



BUILDING A HERD

*First Generation Rancher
Blazes His Own Trail*
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Raising Rice

The world's main grain
is right at home in
northeast Arkansas and
southeast Missouri
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Summer 2017

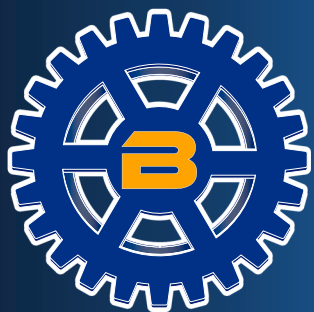
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It's Called MFA Oil for a Reason

What's in a name? Well, in our case it describes our business and why we are here. For decades, MFA Oil has been known as a dependable supplier of fuels and propane with a deep appreciation of our farmer-owners. But what about oil? While we do sell a significant volume of lubricants, we feel we have only scratched the surface of what is available to us.

We want you to understand that we offer the highest quality products available for your vehicle, tractor or combine. Our excellent lubricant products are backed by a warranty program to give you peace of mind that MFA Oil products won't compromise your equipment. We often run into scenarios where the big implement dealers will give you, the customer, the perception that if you were to use someone else's lubricant product, your warranty would be voided. The only possible way this could be legally truthful is if the dealer gave you the lubricant for free.

The Magnuson-Moss Warranty Act of 1975 states it is illegal for a warrantor to require you to purchase their branded products to maintain the warranty. The next time your implement dealer declares your warranty will be voided if you don't use their product, please ask for it in writing. Guess what? You won't get it.

Our lubricants are of the highest quality and are comparable or better than any product offered by your implement dealer or any other supplier. Not only are we providing excellent quality, in most cases,



buying MFA Oil brand lubricants will provide substantial cost savings compared to our competition. Additionally, we pay significant patronage refunds on our fuel, propane and lubes. In 2016, we paid 83 cents in patronage per unit of oil back to our farmer-owners, and 80 percent of that was in cash.

To make buying lubricants from us convenient, we offer the option of packaged products and bulk delivery to your farm. Our bulk systems eliminate the need to carry heavy drums and containers. We've also recently added our lubricant products to most of the local MFA Agri Services Centers.

If you are interested in learning more about our lubricant products, please give us a call at 800-MFA-LUBE (800-632-5823) or email us at productsupport@mfaoil.com.

Mark Fenner, President and CEO



Summer 2017 • Vol. 2 No. 3

This magazine comes to you courtesy of MFA Oil Company, a farmer-owned cooperative providing energy solutions to customers for more than 85 years.

We deliver high-quality propane, fuels and lubricants to farmers and other customers across a 10-state region stretching from Georgia to Utah. *Momentum* is an information service for farm families published by MFA Oil.

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THE MAGNUSON-MOSS WARRANTY ACT

Can an implement company refuse to honor your warranty because you used a different brand of lubricant? The Federal Trade Commission (FTC), the nation's consumer protection agency, says no. In fact, the Magnuson-Moss Warranty Act, which is enforced by the FTC, makes it illegal for original equipment manufacturers (OEM) or dealers to claim your warranty is void or to deny coverage under your warranty simply because you bought your lubricant from a different company. The only way an OEM can specify using only their proprietary products and deny warranty for not using them is if they provide the required item at no charge to the customer.



ON THE COVER:

Rice is a tough crop to grow, but it remains an important component of the crop mix for Mid-South farmers like Eric Rinehart. Photo by Jason Jenkins.

Building Better Barrels

F For four generations, the family-owned Independent Stave Company has produced high-quality oak barrels and other cooperage products for the wine and spirits industries. What began as one Missouri man's business has grown into an industry leader with an international presence.

In 1912, T.W. Boswell founded a stave milling business to craft oak staves destined for domestic cooperages responsible for making barrels to age whiskey and other spirits. Boswell had discovered an important fact about his home state: It was—and still is—an excellent source of white oak. Oak is a preferred hardwood to craft liquid-tight barrels, plus the wood passes on unparalleled characteristics (aroma, flavor, color, etc.) to the liquid as it ages.

The success of the company's stave mills led to a series of expansions, the first of which was in the 1950s, when Boswell's son, J.E. Boswell, founded the company's first cooperage in Lebanon, Mo. The 1980s and 90s saw massive expansion to international locations, including additional cooperages, mills, sales offices and more on six continents.

The company's Missouri Cooperage, an MFA Oil customer, continues to build on the vision of T.W. Boswell to craft custom barrels and other oak products for customers around the world, all built to order.

MAKING BARRELS

Craftsmanship drives the cooperage process, which involves not only shaping the white oak into staves and raising a barrel, but also toasting or charring the barrel to give it a unique sensory profile. Toasting and charring create nuance in the wine or spirit's taste, aroma, color, mouthfeel and other characteristics.

"Our barrels will become part of a larger story, which is why we are so passionate about innovation, state-of-the-art technology and helping our team of craftsmen excel every day in our cooperage," said Brad Boswell, chief executive officer. "Our team works hard to offer a diverse portfolio of products with unique flavor profiles to best serve the needs of the many customers we serve—to then create a point of difference in their own products."

SOURCING OAK

A premium source of white oak is essential to crafting world-class barrels.

"We have a team of log buyers with 250 years of combined experience who are actively purchasing high-quality, tight-grain white oak logs throughout the Midwest," said Garret Nowell, director of log procurement. "We will pay top dollar for logs meeting our specifications. If a logger or landowner is interested



Top: Independent Stave Company treats barrels with fire to release the wood's unique flavor and aroma, which will pass on to wine or spirits. Bottom: A log buyer inspects white oaks for Independent Stave Company, which follows strict quality standards in selecting its wood.

in selling to us, our website makes it easy to find your local buyer. We can explain our specifications and mill locations to build a productive working relationship now and for the future."

During the sourcing process, Independent Stave Company is mindful of sustainability. They work with the Missouri Department of Conservation, the U.S. Forest Service and other organizations to ensure environmental health and forest sustainability remain a priority.

"We are a family-owned business always looking to the future," Nowell says, "and we want to do everything in our power to ensure there will be an abundance of white oak forest in Missouri for generations to come." **M** — By Sara Brunsvold



Raising

The world's main grain is right at home in
northeast Arkansas and southeast Missouri

Story and photos by Jason Jenkins



The only

thing tougher than rice is the farmer who grows it.

What would be the worst conditions for other crops makes the best environment for rice production. Rice thrives in heavy clay soils that retain water—the type of fields most growers try to avoid.

“An old farmer once told me that rice likes the worst ground you’ve got, and that’s what I try to do,” says Clayton Miller, who grows rice, corn, soybeans and wheat on 4,500 acres in Caraway, Ark.

Even this spring’s excessive rain couldn’t drown his early rice crop, Miller adds. Some of his fields were covered with floodwaters for up to 20 days, and yet the resilient plants survived.

“Rice may be the most expensive crop we’ve ever planted, but it’s the safest,” he says. “It’ll come out from being under water and be fine. It’s amazing how tough it is.”

Tenacious, yes, but also labor- and capital-intensive, considering the cost of irrigation, heavy fertilization and aggressive weed control. Growing rice is not for the faint of heart, says Eric Rinehart, a third-generation farmer whose family has raised this crop in the Missouri Bootheel since the 1970s. The 29-year-old is now on his 12th crop of long-grain rice and says there’s “never a year the same.”

“With rice, you don’t just plant, spray, fertilize and leave it,” he says. “Nothing about it is easy. We grow it on our roughest farms. It’s hard on equipment. Fertilizing is inefficient. It’s the most difficult crop to take care of in the bins. A rice farmer is used to dealing with a lot of things.”

Despite those challenges, rice remains an important part of the crop mix for both Miller and Rinehart, although both farmers dramatically cut their acreage this year, mainly due to economics, not weather. Miller, also 29, who has only been growing rice for the past three years, cut his acreage

Rice



by more than half in 2017, from 1,300 acres to 600 acres. On his Dudley, Mo., farm, Rinehart planted just 1,600 acres, down from 3,000 acres a year ago.

Those decisions were made long before losses and delays due to spring flooding, the young farmers say. Rice prices have been steadily on the decline over the past few years while world stocks have been rising. In April, the U.S. Department of Agriculture reported a long-grain monthly average cash price of \$9.39 per hundredweight, the lowest since USDA first reported monthly cash prices by class in August 2008.

By contrast, prices have been climbing for soybeans, and many farmers opted to plant this less input-intensive crop.

“Last year was a textbook year for weather and a huge bumper rice crop,” says Rinehart. “I just can’t see it adding up to that this year. If I’m not going to make any money on rice, I’d rather have less money in a bean crop.”

He’s not alone. Soybean acreage is expected to be up in both Arkansas and Missouri, according to USDA’s March 31 Prospective Plantings report, which also shows U.S. rice acreage to be down 17

percent from 2016. Specifically, long-grain rice—the type mainly grown in the Missouri Bootheel and Arkansas Grand Prairie—is projected to be down 22 percent at 1.9 million acres.

Feeding the world

The primary staple for more than half of the global population, rice is produced worldwide, with about 90 percent grown in Asia. At 18 billion pounds per year, U.S. rice accounts for only 2 percent of global production. Nearly 85 percent of the rice eaten in America is grown domestically.

“Rice is 100 percent a world market,” Rinehart says. “What happens in America really doesn’t affect the price. We could have our worst crop ever and the price of rice could still go down because the global market is what sets it all.”

