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Gardener's Bakery and Orchard is a family-run business in Brighton, Mo., offering a variety of farm fresh fruit, baked goods and apple cider to customers in southwest Missouri. Photo by Jason Jenkins.



>>> Letter from the President

Challenges

HOW OFTEN HAVE YOU THANKED

the good Lord above for the challenges you face daily? I'll be the first to admit that it may seem counterintuitive to be thankful for our challenges. Challenges can cause stress, high blood pressure and other issues. They really are no fun at all. But in a weird way, we really should be thankful for them.

A perfect example was an 18-inch snow storm we recently experienced in mid-Missouri. As most of you know, we haven't had to deal with much snow in recent years. The only downside to that is neither of the two snow blowers I own had been started in several years. Since I knew a significant snowfall was incoming, I bribed a couple of mechanically skilled buddies to assist me in getting at least one snow blower ready to go prior to the first snowflake falling. While I admit I did little myself to fix the snow blower, I was proud of the fact I'd addressed the issue before the snow came. And come it did! Unfortunately, as I began clearing my driveway, one of the belts went flying in about 20 pieces and the blower quit working. In spite of my preparation, I was still forced to shovel the majority of the drive.

As you may recall, MFA Oil had multiple challenges last year implementing our new IT system. This frustrated customers and employees alike. We've committed to fixing these issues, and the system is running much smoother this winter. We thank you for the patience you've given us, and I hope you see we were sincere about our desire to improve upon our shortcomings from last year. While none of us wish to relive those painful days, I do believe we are a better company for going through it. The process helped us identify some talented employees who are problem solvers, and it humbled us. It made us realize that despite this company's success since 1929, there are no guarantees we'll be successful in the future.

We understand farmers and ranchers are facing many of their own challenges these days. Low commodity prices the past four years have left little room for profitability. In response, many of you have bought cheaper seed,



cut back on inputs and delayed equipment purchases to weather the downturn. I admire your commitment to feeding the world despite the risks you face.

The beauty of our cooperative system is that we are all in this together. Because we are owned and governed by farmers and ranchers, our success as a company means dividends for our farmer-members. Since 2009, MFA Oil has returned more than \$120 million in patronage dividends to you, our owners. And despite the challenges we encountered in the past fiscal year, we remained quite profitable and will soon be paying \$8.4 million back to our members who do business with us.

For fiscal 2018, we'll be paying \$.061 per gallon on gasoline and diesel, \$.133 per gallon on propane and \$.462 per unit on lubricants. The majority of the patronage (60 percent) will be paid in cash and the remainder (40 percent) will be held in equity. So while we know you face financial challenges on your farm or ranch, we are hopeful this may provide some measure of relief to you.

Although it may be hard to see our present challenges as opportunities, I believe that's exactly what they are. Whether it's taking a hard look at our businesses to identify areas for improvement or simply getting in some unscheduled exercise because your snow blower breaks down, there's almost always something beneficial that comes from a good challenge.

Mark Fenner, President and CEO



MOMENTUM

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This magazine comes to you courtesy of MFA Oil Company, a farmer-owned cooperative providing energy solutions to customers for 90 years. We deliver high-quality propane, fuels and lubricants to farmers and other customers across an 11-state region stretching from Indiana to Utah. *Momentum* is an information service for farm families, published by MFA Oil.

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Hidden Valley Ski Resort

WESTERN ST. LOUIS COUNTY

might not seem like the ideal spot for a ski resort, but that's exactly what it's been since 1982. At Hidden Valley Ski Resort in Wildwood, Mo., fans flock to ski, snowboard and tube each year from around mid-December to mid-March.

"One of the things that we offer is a unique attraction and a way to stay fit and outside in the winter months," says general manager Greg Gavrilets. "There's not a lot of other stuff that people can do with the entire family during the winter. Skiing and snowboarding are very fun activities, and not one you can do everywhere. You have to have hills, snowmaking equipment—there's a lot of factors combined."

To that end, Hidden Valley boasts one of the Midwest's most impressive snowmaking systems—fueled by MFA Oil—featuring 110 snowmaking guns that can produce 6,600 gallons of snow per minute at full capacity. In the right conditions, that can cover 100 percent of the resort's 62 acres of terrain in just 72 hours. All that snow is packed to perfection for the 17 trails and two terrain parks, plus the Polar Plunge Tubing Park.

Trails aren't just for experts: Beginner skiers can tackle three bunny slopes and even take a rope lift instead of one of the five chairlifts or three surface lifts. More experienced guests can head to black-diamond trails including Ice Man's Ridge.

