiesel sector and being heavily promoted by the NBB, which relates to what’s called

“the time-value of carbon.” Essentially this argument boils down to how, in the battle against climate change, it is more effective to implement some carbon-reduction measures now than to wait years to put in place greater carbon reductions later. It is, for example, like financial investments and compounding interest. The ill effects of carbon get exponentially worse while waiting for that silver bullet.

“There is an intense focus on electrification, for light-duty applications specifically, but even for heavy-duty markets as well,” Weber says. “But when you think about the amount of time it takes to electrify various segments, especially heavy-duty legacy vehicles, if we waited for electric vehicles to reduce carbon, then this could take decades. Think about how carbon works in the atmosphere. If you put a ton of carbon in the atmosphere, it stays there a long time. So, in terms of not GDP or jobs but carbon, being able to have a technology such as biodiesel or renewable diesel that has significant carbon reductions, and can do that now, we are better off from a societal standpoint to do what can now to reduce carbon versus waiting five to 20 years to get significant market penetration from electrification. That, in my mind, is a focus that really needs to get out there. As an industry, we are trying to tie that together and bring it back to the net-present value of biodiesel.”

Economic Impacts from Health Benefits

As shown so far, the positive economic impacts of biodiesel extend from the traditional, such as jobs, taxes and increased commodity prices for farmers,

to the more recent, nuanced carbon market. However, the economic effects do not stop there.

In April, the NBB released results from a study conducted by Trinity Consultants that show how switching from petroleum diesel fuel to 100% biodiesel (B100) provides a number of health, productivity and economic benefits at the community level. The study uses EPA air dispersion modeling tools, health risk assessments and benefit valuations to quantify the public health benefits and resulting economic savings of this switch to B100 in 13 disadvantaged neighborhoods exposed to high rates of diesel exhaust pollution, whether from transportation or oilheat.

The Trinity work demonstrates that switching to B100 for home heating oil and transportation would bring the 13 areas looked at 340 fewer premature deaths, 46,000 fewer lost workdays, and \$3 billion in avoided healthcare costs per year. In the transportation sector, benefits included a potential 45% reduction in cancer risk when heavy-duty trucks such as semis use B100, and 203,000 fewer or lessened asthma attacks. When B100 Bioheat® fuel is used in place of petroleum heating oil, the study found an 86% reduced cancer risk and 17,000 fewer lung problems.

The study also considered the economic benefit of fewer asthma cases, reduced activity due to poor health or poor air quality, and work impacted due to sick days. The project quantifies 220,000 fewer asthma attacks as having \$12.8 million in economic savings per year, most of which (\$11.8 million) is from the transportation sector. The 269,000 fewer restricted activity days, meaning affected individuals can get more

exercise, equate to an economic benefit of \$18.5 million, with \$17.1 million of that on the transportation side. More than \$8 million in economic benefit derived from greater productivity was realized from the 46,000 fewer sick days achieved with B100.

As impressive as these numbers are, they only represent the economic advantages that stem from switching to B100 in the 13 disadvantaged communities explored. Obviously, the health benefits — and the positive economic impacts associated with them — would be far greater when implemented on a much broader scale.

Other Economic Effects

From an oilseed-producer standpoint, Weber says a lot of economic focus is on the added price per bushel biodiesel brings to the table, but there is another important but often discounted benefit. “We now have a natural hedge against energy inflation,” he says.

Before biodiesel, when petroleum prices would go up, the price of farming inputs — diesel fuel and fertilizer, for instance — would also rise. This makes sense because those inputs are fossil based. At the same time, however, surpluses in agricultural commodities such as soybean oil in the late 1980s and early 1990s before a commercial biodiesel industry was established, or corn before ethanol, would drive grain and oilseed prices down. Margins were obliterated.

“Those points in history don’t exist anymore,” Weber says. Why? Because soybean oil has an established energy value today. Now, if diesel fuel and fertilizer prices rise, then so does the price of biodiesel and, thus, soybeans and soy oil also increase in value.

“People don’t intuitively think about what a benefit this is,” he says.