With roughly 1.2 million acres each year, Arkansas leads the way among six rice-producing states in U.S. The grain is the state’s second-highest-value commodity and its top agricultural export, contributing an estimated \$1.3 billion to the Arkansas economy.

Missouri ranks fourth among states for rice production. The Bootheel

region is home to the industry, which produces mainly long-grain rice. Rice averages around 150,000 acres each year, contributing more than \$150 million to the Show-Me State’s economy. The other U.S. rice-producing states are California, Louisiana, Mississippi and Texas.

In all these regions, water is the common denominator. Rice needs access to readily available irrigation sources. Typically, the crop is grown in precision-graded fields designed to be flooded during most of the growing season. This improves rice’s ability to compete against weeds for nutrients and sunlight and reduces the need for herbicides.

On his northeast Arkansas farm, Miller uses the traditional practice of growing rice in fields sectioned into “paddies” by earthen levees, which produce a controlled flood environment. If water were allowed to flow freely across a field without levees, parts of the field would receive no water while other parts would receive too much water, he explains.

“We put our levees 200 feet apart in a field with 0.10 percent grade,” Miller explains. “Our water will be a little more than 2.5 inches deep on the bottom end by the



Top left: Eric Rinehart releases water for a controlled flooding in his rice field in southeast Missouri. Top right: Rinehart says flooding helps to control weeds and erosion. Bottom left: Clayton Miller had some of his rice acreage in northeast Arkansas flooded by heavy rains for more than 20 days, but the crop survived. Bottom right: Nearly 85 percent of the rice eaten in America is grown domestically.

time you get water on the top end of the paddy. We do that for ease of getting it all flooded. It cuts it down into manageable, floodable sections.”

Rinehart, on the other hand, grows rice on “zero-grade” fields, which refers to land that’s been leveled to the point of no slope, like a tabletop. In this system, water is drained by a series of ditches across the field. Zero-grade fields also are typically relegated to rice alone, which means continuous rice has been standard practice in Rinehart’s 3,500-acre operation. Adding more soybeans this year has shifted that pattern.

“This field here, it’s the first time it’s been in soybeans in 20-something years,” he says. “That’s a challenge in itself. We have a lot of zero-grade fields we’re trying to put back in slope so we have more flexibility with our rotation.”

Rinehart also is growing some “row rice” as an alternative to conventional flooded rice production. The advent of new herbicides has helped encourage producers like him to try this practice in which rice is raised in fields similar to other row crops. Instead of a continuous flood, the rice receives intermittent furrow irrigation. This conserves water, requires

less land preparation and allows farmers to decide late in the planting season if they want to grow rice, soybeans or corn.

“Row rice is a great option,” Rinehart says. “The best part is your tillage. It dries up sooner because it’s on those beds. Weed control is difficult, though. You have to go back in there and fight things like pigweed because you don’t have the flood to take care of it.”

For these two farmers, rice production for next year begins just after harvest ends this year. After threshing the grain, they burn the left-behind stubble and then flood some



of the fields, which smooths the seedbed, helps control weeds and erosion, and provides habitat for migratory waterfowl.

"Your rice crop is made in the fall, in my opinion," Rinehart says. "We burn every acre, and it's a huge money saver. We get most of our field work done in the fall. We flood about half our acres for wildlife and to slick up the fields, especially any ground that was worked."

In the spring, rice fields are carefully leveled with GPS or laser-guided grading equipment as needed. Planting typically begins in late March or early April using a drill or air seeder, similar to planting wheat. Each tiny seed will produce multiple "tillers" or shoots, each of which should develop a head filled with rice grains.

"I start planting April 1, no matter what the temperature is or what's coming," Rinehart says. "If I can pull the drill, I'm going as hard as I can, as fast as I can, as long as I can until I'm done. I've learned you can't farm around the weather, and my earliest rice has always been my best."

It may take up to a month for rice seedlings to emerge, he added, describing rice seed as "so tough but so delicate at the same time."

"You can hardly get it out of the ground without a rain because the grain has to soak and swell," Rinehart says. "It's a long, drawn-out process. Often, the crop has to be 'flushed,' which means we flood it and

then drain it, because that seed takes such an incredible amount of moisture to get going."

Before the fields are flooded in late May or early June, they'll be sprayed with a combination of herbicides at least twice to fight early-emerging weeds such as barnyard grass and orchardgrass. The first application goes out at planting with the second shot right before flooding.

Even though flooding chokes out weeds during much of the season, rice farmers haven't been immune to resistance issues that many other row-crop farmers have seen, Rinehart says.

"You hear about the pigweed problems down here; well, the rice guys have the same thing," he says. "Chemicals that worked five years ago don't work anymore, so you're spending an extra \$50-\$60 an acre just on weed control, and that makes it tough."

As for plant nutrients, rice needs nitrogen almost throughout the growing cycle. Early-season applications are made with a ground rig if possible or with an airplane if the fields are too wet. After flooding, more nitrogen is applied.

"Timing with rice is everything," Rinehart says. "If I knew in December when I could plant, when I could fertilize, when I could spray and when I could go to flood, I could make you all kinds of money in farming. But you don't know. And that's the hard part."

The fields will stay flooded until mid-August, when they're drained and allowed to dry until the grain is ready for harvest. Rice is combined using stripper-headers, which take the grain from the heads and leave the stalks standing.

"We take the water off about three weeks before we get ready to thresh," Miller explains. "This year, it's going to be all over the place—September and October both—since we had so much trouble in the spring."


A good yield for rice is between 180 and 200 bushels per acre. Rinehart says his crop averaged 193.8 bushels per acre last year.

"It was a really big year for us," he says. "We didn't have enough storage, but that's a good problem to have."

After harvest, the rice goes to a mill, where the "rough" grain passes through machines to remove the inedible hulls. This process yields brown rice, which can be used as-is or further milled by machines that remove the bran layer to produce white or "polished" whole kernels of rice. Finally, the white rice is enriched with a thin coating of vitamins to replace some of the nutrients lost during milling.

Domestically, about 58 percent of U.S. rice is consumed as food. Approximately 16 percent goes into processed foods and beer respectively and an additional 10 percent is found in pet food. The U.S. also is a major exporter of rice, with the global market accounting for nearly half the annual sales volume. Arkansas rice finds its way to markets in Canada, Mexico, Central America, Haiti and Saudi Arabia. About half of Missouri's rice is used domestically with the remainder exported. Rinehart says his crop is shipped to Mexico by barge.

Watching current trade negotiations carefully, the growers say opening new export markets will be key to their future success in rice production. Just add that to the list of factors that make rice farming so challenging.

"There are all these things we have to take into consideration when making decisions, but there's so much we can't control," Rinehart says. "But that's the beauty of farming. I don't know anything. Every year, every day, it's crazy. Just when you think you have it all figured out, you realize you don't." 

FARM TEAM RETURNS



Agriculture is a Missouri superhero that contributes \$88.4 billion to the Missouri economy! That's 88.4 billion reasons to root for the Farm Team as it steps back onto the field for a third season in Busch Stadium! The team is flexing its superhero powers at every Friday night home game to showcase Missouri's a-maize-ing farm families. Catch the Baconeer, Sweet Bessie, Simon the Soybean and Captain Cornelius pre-game in Ford Plaza, cruising across the outfield during the in-game race and anytime at #GoFarmTeam. While the Cardinals are working hard to bring home the win, today's farmers are using the latest technology to provide the foods we enjoy while conserving natural resources for the next generation. It's a responsibility taken seriously – on and off the field.

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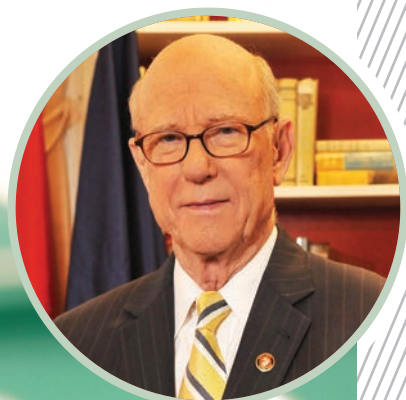
Agriculture Embraces EPA Administrator

By Adam Buckallew



Photo Courtesy of
U.S. Environmental Protection Agency

Left: EPA Administrator Scott Pruitt. Below Top: Missouri Gov. Eric Greitens. Below Middle: Sen. Roy Blunt. Below Bottom: Sen. Pat Roberts.



Ask farmers for their views on the U.S. Environmental Protection Agency (EPA) and you may hear a few choice words. Generally speaking, farmers fear and mistrust the EPA, an agency they say doesn't understand agriculture and too often oversteps its authority when it comes to regulating farming operations. That attitude may be changing as the EPA evolves under new leadership.

Scott Pruitt was confirmed and sworn in Feb. 17 as the 14th administrator of the EPA. Pruitt, who formerly served as attorney general for the state of Oklahoma, recently embarked on a cross-country tour to share his plans to take EPA "back to basics" by refocusing the agency on its intended mission and returning power to the states.

When Pruitt took the stage at a visit to Thomas Hill Energy Center near Clifton Hill, Mo., on April 20, he received a hero's welcome from the farmers, agriculture industry representatives and power plant employees in attendance.

"For too long, over the last eight years, we've had an administration that told us we had to choose between jobs growth and protecting our environment," Pruitt told the crowd. "That is simply a false choice. We can be both pro-growth and pro-environment."

During his speech, Pruitt was often interrupted with cheers and applause as he outlined his plans to roll back regulations from the previous administration, including the controversial Waters of the United States (WOTUS) rule.

