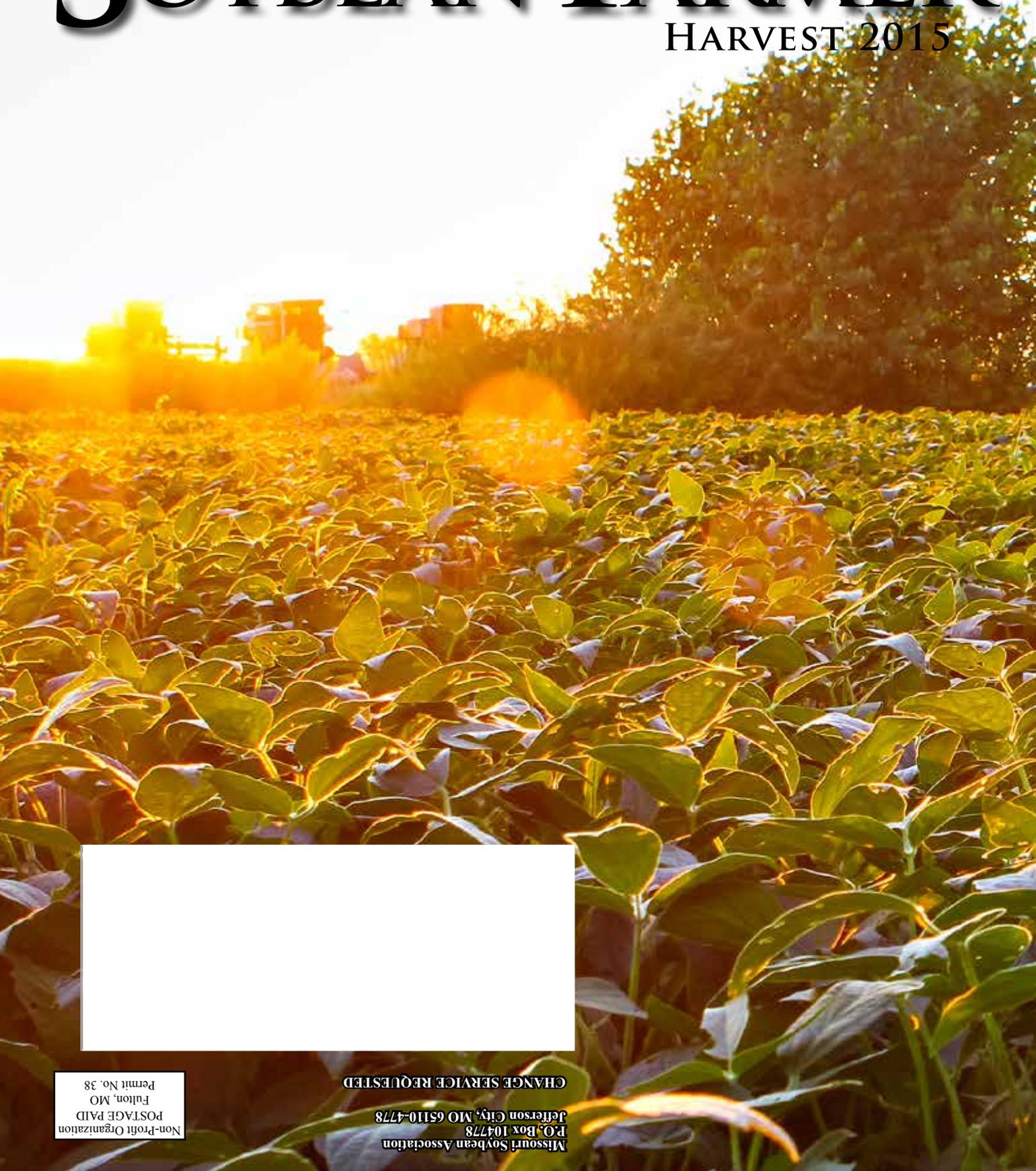


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COVER SHOT



This photo of sunset over a soybean field was taken at the University of Missouri College of Agriculture, Food and Natural Resources' Graves Chapple Research Center in northern Missouri.





FROM THE FIELD

Notes from Missouri Soybeans' leadership team

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Missouri's 2015 legislative session may be in the rearview mirror as we head into harvest, but now is the time we'll see some of the benefits from our work in Jefferson City. At the end of August, the 10 percent harvest weight waiver your Missouri Soybean Association and other ag groups worked so hard on this spring went into effect. It's predicted to save us somewhere around \$20 million and more than 80,000 trips down the road – and we don't have to go through the permit process for it.



That waiver is just one of the success stories from the Association's policy work to improve our bottom line as growers. There was also the \$5.975 million appropriated to pay down our biodiesel plant incentive fund for the coming year, additional dollars for soybean research and strong support from Attorney General Chris Koster on shutting down the EPA and Corps' WOTUS rule.

This work wouldn't be happening if it weren't for the commitments we make to our Soybean Association. The checkoff dollars we'll pay this fall and winter don't go toward these things. These accomplishments are a direct result of membership to the association and our PAC contributions. If you're not a member now, please take a minute to visit mosoy.org and renew, or give your staff a call at the office. We need you on the team.

Tom Raffety
Missouri Soybean Association President

During harvest, and going forward, I want to challenge each of you to spend a little bit more time with the people at your local elevator, the local co-op or dealer and those other small businesses in your community. They're the people that are going to be there to support the 4-H kids at fair time, the FFA chapter when fruit sales come around and all the young folks getting their start in agriculture. Odds are that they'll be the ones to pick up the local seed varieties and know about the area research plots too. They're also the people that are going to be there to work with us when times are tough – regardless of whether it's the weather or the markets that aren't cooperating.



When we talk about agriculture in Missouri, we often call it the 'agriculture industry' – and that's right, agriculture is a big business. In Missouri, there are more than 30,000 farmers participating in the soybean checkoff alone. But it's also a community. We work together and lend a hand when it's needed. After all, most of us who grow soybeans also grow corn, and many raise livestock and have kids in the 4-H and FFA programs too.

We have a lot of choices in this business, and I hope you'll join me in supporting those local people who support us this harvest season, and again when it comes time to make decisions for the 2016 crop. After all, we're all in this together.

David Lueck
Missouri Soybean Merchandising Council Chairman



LETTER FROM THE EXECUTIVE DIRECTOR

It seems like just about wherever we are in Missouri this year, if we're talking about the soybean crop, folks aren't too excited for harvest. It's been a rough year, there was a lot that didn't get planted, and yields won't be like last year – no doubt that's right.

There's no sense arguing that it's been a tough year to grow soybeans. Mother Nature didn't play nice in May and June. In most years, we don't think of July as planting season either. For the folks who got beans in the ground, August wasn't terrible, but disease pressure is still out there. And last year was a banner year – just about impossible to repeat even with good conditions.

There's also talk about the economy – input costs have kept climbing, market prices haven't. Land and equipment prices aren't dropping either.

There's plenty to worry about, to wring your hands over and complain about at the coffee shop or local co-op. That is, of course, if you want to.

The flip side of all this is best summed up in a nearly 100-year old quote from a cowboy comedian:

“The farmer has to be an optimist or he wouldn't still be a farmer.” – Will Rogers

In the 1920s and 30s, Will Rogers used satire to make folks laugh despite the hardships of the Great Depression and Dust Bowl. It was a tough time in agriculture and for our country, and there weren't quick or easy answers on how to change that. Farmers at that time didn't have anywhere near the resources we do now – from technology and modern equipment, to new varieties and the latest management practices, soil tests and market reports.

But Rogers didn't focus on those challenges. He knew something then that I think is critical that we keep in mind now – farmers are business owners. They are entrepreneurs, innovative and creative, and beyond everything else, they are determined. They're about finding ways to solve problems, not sitting in the rocking chair waiting for someone else to figure it out for them.

As in most businesses, the tough times and the banner years are cyclical. Not every year is a rough year. That's not to say farming isn't challenging – it's dang hard. But the good years come around too, and we're really good at making the best of those.

Last year, we broke yield records statewide (260.4 million bushels) and on the average acre (46.5 bu/ac). We saw our biodiesel production climb to nearly 200 million gallons. In 2013, Missouri's soybean acres were up to levels not seen in 30 years. Before that, we had a couple tough years – 2011 and 2012 saw flooding and drought in Missouri, sometimes both in the same county.

Looking back a little farther, to the late 2000s, the value of Missouri's soybean production climbed dramatically several years in a row. We stood up biodiesel production in our state, grew our soybean exports and invested in research that is paying off now.

We did really well. And we're in a position to continue doing well – even when Mother Nature doesn't always play nice. We're looking ahead – making smart decisions, investing in ourselves and taking advantage of opportunities to grow – like any good business owners would.

Challenging years like this one aren't any fun, but this too shall pass.

Above all, farmers are resilient.



Gary Wheeler
Executive Director / CEO
Missouri Soybean Association
Missouri Soybean Merchandising Council



Gary Wheeler

IMPLEMENTING WOTUS

WHAT THE EPA RULE REALLY MEANS FOR FARMERS



By Darrick Steen

Streams that only contain water when it rains will be regulated under the rule.

Wow, it was a rare summer day this year for the Environmental Protection Agency (EPA) to not make news headlines on some contentious issue. Waters of the US (WOTUS), Renewable Fuel Standard (RFS), Clean Power Plan, new greenhouse gas emission standards, new ozone standards... EPA's influence and impact on people and businesses seem to be reaching increasingly far and wide these days, an ever-growing concern for agriculture and other industries. It is quite an understatement to say that the latest actions out of EPA struck a major nerve for those involved in farming. Increasingly emboldened and brazened by their efforts, there seems to be no limit or boundary to what EPA or the federal government feels compelled to get involved in or claim authority over. While preserving our environment for future generations is an important mission that we all support and strive to achieve, one has to wonder, what could possibly be left for EPA to regulate? Does the expansion of EPA's water regulation finally end with this so-called Clean Water Rule otherwise known as WOTUS?

"Fool me once shame on you, fool me twice shame on me." You might be wondering what this pithy quote has to do with EPA's Waters of the US rule, but the underlying meaning behind this phrase is but one of the many reasons why agriculture, industry and business groups across the country have firmly held their ground in opposition to the rule, which has now been made final and became effective, at least for certain states, August 28.

EPA tells agriculture 'no worries', but are we to seriously believe that? EPA has repeatedly said that their WOTUS rule will not impact agriculture - that it will not create any new regulatory burdens for farmers, that it's all about providing clarity and certainty. EPA Administrator Gina McCarthy herself has stated publicly many times that "if you didn't need a permit before you won't need a permit under the new rule." While there may be some truth on the very surface of that statement, EPA is being disingenuous, if not covert, about the real facts and long term impacts and implications of this so-called clean water rule and it all starts with how the term "WOTUS" is used in federal and state regulations. So, let me briefly explain this.

The WOTUS rule by itself serves only to define a single term, albeit a term frequently used in EPA regulations. The action of defining the federal jurisdictional boundary of "waters" in the US is perhaps akin to defining the boundaries of a city. Seems simple enough, however, EPA continues to oversimplify this action by understating its impact, ignoring how the term WOTUS underpins nearly all of its other regulations and policies. What makes the WOTUS rule so dangerous is not the term or rule itself, but the countless number of complex and ever-changing regulatory programs, policy and court decisions that use the term WOTUS as its very foundation.

The fact is that the scope and the expansion of the waters regulated by the federal government under the Clean Water

Darrick Steen farms in central Missouri and serves as the director of environmental programs for the Missouri Soybean Merchandising Council.