Not only does biodiesel provide a natural hedge against energy inflation, but it also acts as a buffer from other market catastrophes, such as the precipitous move away from trans fats in food due to health concerns. Hydrogenation prolongs shelf life and improves the taste of processed foods, but it produces trans fats in vegetable oils such as soybean oil. When food manufacturers began removing them from their products many years ago, if that 4-billion-pound drop in demand was not backfilled by biodiesel and more recently renewable diesel, “the past decade could have been so different,” Weber says. “That’s an economic return to farmers as well.”

While biodiesel has been driving economic activity in Missouri for 30 years, who is driving biodiesel in Missouri and beyond? This is where the Missouri Soybean Merchandising Council, Missouri Soybean Association and, nationally, the American Soybean Association, United Soybean Board and NBB all come into play. MSMC, after all, is credited for launching the American biodiesel industry with its investment in 1991 to research the fuel.

Russell has been involved in MSA, on the board and now as president, for more than 10 years. “Before that, I was aware of the Missouri Soybean Association but I did not truly understand the impact the organization makes on the day-to-day activities of Missouri farmers,” he says. “Many farmers don’t realize the amount of time and effort they spend to improve [farm economics]. Missouri Soy is about policy, advocacy and legislative action. I just wish farmers understood what those organizations do for them.” ■





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The Missouri Soybean Association has been fighting on behalf of our state's producers for more than 50 years and has produced countless wins on the state and national levels. From federal trade issues to taxation to supporting biodiesel and animal agriculture markets, MSA continues to support policy work that protects your freedom to operate and improve your bottom line.

As we head into 2022, your Missouri Soybean Association team will be focused on biodiesel and Farm Bill programs. To stay updated on these issues and make your voice heard, join or renew your MSA membership by visiting membership.mosoy.org.

Membership giveaway winner, James Sears, from Columbia, Missouri, was presented a new DJI Phantom Pro V2.0 by Gary Wheeler.



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Building Business for Beans

After overseeing domestic and international market development for Missouri soybeans since 2014, Tony Stafford calls it a career.

by Jason Jenkins

Mill Creek Communications

ABOVE: One of the last projects with which Tony was involved before retiring was the development of non-GMO high-oleic soybean varieties.

For most Americans, the standard U.S. passport is more than sufficient for a decade of globetrotting. Inside the pocket-sized booklet — with the U.S. coat of arms embossed in gold on its distinctive dark blue cover — travelers have 17 blank pages for stamping by border agents around the world. Yet, despite trips made for business, pleasure or both, many passport holders will see their travel documents expire with pages left unused.

Tony Stafford isn't one of them.

"Prior to this job, I had very few stamps in my passport, but international travel has been a big part of what I've done, at least prior to COVID-19," says Tony, who officially retired Aug. 31 after nearly seven years as director of business development and new markets for the Missouri Soybean Association and Missouri Soybean Merchandising Council.

"In less than four years, I actually ran out of pages in my passport and had to get a new one. It wasn't even close to expiring."

Tony joined the soybean team in the fall of 2014 and immediately began traversing the globe on behalf of Missouri's soybean producers. The list of nations he's visited is extensive: Japan, Korea, China, Taiwan, Vietnam, Cambodia, Myanmar, India, Sri Lanka and South Africa, to name a few. With every trip, he worked alongside industry partners to develop new relationships and new markets for the Show-Me State's top crop.

One of the 'Hicks from the Sticks'

It's been a journey Tony couldn't have imagined as a country kid growing up in southwest Missouri.

"I was born and raised on a diversified farm outside of Ava," he says. "We started

out as a dairy farm, and then my folks decided they'd like to have a day off. They got into broilers, then turkeys and eventually alfalfa."

Tony attended school at Bradleyville, a tiny district located in Taney County. "When I graduated, there were 91 kids in the whole school, from first grade through 12th grade," he says. "There were 13 in my senior class."

Though small, Bradleyville made Missouri sports history during Tony's tenure. He was a guard on the boys' basketball team in 1967 that captured the Class S state championship, losing only one game. The next season, the team went undefeated, repeating as champions. In all, the Eagles won 64 consecutive games — a state high school record that still stands more than a half-century later.