Hidden Valley formerly featured a golf course, but when that closed in 2009, the team came up with an even better way to stay open year-round: a zipline. When it opens in spring 2019, the zipline will be one of the longest in the Midwest, around 2,800 feet at its longest span. Gavrilets says Hidden Valley will also open the chair lifts for scenic views, not



just skiers. On a clear day, riders can see downtown St. Louis from the top of the main summit.

For guests who are firsttime skiers or just haven't hit any jibs in years, Hidden Valley offers lessons for all ages at its Snowsports Academy.

"You can see the (Gateway) Arch and the skyscrapers—it's pretty neat," Gavrilets says. "Then you have the beautiful vistas of west St. Louis County. We've got a really special property. There's two peaks and multiple valleys. I kind of call it a small-big mountain. It's got all the characteristics of something you'd see out West or in the Northeast. We're just a little bit smaller vertically than they are. There's beautiful streams and gullies and lakes and a little bit of everything up here."

For guests who are first-time skiers or just haven't hit any jibs in years, Hidden Valley offers lessons for all ages at its Snowsports Academy. Both group lessons and private lessons are available. Kids from ages 3 to 19 can also join the award-winning Hidden Valley Ski Team training program. This season, the resort is offering an adult race league for the first time. Teams of three to six, at any ability level, can compete and establish a handicap over eight weeks of racing.

After hitting the slopes, guests can warm up at the Main Lodge, which features an outdoor fire pit as well as indoor dining. They can grab chili or a burger and fries and relax with a local beer from Urban Chestnut Brewing Co. or Schlafly. Napoleon's Nook, the resort's shop, carries favorite brands including Neff and Bula. Polar Plunge Tubing Park on the other side of the resort also features a cafe.

For Gavrilets, it's not hard to see why Hidden Valley has been such a favorite for nearly four decades.

"I've been skiing since I was 2," he says with a laugh. "It's kind of a bug that you catch, and you just keep chasing the dream." M

- BY NANCY DEMAREE



Orchard Opportunity

AFTER JOURNEYING FROM ROMANIA TO THE UNITED STATES, THE GRADINARIU FAMILY HAS PUT DOWN DEEP ROOTS IN THE OZARKS

By Jason Jenkins, Mill Creek Communications Photos by Gardener's Orchard & Bakery and Jason Jenkins

Radu Gradinariu was only 4 years old when his father, Cornelius, made a decision that would change the course of his family's life forever.

Living in Soviet-occupied Romania in the late 1980s, the then-27-year-old father of three fled from communist oppression and religious persecution in search of a better life for his young family. On his first attempt, he was caught at the border and jailed for three months. He remained undeterred, however. After several months of constant surveillance and interrogation, he tried again—and succeeded—reaching Yugoslavia where he entered a refugee camp and applied for asylum.

"We were separated from my father for about six months," Radu recalls. During this time, the Romanian Revolution would take place, leaving the country in chaos and the borders open. "My dad paid a trafficker to bring us over to Yugoslavia. I remember we crossed the border at night, on a bridge across the river. It was like what you see in the movies."

The family was given a choice: immigrate to Australia, Canada or the United States. Radu says his father's reply to the United Nations examiner emphasized their desire to practice their religion freely.

"He said he wanted to go to the States because it was the only country in the world that has God on its currency," Radu says. "He wanted to go somewhere where we could be free to serve our God. "I'm not sure I could have done it," he says of his father's decision to first attempt freedom. "Leave three kids and a wife at home knowing that you could die and leave them as orphans? It was that faith in God that led him to believe there was something better out there."

MOVING TO MISSOURI

With nothing more than identification papers and the clothes on their backs, Cornelius and his wife, Verginia, left Europe with their three children in 1990. They initially settled in Riverside, Calif., where Cornelius' sister already lived. An electrician by trade, Cornelius found work, and the family continued to grow. By 2005, there were 10 children.

"My aunt had moved to Springfield (Mo.) about four years earlier, and we came to visit them on vacation," says Radu, the eldest child. "My dad's dream was to have a farm, and he was ready to get away from the chaos and traffic of California. My parents bought this little 10-acre place down near Springfield, and we moved to Missouri."

For about a decade, the Gradinariu family would make its living as poultry farmers, raising thousands of turkeys annually in two southwest Missouri locations. The rigors and logistics of operating two geographically separated turkey farms, however, became problematic.

"We were spread too thin and equipment was always on the road back and forth,"

Radu says. "So in 2012, we had a buyer, and we sold one of the turkey farms."