Darrick Steen

Act (i.e., “WOTUS”) has enormous implications for nearly every other state and federal water pollution regulation, both present but more importantly future. WOTUS is arguably the single most important and impactful term in EPA’s hundreds, if not thousands, of pages of water pollution control regulation. WOTUS forms the foundation of most all other regulations under the Clean Water Act, so if you broaden WOTUS, you broaden all the other rules and requirements above it at the same time.

Impacts to agriculture? So what are some of these other regulatory policies that rely on WOTUS, and how will they impact agriculture? For starters it includes mandatory water pollution permits that are required for discharges of water pollutants and 404 permits, often referred to as dredge and fill permits, required if you add, remove or just disturb the ground in or around a WOTUS. Discharges of any type of pollutant, in any amount, into a WOTUS is generally illegal unless the discharge is authorized by a water pollution permit. This means that conducting any type of activity that causes nearly any type of material to be deposited into a WOTUS, like applying fertilizer or pesticides or just moving dirt or rock, would be a violation of the Clean Water Act and could trigger a permit requirement.

This fact would not be nearly as worrisome if EPA’s WOTUS was truly confined to just permanent ‘water’ features, but it’s not. WOTUS is as much about controlling

‘land’ features as it is about surface water features. It’s just that instead of EPA calling things as they are, they conveniently now call areas of land “water” in the rule. There is a reason that the word ‘land’ is part of the word ‘wetland’. A “wetland” is often land with soil that is just wet enough long enough to support water tolerant plants. And the newly regulated “streams”, well they often don’t contain water in them hardly at all... only when it rains, if that.

Regulations are not static, they have a strange tendency to multiply over time. Regulations are not a static thing, though EPA would like you to think that way. They are in fact, continually being revised, added to, and adjusted by EPA and federal courts; lately at record pace. And while EPA may say that the WOTUS rule will not impact agriculture, what they mean is that it won’t impact agriculture ‘today’, as in right now. Tomorrow, the next day and the next day... well, that’s a whole different story, a story that the agencies have not considered, much less explained. It seems they are deliberately misleading the public and regulated community in this regard. “*Fool me once shame on you, fool me twice shame on me.*” Suffice it say, agriculture does not intend to be fooled.

Earlier in August of this year, the National Corn Growers Association (NCGA) - like most all agriculture and industry groups including the American Soybean Association (ASA) - called on Congress to pass legislation withdrawing the WOTUS rule. However, in this specific instance NCGA’s request was in the wake of the Senate Environment & Public Works Committee’s decision to advance a bill removing a requirement for water pollution permits to apply pesticides. Senate Bill 1500, the “Sensible Environmental Protection Act” (sponsored by Idaho Senator Mike Crapo and our own Missouri Senator Claire McCaskill), aims to reduce red tape by removing duplicative permitting requirements for already regulated pesticide applications. Introduced in June 2015, the bill amends the Clean Water Act to prohibit EPA from requiring water pollution permits for pesticide discharges into a WOTUS when applications are made in compliance with Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). By reducing duplicative red tape, this bill makes logical sense and we support it.

But why this bill is even necessary is perhaps a more important question and its answer supports why agriculture dislikes WOTUS so much and why EPA’s credibility continues to suffer with each and every day that WOTUS is not repealed. You see in 2009 a federal court ruled in response to an EPA proposal and subsequent environmental activist lawsuit that pesticide users are required to apply for a water pollution discharge permit under the Clean Water Act if the chemical is sprayed over, near, or into a WOTUS. The court cited the fact that, among other things, when chemical product is sprayed through nozzles it makes it a point source and any product that doesn’t get used beneficially by the crop is considered a pollutant. The court used this as justification calling it a discharge from a point source under the Clean Water Act. In addition to pesticides, this twisted theory could be equally ap-



Activity that disturbs or causes material to be deposited into a WOTUS, including drainage ditches and lands that may contain off and on saturated soils (wetlands), like shown in this photo, could be unlawful and trigger a permit requirement.

plied by EPA to fertilizer, manure and other crop production products that are applied to farm fields. This is a real and present threat and this bill is but one of many crucial steps to counteract the expanding jurisdiction under the WOTUS rule – but more importantly, it contradicts the words of EPA, and it underscores the impact that EPA's WOTUS rule will most certainly have down the road on farmers.

Most states agree, rule is poorly written. It would be one thing if it was just farmers and agriculture crying foul over the rule. But to date, nearly 30 states and many industry and business groups have joined various federal lawsuits challenging the final rule. That's well over half the states in the nation disagreeing with their federal counterparts, the EPA and the Corps. Even the Corps' internal staff disagree strongly with the rule, made public by a number of internal Corps memos that surfaced this summer. States play a central, if not leading, role in carrying out the Clean Water Act - if we have over half the states expressing no-confidence in the rule, we have a huge problem.

In early August, our own Missouri Attorney General Chris Koster filed a request in Federal Court with 12 other states for a preliminary injunction on the rule. The injunction request was to put the implementation of the rule on hold, while the rule could be properly litigated. On August 27, just one day before the rule became effective, the North Dakota Federal Court ruled in favor of Koster's request and granted the injunction. This effectively stopped the rule from taking effect in those 13 states, which includes Missouri. Koster made the following statement following the decision, "In issuing the preliminary injunction the federal court sent an unmistakable message to the EPA: You have gone too far. Missouri's land and water resources should be regulated by officials accountable to the people of the state, not by arbitrary standards dictated from Washington D.C."

It's too early to tell just how the injunction will ultimately impact the final rule long term, but it certainly represents an important milestone and welcomed relief for agriculture, businesses and states.

So what does EPA's WOTUS rule really promise for farmers? The way I see it, at least these three things:

First, more quality face time with the Army Corps of Engineers. The increase in legal and regulatory uncertainty posed by the rule will require more on-farm visits and determinations by the Corps, the agency most involved in making such calls. It just seems that it will be virtually impossible for farmers alone to follow the new rule. The rule is extremely ambiguous and has created far more questions than answers.

Second, WOTUS promises to be a really bad gift that keeps on giving. WOTUS forms the foundation for the Clean Water Act and will allow for easy expansion of new and improved EPA regulation - which will equal more cost to farmers, more headaches, more red tape, enforcement and legal threats. In the future, farmers will face new and expanded regulatory burdens through the permitting process. Farmers will need EPA permits to perform simple farming practices, like applying fertilizer and pesticides and maintaining irrigation and drainage infrastructure.

This leads to the third promise, a closer relationship with your lawyer and engineer. Because the EPA-crafted rule language is so convoluted, implementing WOTUS will require the assistance of engineers and will ultimately be played out in the court system. I'm sure there are already a good number of lawyers anticipating their "opportunity" to test the limits of the law. The increased permitting burden and legal exposure to citizen suits and environmental activist threats and lawsuits mean that engineers, lawyers and courts will be more involved than ever before in meeting requirements and settling disputes.



That's what the implementation of the EPA WOTUS rule promises for you!



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ARE YOU READY FOR THE WEEDS?

PREVENTED PLANT ACREAGE FROM THIS SEASON WILL LIKELY MEAN HIGH WEED PRESSURE IN 2016



Fallow fields like this were a common site across Missouri in 2015 due to the unusually wet conditions. Many of the weeds in these fields produced viable seed that were deposited back into the soil.

By Kevin Bradley

Benjamin Franklin once said, “By failing to prepare, you are preparing to fail.” I think that statement is appropriate for where we are with weed management right now in Missouri—if we don’t plan accordingly, the problems experienced this year could lead to even greater problems next year. This year more than 1.5 million acres of cropland were never planted as a result of the continually wet conditions experienced from April through July. Most of this acreage was left fallow without any sort of weed management program and these fields grew up into a weedy mess. These weeds have matured and produced viable seed that, in most cases, have already been deposited back into the soil seedbank. The primary weed I have seen in most of these fields is waterhemp, which produces about 300,000 to 500,000 seed per plant. I have also seen plenty of fields infested with marestail (a.k.a. horseweed, *Conyza canadensis*), ragweed species, and grasses like giant foxtail and fall panicum—all of which are also capable of high seed production. In short, the number of weed seeds sitting in the soil seedbank waiting to germinate and wreak havoc next year may be unlike anything we’ve ever experienced before. And as Mr. Franklin put it, we must have a plan or we might suffer the consequences.

So where do you start? How can you be ready to tackle the potential problems that exist in your fields right now? In this article, I suggest a stepwise approach for selecting your soybean herbicide program for the 2016 season. But



Kevin Bradley

remember that herbicides shouldn’t be the only component of your weed management program – we have to think beyond herbicides for weed management, and this includes cultural control methods like narrow row spacings, optimum planting populations, crop rotation, cover crops, and tillage where appropriate. These cultural control practices need to be combined with an effective herbicide program to achieve the best weed control possible.

First, consider whether your management system and predominant weed species would benefit from a fall herbicide application. Fall herbicide applications aren’t the answer to all our weed problems, but they are an effective tool for winter annual weeds and especially for marestail. If marestail is one of your “driver weeds”, a fall herbicide application can save you from having much bigger problems next spring. Some of the more effective fall residual herbicides for the control of marestail in soybean include Autumn Super and any of the chlorimuron-containing products like Canopy, Canopy EX, Cloak, Cloak EX, Valor XLT, Authority XL, and others. These herbicides should be combined with a base program of glyphosate plus 2,4-D and/or dicamba to control any seedlings and rosettes present at the time of application. Another option is to leave the residual out of the fall application and wait to apply a

Kevin Bradley is Missouri's State Extension Weed Scientist, and is based at the University of Missouri.

full rate of a residual herbicide in the spring. Both approaches can be effective and there are many factors (especially herbicide cost) to consider.

Second, plan to start weed-free next season with an effective tillage operation or burndown herbicide application.

We cannot afford to plant into weeds that have not been adequately controlled or that are already emerged at the time of planting. This will put you behind the eight ball before you even begin, and it's likely you will never catch up. Another reason to start weed-free is that there are too many resistant weed species that will not be controlled in-crop if they have emerged by the time of planting. We now have multiple herbicide resistances within numerous populations of marestail, giant ragweed, and especially waterhemp. This essentially means that there are little to no post-emergence herbicide options for the control of these weeds in Roundup Ready soybeans.

Third, make sure to apply a full use rate of a pre-emergence, residual herbicide that targets your most problematic weed species.

For most Missouri producers, this means you need an effective herbicide for waterhemp. For waterhemp, some of the most effective pre-emergence residual herbicides include the group 14 herbicides such as those that contain flumioxazin and sulfentrazone (Authority products, Envive, Fierce products, Sonic, Valor products, etc.) and the group 15 herbicides such as those that contain metolachlor (Dual II Magnum, in Boundary, in Prefix, etc.), dimethenamid (Outlook, OpTill PRO), pyroxasulfone (Zidua, in Fierce, etc.), and acetochlor (Warrant, in Warrant Ultra). Trifluralin (Treflan, group 3) and metribuzin (Sencor, Tricor, etc., group 5) can also provide good waterhemp control. A key point here is that you should apply a full use rate of whichever product you have chosen. Unfortunately, some pre-emergence herbicides still have a section on their label that contains information about reduced rates for use in Roundup Ready soybean systems. Usually this reduced rate is half that of the full use rate listed in a different section of the label. This makes no sense to me and is likely going to drive us towards more resistance problems in the future. If you have glyphosate-resistant waterhemp in your fields and know that glyphosate isn't going to control this weed no matter what rate you use, what's the rationale for applying a lower rate of a pre-emergence residual product that actually does control waterhemp? The bottom line is this – you need to make sure you do the best job you can up front with pre-emergence herbicides, if for no other reason than our inability to successfully control waterhemp post-emergence across the majority of fields throughout the state.