"My senior year, we beat the team from Parkview High, one of the bigger schools in Springfield, during a tournament over Christmas break," Tony recalls. "In the newspaper the following day, they called us the 'Hicks from the Sticks.' A guy named Leon Combs, who was from Bradleyville, wrote a book about our team, and that's what he titled it, 'Bradleyville Basketball, the Hicks from the Sticks.'"

In 2001, the Missouri Sports Hall of Fame inducted the 1967 and 1968 Bradleyville Eagles basketball teams. That year's class also included NFL running back Marcus Allen and University of Missouri legend Don Faurot.

Air Force and Agriculture

After graduating high school in 1967, Tony enrolled at Missouri State University for one year before joining the U.S. Air Force in 1968. His father, Harry, had served during World War II as a B-17 pilot.

"I spent four years in the Air Force, and I was overseas for three and a half

of those years," he says. "It was the Vietnam era, but I split my time between Japan and Thailand, which is where I met my wife, Chia. We've been married 51 years."

"In less than four years, I actually ran out of pages in my passport and had to get a new one. It wasn't even close to expiring."

—Tony Stafford

His service to his nation didn't end, however. Tony would spend more than 20 years with Missouri Army National Guard, serving in various capacities. During Operation Desert Storm in the early 1990s, his unit was deployed, and he spent six months in Saudi Arabia.

After college, Tony first found employment with MFA Incorporated. He completed the co-op's management

Once his active military duty ended, Tony returned to southwest Missouri to complete a degree in agricultural economics.

in Missouri, I had the option of moving to Iowa, but I didn't want to. That's when I came to work for the Missouri Department of Agriculture."

Adding Value for Farmers

Tony's first position with the department was as an auditor for Grain Regulatory Services, a program that licenses, bonds and audits grain warehouses and grain dealers, providing protection to the state's producers in case of insolvency.

"I would actually go out to elevators and physically measure the grain to verify that the inventory matched the records," Tony says. "I was there during some real tough times where we had to take possession of some elevators that weren't in compliance with the law. We sold the grain and tried to recoup any losses we could for farmers."

Tony would move from grain auditing to what is now known as the Missouri Agricultural and Small Business Development Authority (MASBDA),



Matt Amick, director of biofuels and new uses, has worked closely with Tony during the past few years and will assume many of his responsibilities for business development.

training program and would oversee the exchanges in Fulton and Cedar City, just across the river from Jefferson City. "I left MFA to work for an agribusiness insurance company that wrote policies for facilities such as grain elevators, feed mills and fertilizer plants," he says. "When the company quit doing business

eventually retiring as the program's executive director in 2014. Overseen by a commission of citizens appointed by the governor, the authority administers programs that provide capital to Missouri farmers and agribusinesses

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through grants, loans, loan guarantees and tax credits.

“When I started with the authority, we had three programs: the beginning farmer loan program, an animal waste loan program and the alternative ag program,” Tony recalls. “When I left, we had grown to 12 programs. We always had the satisfaction of knowing that we’d helped someone move their farm or business forward.”

Tony’s time at the authority would coincide with the development of the biofuels industry in Missouri. “Whether it was an ethanol plant or a biodiesel facility, we were involved on the front end of all of those,” he adds.

Often, the authority provided grants to fund feasibility studies to a farmer or group of farmers who had an idea they thought could be profitable. Sometimes, these studies would reveal

“The goal was to sell more soybeans, right? In places like Cambodia and Vietnam where we’ve provided some funding for aquaculture projects, you can see the fruits of your labor. They realize the value of high-quality soybean meal and how it increases their production efficiency.” -Tony Stafford

them required pretty intense labor, and they just didn’t turn out to be the moneymaker that people were promised.” Beyond ethanol and biodiesel, Tony recounts many success stories through the years. He points out agribusinesses such as Shatto Milk Co. in Osborn and Martin Rice Co. in Bernie that, with MASBDA assistance, transformed commodities like raw milk and rice into products that moved their family operations up the value chain.