President Trump signed an executive order calling for the dismantling of the WOTUS rule on Feb. 28. The next day, Pruitt spoke at the American Farm Bureau Federation's advocacy conference and called the executive order "the first step toward fixing what's wrong with our government regulations."

Pruitt pledged to the crowd in Clifton Hill that under his direction, the EPA would no longer engage in water regulation decisions at the state level.

"I believe that you care about the air you breathe and the water you drink," Pruitt said. "The most important asset property

owners have is their land. I know that. You know that. Washington, D.C. doesn't know that."

A NEW DAY AT THE EPA

Pruitt was an unconventional selection to head the EPA. Prior to his appointment, he was known for routinely challenging the EPA's regulatory oversight by filing more than a dozen lawsuits against the agency. Pruitt proudly proclaimed himself as "a leading advocate against the EPA's activist agenda" on his website while serving as Oklahoma's attorney general. Now, Pruitt is hard at work as a reformer in the organization he formerly opposed. Farmers and leaders in agriculture view Pruitt's approach to EPA as a breath of fresh air and look forward to working with him to reduce their regulatory burdens.

Blake Hurst, president of Missouri Farm Bureau, was among the contingent of farmers who welcomed Pruitt to Missouri.

"We are encouraged that it is a new day at the (EPA), one in which all sides are heard and common sense will be considered in decisions that affect people's lives and economic livelihood," Hurst said. "The last time an EPA administrator traveled to our state, she was in the midst of a lobbying campaign for the onerous Waters of the United States rule that would make 99 percent of Missouri land subject to federal regulation. President Trump's decision to conduct a thorough review of the WOTUS rule is a good step, and we look forward to the day when government overreach is no longer standard operating procedure. Missouri farmers and ranchers work hard every day to produce an abundance of high-quality and affordable food and don't need to be targeted for unnecessary and costly government regulations."

Pat Roberts (R-KS) and Roy Blunt (R-MO), two of the 52 members of the U.S. Senate who voted to confirm Pruitt to his new post, welcome the opportunity to work with Pruitt to better serve farmers and other rural constituents.

"For years we have struggled with an EPA that was not only tone deaf to the needs and concerns of rural America, it was downright adversarial," said Roberts, who chairs the Senate Agriculture Committee. "Producers were burdened with overregulation, which left them feeling



ruled, not governed. I am confident Pruitt will lead an EPA that is more respectful of agriculture and will work to restore the trust of farmers, ranchers and rural Americans.”

Blunt struck a similarly optimistic tone when introducing Pruitt to the crowd at the Thomas Hill Energy Center.

“If you would have told me a year ago that we could be here today with Scott Pruitt as the administrator for the EPA, I would have said, ‘Surely it can’t be that good,’” Blunt said. “We have now someone at the EPA who has both fought the EPA and I believe is willing to make a new commitment for the EPA to be doing what the EPA is supposed to do.”

BUILDING FARMERS’ TRUST

Besides rolling back regulations, Pruitt has committed to better manage the interaction between his agency and farmers. In May, he announced he would extend the implementation of the revised final Certification and Training

of Pesticide Applicators rule by one year. Pruitt said EPA received feedback from states and stakeholders indicating more time and resources were needed to prepare for compliance with the rule. The extended timeline is expected to help EPA provide adequate compliance and training resources to the states.

“In order to achieve both environmental protection and economic prosperity, we must give the regulated community, which includes farmers and ranchers, adequate time to come into compliance with regulations,” Pruitt said. “Extending the timeline for implementation of this rule will enable EPA to consult with states; assist with education, training and guidance; and prevent unnecessary burdens from overshadowing the rule’s intended benefits.”

During his trip to Missouri, Pruitt met with Gov. Eric Greitens to discuss the pesticide applicator rule, among other issues.

“Administrator Pruitt proved the old way of doing business at the EPA is over and done with,” Greitens said in a news release. “We presented them with a problem, and they took quick action to begin fixing it. Missouri farmers have waited a long time for common sense government, and now it’s on its way. I’m grateful for this new leadership, and look forward to continuing to work with this administration to curb regulations that are killing jobs and hurting our farmers. It’s time for government to get out of the way and let our farmers farm.”

The meeting with Greitens is indicative of Pruitt’s commitment “to work in coordination with states to create a healthy environment where jobs and businesses can grow.”

Pruitt’s back-to-basics approach reflects his efforts to refocus the EPA on its core mission: protecting the environment by engaging with state, local and tribal partners to create sensible regulations that enhance economic growth.

One of the fundamental problems with EPA, Pruitt said, has been a breakdown in the federal-state partnership. He wants to steer the agency “back within its lane” and away from “picking winners and losers.”

Farmers are hopeful the new approach will mean less regulatory red tape and more freedom to operate. If Pruitt is successful in implementing his regulatory rollback goals, farmers may have to rethink their perceptions of the EPA. It may seem strange to think of a friendly face leading the EPA, but Pruitt appears to be on his way to transforming a former perceived antagonist into a potential ally. **M**

EPA’S BACK-TO-BASICS AGENDA

EPA Administrator Scott Pruitt’s “Back-to-Basics” agenda is intended to refocus the agency on its intended mission, return power to the states and create an environment where jobs can grow.

- Protect the environment by engaging with state, local and tribal partners to create sensible regulations that enhance economic growth.
- Review and, if appropriate, revise or rescind the Clean Power Plan.
- Review the Waters of the United States rule.
- Clear the backlog of chemicals awaiting EPA approval.
- Help states with air quality targets, toxic waste cleanup and water infrastructure issues.

- Rescind greenhouse gas and fuel economy standards for model year 2022-2025 vehicles and work with the U.S. Department of Transportation to review all vehicle standards.
- Review the Oil and Gas Methane New Source Performance Standards.
- Allocate funds for vital environmental projects, such as providing \$100 million to upgrade drinking water infrastructure in Flint, Mich.
- Stop the methane Information Collection Request (ICR), which the EPA says costs U.S. businesses more than \$42 million per year.
- Launch an EPA Regulatory Reform Task Force to undergo extensive reviews of the misaligned regulatory actions.



**MFA Oil will soon begin hosting its annual customer open house events.
You are invited to attend the event nearest you.**

Missouri

Advance • Thursday, Oct. 12
Albany • Saturday, Sept. 16
Alma • Friday, Aug. 11
Aurora • Wednesday, Oct. 4
Bernie • Thursday, Oct. 12
Bethany • Wednesday, Aug. 30
Bolivar • Thursday, Oct. 26
Boonville • Friday, July 7
Bowling Green • Wednesday, Aug. 2
Braymer • Tuesday, July 18
Brookfield • Monday, Aug. 7
Brunswick • Tuesday, Aug. 1
Buffalo • Thursday, Oct. 26
Butler • Wednesday, July 26
California • Tuesday, Aug. 22
Cameron • Tuesday, July 18
Canton • Thursday, Sept. 14
Carrollton • Wednesday, Aug. 9
Carthage • Tuesday, Oct. 3
Center • Wednesday, Aug. 2
Chillicothe • Monday, Aug. 7
Clarkton • Thursday, Oct. 12
Clever • Thursday, Oct. 19
Clinton • Thursday, Sept. 14
Cole Camp • Tuesday, Sept. 12
Columbia • Thursday, Aug. 24
Cuba • Wednesday, Oct. 18
Dexter • Thursday, Oct. 12
East Prairie • Tuesday, Oct. 10
Emma • Friday, Aug. 11
Fairfax • Saturday, Aug. 5
Fulton • Thursday, Aug. 24
Gallatin • Wednesday, July 12
Glasgow • Thursday, Aug. 3
Golden City • Thursday, Oct. 5
Green City • Friday, Aug. 4
Hale • Monday, Aug. 7
Hamilton • Tuesday, July 18
Hardin • Friday, Aug. 11
Harrisonville • Thursday, Sept. 7
Hermann • Tuesday, Oct. 17

Higginsville • Friday, Aug. 11
Hornersville • Monday, July 10
Jackson • Wednesday, Oct. 18
Jamesport • Wednesday, July 12
Jasper • Tuesday, Oct. 3
Jefferson City • Tuesday, Aug. 22
Kahoka • Thursday, Aug. 24
Kewanee • Tuesday, Oct. 10
King City • Saturday, Sept. 16
Kirksville • Thursday, Aug. 10
LaBelle • Thursday, Sept. 14
Lamar • Tuesday, Oct. 3
Lancaster • Thursday, Aug. 24
LaPlata • Wednesday, Sept. 13
Lebanon • Monday, Aug. 21
Lexington • Friday, Aug. 11
Lincoln • Tuesday, Sept. 12
Lockwood • Thursday, Oct. 5
Macon • Monday, Aug. 7
Mansfield • Tuesday, Oct. 17
Marshall • Friday, Aug. 11
Marshfield • Wednesday, Oct. 18
Marthasville • Wednesday, Aug. 9
Maryville • Saturday, Aug. 12
Maysville • Wednesday, Aug. 2
Memphis • Thursday, Aug. 24
Mendon • Tuesday, Aug. 1
Mexico • Tuesday, Aug. 22
Milan • Friday, Aug. 4
Moberly • Monday, Aug. 7
Monroe City • Thursday, Aug. 3
Mound City • Saturday, Aug. 5
Neosho • Tuesday, Oct. 10
Nevada • Wednesday, July 26
New Haven • Tuesday, Oct. 17
Novelty • Wednesday, Sept. 13
Otterville • Friday, July 7
Owensville • Wednesday, Oct. 25
Palmyra • Thursday, Aug. 17
Paris • Tuesday, Aug. 22
Pattonsburg • Wednesday, Aug. 30
Perry • Wednesday, Aug. 2
Perryville • Tuesday, Oct. 24