Marestail

Fourth, scout fields regularly after emergence and make timely applications of post-emergence herbicides to weed escapes.

Simply put, there was a time when many farmers forgot about the importance of weed size because glyphosate controlled the weeds no matter the size. Now glyphosate does not control most of our driver weeds (waterhemp, marestail, giant ragweed, etc.) and I think everyone is in the process of “re-learning” that lesson. Group 14 (or PPO) herbicides like Cobra, Flexstar, Marvel, Phoenix, Ultra Blazer, and others just simply will not provide adequate control of waterhemp that is greater than 4 inches in height at the time of application. The same is true of glufosinate (Liberty, group 10) in Liberty Link soybean.

If you apply one of these herbicides to waterhemp that is greater than 4 inches in height and aren't happy with the outcome, it isn't necessarily because the weed is resistant; the products aren't labeled for waterhemp that size in the first place.

Another thing to think about when it comes to post-emergence applications of the group 14 herbicides and also Liberty is that coverage is critical, and that the spray application parameters that may be ideal for glyphosate aren't usually the best for these contact herbicides. So higher gallonage per acre and nozzles that provide good coverage will be critical.

Fifth, “layered” or “overlapping residual” herbicide programs are insurance against late-season flushes of certain weeds and have proven to be an effective strategy for the management of waterhemp.

If you aren't familiar with this type of weed management strategy, it involves a pre-emergence residual herbicide before

planting, followed by an in-crop application of another residual herbicide (Anthem, Cinch, Dual II Magnum, Outlook, Prefix, Warrant, Zidua, etc.), usually made at the same time as a glyphosate application in Roundup Ready soybean, or Liberty application in LibertyLink soybean. This herbicide strategy won't work on every weed species, but it does provide effective residual control of waterhemp and a variety of other small-seeded broadleaf weeds and grasses. More Missouri growers have adopted this herbicide program in recent years as a result of its effectiveness on waterhemp.

As mentioned previously, the most important thing is for you to have a plan. If you follow the 5 steps above, I believe you will be able to offset many of the consequences of this past season. For more information on this topic or other weed-related issues facing Missouri producers, visit us on the web at www.weedscience.missouri.edu.

SOYBEAN RESEARCH: BUILT BY AND FOR MISSOURI FARMERS

Research has long been a key area for the Missouri Soybean Merchandising Council as the board of directors invests soy checkoff dollars. Today, projects supported by the soybean checkoff help farmers here in Missouri, and all around the country, improve yields and quality, as well as fight pests and weeds like never before. Research investments have historically been broad, ranging from biotechnology and best management practices to new uses for soybeans, as well as soybean meal and oil. Looking ahead, efforts to keep pace with the growth in demand will continue to grow in importance.

In supporting research, the board of directors and staff are focused on providing information that is relevant and impactful, while also happening in a timely manner and with judicious use of the funds available. In fact, the mission is as follows:

The Missouri Soybean Merchandising Council strategically invests Missouri farmers' checkoff dollars to develop and evaluate practical and innovative research for the benefit of Missouri soybean producers and their end users.

Soybean research funded by the soy checkoff in Missouri involves a number of partners, including the University of Missouri, other institutions and private entities. Current projects and researchers supported by checkoff funds distributed by the Missouri Soybean Merchandising Council are listed below according to their emphasis area. To learn more about research supported by the soybean checkoff in Missouri, visit mosoy.org.

Biotechnology:

Development and Deployment of Biotechnology for Soybean Improvement

Henry Nguyen, University of Missouri

Using microgenomics to identify new sources of soybean cyst nematode resistance in soybean

Melissa Mitchum, University of Missouri

Defense Peptides to Protect Soybean from Rust

Jim English, University of Missouri

Translational Genomics for Drought Tolerance in Soybean

Henry Nguyen, University of Missouri

Genetic Engineering to Enhance Oil Traits in Soybean

Henry Nguyen, University of Missouri

To Develop Productive Group IV and V Soybeans

Resistant to Nematodes and Diseases

Grover Shannon, University of Missouri Fisher Delta Research Center

Molecular-Genetic Regulation of Seed Oil Accumulation in Soybean

Henry Nguyen, University of Missouri

Evaluation of Germplasm and Genetic Mapping for Flooding Tolerance in Soybean

Grover Shannon, University of Missouri Fisher Delta Research Center

Identification of Genes for Resistance to Multi-Soybean Nematode Species

Henry Nguyen, University of Missouri

Evaluation of Elevated Oleic Acid Germplasm for Development of Soybeans with High Oleic Acid

Grover Shannon, University of Missouri Fisher Delta Research Center

Development of Soybeans with Improved Functional Traits for Missouri

Henry Nguyen, University of Missouri

Novel Construct Design for Plant Gene Silencing

Employing Artificial tasiRNA

Zhanyuan Zhang, University of Missouri

Germplasm Identification and Selection for Soybean Cyst Nematode

Henry Nguyen, University of Missouri

Novel Strategy for Gene Stacking through Coordinated Gene Expression

Zhanyuan Zhang, University of Missouri

Discovery of Yield Genes for Soybean Improvement

Henry Nguyen, University of Missouri

Enhancing Water Use Efficiency of Advanced Soybean Germplasm to Improve Drought Tolerance

Felix Fritschi and Andrew Scaboo, University of Missouri

Fast Neutron Mutagenesis in Soybean: A Resource to Aid in the Translation of Genomic Information into Applied Technologies

Gary Stacey, University of Missouri

Defense Peptides for Control of Pythium Seed Rot and Damping Off of Soybean

Jim English, University of Missouri

Production/Crop Management:

North Missouri Soybean Breeding Program

Andrew Scaboo, University of Missouri

Support of MU Weed Science Extension Efforts Directed Towards the Management of Glyphosate-resistant Weeds

Kevin Bradley, University of Missouri

Missouri Green Fields Initiative

Bill Wiebold, University of Missouri

Identification and Characterization of Soybean Germplasm to Improve Drought Tolerance

Felix Fritschi, University of Missouri

Improving Heat Tolerance: Identification and Characterization of Soybean Germplasm

Felix Fritschi, University of Missouri

Costa Rica Breeding Project

Grover Shannon and Andrew Scaboo, University of Missouri

Management of Insecticide Resistance in Corn Earworm Populations

Moneen Jones, University of Missouri Fisher Delta Research Center

Utility of Subsurface Drip Irrigation for Soybean Production

Kelly Nelson, University of Missouri

Improving Soybeans for Increased Productivity on Specific Soil Types — Sand, Loam and Clay

Grover Shannon, University of Missouri Fisher Delta Research Center

MEET GREG LUCE



The Missouri Soybean Association and Merchandising Council's new director of research, longtime seedsman Greg Luce, is helping ensure Missouri soybean farmers' research program is on track. He oversees Missouri's checkoff funded soybean research, including statewide and international research partnerships, for the Missouri Soybean Merchandising Council. Luce also leads operations at the Association's Bay Farm research facility near Columbia.

"Missouri soybean farmers are looking for answers to many questions and solid research is the foundation of success in agriculture. Our goal is to provide growers with information through innovative research," Luce said.

Luce works closely with research partners at the University of Missouri, other institutions and across industry to ensure Missouri soybean farmers have access to the newest technology and soybean varieties, as well as the latest in on-farm management practices. In addition to those partnerships, he also has responsibilities with the University of Missouri on cereal crops, where he works to provide agronomic information for producers on corn, wheat and grain sorghum.

Luce comes to Missouri Soybean following a more than 30-year career with DuPont Pioneer. During that time, he served growers as a field agronomist, agronomy research manager, technical product manager and an area manager. He holds a master of science degree in agronomy from the University of Missouri.

To contact Greg Luce, call (573) 473-7079 or email GLuce@mosoy.org.

In addition to the studies listed, Missouri will also help sponsor three projects in conjunction with the Mid-South Soybean Board. One study is examining crop rotation and another is an irrigation timing study and a third on planting date and latitude impact on maturity choices conducted by Dr. Larry Purcell at the University of Arkansas. While these studies are mostly focused on the delta region and very important to decisions in the Bootheel, they can also have broader implications throughout Missouri. The Missouri Soybean Merchandising Council is also part of the North Central Soybean Research Program which sponsors numerous multi-state studies across the Midwest. This includes important work directed at discovering improved management and breeding techniques for dealing with SDS and SCN as well as other important diseases and pests affecting soybean growers in Missouri.

Improving the Awareness and Management of SCN in Missouri through Grower Education and Outreach

Melissa Mitchum, University of Missouri

Biochemical Mechanisms Responsible for Resistance of Bollworm to Select Insecticides and Mixtures

Moneen Jones, University of Missouri Fisher Delta Research Center

MU Certified Strip Trial Initiative

John Lory, University of Missouri

Genetic Mapping of a Unique Morphological Trait in Soybean and Evaluation of the Correlations with Yield Potential and Seed Composition

Andrew Scaboo, University of Missouri

New Uses: Food, Feed & Industrial:

Assessing Nutritional Value of Soybean Meal: Identifying Nutritional Traits that would Improve Market Position of Soybeans

Monty Kerley, University of Missouri

Assessment of Flavor Scalping and/or Alteration of Flavor by cured Epoxidized Allyl Soyate (EAS) Based Can Coatings

Shubhen Kapila, Center for Environmental Science & Technology at Missouri University of Science & Technology

Using Soybean Meal Protected from Rumen Degradation to Improve Health of Receiving Calves and Feed Efficiency of Stocker and Feedlot Calves

Monty Kerley, University of Missouri

Nutritional Evaluation of Soybean Meal Generated from High Oleic Acid Soybeans

Monty Kerley, University of Missouri

Development of Soy Based Nanostructured Materials for Application as Structural Foams and Adsorbents

Shubhen Kapila, Center for Environmental Science & Technology at Missouri University of Science & Technology

Application of Epoxidized Allyl Soyate (EAS) Resin Composites in Dry Type Transformers -- a New Application for Soya Based Epoxy Resin

Shubhen Kapila, Center for Environmental Science & Technology at Missouri University of Science & Technology

Energy Efficient Building Panels with Insulation Core of Soy-Based Polyurethane Foams

Paul Nam and K. Chandrashekhara; Missouri University of Science & Technology

Enhancing Soybean Hulls as a Supplement for Beef Cattle

Justin Sexten, University of Missouri

Intragastric Gelation of Mixed Soy Protein and Fibers and its Effect on Postprandial Sugar Release

Bongkosh Vardhanabhuti & Heather Leidy, University of Missouri

Bioheat Technical Steering Committee - Study I

National Biodiesel Board

ASE Certified Diesel Technician Training and Education

National Biodiesel Board

Bioheat Technical Steering Committee (BTSC) Data Needed to Ballot Legacy Safe Blend Level

National Biodiesel Board

FUEL THAT FEEDS WITH POWER



By Alan Weber

Missouri soybean farmers have a lot to be proud of when it comes to biodiesel. They had the vision back in the early 1990s to fund research into biodiesel and to help form the National Biodiesel Board (NBB) in 1992 – then called the National SoyDiesel Development Board. The organization found its first home in a file drawer of the Missouri Soybean Merchandising Council’s office. While the organization and the industry have grown significantly, its roots remain deep in Missouri.