“My job also gave me a chance to learn about different types of agriculture than what I knew growing up,” Tony says. “Everything from pecans and earthworms to organic cotton, popcorn and aquaculture. It’s easy to feel good about the successes. To know that you helped someone better themselves is pretty satisfying.”

When Beans Beckon

After 29 years with the state, Tony was already eligible to retire when his phone rang in 2014. It was Gary Wheeler, who had only months before he assumed the helm as executive director and CEO with the Missouri soybean organizations. “Gary had actually worked for me at MASBDA earlier in his career, and we had kept in touch,” Tony says. “We went to lunch one day, and he offered



Tony and Ram Gupta, a researcher at Pittsburg State University, pose with a pillow that incorporates soy-based foam.

me the job as the director of business development. I thought it sounded like a terrific opportunity to try something different, so I accepted.”

Aside from filling up his passport, Tony has worked tirelessly the past seven years to create new markets and new uses for soybeans alongside industry partners, including the United Soybean Board, the United States Soybean Export Council and the American Soybean Association. He admits that while traveling halfway around the world can be brutal, his international work has been the highlight in his position.

“The goal was to sell more soybeans, right? In places like Cambodia and Vietnam where we’ve provided some funding for aquaculture projects, you can see the fruits of your labor,” Tony



Tony tours a tilapia farm in Cambodia in 2019, where a feeding trial funded by Missouri’s soybean checkoff was being conducted.

a viable business opportunity; however, this wasn’t always the case. In these instances, Tony says he also took pride in knowing his team had saved farmers from losing hard-earned money to a poor investment.

“In the Alternative Loan Program, we denied way more applications than we approved trying to protect producers from pyramid schemes and fly-by-night situations,” he says. “So many of

says. “They realize the value of high-quality soybean meal and how it increases their production efficiency.”

Tony adds that he also has enjoyed watching soybean board members gain a better appreciation for who buys the crop they produce. “For some, it was kind of an eye-opener, and I think they had a better idea of their responsibility as board members representing Missouri farmers,” he says.

At 72 years old, Tony says he’s looking forward to the next chapter in his life. He and Chia enjoy riding motorcycles, target shooting and spending time with their five grandchildren and one great-grandchild. They also enjoy traveling and plan to spend time in Chia’s native Thailand, perhaps even wintering there.

“When I renewed my passport, I ordered the bigger one with extra pages, so we’re good for a little while,” he says with a laugh. ■



In 2019, Tony and Missouri Soybean CEO Gary Wheeler visited a Vietnamese aquaculture project that had received business development funding, increasing the demand for high-quality soybean meal.

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HONOR WALL

Good news from those working on behalf of Missouri soybean farmers

Missouri Soybean Hires New Director of Communications

Turner to lead promotion and communication efforts for Missouri Soybean.

Missouri Soybean welcomes a new addition, director of communications Samantha Turner, to the staff. Effective Sept. 22, Turner assumed the role and responsibilities as the new communications lead.

Turner is no stranger to the organization. Through previous internship and work experience with Missouri Soybean, she is poised to serve soybean growers effectively in this position. Turner comes to Missouri Soybean from fellow industry partner, the National Biodiesel Board, where she served as the communications manager.

“We are excited and eager to welcome Samantha back to the Missouri Soybean team,” said Gary Wheeler, CEO. “I believe our members will benefit greatly from her professional and personal background working within the agricultural industry. Our board and staff are ready to see her vision for the program, leading the soybean association and checkoff to success, transforming the way we communicate with farmer, consumer and industry partners to better deliver for our soybean producers.”



Samantha Turner

In this role, Samantha will work to shape the growing soybean industry, as well as promote Missouri Soybean and its vision. She is responsible for the development of communication strategies for the team and plans to support the industry through content enhancing the soybean narrative.

“I look forward to returning to my roots within Missouri agriculture and serving soybean growers,” said Turner. “I believe this is an immense opportunity to share the incredible soybean stories from across the state and shape the soybean message with a collective voice.”