Pilot Grove • Friday, July 7
Poplar Bluff • Wednesday, Aug. 9
Princeton • Wednesday, Aug. 30
Purdy • Wednesday, Oct. 11
Qulin • Wednesday, Aug. 9
Rolla • Wednesday, Aug. 16
Salisbury • Thursday, Aug. 3
Sarcoxis • Wednesday, Oct. 25
Sedalia • Tuesday, Sept. 12
Shelbina • Thursday, Aug. 3
Sheridan • Saturday, July 15
Sikeston • Tuesday, Oct. 10
Springfield • Thursday, Oct. 19
St. Joseph • Friday, Aug. 25
Stanberry • Saturday, Sept. 16
Ste Genevieve • Thursday, Oct. 26
Steele • Monday, July 10
Tipton • Friday, July 7
Trenton • Monday, Aug. 7
Union • Thursday, Aug. 17
Unionville • Friday, Aug. 4
Vandalia • Wednesday, Aug. 2
Warrensburg • Tuesday, Sept. 9
Weaubleau • Thursday, Oct. 12
West Plains • Tuesday, Aug. 22
Willow Springs • Tuesday, Aug. 22
Windsor • Tuesday, Sept. 12
Wright City • Wednesday, Aug. 9

Arkansas

Elaine • Wednesday, Sept. 20
Helena • Wednesday, Sept. 20
Lake City • Thursday, Sept. 7
Lonoke • Thursday, Sept. 28

Iowa

Centerville • Friday, Aug. 11
Humeston • Tues., Aug. 29
Lenox • Saturday, July 15
Mount Ayr • Saturday, July 15

Kansas

Emporia • Thursday, Aug. 10
Garnett • Wednesday, Aug. 9

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River Transport Provides Competitive Service for Farmers

Traditionally, wholesale suppliers of fertilizer, grain and feed rely on two modes of freight transportation: rail and truck. However, suppliers like AGRIServices of Brunswick (ASB) in north central Missouri have found a third option is highly valuable: river barges.

The Mississippi River watershed, which comprises the Arkansas, Missouri, Mississippi and Ohio rivers, annually transports \$54 billion of agricultural products. Bill Jackson, general manager of ASB, says having the ability to export grain via barges creates competition among the three transportation modes, which helps to improve pricing for farmers.

River transport has been the most efficient way to ship product for ASB, a customer of MFA Oil, in the past 24 months.

With 8,600 miles of navigable waterway in the Mississippi River watershed, the U.S. inland waterway system is a key advantage in shipping grain domestically as well as internationally by connecting to ports in the Gulf of Mexico.

“Grain is transported much more quickly into domestic and international markets using barges,” Jackson said. ASB has exported between 5 million and 6 million bushels of corn, soybean and feed on 100 outbound barges in the past year. A single barge can hold the equivalent of 70 truckloads of grain or about 58,300 bushels.

“Approximately one-third of our freight comes through barges,” Jackson said. “We hope to double the number of loads we currently receive and export using river traffic.”

Such an expansion would continue to dispense grain into markets quicker and ensure transportation prices remain competitive. **M**

Photo by Jody Confer

WWW.MFAOIL.COM

MOMENTUM /// 17

BUILDING A HERD





FIRST GENERATION RANCHER BLAZES HIS OWN TRAIL

Story and Photos by Adam Buckallew

Lincoln Hough was a seventh-grade student when he made the fateful purchase that would help shape his future. A \$450 loan from his parents bought Hough three Hereford heifers, which he bred to a neighbor's bull. Three calves later, he had \$1,000 in his savings account, and felt as if he had just stumbled upon his own personal golden goose.

"The first calf paid off the loan to mom and dad, and the other two were money in the bank," Hough recalls. "I wasn't paid an allowance and my parents didn't give me money for good grades, so when I sold those calves, I felt like the richest person you've ever met. I thought I had it all figured out, and if I could just get three more cows, it would be just like printing money."

The experience with the heifers and calves was Hough's introduction to agriculture. His family wasn't involved in farming or ranching, but they did have 40 acres of pasture on the outskirts of Springfield, Mo. Despite his young age, Hough saw opportunity when he looked at his family's land.

"Before I bought the heifers, I remember looking around and seeing cattle all over the countryside in southwest Missouri and thinking to myself, 'There's got to be a reason why all of these people are doing this,'" says Hough.

The initial success was enough to motivate Hough to deepen his investment in cattle. He went to the bank, secured a loan to purchase an additional seven cows and rented a neighboring field. From that point, he was well on his way to becoming a first-generation rancher.

FINDING A MENTOR

Hough, 35, and his wife, Sarah, now have a bona fide farm with a few hundred head of cattle in northeastern Greene County, Mo. They run a cow-calf operation where they background all of their calves up to 750 pounds and raise their own replacement heifers.

"I've been able to grow my herd from those three initial heifers into the business we have today," Hough says.

Hough's early start gave him the opportunity to slowly build his herd while he finished his schooling. When he was 15, Hough began working at the dairy farm down the road from his parents' house for extra money and to broaden his agricultural knowledge. There he would meet Ferguson Feemster, who owned the dairy and would go on to become Hough's farming mentor.

Feemster laid the foundation of Hough's agricultural understanding through conversations the two would share once Hough was finished with his milking responsibilities for the day. Hough worked at the dairy for 10 years as he finished high school and college.

"Ferg taught me so much, but the main lessons were to never assume you know everything and to never quit learning," Hough says. "He knew there was always something else to learn, and he was willing to adapt and be flexible enough to succeed."

Taking his mentor's advice to heart, Hough has begun to adapt his management practices. He recently converted much of the pasture land surrounding his home into a rotational grazing farm.

"I wouldn't call it intensive rotational grazing, but we are running about 100 to 125 weaned calves into a new paddock every three days," Hough says. "We have about a dozen paddocks set up for rotation, and it's working well so far."

BUILDING UP THE OPERATION

When Hough graduated with a degree in political science from Missouri State University, he had about 50 cows and a decision to make. He knew he either needed to expand his cattle operation significantly or it would be time to sell.

"I was still working at the dairy, but I knew that farm was never going to be my farm," Hough says. "The dairy provided me with a wonderful education, but I knew if I wanted to have a farm of my own, I'd have to do it on my own."

It was about the same time when Hough learned of a neighbor who intended to sell 75 cows and rent his farmland. He made a bid for the cows and the farm lease, but the neighbor decided on a different offer. The other deal eventually fell through, and the neighbor came back to Hough to see if he was still interested.



**"THERE ARE A LOT OF PEOPLE WHO WILL TELL YOU, 'YOU CAN'T DO IT, IT'S TOO EXPENSIVE AND TOO HARD,' OR 'IF YOU DIDN'T GROW UP ON A FARM, THERE'S NO WAY YOU CAN DO IT,' BUT THAT'S JUST NOT TRUE."
-LINCOLN HOUGH**

"We came to an agreement, and the size and scope of my cattle business more than doubled in one fell swoop," notes Hough. "That was really the thing that propelled us to the position we are in now."

Today, Hough's operation includes 400 acres of property he and his wife own and about 1,500 acres they lease.

"I knew it was going to be too expensive to try to buy land, equipment and cattle all at once and pay interest on all of it," says Hough. "You just can't afford to do it that way unless you win the Powerball. We gradually built up our herd before we ever bought a piece of ground."

Hough credits his father for helping to develop his understanding of the financial side of cattle ownership.

"From the beginning, my dad told me I had to treat my investment into those original three heifers like a business, and that included paying rent for the 40 acres of land my parents own," Hough says. "It helped me learn this is not a get-rich-quick scheme. This is a game of longevity."

When farmers in the area have property they are looking to sell or lease, Hough, who has developed a reputation as an up-and-coming cattleman, is one of the first people they call.

"People like the way we take care of the land and the cattle, and that's given us opportunities to expand," says Hough. "There are a lot of farmers and ranchers in this area who are nearing the age where they want to sell or turn over the managerial responsibilities of their farm."

We've made a few deals where we purchase the cows, rent the farm and the owners continue to live on the property. Those types of deals make for seamless transitions where everybody wins."

PATH TO THE FARM

It's as hard as it's ever been to get into agriculture these days, but Hough says that doesn't mean it's impossible.

"It's not easy, but you shouldn't let that stand in the way of going for it if this is something you are passionate about," Hough says.

"There are a lot of people who will tell you, 'You can't do it, it's too expensive and too hard,' or 'If you didn't grow up on a farm, there's no way you can do it,' but that's just not true. It may take longer and you may not start out with a turnkey operation, but you can make it happen if you are patient and put in the work."

Hough's wife, Sarah, says their philosophy of setting small, attainable goals has helped to grow the operation.

"Lincoln has always done a great job of thinking through how we get to the next level," Sarah says. "We try to be strategic with our purchases. We look at what it will take to help us meet our goals—whether it's a piece of hay equipment, a truck, more land—and we plan accordingly."

While Hough may not have had a generations-old family operation to join when he was ready to jump into agriculture, he says there are some advantages to starting out on your own.