The NBB headquarters is still located in Jefferson City and Missouri has grown into the number two biodiesel producing state in the country. The original vision of Missouri farmers and the strong partnerships built within the rest of the soybean industry has paid off for soybean farmers across the country. The US biodiesel market has grown to more than a billion gallons each of the last four years and is on pace to surpass that milestone again in 2015. This not only has been a benefit to growers, but also a huge benefit to our economy, environment, and energy security.

Although soybean oil remains the predominant feedstock, feedstock diversity continues to be a key strength of the US biodiesel industry that allows both producers and the fats and oils markets flexibility. US producers utilize a wide-range of feedstocks including recycled cooking oil, canola oil, animal fats, and other byproducts such as distillers corn oil from dry grind ethanol plants.

With almost 5 billion pounds of soybean oil going to biodiesel last year, the industry continues to have a positive impact on soybean profitability and has added to the bottom line of producers. It has also had a major impact on soybeans’ number one customer: animal agriculture.

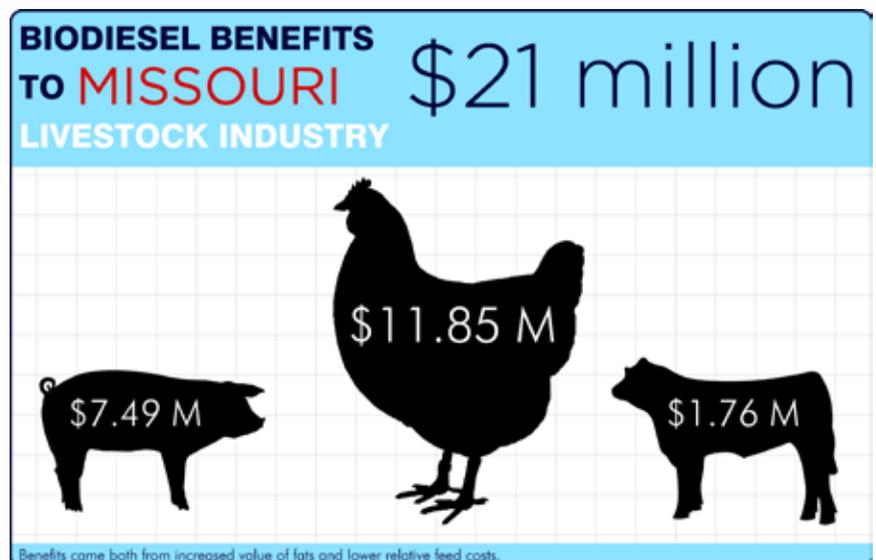
More Biodiesel, More Meal

Diesel users consumed more than 1.7 billion gallons of biodiesel last year with approximately

half of that being made from soybean oil. Soybean meal and oil are co-products from oilseed crushing that are produced in fixed proportion to one another. If oilseed crush increases to meet additional demand for one co-product (e.g. more soybean oil for biodiesel production), it will simultaneously result in a greater supply of the other co-product (e.g. meal).

In a 2015 analysis, Informa Economics estimated livestock producers paid \$21 per ton less for soybean meal due to increased biodiesel production and use. This means livestock producers could see a reduction in per-head feed costs each year of \$4.50 for dairy, \$3 for feeder-to finish beef, \$1.50 for wean to finish hogs, \$0.27 per turkey, and \$0.03 per broiler and layer. In the state of Missouri that soybean meal savings translates to more than \$14 million in total savings across all species in a given year.

Because of the soybean meal/oil dynamics, oilseed crushers are also key partners for biodiesel producers and reap benefits from a vibrant biodiesel industry. Informa Economics also estimated biodiesel’s impact on average



Alan Weber is the senior economic advisor to the National Biodiesel Board and a mid-Missouri soybean and corn farmer.

crush margins to be an 11.2 ¢/bu improvement relative to average cash crush margins for the 2006/07 to 2014/15 period for a selected Illinois processor. These improved margins help support the U.S. crush industry and ensures enough soybean meal will be available in the US market for our livestock feeding needs.

More Biodiesel, Increased Carcass Values

The connection between soybean oil and biodiesel is well known. US biodiesel producers used 5.5 billion pounds of soybean oil in 2013 and close to 5 billion pounds in 2014. But what surprises many people is how important the livestock industry is to biodiesel producers.

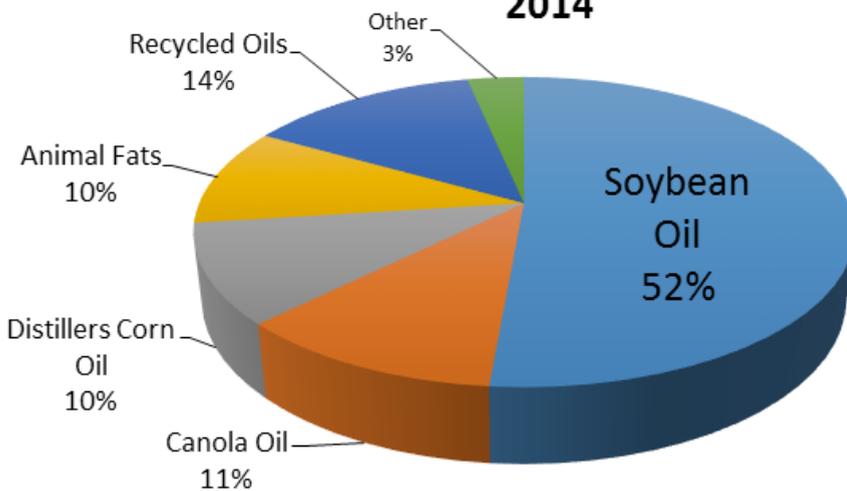
More than a quarter of all animal fats produced in the US now goes into biodiesel. And some individual segments see even higher use with approximately 45 percent of the choice white grease going into the industry. So, not only are animal fats important to the biodiesel industry, but the biodiesel industry is increasingly important to livestock producers.

More demand of animal fats for biodiesel has led to increased value of those fats. While the price of animal fats are not primary drivers in determining the prices paid for fed cattle, market hogs, or poultry, they do affect the profit margins in these industries by increasing what is referred to as the by-product “drop value.”

Regression analysis conducted by Centrec Consulting Group in September 2014 concluded biodiesel demand increased tallow prices by 10.6¢ per pound and contributes \$16 per head of increased value to beef producers. Hog producers realize an additional \$1.25 per head from increased choice white grease prices of 10.2¢ per pound.

Drop value benefits for the Missouri livestock industry resulted in added value of \$1.1 million for fat cattle, \$2.5 million for poultry, and \$3.1 million for fat hogs. This additional \$6.7 million was put back into the state’s value chain directly due to biodiesel demand.

Feedstock Utilized for Biodiesel Production 2014



More Biodiesel, More Sources of Energy for Rations

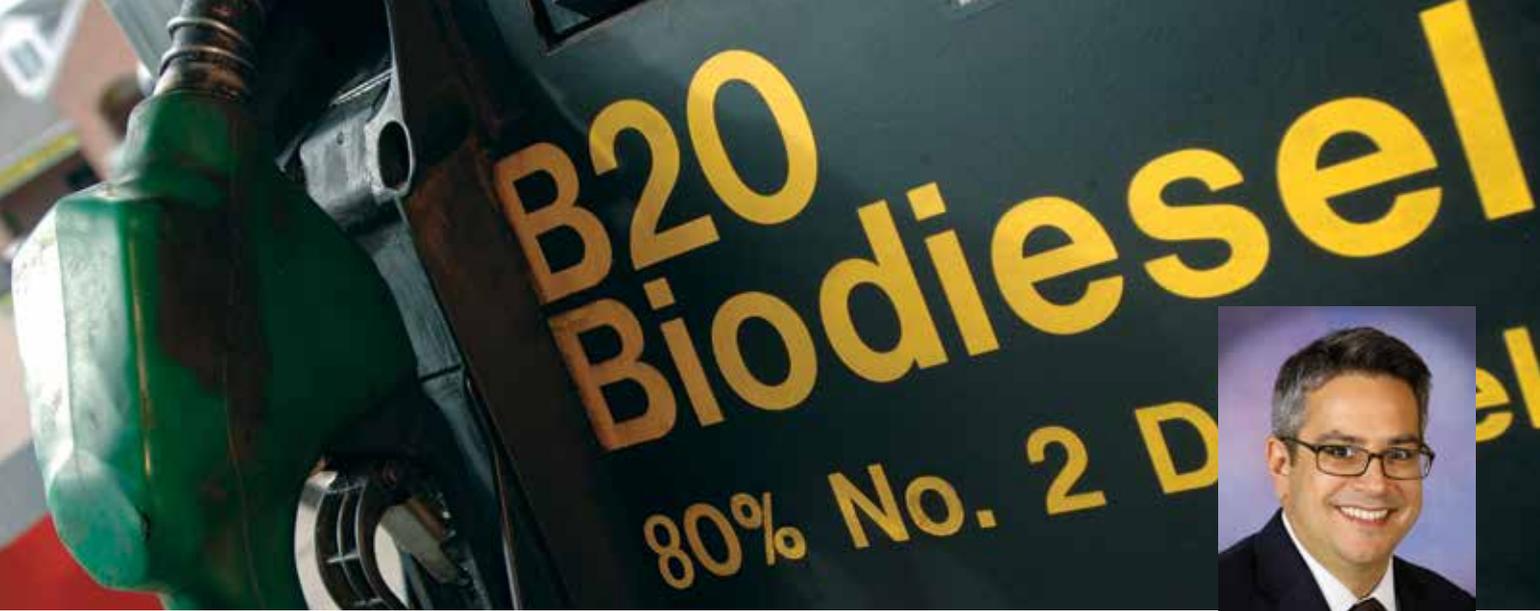
Another value to the livestock sector of a growing biodiesel market that is not typically discussed is the additional supplies of crude glycerine, a feed ingredient that can be utilized by livestock producers for energy in rations. Crude glycerine is a by-product of the biodiesel production process. It has a tentative definition for use as an animal feed ingredient by the Association of American Feed Control Officials (AAFCO). At the August meeting of AAFCO, the Ingredients Definition Committee voted to move the glycerine definition from tentative to official, with the full membership yet to approve the recommendation at this time.

While this procedural hurdle remains, glycerin has been evaluated by multiple universities in beef, pork, and poultry rations and represents another potential energy source for livestock feed rations moving forward.

The combination of reduced feed costs, increased fat value, and an additional feed energy source due to the biodiesel industry has a major impact on Missouri livestock producers to the tune of an estimated \$21 million per year. The investment Missouri soybean producers began more than twenty years ago into the industry are paying back dividends not only to soybean farmers, but to livestock producers and rural communities across the state and country.



USB



NATIONAL BIODIESEL BOARD SPOTLIGHT: BIODIESEL POLICY HAS A BIG SUMMER

By Ben Evans

What began as a frustrating year in Washington took a sharp turn for the better this spring and summer as the National Biodiesel Board (NBB) made significant progress toward achieving our top policy goals. We are now cautiously optimistic that the EPA will finalize a growing RFS for several years to come in the near future, and Congress has taken the first steps toward reinstating the biodiesel tax incentive and restructuring it as a producer’s credit. These developments, if finalized, should pave the way for solid production growth through 2017.

Renewable Fuel Standard

The RFS is NBB’s top policy priority, and our effort to reverse the misguided EPA proposal of 2013 with a strong and growing RFS paid dividends in May when the EPA released a revised proposal providing modest growth for biodiesel through 2017.