Samantha grew up on her family’s generational row-crop farm of corn and soybeans in Norborne, Missouri. She earned her bachelor’s degree in agricultural education from the University of Missouri in Columbia. After graduation, she returned to her alma mater to receive her master’s degree in agricultural leadership, communication and education.

Missouri Soybean’s communications program provides coordinated, consistent messaging for the soybean industry and helps defend against misinformation that would otherwise hamper consumer acceptance and growth. Samantha will serve as a vital spokesperson for the organization and effectively communicate with members, staff, media and the public to positively influence the perception of the modern feed, food and fuel systems.

The Missouri Soybean Association is a statewide membership organization working to increase the profitability of Missouri soybean farmers through advocacy and education efforts across the state. The Missouri Soybean Merchandising Council is a statewide, farmer-led organization focused on improving opportunities for Missouri soybean farmers through a combination of research, outreach, education and market development efforts through the soybean checkoff. To learn more, explore mosoy.org. ■

Fritschi Receives 2021 Chancellor's Award

Felix Fritschi, C. Alice Donaldson Professor in Bioenergy Crop Physiology and Genetics in the University of Missouri Division of Plant Sciences, received the 2021 Chancellor's Award for Outstanding Research and Creative Activity. The award recognized Fritschi for his outstanding research and teaching in plant physiology. His main research focus is on plant responses to abiotic stress. Specifically, he studies the effects of water deficit and heat on plant growth and productivity.

Learn more about Fritschi and the University of Missouri's College of Agriculture, Food and Natural Resources online at cafnr.missouri.edu. 




Felix Fritschi

Dru Buntin Named New Director of Department of Natural Resources

PGovernor Mike Parson announced Dru Buntin as the new director of the Missouri Department of Natural Resources (DNR) in early August. Buntin has served as the Deputy Director of DNR for more than four years.

His time as Deputy Director has been instrumental in leading the Department's Red Tape Reduction initiative, as well as drought response and flood recovery support efforts. He also worked closely with the late Director Carol Comer to strengthen partnerships with Missouri businesses, citizens, and communities to assist with and promote compliance with Missouri's environmental laws and regulations.

"I am honored and humbled to be appointed by Governor Parson to serve as the new Director of the Missouri Department of Natural Resources," Buntin said in a release by the Governor's office. "Five generations of my family have lived in Missouri, and I love this state. We have a great team at DNR, and I'm excited about what we can accomplish working together with communities across Missouri."

Learn more about the appointment and DNR at <https://dnr.mo.gov>. 



Dru Buntin accepts role as Missouri Department of Natural Resources director

Do you have good news to share about people working with soybeans and on behalf of soybean farmers across Missouri? Visit mosoy.org and Contact Us to send those stories our way to be considered for the Honor Wall in the future.

Country, Community and Crop Production



For nearly 50 years, one Rock Port soybean producer has answered the call to serve.

by Jason Jenkins

Mill Creek Communications

For 12 years, Cecil DeMott represented District 1 on the Missouri Soybean Merchandising Council.

If you ask him, Cecil DeMott will tell you he's been drafted twice in his lifetime. The first notice came in October 1972 in the form of a certified letter from President Nixon and the Selective Service System notifying him that he was "herby ordered for induction into the Armed Forces of the United States."

In the midst of the Vietnam War, Cecil says he knew the letter was coming. He just didn't know exactly when. "As far as I know, I was the last one in the county to get drafted," he adds.

Some 37 years later, a second notice to serve came as a bit more of a surprise. This time, the letter tucked inside his mailbox along a stretch of gravel road east of Rock Port in Atchison County wasn't from the federal government. Instead, it was from the Missouri Department of Agriculture requesting his biography.

"I had been nominated to run for the Missouri Soybean Merchandising Council, but I didn't know a thing about it until the letter arrived," Cecil says. "No one had told me anything. I didn't get asked to run for the board. I got drafted."

“I had been nominated to run for the Missouri Soybean Merchandising Council, but I didn’t know a thing about it until the letter arrived. No one had told me anything. I didn’t get asked to run for the board. I got drafted.”