After taking time in 2013 to visit their homeland of Romania, son Victor discovered an opportunity: Plaster's Orchard outside Brighton, north of Springfield, was for sale. He encouraged his father to consider the orchard, but Cornelius was reluctant. It was Verginia who convinced her husband they needed to take a look, Radu says.

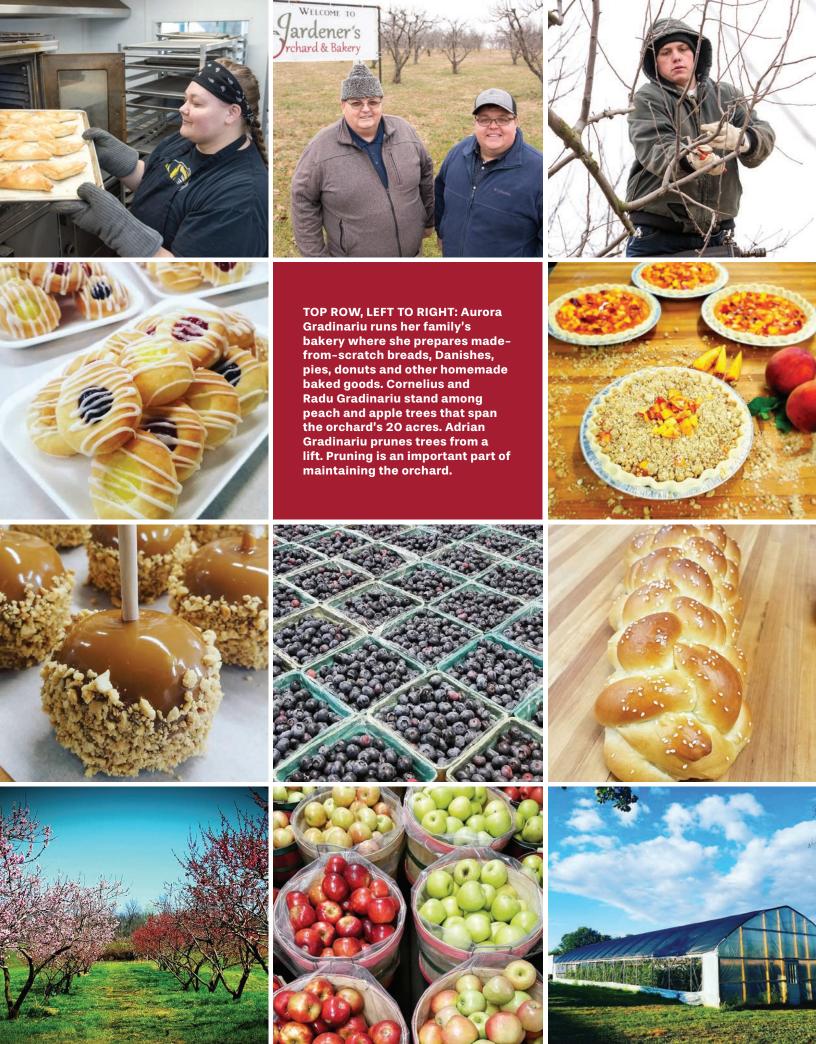
"Everything kind of fell into place," he says. "My parents came up here and 20 days later, we moved in. We renamed it Gardener's Orchard & Bakery."

FRUIT TREES AND TENACITY

Much like their foray into turkey production, the Gradinarius took over the 33-acre peach and apple orchard without any firsthand knowledge or experience in fruit production.

"All we had was the ability to work hard and figure things out as we went along," Radu says with a smile, noting they got out of the turkey business altogether in 2015. "Everyone is entrepreneurial-minded."

While the 2,500-tree orchard had been successful for the Plaster family since they started it in the early 1980s, it had seen decline in the years leading up to its sale. So, the new owners took to the task of pruning trees that were still productive and removing those that weren't. Radu says they've planted about 1,500 new trees in the past five years.



The orchard comprises no fewer than 15 peach varieties and 13 apple varieties. Those who visit in July to pick peaches will find varieties including Sweet Sue, Big Red, China Pearl, Ruby Prince and Red Haven. Apples are ready in September and include familiar favorites such as Red Delicious, Golden Delicious and Granny Smith, along with varieties not often found in grocery stores—Early Blaze, Arkansas Black and Grimes Golden.

The orchard occupies roughly 20 of the farm's 33 acres, so to increase production, Radu says, they are employing new techniques. Rather than planting trees at a more traditional 20-foot spacing, the newest trees at Gardener's Orchard are planted on 3-foot spacing along a trellis.