While the proposal was not perfect, biodiesel emerged as the only fuel to see growth. The proposal calls for steady volume increases in Biomass-Based Diesel through 2017 and is a dramatic improvement from the EPA’s initial draft in November 2013. While the initial proposal would have held biodiesel flat at the 2013 standard of 1.28 billion gallons through 2015 – with an uncertain future – the latest proposal calls for an increase of more than 600 million gallons between 2013 and 2017. It also includes significant growth in the overall Advanced Biofuel category, offering further opportunities for biodiesel growth.

The improved proposal came after NBB mobilized an aggressive advocacy campaign opposing the original proposal and calling for strengthened volumes. We generated more congressional support than we’ve ever had, with nearly 100 lawmakers signing letters to the White House calling for growth and powerful lawmakers holding press conferences or calling the White House directly. We engineered an ag-

gressive media campaign that saw several hundred op-eds, letters and news stories published. And we organized an aggressive grassroots campaign that, thanks to your participation, raised the profile of biodiesel in Washington and increased pressure on policy makers to act.

The EPA intends to complete the rule by November 30, and NBB’s advocacy efforts continue to push the Obama administration to strengthen the proposal with additional biodiesel growth before the rule is finalized.

Biodiesel Tax Incentive

Congress’ inability to adopt long term tax policy has harmed dozens of industries, including biodiesel. The recent pattern of short term tax incentives adopted on a piecemeal basis continued this year, as Congress reinstated the biodiesel tax credit retroactively for 2014 in December, but failed to reinstate it for 2015. Despite our best efforts last year to win a seamless extension, 2015 marked the fourth year in six years that the incentive expired.

We believe biodiesel is well-positioned to see the incentive reinstated again in 2015 if Congress passes tax legislation. NBB continues to advocate for a longer term extension, along with a restructuring of the incentive as a producer’s tax credit versus a blender’s credit. In July, we saw some success as the Senate Finance Committee approved a bill that would reinstate the biodiesel incentive for two years, retroactively for 2015 and forward through 2016. Importantly, the committee package also would change the incentive to a producer’s credit beginning in 2016. We hope to see continued progress on meeting this priority in the coming months as Congress completes more of its legislative business.

Overall, the industry is on pace for another productive year in 2015.

Ben Evans serves as the director of public affairs and federal communications for the National Biodiesel Board.



LIFE ON THE EDGE: FIELD BUFFERS PROVIDE QUAIL HABITAT

By Adam Buckallew

Farmers throughout the state of Missouri are working with conservationists and wildlife biologists to stem declining populations of bobwhite quail. Often seen as a “canary in a coal mine,” quail are an important species that reflect the ecological health of surrounding lands. When quail begin to disappear, it’s a warning sign that other species may be in danger.

The primary issue affecting quail has been a loss of habitat. Field edges and fence lines that were once left brushy and ideal for wildlife are fewer and farther between than they once were. In an effort to address this issue, many farmers are enrolling in the Conservation Reserve Program (CRP) administered by the US Department of Agriculture’s Farm Service Agency (FSA) to improve quail habitat.

Brent Vandeloecht, agriculture liaison for the Missouri Department of Conservation (MDC), has worked with several farmers who have an interest in using CRP to improve their field borders for better quail habitat. He says there are many resources available to help farmers who may be interested in beginning a conservation program.

“We have 47 private land conservationists (PLCs) that work for the MDC and are available to assist with farmers,” says Vandeloecht. “Many of these PLCs can be found at local

FSA offices throughout the state.”

PLCs work with farmers to establish a plan, provide technical assistance and walk producers through the sign-up process. One of the most common programs is the CRP practice CP33, which provides habitat buffers for upland game birds. Farmers enrolled in CP33 are required to plant native warm season grasses and wildflowers in field buffers that provide excellent habitat for pheasants, quail, monarch butterflies, bees and other pollinators.



“PLCs start by conducting a site visit and working with landowners to figure out their goals,” Vandeloecht says. “There are 42 different CRP practices to choose from, so it’s nice to have a biologist who can help evaluate all the options. The PLCs will then make recommendations based on the current conditions and landowner goals that will best fit each farm.”

While field borders are great spots for establishing quail habitat, many farmers in southeastern Missouri use the corners of fields irrigated by center pivots. According to Scott James, a Farm Bill wildlife biologist working for Pheasants

Adam Buckallew is a former Missouri Soybean staff member who resides in Columbia.

Forever Inc. and Quail Forever Inc., the unirrigated corners make ideal areas for wildlife habitat.

“Since the corners don’t receive the irrigation water, they obviously aren’t as productive as the rest of the fields,” James says. “Instead of trying to grow crops on these spots with lower yield potential, many farmers elect to enroll their corners in a conservation program. This allows them to still make some money on that land while also helping local wildlife.”

James says there are incentives and cost share programs available that may allow landowners to break-even on the expenses of quail habitat establishment. He advises farmers to review conservation program contract options and payment terms to determine what will best suit their needs.

Managing to Keep Quail Happy

During the first few years, CRP fields produce varieties of planted grasses, legumes, wildflowers and annual seed-producing plants such as ragweed, foxtail and pigweed. Newer CRP fields will generally have a wide variety of plants and several bare spaces between the plants.

“As the grass stand thickens it becomes necessary for cooperators to periodically come out and disturb the ground to maintain an attractive habitat for quail,” Vandeloecht says. “Burning, disking or spraying needs to be done every three to five years. If the bare patches and plant diversity disappear, the acres will lose appeal to quail and they will stop using it. This makes managing the CRP ground appropriately a priority if you want to keep quail happy and from moving onto the neighbors place.”

By maintaining a diverse mix of plants and bare ground on CRP acres, this habitat can provide most of quails’ needs, including roosting cover, nesting cover, brood-rearing cover and food.

“The whole key to increasing quail numbers is to provide the habitat they need to flourish,” Vandeloecht says. “Quail need open and weedy areas for brooding to get young chicks through the first two to six weeks of life. Many CRP fields in Missouri lack this type of cover, which is essential to brooding quail.”

Field Buffers Boost Quail Numbers

Jeffrey Quinn and his father, Michael Quinn, started using conservation buffer strips on their farmland near Marceline, Mo. about three years ago and it’s made a significant difference in the wildlife populations on their property.

Together, the Quinns have enrolled about 200 acres of land into CRP programs such as CP33 and CP38; and they plan to put an additional 20 acres into conservation this fall. The lands enrolled in the conservation programs mostly consists of unproductive areas along tree lines, field borders and some ground that is awkward to farm due to the positioning of power lines.

The Quinns’ field buffers are planted to a mix of short,



Missouri Soybeans’ Gary Wheeler and Vandeloecht discuss management practices during a farm visit.

warm season grasses like Little Bluestem and a mix of wildflower species. Felled trees and edge feathering near the buffer strips provide crucial areas for shelter that the quail and rabbits need to hide from predators and harsh weather.

Hunting is one of the primary hobbies for Jeffrey Quinn and his children. The opportunity to provide better wildlife habitat to increase game populations is the primary reason why he and his father decided to install conservation strips on their land. That decision, he says, was easy to make considering how important wildlife preservation is to their family.

“I really enjoy taking my kids hunting and I was beginning to be concerned with low wildlife populations in our area,” Quinn says. “I wanted to make sure my children would have the same opportunities to hunt that I had when I was growing up. These types of programs provide a conservation benefit and a personal benefit to my family and me.”



Field corners can offer conservation and economic opportunities for landowners.



Conservation Offers Multiple Advantages

Participation in conservation programs can often make good financial sense for growers. Between the cost-share programs available and the payments farmers receive on CRP contracts, James says putting odd areas and under-performing land into conservation usually proves to be worth the time and effort.

“The thing I tell most guys is to farm their best acres and conserve the rest,” James says. “Putting marginal lands and fields with tree lines that sap water and nutrients into a CRP program can help farmers from wasting inputs on areas where they are unlikely to get a good return on their investment.”

The opportunity to maximize profitability on marginal lands and increase quail numbers at the same time is a strong motivator for many farmers. The additional benefit of improved quail habitat created through CP33 and other programs has proven to be a success, according to Vandeloecht.

“We’ve documented cases of guys going from one covey of birds to 4 to 5 coveys,” Vandeloecht says. “Some farmers don’t always see a strong response, but most do. Even with all the rain in 2015, areas with good quail habitat are seeing remarkable results. I have personally seen 5 broods of quail on my farm in early August, which suggests we’ve had excellent nesting success despite the weather.”

James says farmers who are on the fence about signing a CRP contract should start small.

“I often advise growers to enroll a small piece of land their first year and to build up from there,” James says. “There is room for conservation on every farm. Even if it’s just one acre, every little bit helps.”

SIGNUP FOR MISSOURI OUTDOOR RECREATION ACCESS PROGRAM BEGIN IN 2016

The Missouri Department of Conservation (MDC) has announced it will receive one of 15 grants made available by the United States Department of Agriculture (USDA) to improve wildlife habitat and enhance public access for recreational opportunities on private farmland, ranchland and forest land.

Through the Voluntary Public Access and Habitat Incentives Program (VPA-HIP), MDC will receive \$1.1 million from the USDA Natural Resources Conservation Service (NRCS). Those funds will be matched with MDC and partner contributions bringing the total, three-year program investment to \$2.1 million.

MDC Private Land Services Division Chief Bill White says the grant will help MDC create a new public access program, called the Missouri Outdoor Recreation Access Program (MRAP). MRAP will expand outdoor recreation activities in the state, such as hunting and wildlife viewing. MRAP will focus on ensuring quality habitat is available on all enrolled parcels of land. Funds will be provided to landowners who provide public access for hunting or wildlife viewing. Applications will be prioritized based on the percentage of parcel consisting of wildlife habitat, contract length, outdoor activity selections and proximity to metropolitan areas. MDC’s goal with MRAP is to enroll 10,000 acres statewide during the program’s first three years.

“The department has a nationally recognized partnership with NRCS that continues to bring additional Farm Bill dollars to Missouri landowners to improve our fish, forest and wildlife resources,” White said. “With the VPA grant, this money will benefit Missouri hunters and anglers too.”

NRCS State Conservationist J.R. Flores added, “The conservation partnerships in Missouri are second to none. NRCS even shares office space with a number of MDC biologists, who work side-by-side with our natural resources professionals. Connecting outdoor recreation to private lands conservation is good for wildlife, people, and rural economies.”

In evaluating proposals for funding, NRCS looked for projects that would: increase private land acreage available for public use; offer a public access program that gains widespread acceptance among landowners; make special efforts to reach historically underserved or socially disadvantaged landowners; ensure appropriate wildlife habitat is located on enrolled land; strengthen existing wildlife habitat improvement efforts; follow NRCS conservation practice standards; and inform the public about the locations of existing and new lands where public access is available.

Interested landowners will have the opportunity to enroll in MRAP in the summer of 2016. For more information on available grant monies from MDC, landowners can contact Jeff Esely, MRAP Program Manager, at jeff.esely@mdc.mo.gov.

AG EDUCATION

ON THE MOVE



In the last 80 years, the number of farms in the United States has dropped from more than 6 million to roughly 2 million in 2012 according to census data. As the number of farms has decreased the number of farmers and people working on farms has also dropped. Fortunately, a growing number of farmers and agricultural advocates have recognized the need for outreach to educate an increasingly urban population that lacks any semblance of a link to farming.

“We feel it is extremely important to plant a seed early on, so that children understand and value agriculture,” said Luella Gregory, of Ag Education on the Move (AEOTM).

Gregory has a passion for agricultural education and has been at the helm of the program since developing AEOTM while an employee of the Missouri Soybean Association and Merchandising Council. Missouri Farmers Care, a partnership program of agricultural organizations, and Gregory currently facilitate the program, which continues to be funded by the Missouri Soybean Merchandising Council and the soy checkoff.