-Tony Stafford

For the 69-year-old, the two experiences bookend nearly a half-century of service to his country, his community and his fellow crop producers. This past summer, Cecil completed his 12th and final year serving the state’s soybean producers on the MSMC board of directors.

“It’s been a great experience,” he says, noting that his tenure spanned three different decades. “I’ve met a lot of fantastic people, and I really feel like we helped make things better for soybean farmers.”

Town and Country

While Cecil has lived most of his life in Atchison County, he didn’t grow up as a farm kid. The DeMotts lived in Fairfax, where Cecil’s father was a butcher at the local grocery store, eventually opening his own meat locker. His mother kept the books for the Chevrolet dealership in nearby Rock Port.

“I was a town kid,” he says. “Money was tight, so everybody had to do what they could to make a dime. I had a paper route, but I did some farm work, too.”

College wasn’t part of Cecil’s plans after graduating from Fairfax High School in 1970. He surmised it was just a matter of time before Uncle Sam came calling, so he continued to work around home. Once he was drafted into the U.S. Army, he completed basic training at Fort Leonard Wood, eventually being assigned to the 3rd Infantry Division. His deployment took him to Germany for nearly 20 months.

“I was in transportation. We supplied ammunition, fuel and rations and delivered the mail to the units stationed at the U.S. training facilities there,” Cecil says. “It was the Cold War, but I’m just glad I didn’t go to Vietnam.”

Foray into Farming

After two years of active military duty,

Cecil returned home to Fairfax where he found a job working for the local farm co-op. Though he didn’t have ground of his own at the time, he says he learned a lot from the farmers as he chatted with them at the sales counter.

“You could get their perspectives on how things should be done,” he recalls. “Lots of different people with a lot of different ideas.”

Cecil stayed with the co-op for five years before being lured away by a higher-paying job with Eaton Corporation in Shenandoah, Iowa, where he built truck transmissions. While working at Eaton, he met Marlene Walter at a local high school basketball game. The couple married in 1984.

His wife’s family had a long history of farming in Atchison County, first arriving from Germany in 1865. During the century that followed, the Walters had accumulated about 1,000 acres of farm ground. Marlene’s parents farmed around another 400 acres, and by the mid-1980s, the newlyweds began working their way into the operation.

“I was working at the factory and Marlene was teaching, so we had cash flow to get started,” Cecil says. “I stayed with Eaton until 1989, just long enough to get vested in the pension program. We’ve been farming full time since.”

Avoiding Losses in the Loess Hills

The northwest corner of Missouri offers unique opportunities and challenges for farming. While the DeMotts manage some acreage in the Missouri River floodplain, most of

their farm ground is part of the rolling landscape known as the Loess Hills, a region along the river encompassing the westernmost parts of Iowa and Missouri and the easternmost parts of Nebraska and Kansas.

Loess is a wind-blown silt with its name derived from the German word “löss,” which translates to “loose.” The resulting soil can be highly productive for farming, but it’s also highly susceptible to erosion by both wind and rain.

“The ground here is like piling up a mound of sugar and spraying water on it,” Cecil says. “It just melts away. After Marlene and I got married, we got into terracing because we were just losing way too much topsoil.”

Terracing was only the first step toward ensuring their ground maintained its productivity. The DeMotts adopted no-till farming, and today, they’ve applied this practice across all their row-crop acres.

“To me, no-till is by far the biggest and best thing that ever happened to farming anywhere in this country,” Cecil says. “Now, we’ve started to add cover crops into the mix with our corn/soybean



The DeMotts farm about 1,400 acres in the Loess Hills Atchison County. Some of the ground has been in the family since the 1860s.

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rotation. We're trying everything we can to hold that soil and those nutrients in place."

But keeping topsoil in place is only part of the equation. A grower also must stay on top of the cost of production and sell grain at the right price, Cecil notes.

"Every morning, I spend about 45 minutes listening to market commentary and analysis, just trying to get a feel for where the market is going to go that day," he says. "It's something you've got to pay attention to if you're going to survive. It's just amazing how a penny here or there can be the difference between profit and loss."