"It's called a high-density system," Radu explains. "Instead of growing more wood to support fruit, the trees start producing fruit sooner. You can get approximately four times the yield per acre, so converting our 20 acres should produce as much as 75 or 80 acres."

Diversifying the orchard beyond apples and peaches also has been a priority. Cornelius started a small 200-plant blueberry patch that came into production in 2018. That experiment has prompted son Valentin to establish a larger patch of blackberries on acreage he purchased adjacent to the current orchard.

High-tunnel vegetable production is another seasonal avenue for the Gradinarius. Last year, son Andrei cultivated his first crop of tomatoes, and in 2019, the family plans to have three high tunnels in production growing tomatoes, peppers and cucumbers. The veggies are sold at farmers markets around southwest Missouri, as well as at the orchard's roadside stand just off Highway 13.

"We only sell Missouri produce, nothing else," Radu says. "We either grow it ourselves or source it from other local farmers."

MAKING SEASONAL SUSTAINABLE

Perhaps the largest challenge for agribusinesses like the Gradinarius' orchard is the seasonality. Fruits and vegetables can supply income during the growing season, but bills still must be paid throughout the fall and winter. Radu

says they added the bakery to help them through the long offseason.

"My sister, Aurora, went to culinary school at OTC [Ozarks Technical Community College]," he explains. "She found out that she's really good with doughs and breads, so we put in a bakery at the farm store in 2016. A lot of businesses like ours have a bakery on the side."

Each week, Aurora's made-from-scratch breads, Danishes, pies, donuts and other homemade baked goods are sold not only on the farm and at farmers markets, but also at coffee shops in the Springfield area. Radu says the bakery is the fastest-growing segment of their business, accounting for nearly 30 percent of revenues last year.

WHILE CUSTOMERS CAN
VISIT SIX DAYS A WEEK
YEAR-ROUND, THE
PICK-YOUR-OWN-FRUIT
SEASON IS BY FAR THE
MOST POPULAR TIME TO
COME TO GARDENER'S
ORCHARD. DURING APPLE
SEASON, ORCHARD TOURS
AND HAYRIDES ARE
POPULAR FOR FAMILIES
AND GROUPS, RADU SAYS.

"People know that it's fresh and homemade, and we don't add any preservatives, so it tastes like it should," he adds.

Exploring other entrepreneurial endeavors has led to more consistent revenue streams for the orchard. Radu says that while they began making fresh-pressed cider the first year the family took over, it wasn't until this past year that they had a pasteurization process in place that increases shelf life.

"We didn't want to heat our cider to pasteurize it because that changes the flavor profile, and we didn't want to lose the tart-sweet flavor we get by combining three apple varieties in every batch of cider," he explains. "So, we decided to go with an ultra-violet pasteurization process. It increases the shelf life of our cider to six weeks."

Radu is currently working to develop the orchard's own line of apple cider vinegar,

which takes a seasonal product and creates a shelf-stable, year-round opportunity.

"We're really just trying to adapt and innovate," he says, adding that they're looking at other products such as a line of gourmet popcorn, canning produce and apple butter, and turning old fruit trees into hardwood chips and chunks for use in smokers. "I've never made vinegar in my life, but we're going to try and make it work. If you see an opportunity, you have to jump on it."

While customers can visit six days a week year-round, the pick-your-own-fruit season is by far the most popular time to come to Gardener's Orchard. During apple season, orchard tours and hayrides are popular for families and groups, Radu says.

He says the public's desire to learn more about their food and its production is something the orchard has embraced. Through social media such as Facebook and YouTube, they keep customers informed about what's happening at the farm, as well as sharing "behind the scenes" peeks.

"I've learned that people like watching the process almost more than enjoying the final product," Radu says. "They want the story of how our bread is baked or how our cider is bottled as much as they want to eat it or drink it."

While so much has changed since the Gradinariu family first came to the United States, one thing is certain: Cornelius has achieved the self-reliance he could have only dreamed about back home in Romania under communist control. Radu says they travel back to their motherland to visit family every few years, and the experience is always sobering.

"When you come back, you're a changed person," Radu says, noting the poverty that exists in Romania today. "We've never been rich, but I've had everything I've needed. We're definitely blessed beyond measure here in the States." M

For more information on Gardener's Orchard & Bakery, visit www.gardenersorchardandbakery.com or call 417-742-3093. The farm store is open from 9 a.m. to 5 p.m., Monday through Friday, and from 9 a.m. to 3 p.m. on Saturday. Closed Sunday.