Bringing the Farm to the Classroom

From the beginning, Gregory knew she wanted to bring hands-on activities to students to show that learning about agriculture could be fun. She worked on developing a 10-week program that emphasized learning by doing while combining classroom objectives and state standards to appeal to teachers. As a result, AEOTM provides interesting agricultural educational content while incorporating activities that support learning in science, math, reading and writing. To date, 6,200 students have participated in the weekly program and an additional 7,000 students have participated in other AEOTM programming.

“Each lesson lasts an hour with half the time devoted to a formal lesson and the other half involves the day’s hands-on activity and application,” Gregory said. “The students truly enjoy the activities and taking ownership in their projects. Hands-on education allows students to engage while using their senses.”

The program makes use of educational materials provided by the state’s agricultural organizations to provide an encompassing view of the many facets of farming. With limited resources and a need to make the most efficient use of funding, Gregory says utilizing existing materials makes sense.

“We felt like there was no need to reinvent the wheel when there was a lot of good information that had already been produced,” Gregory said. “The difference is we’re providing a vehicle to deliver this information to students in a fun and interesting way.”

During the program, students learn about crops, livestock, soil and water conservation, nutrition and explore agricultural careers. While meeting objectives, participating classrooms learn about plant parts, life cycles, planting and harvest, germination, photosynthesis, pollination, animal care, nutrition, soil health and the many by-products important to our everyday life.

Currently, Gregory works with 14 educators who have helped conduct AEOTM programming in 21 Missouri counties. The initiative is entering its third year of education on the state level and is growing thanks to continued support from the agricultural industry and positive reviews from students and teachers.

“The overall experience is very beneficial to the students for many reasons,” said Sara Hawkins, a teacher at Veterans Elementary School in Hannibal, Mo. “The students were very curious about crop and livestock production since most of them are knowledgeable about these areas in their personal experiences. They had lot of questions. I highly recommend the program, especially when learning about plants, animals and the food chain.”

Teachers tell Gregory the student activities and the level of excitement they generate are a major reason for the program’s success. Activities range from planting seeds and experimenting with yeast and bread making to creating corn plastics and rock ‘n’ roll ice cream making.

“This is the best program I’ve ever had in my classroom,” said Jerrone Willoughby who teaches at Parkway Elementary in St. Joseph, Mo. “No other classroom program we have participated in has engaged the kids like this has.”

Laura Handke, Regional Coordinator for the Northwest and Kansas City regions, has seen 600 percent growth.

In the spring of 2014, AEOTM was in one school in the St. Joseph district. The 2015-2016 school year will see AEOTM in 14 of the 16 public schools in the district, as well as two parochial schools. The district has really embraced agriculture education and has witnessed the



Luella Gregory

Third grade students show a soybean plant during the 10-week classroom component of Ag Education on the Move. To date, more than 13,000 students across Missouri have participated in the program.



positive impacts; so much so that AEOTM staff will be meeting with district Curriculum Specialists to discuss the opportunity to write the program into the third grade curriculum for the next seven years.

Other teachers appreciate having educators knowledgeable in agriculture.

“From a teacher’s perspective, the nice thing about this program is you have somebody coming into your classroom that’s an expert, in a way that I’m not,” said Susan Nossaman, a third grade teacher at Hawthorne Elementary School in Mexico, Mo.

Educating Teachers & Other Programming

Although the main focus of AEOTM is the 10-week program, Gregory has developed additional opportunities to bring agricultural education to students and teachers. Single day programming, summer school and tours that take teachers to visit farms round out the current slate of educational offerings.

Two single day ag events were held last spring at Whittier Elementary School in Kansas City, Mo. and Hillyard Technical Center in St. Joseph. Whittier’s Ag Day allowed more than 500 students to learn about corn, soybeans, wheat, beef, dairy, pork, poultry in addition to the technology used on today’s farms.

“These types of events allow us to show students where their food comes from and why farming is important,” Gregory said.

According to Gregory, more than 700 students participated in this summer’s AEOTM educational outreach efforts in Missouri schools. This summer, students in Andrew, Buchanan, Perry and Washington counties participated in AEOTM summer school courses.

A follow-up component to the third-grade program is a tour that invites teachers to make farm tours to broaden

their knowledge about agriculture. The teachers have the opportunity to get an up-close look at modern farming practices. They also receive commodity information, recipes, and answers to common questions. The 2015 teacher to the farm tours included farms with dairy, row-crops, livestock and orchards plus stops at a feed mill and grain elevator.

The first Teacher to the Farm tour this summer was held in St. Joseph with more than 25 teachers participating. A second tour in Columbia, Mo., had about as many teachers attend for a full day’s worth of travel to a diverse group of farms and ag businesses.

Growing the Program

Continuous growth is a primary goal for AEOTM. Gregory says increasing enrollment in urban areas is a key factor to bridging the gap between consumers and farmers.

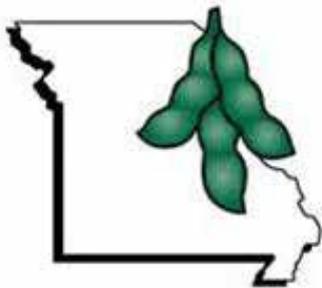
“There is a need for agriculture education everywhere. We do feel it is a priority to target Missouri’s cities and urban areas, and we are focusing on those areas as we expand,” Gregory said.

Keeping up with curriculum standards and maintaining a high level of quality in the lesson plans are critically important as AEOTM continues to grow.

“We work together to reassess lesson plans every year to make sure we’re delivering a quality program that meets current standards and to ensure the time sacrificed in the classroom to participate provides an equivalent learning experience,” she said.

As more students and teachers experience AEOTM, the level of understanding and appreciation for raising crops and livestock will continue to grow. Little by little the program is doing its part to bridge the gap between consumers and farmers, a mission that has become increasingly important for the future of agriculture.

Adam Buckallew, Luella Gregory, Austin Smith and Christine Tew contributed to this article.



HONOR WALL

Good news from those working on behalf of Missouri soybean farmers

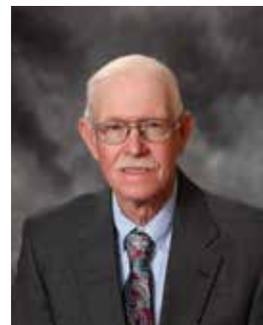
WOOD RETIRES FROM SOYBEAN BOARD

Longtime soybean leader Rex Wood has retired from the Missouri Soybean Merchandising Council board of directors after more than a decade of service. Wood represented soybean growers in District 2, which includes twelve counties in north-central Missouri.

During his time as a farmer leader of the Missouri Soybean Merchandising Council, Wood carried many responsibilities. He was instrumental in making the most of several international and research opportunities, including most recently visiting the winter breeding facility in Costa Rica to meet with researchers. He served as chair of the board's Research Committee as well.

Wood and his wife, Pat, continue to raise soybeans, corn and livestock on their family farm near Meadville. They are teaching their grandchildren to care for the crops and livestock and continue to be involved with programs for youth in agriculture in Linn County.

Kyle Durham of Columbia took Wood's place on the board of directors. Wood retired due to term limits. Growers may serve a maximum of four three-year terms.



Rex Wood

LEADERSHIP AT ITS BEST

Farmers from 11 states graduated from the 2014-15 ASA Leadership At Its Best program, including Missouri soybean grower Ronnie Russell of Richmond, Mo. He's followed in the program by Robert Alpers of Prairie Home, who was recently selected to participate in the 2015-15 class.

The Leadership At Its Best program is sponsored by Syngenta and develops leadership, communication and advocacy skills in farmers who have already shown potential to be strong leaders through the positions they hold on their state soybean association boards. The program includes extensive training to further develop their leadership skills and provide additional education on communication styles, strategic planning, forecasting, media training and business etiquette.

The ongoing benefits of leadership development are evidenced as state leaders utilize their training and their experiences to make a difference in American agriculture, effectively addressing Congress and the media on policy issues impacting soybean farmers and advancing into leadership positions on the national level. Celebrating its 22nd year, more than 400 ASA members have graduated from this program.

Leadership At Its Best Program participants are nominated by their state soybean association and serve in a leadership role within their states. Other 2015-16 class participants are: Adam Cloninger, Keo, AR; Cory Atkins, Seaford, DE; Elaine Gillis, Dunkirk, IN; Bill Shipley, Nodaway, IA; Caleb Ragland, Magnolia, KY; Brian McKenzie, Cassopolis, MI; Christopher Hill, Brewster, MN; Shane Grieving, Chapman, NE; Joe Ericson, Wimbeldon, ND; Kerrick Wilson, Sommerville, OH; Cliff Barron, Johnsonville, SC; John Krutzfeldt, Wolsey, SD; Hunter Grills, Newbern, TN and Brad Kremer, Pittsville, WI.



Ronnie Russell



Robert Alpers

E.L. REED OF CHILLICOTHE ELECTED TO SERVE WITH WISHH

American Soybean Association (ASA) President Wade Cowan has confirmed the election of ASA's World Initiative for Soy in Human Health (WISHH) officers and committee members for 2015-2016, including new member E.L. Reed of Chillicothe, Mo.. Officers are: Chairman Lucas Heinen (Kan.); Vice Chair Dean Coleman (Iowa); Treasurer Monica McCranie (S.D.); and Secretary Daryl Cates (Ill.)

New WISHH Committee members are: Stan Born (Ill.), George Goblish (Minn.); E.L. Reed (Mo.); Steve Reinhard (Ohio); and James Wilson (Mich.). Other WISHH Committee Members include: Gary Berg, Jeff Lynn and Bill Wykes (Ill.); Levi Huffman (Ind.); John Heisdorffer (Iowa); Ryan Cahoon (N.C.); and Art Wosick (N.D.) U.S. Soybean Export Committee Manager Marypat Corbett is an ex officio member.

In the early 2000s, forward-thinking U.S. soybean leaders in multiple states recognized that the growing protein demand in developing countries was a driver for their soybean sales. Well-researched studies showed that most future growth in food demand would be in developing and middle-income countries where populations and incomes were both on the rise.

Today, the trends are even clearer, proving that WISHH-founding farmers planned well. According to US Department of Agriculture (USDA) and other economic analysis, developing countries dominate world demand growth for agricultural products. USDA projects developing countries' demand for agricultural products will increase faster than their production. As a result, these countries will account for 92 percent of the total increase in world oilseed and meat imports in 2013-2022.

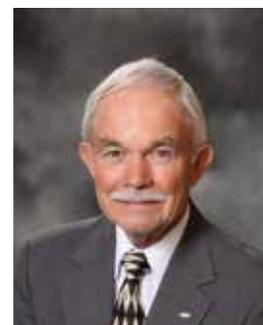
Through WISHH, US soybean farmers diversify their marketing investments. At the same time, WISHH creates economic opportunities in developing countries as they strengthen their agricultural and food supply chains. Lifting low-income consumers out of poverty is the most important factor in future global demand for food. As the world moves toward approximately 9 billion people in 2050, most protein demand growth will come from developing countries.

WISHH helps developing country businesses become more profitable by blending US soy into breads, beverages, meats and more for humans as well as feeds for livestock and aquaculture. In addition to making money, WISHH's supply chain partners help fill the protein gap that exists in many developing country populations' diets.