Opposite page: Lincoln Hough got his start in farming with three heifers he bought in seventh grade. Above: Hough and his son, William, inspect grazing pasture on the farm. Bottom left: The Houghs say they are happy to be raising William on the farm. Bottom right: Cattle move through a rotational grazing paddock on the Hough farm.

“So long as Sarah and I agree, which we normally do, I get to decide how everything on the farm is run,” Hough says. “I know there are a lot of other young farmers and ranchers who may have to sell their ideas to their fathers and grandfathers before they can take action.”

Hough worked side jobs fixing fences and baling hay for neighbors while he got his own operation up and running after college.


“It was a struggle initially,” Sarah says. “Everything used to be on a shoe-string budget. I remember a time in the hayfield where I was trying to hold a belt for a bailer while Lincoln tried to stabilize it. We had to do everything on our own in the beginning.”

Hough worked exclusively on the farm for several years before he was elected to the Missouri House of Representatives in 2010. The demands of his new off-farm job meant it was time to bring in hired help. The Houghs now have two employees who help manage the family’s herd. Their help has become essential now that Hough was recently elected to the Greene County Commission.

“Greene County is one of only nine first-class counties in the state, and our commission is one of only six that meets daily, so it’s taken some adjustment,” Hough says. “When I worked in the state legislature, I was there four days a week, January through May. That schedule actually lined up fairly well with the

agrarian calendar. It remains to be seen how well I’ll be able to navigate hay season, but we are lucky to have good help who know what they are doing.”

Though it may not have been the exact future he had envisioned for himself, Hough says he and his wife are happy to be living the farm life. They’ve been together eight years and enjoy raising their son, William, 4, on the farm.

“I never had a definitive plan to get into agriculture,” Hough says. “There wasn’t an aha moment or epiphany where I said, ‘This is what I want to do.’ It’s been a series of events which has led us to this point, and we are very satisfied with our decisions.” 

MEGAMERGERS SET TO SHAKE UP AGRICULTURE GIANTS

By Adam Buckallew and Michelle Cummings



The agricultural input supply landscape could see some big changes in 2017. The U.S. Department of Agriculture recently issued a report assessing the potential impacts of pending mergers and acquisitions involving the world's "Big Six" agricultural chemical and seed companies. Though the deals are all still awaiting regulatory approval, the report states the proposed mergers "promise to change the industry." Whether that will be a good thing for farmers remains to be seen.

The Big Six, which is composed of BASF, Bayer, DuPont, Dow Chemical Company, Monsanto and Syngenta, dominate the agricultural input market and account for 75 percent of all private sector research in seeds and pesticides. Five of those six companies are part of mergers awaiting antitrust regulatory approval before the deals officially can be completed. If the proposed mergers are allowed to move forward, the newly combined companies would create three global giants with control of 80 percent of the U.S. corn seed market and 70 percent of the worldwide pesticide market.

The largest of the merger deals is between Dow Chemical and DuPont, which plan to separate the combined company's agriculture business, material science business and specialty products business into three independent companies following the consummation of their deal.

In addition to the Dow-DuPont merger, ChemChina is set to acquire Syngenta, and Bayer is acquiring Monsanto. All of the deals are expected to be completed by the end of 2017.

MERGER REGULATION

Before completion, these megamerger deals must pass antitrust review in their relevant jurisdictions. The Dow-DuPont merger has already been granted conditional regulatory approval by the United States, China, the European Union and Brazil.

Under the terms of a proposed settlement with the U.S. Department of Justice, DuPont must sell some of its crop protection portfolio and Dow must part with a line of products used in food packaging. A statement from the Department of Justice said the divestitures would "preserve vigorous competition in the sale of these products and benefit American farmers and consumers alike."

DuPont estimates the merger will be complete in August if everything proceeds as planned. The Trump administration's pro-business stance means it's unlikely U.S. officials would reject any of the deals. So far, little protest has been offered up in the European Union as well.

If any of the mergers face regulatory resistance, it would most likely occur in Brazil, Russia, India or China. However, it would take opposition from at least three of the BRIC nations to block approval.

FROM SIX TO FOUR

Assuming all of the mergers make it through antitrust approval, it will mark the end of the Big Six and the dawn of the Big Four. The current Big Six came about when pharmaceutical, chemical and seed companies combined in the 1990s and early 2000s.

With an already limited number of big players in the agriculture scene, some farmers are concerned the mergers could result in higher prices for seed and ag chemicals due to a lack of competition for their business. More than 325 letters were sent to U.S. Attorney

General Jeff Sessions from farm and environmental groups voicing concern over the proposed merger deals.

The National Farmers Union (NFU) expressed disappointment with the Justice Department's provisional approval of the Dow-DuPont merger.

"The combination of Dow and DuPont, coupled with other pending mergers, leaves family farmers with less competition and choice in the seed and agrichemical sectors," NFU president Roger Johnson said in a statement. "This drives up costs for farmers' inputs, and it reduces the incentive for the remaining agricultural input giants to compete and innovate through research and development."

R&D QUESTIONS

NFU is not alone in its concerns about how much the remaining ag giants will commit to spending on research and development after the wave of mergers is completed.

"Farmers and ranchers, in particular, are interested in how these deals will impact research and development budgets for companies like Bayer and Monsanto," Bob Young, chief economist for the American Farm Bureau Federation (AFBF), said in a statement. "We depend on access to enhanced technology and would hate to see agricultural innovation suffer at the cost of business decisions."

Farmers are worried a reduction in the number of competing firms servicing their needs could lead to less drive to fund research to stay ahead of the competition.

In a Senate hearing held in September 2016 on consolidation in the seed and farm chemical industries, Robert Fraley, executive vice president and chief technology officer for Monsanto, defended his company's merger with Bayer, referring to the deal as a "healthy and sorely needed transformation."

"I've talked to a lot of growers who recognize that in reality, farmers are really better served by companies who have more capabilities, more of a research and development engine who can generate more products and more innovation," Fraley said when the Monsanto and Bayer merger was first announced.

Fraley estimates the combined Bayer/Monsanto entity would spend \$2.8 billion on research and development annually, which is about twice what Monsanto has invested in recent years.

Young, the AFBF economist, also testified at the Senate hearing on agricultural consolidation and said farmers and ranchers cannot afford to lose access to technology and innovation if the pending mergers pass regulatory approval.

"AFBF has had several—and repeated—assurances from the companies involved as to their intent to maintain as strong an innovation arm as they can," Young said. "We have no reason to doubt, but we also are reminded of the old line: trust, but verify...Everyone's knee-jerk reaction is to think that increased concentration will lead to higher prices for these inputs. Knees tend to jerk reflexively, but sometimes they jerk with reason."

The various regulators reviewing the mergers will ultimately have the final word on whether these mergers are approved. In the meantime, farmers will have little choice but to wait and see if these potential megamerger will help or hurt their bottom line. **M**



RESEARCH PROPELS ADVANCES IN SWINE INDUSTRY

By Pat Melgares, Kansas State Research and Extension



A Kansas State University swine scientist says advances in how pigs are raised have led to enormous improvements in pork production over the last 20 years.

Mike Tokach, professor of animal science, says research has allowed the swine industry to safely increase litter sizes and growth rates of finishing pigs.

"It is quite amazing when you look at where we were 20 years ago," Tokach says. "The average sow in the mid-1990s produced about 14 pigs marketed per sow, and today we are over 22 pigs marketed on that same sow base.

"Pigs grow about 30 percent faster than they did 20 years ago. That's fairly amazing if you ask me in terms of how fast an improvement we've made in the industry. And they do that with about 20 percent less feed per pound of gain than we did 20 years ago."

Tokach notes that in the 1990s, the average litter was 7 to 10 pigs.

"Now we have a lot of farms that are weaning over 15 pigs per litter," he says. "That allows you to achieve some very high targets."

What it means is that for the average sow in the United States, "we get about 80 percent more pork produced for each of those individual animals," Tokach says.

Advances in genetics, artificial insemination and feed nutrition are key factors in the success of the swine industry. Geneticists have filled an important role in selecting for breeding success and in reducing the mortality rate of newborn pigs.

"Using artificial insemination, we have been able to spread high-quality sires and high-quality pigs over a much larger population," Tokach says.

Kansas State University's swine nutrition group is renowned for research that focuses on converting feed to energy in the most efficient way possible.

"You have to have the capability with genetics to be able to do it, but we've learned a tremendous amount about nutrition and how to feed these pigs in order to achieve these growth rates," Tokach says. "It used to be that we would formulate diets to a digestible energy basis, but now we get down to where we are very much formulating on a productive energy—how much energy those pigs will truly utilize for lean deposition and put it to productive uses."

Researchers are now capable of adding amino acids to the swine diet to target the pigs' specific

needs for growth and health. That helps to improve production and money savings on the farm.

"One of the biggest drivers in terms of feeding the pig is the feed costs, so anything we can do to reduce the feed costs is going to be beneficial," Tokach says. "We certainly do that by watching how we put the diets together and minimize excesses and waste."

The other side of it, he says, is the improvement in genetics to be able to convert feed into protein as efficiently as possible. That's where geneticists have come in and improved the quality of pigs.

Tokach notes farmers have played a key role in the growth of the industry by having the right equipment and facilities to be able to take advantage of the research breakthroughs.

"The confinement facilities we have today allow us to capture not only the waste of those pigs, but also capture the gains that these pigs are capable of because they're not wasting a lot of energy in fighting the elements," he said. "They have a controlled environment where they always have the temperature that helps them maintain their growth as efficiently as possible, and we have a lot less feed wastage that occurs in these facilities.