Diversification within the farming operation also helps to spread out risk. The DeMotts have invested in off-farm ventures such as ethanol plants and previously operated a 100-head cattle herd. Then nearly 15 years ago, a unique opportunity presented itself when the Cow Branch Wind Energy Center was constructed.

"We have four of the wind farm's 24 turbines on our property," Cecil says of the Suzlon S88 turbines, each with a generating capacity of 2.1 megawatts of electricity. From base to hub, the turbines stand 260 feet above the soybeans growing below. Each blade is 140 feet long, nearly half the length of a football field. "When you farm, you'll have good years and bad years. The turbines add income to help counter the bad ones."

Service to Soybean Farmers

Though he may have been "drafted" into service with the Missouri Soybean Merchandising Council, Cecil says the dozen years he's spent on the board have made him a better farmer. He also has a greater appreciation for the value of the soybean checkoff program.

"I still run into people who don't even realize they're paying into a checkoff," he says. "So, trying to engage farmers and communicate everything to them can be a challenge. Nationwide, the checkoff



Cecil and his canine companion, Kara Jean, check on the progress of his corn crop in late August.

is a huge investment — \$80 million a year or more — and the farmer needs to be involved. It should be the farmers' decision on where the money goes and what's being done."

"I believe in community involvement, because if you don't have community involvement, you don't have a community."

—Tony Stafford

While the board achieved much during his time representing District 1, Cecil says there are certain notable accomplishments of which he is particularly proud. Among them are the creation of the Bay Farm Research Facility near Columbia, the reestablishment of the North Missouri Soybean Breeding Program, the development of Soyleic® high-oleic trait technology and the opening of the Center for Soy Innovation in Jefferson City.

"Nationally, I think there are more than 500 different research projects involving soybeans," he adds. "It's everything from asphalt to tires to batteries, so it's pretty exciting."

Focus on the Future

As the father of four daughters and grandfather to five grandchildren, Cecil is looking to take a step back from the day-to-day responsibilities on the farm. He admits that he's been "semi-retired" for a while now as his son-in-law, Chad Schomburg, has taken a more active role in the operation. Chad and his wife, Afton, live across the road.

"I do the paperwork and bookkeeping and let him do the heavy lifting," Cecil jokes.

As self-proclaimed snowbirds, Cecil and Marlene leave northwest Missouri behind each winter, opting to spend time in Florida before returning for planting season each spring.

In addition to ending his final term on the MSMC board in 2021, Cecil also bid farewell to representing Missouri on the 13-state North Central Soybean Research Program board of directors. Over the years, he's served his local community in many capacities, from his church and local school board to the phone company and even the farm co-op that once employed him.

"I believe in community involvement," he says, "because if you don't have community involvement, you don't have a community." ■



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Soy Solution Settles the Dust

by Jason Jenkins, Mill Creek Communications

Few images are as synonymous with rural living as a pickup truck traveling down a winding gravel road. Turn your radio dial to a country music station, and you're sure to hear a wannabe cowboy crooner embracing this supposed virtue of living off the beaten path.

Yet, look back beyond those tailgates they love to sing about, and you'll see trouble hanging in the air: dust. A choking cloud rises behind every vehicle, compromising both road safety and air quality. The dust blankets adjacent farms and fields, stunting crop growth. With every passing car and truck, the road surface literally blows away, requiring constant maintenance and replacement.

Now, thanks to the efforts of researchers and the investment of U.S. soybean producers through their checkoff program, a new soy-based solution is available to settle this dust. EPIC EL, a new product marketed by BioBlend Renewable Resources of Elk Grove Village, Illinois, offers a sustainable and environmentally friendly option for controlling so-called "fugitive" dust on rural roadways and beyond.

In August, the Missouri Soybean Merchandising Council (MSMC) coordinated with the University of Missouri and BioBlend to apply EPIC EL



Todd Allison, regional business manager for BioBlend Renewable Resources, opens a tote of EPIC EL dust suppressant. Roughly 187 bushels of soybeans are used to produce each tote.

on different types of road surfaces at two of the university's research farms: the Fisher Delta Research Center in Portageville and the Bradford Research Center in Columbia.