WISHH and the U.S. Soybean Export Council (USSEC) pave complementary trade routes that grow US soy markets. On Oct. 1, 2015, WISHH will transition its Bangladesh operations to USSEC since the country's annual U.S. soy purchases have now reached more than \$2 million. USDA funding aided WISHH in forging key relationships with organizations like the Bangladesh Bakery Association that signed a February 2015 agreement to conduct soy flour trials under a USDA Quality Samples Program.

After the transition, USSEC will build on WISHH's work in the human food sector. WISHH will continue pursuing non-soybean farmer funding for work in Bangladesh, especially in aquaculture and livestock, and collaborate with USSEC for project implementation.

WISHH is a trade-development organization. Since US soybean farmers founded WISHH in 2000, it has worked in 24 countries to develop long-term markets for US soybean farmers while fueling economic growth and value chain development. For more information, visit www.wishh.org.



E. L. Reed



The farmer leaders of WISHH

Front row from left: George Goblish (Minn.), E.L. Reed (Mo.); John Heisdorffer (Iowa); Treasurer Monica McCranie (S.D.); Vice Chair Dean Coleman (Iowa); Secretary Daryl Cates (Ill.), Gary Berg (Ill.), and James Wilson (Mich). Back row from left: Art Wosick (N.D.); U.S. Soybean Export Committee Manager Marypat Corbett; Bill Wykes (Ill); Chairman Lucas Heinen (Kan); Executive Director Jim Hershey; and Stan Born (Ill). Not shown: Ryan Cahoon (NC); Levi Huffman (Ind.); Jeff Lynn (Ill); and Steve Reinhard (Ohio).

THEY STARTED AT SOYBEAN

By Lindsey Robinson

Internships at the Missouri Soybean Association and Merchandising Council work to build a foundation of knowledge and experiences that will enable students to find their passion within agriculture. While past intern Carah Hart had a background in agriculture working on her family's diversified cattle and row crop farm in Carrollton, Mo., the time she spent with Missouri Soybean provided experiences that laid the groundwork for her early career.

During high school, Hart had the opportunity to work at her local radio station. After she spent a summer interning in their farm broadcast department, she decided to attend the University of Missouri and pursue a degree in science and agricultural journalism with an emphasis in broadcast. In the course of her studies at Mizzou, Hart was informed of an internship opportunity at the Missouri Soybean Association.

The summer of her sophomore year and fall of her junior year, Hart worked with the staff at Missouri Soybean to help create the Missouri CommonGround program, which is a group of Missouri farm women communicating about modern agriculture and sharing stories about farm life to build trust in farming areas and the people who work in agriculture.

"The summer I interned at Missouri Soybean, they had just started the program, so working with CommonGround and getting its message out was a big part of my internship," said Hart. "This program is still very special to me and I am happy to see that many of the women are still actively involved in the program."

Hart says that collaborating on the CommonGround project with both Missouri Soybean staff and the people on the United Soybean Board account at Osborn Barr laid the foundation for her first job after college.

"Following my time at Missouri Soybean, I got an internship working with Osborn Barr on the United Soybean account," said Hart. "The summer after I interned with them I began working full time on the United Soybean Board account at Osborn Barr."

Through working with both internships, Hart says one of the biggest things she learned was the differences between the Missouri Soybean Association and the Missouri Soybean Merchandising Council and its checkoff.

"While I grew up on a farm, no one had really explained to me how the checkoff worked or how it was different from the association side of things until I came to Missouri



Carah Hart

Soybeans," said Hart. "When I went into my future and now current career, I had a greater understanding of how it works and that benefited me greatly."

She was most interested to learn about the checkoff dollars that were invested into the research partnership with the University of Missouri. Today, she is happy to see the positive results of the partnership on high oleic soybeans that began as research trials when she was an intern. Hart also enjoyed seeing how the staff at Missouri Soybean stayed in touch with their farmers and how they worked together to benefit all soybean farmers.

Hart explained that everything she learned about Missouri soybeans, farmers, and their checkoff was important because she continues to use that knowledge foundation in her career. After working for Osborn Barr, Hart began working for Cultivate Agency, a marketing and communications firm in Justin, Texas where she worked with the Regional Dairy Checkoff and the Southeast United Dairy Industry Association.

Recently, Hart returned to her roots in broadcast radio and began working for the Red River Farm Network in Grand Forks, North Dakota as a farm broadcaster.



Lindsey Robinson is an intern with the Missouri Soybean Association and Merchandising Council. She is from Wellsville, Mo., and is studying science and agriculture journalism at the University of Missouri.

Many students have gained valuable experience as college interns with the Missouri Soybean Merchandising Council and Missouri Soybean Association. This feature follows some of those outstanding people who are now making a difference for agriculture.

For Missouri Soybean intern Joe Don McGaugh, working with soybean producers across the state and the staff at Missouri Soybean Association and Merchandising Council opened doors that led him to the career he has now. The internship gave him the opportunity to network with hundreds of people connected to agriculture and led him toward a career working in the Missouri House of Representatives.

During his internship in the summer and fall of 2004, McGaugh worked under John Kleiboecker in the Field Service Department promoting biodiesel and meeting with industry personnel across Missouri. While working for him, Kleiboecker was impressed with McGaugh's willingness to learn and promote agriculture.

"Joe Don was a lot of fun to work with because he had such a great attitude about things and was so willing to jump in and just work hard," said Kleiboecker.

Throughout the summer, McGaugh drove "Old Brownie," the biodiesel truck, to many Missouri Soybean sponsored tractor pulls supplying biodiesel to pulling tractors and equipment. Another memorable moment in his internship included a road trip to Chicago in which he spent 24-hours making a delivery of a load of food grade soybeans to a tofu processor.

McGaugh graduated from the University of Missouri with a bachelor degree in agriculture economics and a minor in political science. Thereafter, he began working on political campaigns in Northeast Missouri and then for Senator Jason Crowell in the Missouri Senate. For McGaugh, the people he met while working for Missouri Soybean enabled him to begin his career in the legislature.

"I know the Missouri Soybean Association staff helped me get an internship with Congressman Kenny Hulshof in Washington, D.C. the following summer, and that internship led me to where I am today," said McGaugh.

In 2010, he graduated from the University of Missouri-Kansas City with a law degree. Immediately following graduation he moved home to Carrollton, Mo. and opened his own law practice, McGaugh Law Offices, LLC. Today, he has offices in Carrollton and Richmond. After his return home, McGaugh was appointed to the positions of both Carrollton City Prosecutor and Carrollton City Attorney.

With a background working on his family's farm, he continues to be an advocate for agriculture and was elected as State Representative for the 39th District of the State of Missouri representing the counties of Ray, Carroll and Chariton. Currently, he serves on the Agriculture Policy



Joe Don McGaugh

Committee and has sponsored many pieces of legislation supported by Missouri soybean farmers.

"I always found Joe Don to be very interested in helping farmers," said Kleiboecker. "What impressed me the most was that he was not afraid to get his hands dirty and work hard trying to promote soybeans."

McGaugh enjoys the time he spends representing agricultural groups in the Missouri House and their members, however he has a special affinity to the state's soybean growers. Not only because of his history with Missouri Soybean, but because he has the privilege to represent Norborne, Mo., the Soybean Capital of the World.

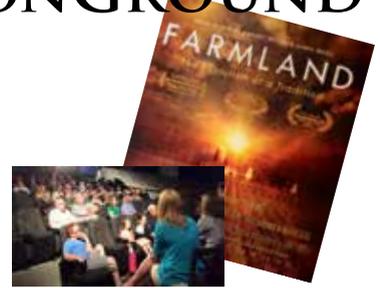
In his hometown, he continues to be a part of the local community and is involved with many agriculture organizations. McGaugh is a member of the Missouri Farm Bureau and is past Vice President of the Carroll County University of Missouri Extension Council.

McGaugh and his wife, Kassie, currently reside in his hometown of Carrollton, Mo. The couple has two daughters, Nora Kate, 5 and Vivian, 3. They are expecting another daughter at the end of October.



The McGaugh Family

Missouri's CommonGround volunteers have been working hard as summer draws to a close. In August, Missouri CommonGround hosted its first showing of the Farmland film and volunteers shared their personal experiences raising beef and row crops during a Washington County farm tour and dinner. The Farmland showing, hosted in Brookfield by Kate Lambert, drew 60 attendees – including representatives from the local school district, health care organizations and the county commission. The farm dinner had a sellout crowd when Kristi Sutton shared her farm experience raising beef cattle and trying out row crops. She, Laura Brown and Luella Gregory spoke to more than 100 people over the course of the day.



Keep an eye out for more from Missouri CommonGround – including a feature on volunteer Kelly Marshall and her family in an upcoming issue of Missouri Life magazine.

Want to know more? Visit us online at findourcommonground.com, on Facebook at Missouri CommonGround or on Twitter by following @MoCommonGround.



CommonGround is a grassroots movement made up of farm women, creating conversations about farming and food. Volunteers address animal care, GMOs, farm safety, family farms, food prices, antibiotic use, hormones and more through their experiences, connecting with those who otherwise might not have such a personal experience with agriculture.

KIDS' CORNER

Like what you see in this section? Have ideas? Let us know!

Activities are also available in the Missouri Soybean Merchandising Council's activity booklet. Request a copy by calling (573) 635-3819 or via email to ctew@mosoy.org.

WHO'S EATING OUR SOYBEAN MEAL?

BEEF COWS
love to fill up on soybeans – color the cow black!

HOGS
love to "pig out" on U.S. soybean meal – color this little piggy pink!

TURKEYS
gobble up more and more U.S. soy each year – color the turkey brown!

CHICKENS
eat the most soybean meal – color the chicken yellow!



DID YOU KNOW?

___ 68% OF SOYBEAN OIL IS USED FOR BAKING AND FRYING FOOD

___ 97% OF SOYBEAN MEAL IS USED IN LIVESTOCK FEED

___ 25% OF SOYBEAN OIL GOES TO MAKE BIODIESEL



MEMBERS MATTER

During the month of August, Missouri Soybean had the opportunity to host four development events with members of Missouri's congressional delegation. The American Soybean Association and FMC were great partners in sponsoring those events, which were designed to give growers personal access to their federal representatives and policy education in a small group setting. The meetings provided a great forum for some excellent conversations about agriculture and other federal issues for all soybean growers and everyone enjoyed a free meal to boot.

With the help of those partners and Missouri farmers, events were held with Congresswoman Hartzler at the Down Home Diner in Harrisonville, Congressman Graves at McEwen Farms in Leonard, Congressman Luetkemeyer at Zerr Farms in Williamsburg and Congressman Smith at Rebecca Sharpe Catering in New Madrid. At the Luetkemeyer event, growers also had the opportunity to hear a state policy update from Representative Jay Houghton and Senator Jeanie Riddle as well.

All of these elected officials are great leaders for agriculture and it is telling that they made time in their busy schedules to meet with our growers. Issue advocacy is something



Congressman Luetkemeyer speaking at Zerr Farms

soy checkoff dollars cannot be used toward and that's why membership in the Missouri Soybean Association is so important - to be able to fund policy initiatives that affect growers' bottom line both in Jefferson City and Washington, D.C.

Missouri Soybean is planning to host more events in the future and would welcome an opportunity to host one near you. If interested, please contact Dan Engemann at denge-mann@mosoy.org or (573) 635-3819.



YOUR PERSPECTIVE IS WORTH GROWING

The soy checkoff is looking for farmers from diverse backgrounds to get involved in the United Soybean Board or Missouri Soybean Merchandising Council. There are a variety of opportunities to serve, and your talent and input can make a difference.

Help to lead the U.S. soybean industry into the future. Contact the Missouri Soybean Merchandising Council at www.MOsoy.org and get involved today, or visit www.UnitedSoybean.org/GetInvolved.