In old feeders, especially in outdoor lots, a 25 to 30 percent feed wastage was common.

"Today we know these feeders are capable of being down to under 10 percent, most of them 5 percent wastage of the feed."

History suggests that recent years' growth in market weight won't slow down. Tokach said that the industry has increased market weight every year since 1930. Packing plants in the United States are being built anticipating pigs at heavier weights than the industry has today.

"When I say we're going to see heavier weights, it's usually between three-quarter to one and one-half pounds per year, so it takes 10 years to go another 10 pounds in market weight," Tokach said. "But we will probably be another 10 pounds heavier 10 years from now if we look at history."

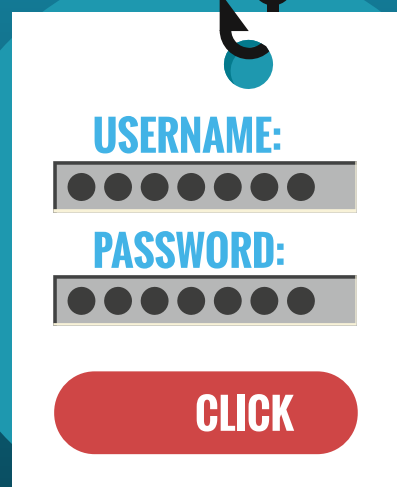
Tokach said this all speaks to an increased emphasis on science.

"We used to have just a few research facilities at universities, now we have a lot of research facilities in production systems across the United States," he said. "Our ability to have breakthroughs on the science side continues to improve, but we certainly need the support of all of our taxpayers and all the people out in the state to keep supporting agriculture and agricultural research so that we can bring food to the table as we have in the past." **M**

DON'T TAKE THE BAIT

Beware Phishing Scams

By Michelle Cummings



Think twice before clicking suspicious emails that land in your inbox. Phishing scams have grown in popularity and continue to trick people into a host of problems. As cybercriminals use increasingly sophisticated scams, it has never been more important to protect yourself.

Phishing scams aim to collect personal information. This data is often sold on the dark web, or websites only accessible by anonymous users, for a quick buck. Once your data is sold, it can be used in a variety of ways. Cybercriminals may attempt to apply for credit cards or try to hack into your existing accounts with the stolen information.

Recently, a particular type of phishing scheme known as Ransomware has gained popularity. Crooks use Ransomware to gain access to personal or corporate data and encrypt the files. This is often accomplished by tricking people to click on an infected link in a phishing email, which gives hackers access to a computer. The cybercriminals will then demand a “ransom” to release the encrypted data. In May, ransomware attacks hit both corporations and individuals in more than 150 countries.

“If you’ve been affected by a ransomware scam, don’t ever pay to get your data back,” says Jeremi Rowland, IT services director for MFA Oil. “It will end up costing you a lot more in the long run, as you have now made yourself a target for future scams.”

For smaller corporations or individuals, especially farmers, Rowland recommends buying an automatic backup system to limit potential data losses. Installing an automatic backup system can protect access to important documents and data from a variety of problems like viruses, a lost laptop or a ransomware attack. If data is regularly backed up on the system, all that can be lost is what’s been added or edited since the last upload.

Phishing scams can take many different forms, but cybercriminals often try to disguise their attempts by impersonating legitimate businesses and asking you to verify confidential information. Clicking links in these fraudulent emails can infect your computer with a virus or lead to a website that may look legit but is actually

designed to steal usernames, passwords and other sensitive information.

“There are several identifying features of a phishing scam you may notice in an email,” Rowland says. “Broken English or misspellings, images not displaying properly and unknown senders are all potential red flags.”

If an email looks sketchy, it’s always best to play it safe. Avoid clicking links or downloading attachments from any emails you don’t trust.


“Damage from falling for a phishing scam can have a wide range of consequences,” Rowland says. “The scam could cause anything from a nuisance to catastrophic results such as massive data loss for anyone affected.”

If you realize you have fallen victim to a phishing scam, certain measures may need to be taken in order to limit the damage. You may want to check your credit report for any irregularities.

“Individuals can receive one free credit report per year that’s good for 90 days,” says James Perry, consumer service coordinator for the National Consumer League Fraud Center. “Individuals should check the inquiries section of the report to spot any red flags.”

If a business, such as a credit card company, has made an inquiry that shows up on your credit report, it typically means someone applied for an account using your personal information and part of the information didn’t match up.

“Phishing scams come from outside the U.S. a majority of the time,” Perry says. “Federal Trade Commission officials look for patterns that occur in reported scams. These patterns help the officials arrest the cybercriminals to keep them from scamming others.”

Perry says the best way to stay on top of any fraud issues from phishing scams would be to request a free credit report annually. If you believe you have been affected by a phishing scam, you are encouraged to file a complaint with the National Consumer League Fraud Center at fraud.org. 

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Will OPEC Cuts Balance the Market?

When the Organization of Petroleum Exporting Countries (OPEC) announced on Nov. 30, 2016, it would cut crude oil production in an effort to drain record global inventories, the oil market quickly responded. Crude prices immediately shot up 9 percent from \$45.24 to a high of \$49.44. The agreement, which notably included cooperation from non-member Russia, called for reducing overall crude production by 1.2 million barrels per day for six months—limiting daily output to a total of 32.5 million barrels beginning in January 2017. Only two OPEC member-countries, Libya and Nigeria, are exempt from participation in the production cap.

The OPEC cuts were surprising because many of the countries in the cartel, such as Saudi Arabia, Iran and Iraq, rely on oil to fuel their economies. The fact OPEC was able to convince its members and other oil-dependent nations, like Russia, to cap production showed just how desperate these countries were to find a way to end the global supply glut keeping a lid on prices.

Since the cuts began in January, crude stockpiles have declined marginally. The problem for OPEC is that while its members have curbed the flow of oil entering the market, U.S. shale oil producers have stepped up their production. This prompted OPEC and Russia to extend the production cuts for an additional nine months to March 2018.

The day OPEC announced the extension of its cuts, crude oil prices opened at \$51.25 and ended the day at \$48.90. In hindsight, it appears the extension, which was not a surprise, looks to have been already priced into the market.

As I write this commentary in early June, the market is still closely watching the inventory situation. The weekly U.S. Department of Energy report for early



June showed crude stocks were down by 6.4 million barrels, putting total stocks at 509.9 million barrels or about 5.7 million less than the prior year. Crude oil production in the United States was reported at 9.3 million barrels per day. The demand for gasoline and distillates has been strong, yet the price of crude is still sitting at just under \$50 per barrel.

Given this data, what conclusions can we draw from the first seven months of the OPEC production cuts?

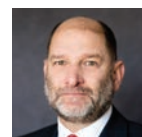
With a broad brush and in general terms, the supply of crude, gasoline and distillates has been trending lower. However, the uptick in production from U.S. shale producers and countries outside of OPEC's agreement have kept the overall inventory picture relatively unchanged. The bottom line is the market needs more time to work this out. That's why OPEC is hoping the extension of its cuts will give the market the time it needs to work through the excess supply.

Some speculation indicates U.S. shale crude oil producers will be unable to sustain their current production levels for the long term. If that proves true, it could

help to finally bring balance to the supply and demand equation.

For the moment, prices seem unable to break free from their current trading range between \$45 to \$55. There was a three-month window after OPEC announced its planned cuts in November where the market rallied, but prices have remained stuck in the aforementioned range since then. In the meantime, American shale producers continue to disrupt OPEC's plans by producing as much as they can through improved efficiencies and hedging their production forward.

It is just a matter of time before the situation changes and supplies tighten to the point where prices cross the \$55-per-barrel threshold. As it's been said, time heals all wounds, and this cyclical energy business will again see supplies tighten and prices rise. We just don't know how long it will be before it happens. **M**



» TIM DANZE
is the hedging manager
for MFA Oil.

Committed to Quality

When a tractor or combine breaks down during planting or harvest, farmers lose valuable time in the field, which can end up costing them hundreds, if not thousands of dollars.

As a farmer-owned cooperative, MFA Oil is keenly aware of the importance of avoiding equipment downtime. That's why providing excellent products and services is one of the company's core principles. Joey Massey, a farmer from Paragould, Ark., who serves on the board of directors, wants fellow farmers and MFA Oil customers to know the cooperative is committed to providing high-quality products.

"We know how expensive equipment has become and how important it is to protect your investment in the machinery," says Massey. "Our fuel and lubricants are formulated to go beyond the base specifications, because we want to do everything we can to help our members prevent and minimize unnecessary downtime."

"IT'S COMFORTING TO KNOW THE LAB IS AVAILABLE FOR TESTING AND TO ANSWER ANY QUESTIONS I MAY HAVE ABOUT MFA OIL PRODUCTS MEETING THE NEEDS OF MY MACHINERY." – JOEY MASSEY

MFA Oil recently upgraded its heavy-duty engine oils to not only meet but improve upon new specifications from the American Petroleum Institute. The new spec provides enhanced fuel economy performance, reduced emissions and better oxidation and aeration performance while maintaining the same viscosity and high-temperature shear range.

Massey points to the cooperative's updated heavy-duty engine oil lineup as



The MFA Oil laboratory has offered analysis services for both lubricants and fuel for more than 70 years.


a prime example of its commitment to providing cutting-edge fuel and lubricant technology.