"Historically, these two research farms have played an important role in the advancement of soybean breeding and research in Missouri. They also both see a high number of visits from farmers, industry partners and university personnel, so they were

perfect places to demonstrate this new soy-based product," said Kyle Durham, MSMC board chairman and a soybean producer from Norborne. "It's just the latest chapter in the ever-evolving story of how soy can impact our everyday lives — often in ways we would have never imagined."

Solving the Dust Dilemma

According to the Federal Highway Administration, roughly one-third of roads in the United States — more than



Chuck Provance, farm manager at the University of Missouri Fisher Delta Research Center, checks the spray bar pressure while applying BioBlend's EPIC EL dust suppressant to a field road at the research farm.

1.3 million miles — are unpaved. In Missouri, that figure tops 50,000 miles. It's estimated that dust created by vehicles traveling on these roads equates to about one ton of lost gravel per vehicle per year.

To preserve gravel and combat fugitive dust — defined as dust emitted from nonpoint sources — maintenance crews historically have applied magnesium and calcium chloride brine solutions. While relatively inexpensive and easy to apply, these salt-based mixtures have unwanted attributes. They can be highly corrosive to both vehicles and road infrastructure while also causing concern about soil leaching and water quality.

"They also tend to perform poorly in dry conditions, which is when they are needed most," said Todd Allison, BioBlend regional business manager, noting that more than \$400 million is spent annually on the application of dust suppressants. "With EPIC EL, we're looking to overcome these problems with a nontoxic, sustainable product."

Research into this soy solution began in 2016 when Jim Bahr, a research engineer at North Dakota State University, began developing the base chemistry. His work received funding from the United Soybean Board and the North Dakota Soybean Council.

"EPIC EL is 98% soybean oil," Allison said. "It's made of both soybean oil and glycerin, a coproduct of biodiesel production. It takes about 187 bushels of soybeans to produce one 275-gallon tote of dust suppressant."

With a creamy consistency similar to whole milk, the odorless, water-soluble emulsion can be applied easily with a simple pressurized spray bar. Because it is nontoxic, it doesn't require any special handling or personal protective equipment.

"While every gravel road is different, we've targeted about a half-gallon of solution per square yard of road surface," Allison explained. "As the water evaporates, the product takes all that fine particulate material and essentially glues it together to stabilize the road. On a sunny summer day, EPIC EL cures in about 15 to 20 minutes, enough to where you can put road traffic back over it."

In testing during the past year, Allison said that EPIC EL performed comparably to commercially available chloride products, outperforming them in some cases, especially in very dry conditions. He said that although the soy-based suppressant is currently more expensive per gallon, county engineers and government agencies should consider total cost of ownership.

"Right now, soybean oil is at or near an all-time high, so it's going to be tough to compete dollar for dollar," he said, noting that use of soybean oil qualifies EPIC EL for federal procurement under the U.S. Department of Agriculture's BioPreferred Program. "However, when you look at the performance of the product, its longevity and its environmental benefits, we feel strongly that EPIC EL is a better value than the chloride products when it comes to improving air quality, traffic safety and sustainability."

Allison added that while the soy-based emulsion was created to treat gravel roads, BioBlend is exploring other markets impacted by fugitive dust.

"I grew up in northern Minnesota in the heart of the iron ore mining industry, and dust was always a problem," he said. "So, we're looking at applications in the mining industry, in the construction industry and other industrial and manufacturing sectors."



Soybeans comprise 98% of BioBlend's EPIC EL dust suppressant.

"In agriculture, we're looking at its use as a coating on fertilizer to minimize dust when transferring these products, as well as in the equestrian market to keep the dust down in horse arenas," Allison said. "Anywhere that dust is a problem, this product will work." ■

Watch a short video about EPIC EL dust suppressant at www.mosoy.org. To learn more about BioBlend's line of bio-based products, visit www.bioblend.com.

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