SOYBEAN POLICY UPDATE:

It's been a busy summer on the federal policy front, and your Missouri Soybean Association (MSA) staff and board of directors have been hard at work advocating for your interests. As Congress wraps up its summer recess and heads back to Capitol Hill, big issues such as passing a highway bill and passing appropriations bills await them. The following is a recap of MSA efforts on your behalf, as well as a look ahead.

In July, MSA Director E.L. Reed, summer intern Charlotte Burgess and I were in Washington, D.C. as part of the American Soybean Association's (ASA) summer board meeting. We arranged visits with our entire delegation, talking to them about WOTUS, RFS biodiesel targets, GMO labeling, increased truck weights for interstate highways and appropriations. We are thankful for the great level of support of our priorities from our delegation members.

July saw the passage of HR 1599, the Safe and Accurate Food Labeling Act of 2015, offered by Congressman Mike Pompeo (R-KS). Pompeo's legislation would seek to end the patchwork of state by state GMO labeling laws by creating a national voluntary labeling standard. Missouri enjoys strong support amongst our delegation on this matter and all of our House members voted in favor.

If you haven't already, please take time to call them and ex-

press your thanks. There's work to do in the Senate, though and I'd encourage you to contact both offices and express your support for this legislation which is a top priority of MSA and ASA.

Before adjourning for recess, the House and Senate agreed upon a three month extension of highway funding. Both chambers want to pass a long term bill, but the jury is out on how to fund it. Discussions are ongoing on using repatriated dollars from overseas and raising fuel taxes as part of a larger tax policy legislative package.

At MSA's July board meeting, it was unanimous to endorse Sen. Roy Blunt for re-election. While we will wait for Sen. Blunt to announce his candidacy in his own timetable, the board felt it important to show support for Sen. Blunt who is a tireless champion of soybean priorities. I had the great honor to emcee a press event in support of Sen. Blunt's re-election at the Missouri State Fair. MSA board president Tom Raffety participated in the event, along with leaders from Missouri Cattlemen's Association, Corn Growers Association, Dairy Association and Pork Association. Together, Missouri's agriculture organizations are standing united in our support of Sen. Blunt.

MSA had the opportunity to host four membership development events with different members of Congress during

Dan Engemann serves as the Director of Industry and Producer Relations for the Missouri Soybean Association and Merchandising Council. He represents Missouri soybean farmers on policy issues at the state and federal levels.



Architect of the Capitol



Dan Engemann

August. In conjunction with ASA and our sponsor FMC, we hosted Representatives Hartzler, Graves, Luetkemeyer and Smith at events in their districts designed for growers to interact on issues important to them. These events are designed to highlight the importance of taking an active role in policy issues by becoming a member of MSA.

As I mentioned, Congress will be busy trying to finish up appropriations bills before the fiscal year ends September 30. As I write this, the House has passed 6 of 12 bills. Meanwhile the Senate hasn't passed any appropriations bills and it appears as if a Continuing Resolution is in order to avoid a shutdown.

Again, I want to thank each and every one of you for the contacts you have made to your federal legislators. Whether it's sending an email, calling their offices, or stopping at a local event, it all makes a difference for you and your fellow soybean growers.

Keep up the good work and stay in touch.

AT THE STATE LEVEL

The General Assembly has been relatively quiet since adjourning in May. However, interim study committees continue to meet on various topics each week around the state. Among those committees, the newly formed House Port Committee has taken testimony from a number of agricultural organizations, including the Missouri Soybean Association, on the importance of the river system and issues facing Missouri producers.



On August 1, House Republicans elected a new Majority Floor Leader. Rep. Mike Cierpoit of Lee's Summit was elected by his caucus to fill the role vacated by Speaker Todd Richardson. Cierpoit has one year left in the House before being term limited. Cierpoit had previously served as the assistant floor leader and that spot is set to be filled during the annual Veto Session in September.

Senate Bill 12, which includes a weight limit increase during harvest, went into effect August 28, 2015:

WEIGHT LIMITATIONS ON VEHICLES HAULING MILK & LIVESTOCK

(Section 304.180)

This act adds livestock to the current milk exemption for weight limitations on highways, and applies such exemption to all highways with the exception of Interstates. This act also allows weight limitations to be exceeded by as much as 10 percent on highways for hauling grain and grain co-products during harvest.

The annual Veto Session is set for September 16 at noon. Up for discussion and action during that session are the 17 bills Governor Nixon vetoed this year. A list of all the Governor's legislative actions is available online at http://www.senate.mo.gov/15info/BTS_Web/GovActionTAT.aspx?SessionType=R.

Furthermore, MSA continues to advocate for increased consumption of biodiesel. We recently formed a biodiesel work group made up of growers and industry specialists to make recommendations on policies that are supportive of this goal. As part of this effort, MSA's Tony Stafford and National Biodiesel Board's Scott Fenwick spoke at a meeting of Missouri state vehicles fleet managers and encouraged Missouri's Office of Administration to give serious consideration to giving state agencies the option to purchase diesel passenger, pickups and commercial vehicles. The group is starting a process to look at total vehicle cost which would include longevity and maintenance and diesel vehicles will be a great option under that evaluation.

- Dan Engemann and Scott Swain



UPCOMING EVENTS & ACTIVITIES

South Farm Research Center Showcase
University of Missouri, Columbia
September 26

CAFNR Career Fair
University of Missouri, Columbia
September 30

American Agri-Women National Convention
Portland, ME
November 5-8

American Society of Agronomy Annual Meeting
Minneapolis, MN
November 15-18

American Seed Trade Association Meeting
Chicago, IL
December 8-12

MO-AG Annual Meeting
Columbia
December 15-16

Missouri Governor's Conference on Agriculture
TanTarA, Lake of the Ozarks
December 16-18

Missouri Pork Expo
Columbia
February 9-10

Commodity Classic
New Orleans, LA
March 3-5

WANT MORE?



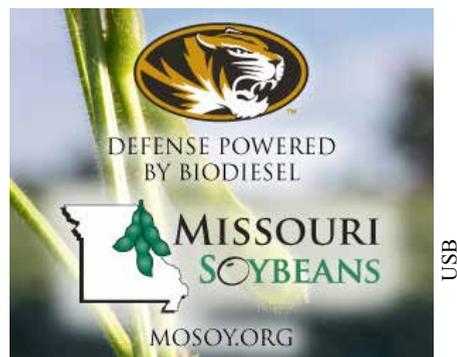
Visit us on mosoy.org to learn more!

"Like" us on Facebook and follow us on Twitter.



SEE YOU AT THE ZOU!

The Missouri Soybean team is back for the 2015 University of Missouri football season. The Missouri Soybean Association and Merchandising Council will be on hand for all the home games this season, promoting biodiesel and the great strides in efficiency made by Missouri soybean farmers. Listen for us in the stadium and on the radio during each 3rd and 4th down, as well as during the pre-game show. There will also be biodiesel graphics in the stadium, brought to you by the soy checkoff, and Association-hosted tailgates throughout the season.



2015 Home Football Games

September 5
vs. Southeast Missouri State

September 12
vs. Connecticut
*Ag Day

October 3
vs. South Carolina
*Military Appreciation Day

October 10
vs. Florida
*Homecoming

November 5
vs. Mississippi State

November 21
vs. Tennessee

GROWING SOYBEAN DEMAND

Missouri soybean farmers produce an abundant, reliable, high quality supply of soybeans. U.S. Soybean meal is processed under very high quality standards which ensures export customers receive a consistent high value product.

More than half of every crop travels across U.S. borders to foreign markets. Projections show demand from booming Asian economies will continue to grow, so international markets could offer U.S. soybean farmers more opportunity than ever before. China alone imports approximately 25 percent of all U.S. soy. Global demand for soybeans reached 284 million metric tons in the 2013/2014 marketing year and is estimated to grow to more than 350 million metric tons by 2023/2024.

Ensuring U.S. soybean meal is the preferred choice around the world, is a priority for the Missouri Soybean Merchandising Council (MSMC). In fact, MSMC works to build customer preferences for U.S. soy products by cooperative efforts with the United Soybean Board (USB), U.S. Soybean Export Council (USSEC), other Qualified State Soybean Boards (QSSBs), and the Missouri Department of Agriculture.

Missouri Soybeans' Director of Business Development, Tony Stafford, leads the charge on promoting Missouri's soybeans and soy products around the world. The 2013/2014 marketing year, the most recent for which

final numbers are available, saw China and Mexico as the top buyers of soybeans, meal and oil, with Indonesia, Canada and the Dominican Republic also being leading importers of U.S. soy products. That year, U.S. soybean farmers exported 2 billion bushels worth of soy, valued at \$30 billion.



Tony Stafford

MSMC's international marketing efforts are building relationships, partnerships, and markets in foreign countries. Recent marketing efforts include visits to China, Japan, Singapore, Malaysia, and South Africa. Upcoming trips are being planned to Vietnam and Myanmar. Recently, MSMC has hosted visitors from China, Senegal, Uganda, Myanmar and South Africa.

To learn more about international efforts to grow markets for Missouri-grown soybeans, soybean meal and soy oil, visit the Missouri Soybean Merchandising Council online at mosoy.org or the United Soybean Board online at unitedsoybean.org.



AND HERE'S A LOOK AT YOUR NATIONAL CHECKOFF INVESTMENTS.



MEAL

NEARLY 98% OF U.S. SOY MEAL FEEDS SOYBEAN FARMERS' NO. 1 CUSTOMER - POULTRY, SWINE, CATTLE AND AQUACULTURE.

The soy checkoff funds projects to:

- Improve the nutritional value of U.S. soy meal for animal consumption
- Increase exports of U.S. meat and poultry
- Work with decision makers to incorporate soy meal into feed rations



OIL

THE FOOD INDUSTRY USES ABOUT 70% OF U.S. SOY OIL.

The soy checkoff supports efforts to develop:

- High-oleic soybean varieties, which produce oil that helps farmers reclaim market share among food manufacturers
- Industrial soy oil markets, such as the biodiesel industry and heating-oil industry in its use of Bioheat, which helps diversify U.S. soy oil demand



FREEDOM TO OPERATE

U.S. SOYBEAN FARMERS' PROFITABILITY DEPENDS ON OBSTACLES THAT AFFECT THEIR FREEDOM TO OPERATE.

The soy checkoff studies:

- Biotechnology acceptance
- Sustainability demands
- Consumer opinion of today's farming practices

The soy checkoff also addresses these issues on behalf of farmers and their customers.



CUSTOMER FOCUS

U.S. SOY CUSTOMERS DON'T BUY SOYBEANS, THEY BUY SOY MEAL OR OIL.

Whether it's a protein-rich meal to feed a chicken or high-oleic oil for cooking a healthier potato chip, customers need soy's components. Farmers should keep this in mind to build their markets.

The checkoff also researches ways to increase and protect U.S. soybean yields and makes sure farmers see the results.



I WILL TAKE ACTION AGAINST HERBICIDE-RESISTANT WEEDS.

I will know my weeds. When they grow. When they pollinate. And I will stop them before they go to seed.

I will take action in the field and do whatever it takes to give my crops the upper hand against weeds.

I will take action with careful herbicide management and use multiple herbicide sites of action, because every action counts.

I will take action because it's my bottom line. It's not about this year or the next. It's about the long term.

I will take action. This time. For all time.

Now is the time to take action against herbicide-resistant weeds. Visit www.TakeActionOnWeeds.com to learn how you can prevent herbicide-resistant weeds from spreading.