"Our focus is to start with the base requirements on our products and exceed them in an effort to provide the best quality and value to our members and other customers," says Massey. "That's why we sell premium products like BOSS Performance Diesel and Top Tier gasoline, which are designed to protect engines, keep them clean and provide a wide range of performance benefits."

Another way the company can help limit equipment downtime is through its laboratory services. For more than 70 years, the MFA Oil laboratory has offered analysis services for both lubricants and fuel. The lab regularly tests gasoline, kerosene, heating fuels, diesel and biofuels to ensure quality and compliance with state and federal standards.

Establishing an oil analysis regimen can help determine contamination levels, wear rates and the overall condition of equipment. Members and customers can submit their oil for analysis. Regular oil analysis can help identify minor issues before they result in major equipment failures.

"It's comforting to know the lab is available for testing and to answer any questions I may have about MFA Oil products meeting the needs of my machinery," Massey says. "The quality assurance the lab provides is extremely valuable."

If you have questions about laboratory services or product quality, contact the MFA Oil laboratory at (800) 827-0116. 



>> JOEY MASSEY
Board of Director,
District 8 –Mid–South

Additions in Arkansas and Kansas Keep MFA Oil Growing

M MFA Oil Company continues to expand its footprint in Arkansas and Kansas. In June, the company announced it acquired DeClerk LP Gas Company of Pocahontas, Ark., and the propane operations of Spring Hill Oil Company, based in Spring Hill, Kan.

DeClerk LP Gas Company was founded in 1938 and has been a premier source of propane for northeast Arkansas ever since.

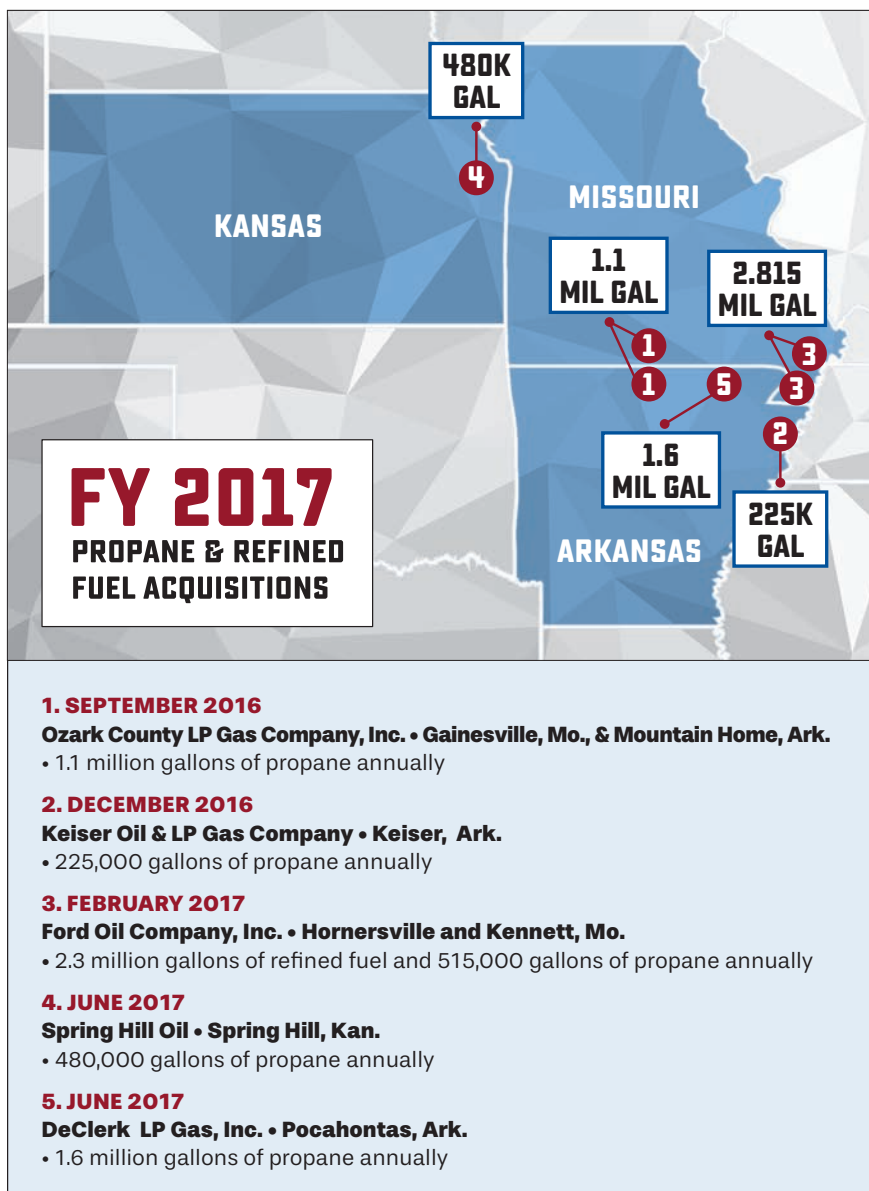
"The purchase of DeClerk LP Gas ties together our central and eastern operations within Arkansas and will greatly improve our efficiencies and delivery systems," says Jon Ihler, MFA Oil vice president of sales and marketing.

MFA Oil plans to integrate the Spring Hill acquisition with its existing operations in nearby Peculiar, Mo. Spring Hill Oil, which has been in business for 39 years, will retain its refined fuel services.

"The Spring Hill acquisition represents another major step into the Kansas market for our company," says Ihler. "This is our third propane acquisition within the state, and we are reviewing additional opportunities in the area. We see the growth of our footprint in Kansas as an important part of our future."

Terms of the purchase include a \$50,000 donation to The Nathan Project, an organization founded by Spring Hill Oil Company President Ron Stiles and his wife, Connie. The non-profit was created in honor of the Stiles' late son, Nathan, who suffered fatal brain injuries while playing football during his senior year of high school. Since its inception in 2010, the Nathan Project has provided more than 22,000 Bibles to correctional facilities, drug rehabilitation groups and others who need them most.

"I want to thank our customers for their many years of loyalty and welcome MFA Oil to our community as we work together to service customers' energy needs," says Stiles. "I would also like to thank MFA Oil for its contribution to The Nathan Project. The donation will enable us to purchase thousands more Bibles."



These acquisitions represent the fourth and fifth additions to the company during MFA Oil's 2017 fiscal year thus far, which began Sept. 1, 2016. Previously, MFA Oil acquired Ozark County LP Gas Company, Inc., with locations in Gainesville, Mo., and Mountain Home, Ark.; Keiser Oil and LP Gas Co. of Keiser, Ark.; and Ford Oil Company and its operations in Hornersville, Mo., and Kennett, Mo. The company will continue to evaluate acquisition opportunities in its existing market area and new opportunities. **M**



MFA Oil Donates \$160,000 to Support Local Military Families

The company raised \$160,000 for Operation Homefront, a national nonprofit organization that provides emergency and other financial assistance to the families of U.S. military service members and veterans. Mark Fenner, president and CEO, presented a check to representatives from Operation Homefront during the company's Third Annual Charity Golf Scramble and Concert. The event was held on June 5 at The Club at Old Hawthorne in Columbia and featured 56 teams of golfers and a private concert by country music artists Chris Janson and Jana Kramer.

"Thanks to the support of our sponsors, golfers, customers and employees, we have raised more than \$400,000 for Operation Homefront in the last three years," Fenner says.

The money donated by MFA Oil will go to active duty military and veteran families in Missouri and Kansas, as well as other areas where the needs are greater. Operation Homefront provides a long-term impact to the families of deployed and transitioning service members and post-9/11 wounded warriors through programs that promote relief, resiliency and recurring family support.

Mizzou Welcomes New CAFNR Dean

The University of Missouri's College of Agriculture, Food and Natural Resources (CAFNR) has named Christopher R. Daubert its new vice chancellor and dean. Daubert is currently a professor and department head of Food, Bioprocessing & Nutrition Sciences and system co-chair of Food, Biochemical & Engineered Systems at North Carolina State University.



In his new position, Daubert will be in charge of strategic planning and budgets, development activities, hiring faculty and staff, and representing the CAFNR program to the Missouri community.

Daubert's career spans more than 20 years working in land-grant philosophy, food research, and agriculture and economic development initiatives. Daubert will take his position effective Aug. 1.

"MFA Oil is a proud supporter of CAFNR and we recently partnered with MFA Incorporated and the MFA Foundation to establish an endowed professorship of agribusiness with the college," says Mark Fenner, president and CEO of MFA Oil Company. "We welcome Dr. Daubert and look forward to working with him in the near future."



Drive to Feed Kids Targets Food Insecurity in Missouri

Missouri Farmers Care (MFC) has launched a new summer service program to fight childhood hunger. The Drive to Feed Kids program will leverage existing food banks and in-school food pantries to deliver kid-friendly meals to underfed youth. The food is delivered through backpack programs and in-school pantries.

"Hunger isn't an issue that only happens somewhere else," says Alan Wessler, MFC chairman. "It is a pervasive concern across Missouri's rural communities."

The program's efforts will culminate at the Missouri State Fair with several events promoting the program such as a film premier of "Where the Fast Lane Ends," a concert on Aug. 10 and a Food Insecurity Service Day on Aug. 15.

MFC is seeking the partnership of companies and individuals to make the Drive to Feed Kids program a success. Anyone interested in helping should contact MFC by calling (660) 341-8955 or emailing info@mofarmerscare.com. All proceeds will be dedicated to addressing childhood hunger through Feeding Missouri, which is made up of six of the state's food banks.

MFC is a joint effort by Missouri's farming and agriculture community. MFA Oil is a member of MFC. 

Saddling Up for St. Jude

Nearly two decades ago, David Reed and his wife, Brenda, received a phone call from a fellow horse lover. She asked if they would take over as coordinators for a charity trail ride benefitting St. Jude Children's Research Hospital. The Reeds' "yes" took them down a trail they never expected.

The Reeds coordinating the charity ride made sense, said David, who manages the Howard Electric-MFA Propane plant in Fayette, Mo.

"We love kids," he says. What's more, their 80-acre farm, which is home to seven horses, is on the north end of the Rudolf Bennitt Conservation Area near Higbee, Mo.

"We have 3,000 acres in our backyard," David says. The conservation area boasts 12 miles of gravel trails perfectly suited for horses. The Missouri Department of Conservation has supported the ride from the beginning, he adds.

The first year was small, but the Reeds decided to do it again the next year. And the next. And the next.

Now they are planning their 18th annual Saddle Up for St. Jude Trail Ride on Saturday, Sept. 16.

"It's pretty much an all-weekend event," David says, describing how some riders come in a day or two before and camp on the Reed property through Sunday. They help set up the event and enjoy the Friday night fish fry for volunteers.

The riders leave at 10 a.m. on Saturday and spend the day enjoying the beauty and peace of the trails. When they return to the Reed property, they are greeted by live bluegrass music, fellowship, an auction and dinner.

Though riders do raise sponsorship to participate, the majority of the funds raised come from the auction, which draws a bigger crowd.



David and Brenda Reed have raised nearly a quarter of a million dollars for St. Jude Children's Research Hospital by hosting annual trail rides for nearly 20 years.

Last year, the Reeds hosted about 90 riders on the trails and about 250 people at the auction and dinner.

"The auction raises half of our money or better," Brenda says. As such, the Reeds are always on the hunt for donated items. Popular sellers include anything horse-related, crafts, sports memorabilia and baked goods. The auction's success is attributable to generous bidders. Last year, a pan of homemade rolls sold for \$35.

"It's not what the product is worth, it's the kids," David explains.

This year the Reeds hope to raise \$35,000, a little above 2016's total. Their goal is to crest \$250,000 in their 20th year. Considering they have raised a combined \$199,793 from previous rides, David is confident they will reach their goal.

The Reeds have toured St. Jude three times in the past and have seen the patients who benefit from the money.

The Memphis-based hospital does not turn away any seriously ill child due to the family's inability to pay. Daily operating costs exceed \$2.4 million, more than 75 percent of which comes from donations.

"We are trying to help the children that can't help themselves," David says.

As the Reeds look to the future of the charity ride, David is grateful younger generations are now involved in the planning and hopes one day they will carry on the Reeds' legacy.

As for him and Brenda, he says, "We'll never quit, but I'm sure we'll slow down."

M — By Sara Brunsvold

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Keeping Hazards to a Minimum

Much responsibility comes with jobs dedicated to reducing risks, protecting people and being a trustworthy steward of our environment, but it's all in a day's work for MFA Oil's Department of Environmental, Health and Safety (EH&S).

The department manages the company's 260 petroleum storage tank sites, and its primary objective is to protect human health and the environment through routine testing. EH&S staff perform these tests on approximately 1,000 tanks and their respective piping, including continuous leak detection monitoring, for most of the company's underground storage sites.

"We take a proactive approach to our work to prevent petroleum releases to the environment," says Tracy Barth, EH&S director. "The company has made considerable investments the past 10 years to replace aging tank systems and retrofit existing systems with electronic leak detection capability. Most of the issues we encounter are discovered during scheduled replacement of our underground storage systems."

Releases from petroleum storage tanks systems can cause fires or explosions that threaten human safety and can also contaminate groundwater many municipalities and citizens depend on for their water supply. When petroleum releases occur, the EH&S staff oversees the necessary emergency response, site investigation, risk assessment and corrective actions required to mitigate damages and satisfy all stakeholders.

"It can take years to fully understand the impact and cleanup of these sites—especially when groundwater is affected," Barth says. "We try to do most of the environmental work in-house. Not only does it save the company money, but it gives us a measure of control over the job to ensure it's done in the most efficient manner. We know our



Keller Colley, senior EH&S compliance administrator, cleans out an underground storage fuel tank for disposal. Discarded tanks are frequently sold to scrap yards.

limits, though, and work with excellent environmental contractors and consultants to assist us when needed."

"Our employees who work in EH&S are very knowledgeable of the various regulations at the federal and state levels," says James Greer, vice president of supply and government affairs. "They work closely with many stakeholders inside and outside the company to comply with our regulatory obligations and to fulfill the company's commitment to being a responsible corporate citizen."

In many ways, the EH&S department's approach to protecting the environment mirrors that of the company's farmer-owners.

"We strive to be good stewards of the land and water," Greer says. "The people in the communities we serve count on us to service their energy needs in a dutiful manner and to keep them safe. We take these responsibilities seriously. We don't cut corners."

MFA Oil actively works to upgrade many of its older tanks. Throughout the past 20 years, the company has spent about \$20 million on cleanup activities alone, and that does not include costs associated with installing new tanks. MFA Oil has been able to recoup \$17.6 million through reimbursements from the Missouri Petroleum Storage Tank Insurance Fund (PSTIF). To date, MFA Oil has received PSTIF funding for cleanup activities at 115 properties in Missouri.

The work of the EH&S department goes beyond environmental. It is also responsible for various aspects of employee safety, insurance, Department of Transportation compliance and homeland security.

From protecting the environment and customers alike to maintaining the company's driving and automotive records, the EH&S department is indispensable in keeping the company on the right track and operating responsibly. **M — By Michelle Cummings**

Diesel Fuel Selection is Critical

Diesel engines have come a long way since Rudolf Diesel first introduced his invention to the world in the late 19th century. Though it's been more than 100 years since Diesel demonstrated his single-cylinder engine in 1897, many of the most significant advancements in diesel engine technology have occurred within the past couple of decades.

Changes in emissions regulations globally have required a dramatic evolution in diesel engine technology. Engines and vehicles continue to downsize, complex exhaust after-treatment equipment is bolted onto the engine, significant turbocharging is being used to increase fuel efficiency, and highly-engineered precision fuel injectors have become standard.

Diesel fuel injection today is achieved through a high-pressure common rail system that was introduced more or less the same time ultra-low-sulfur diesel debuted in 2006. This created a perfect storm where a "new" fuel—one with much lower natural lubricity, stability and solvency—was put to the test against severe temperatures and pressures within the common rail injection system.

The high-pressure fuel injection process creates extreme heat. Fuel injector temperatures can reach as high as 500 to 600 degrees Fahrenheit at the nozzle, and fuel temperatures inside the injector can possibly reach 1,000 degrees Fahrenheit. Standard #2 diesel fuel is ill-equipped to deal with these severe conditions, and as a result, a spike in injector and fuel filter failures has been seen over the last decade. These failures are primarily due to problems with soot-like deposits created from the cooking of the fuel in the fuel system.

Fuel injector deposits are a serious problem because modern injectors are extremely complex pieces of engineering with multiple nozzle orifices, minute openings and small

metal components which are meant to be free-moving. Clearances inside the injector are one to three microns which is 20 to 30 times thinner than a human hair.

Deposit buildups inside the injector seriously impact its performance, which is meant to fire as often as seven times per combustion cycle. Putting this into perspective, a modern Class 8 truck cruising at 1,500 to 2,000 rpm equates to almost 175 to 233 injections per second.

Loss of injector performance translates to poor combustion. This, in turn, leads to losses of fuel economy and horsepower, increased emissions, and generally poorer drivability. Other maintenance problems can result, such as:

- blackened fuel filters
- fuel pump failures
- fuel line corrosion
- lubricant oil contamination by combustion soot and acids

In addition, poor combustion can lead to excessive fouling of exhaust after-treatment components, which include:

- turbochargers
- diesel particulate filters (DPF)
- exhaust recirculation valves and coolers
- exhaust sensors

After-treatment device fouling is a significant drain on fleet costs, considering, for example, how much fuel and time goes into active regeneration of DPF units, or in the extreme case, time and money spent in the maintenance shop replacing the parts.

To avoid these issues, it's important to choose high-quality diesel fuel that works for all diesel engines—one that bridges the gap between the needs of today's engine and generic diesel fuel. You need a fuel supplier that not only provides a clean, water-free, consistent product, but also uses enhanced additive technology to compensate for these problems with common rail engines.



BOSS Performance Diesel from MFA Oil is formulated with a proprietary additive package containing high-quality, powerful detergents to offer premium performance. These detergents not only clean up injector and fuel system deposits within one tankful, but also keep those systems clean. Fueling with BOSS versus conventional diesel fuel maximizes horsepower, improves fuel economy and provides enhanced long-term protection of the fuel injector system and fuel pump against corrosive and mechanical wear. Additionally, the BOSS additive package enables quicker start-ups, increased power and smoother operation. MFA Oil also uses superior thermal and oxidative stability additives to increase storage life of the fuel and to prevent the formation of graphitic-type deposits.

Quality-conscious operators looking to address the needs of their modern diesel machinery can't afford to gamble when it comes to fuel selection. There are simply too many things that can go wrong when using generic diesel fuel. Remember that the next time you are considering your diesel fuel order. **■ — By Andrew McKnight, Ph.D of Innospec Fuel Specialties**



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