The 89th Annual Delegate Meeting

MFA Oil Delegates Approve \$8.4 Million in Patronage, Elect Three New Board Members



Story and Photos by Adam Buckallew

MFA Oil delegates came together in Branson, Mo., on Nov. 4-5, 2018, for the cooperative's 89th Annual Delegate Meeting. Nearly 500 delegates, guests and employees were in attendance at the meeting, where the company's financials and operations were reviewed, patronage was approved, and elections for the board of directors were conducted.

The MFA Oil Board of Directors recommended a patronage disbursement of \$8.4 million, which the delegation of members unanimously approved. The patronage dividend represents 60 percent of the company's after-tax earnings for the 2018 fiscal year and includes the retirement of \$1.9 million in member equity from 2005. The annual disbursement of patronage and equity redemptions are set at the discretion of the board of directors, which is composed of eight farmer-leaders who are elected by the members of the cooperative.

MFA Oil members are eligible to receive patronage refunds based on a percentage of the total money they spend on products such as gasoline, diesel, propane and lubricants purchased through the company's refined fuel and propane plants, as well as at Petro-Card 24 stations.

"Patronage and equity are two of the primary advantages of being a cooperative member-owner, and we are proud to return so much value to our membership as we continue to meet their energy needs," said Mark Fenner, MFA Oil president and CEO.

Fenner described the past year as a "rollercoaster ride" that saw the cooperative surpass its record for propane sales volume, but that result was tempered by operational challenges.

"We had some issues with the implementation of our new accounting system that held us back this past year, and we knew we had to work through those problem areas quickly to shore up our shortcomings," he said.

Fenner conducted 35 listening sessions with more than 600 employees throughout the company and attended more than 120 local delegate meetings to gather feedback related to the difficulties the company faced in fiscal 2018.

To address the problem areas, Fenner outlined the following actions the company undertook to improve its service to members and customers: invoicing at the time of delivery was restored, an improved CSR ordering system was developed, the company's logistical operations were decentralized to improve routing, phone system upgrades were installed at several offices to deal with periods of heavy call volume, and the company's internal order suggestion system was upgraded.









TOP LEFT: Mark Fenner, MFA Oil president and CEO, thanks retiring board members Benny Farrell and Ralph Schallert for their many years of service and commitment to the cooperative. TOP RIGHT: Robert Condron, chief financial officer, presented the company's financials and reported earnings of \$11.6 million on MFA Oil operations. BOTTOM LEFT: Nearly 500 delegates, guests and employees were in attendance at the meeting. BOTTOM RIGHT: Delegates elected three new representatives to sit on the MFA Oil Board of Directors, including: (left to right) Chuck Weldon of Gallatin, Mo.; Jake Taylor of Ashland, Mo.; and Glen Cope of Aurora, Mo.

While noting the need to update some business practices, Fenner reiterated that some things will never change, such as the company's foundation of faith, a focus on customer care and quality products, and support for the communities where MFA Oil does business.

In addition to Fenner's remarks and a financial overview provided by Chief Financial Officer Robert Condron, attendees heard from guest speakers Tony Richards and Chuck Conner.

Richards, a strategic business consultant, spoke of how market forces have forced businesses to adapt or be left behind. Though change can often be painful, he

said it's necessary for businesses to remain competitive.

"Most of us do not embrace change readily," Richards said. "We don't like it and we don't want it. We want to keep things the way they are, nice and comfortable. The only problem is, there is no growth without pain. When the pain stops, the growth stops."

Conner provided a look at how the mid-term elections could play out and his views on a number of legislative and regulatory issues of interest to agricultural cooperatives and farmers. As president and CEO of the National Council of Farmer Cooperatives (NCFC), Conner and his organization play an important

role in representing the voice of America's farmer cooperatives on key issues such as the recently passed Farm Bill.

Conner outlined a number of NCFC legislative priorities, including trade, crop insurance and regulatory issues.

"In the world that I live in, the outcome of elections does have consequences, and you have to seize the opportunity that elections give you," Conner said. "When President Trump was elected, we knew there was an opportunity to reduce agricultural regulatory burdens. Much of what we have been doing in the last two years has been focused on scaling back regulations as much as we possibly can."

EARNINGS

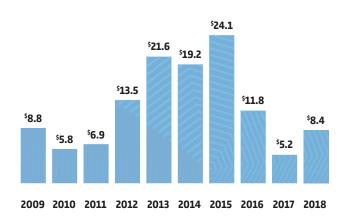
IN MILLIONS OF DOLLARS

NET WORTH



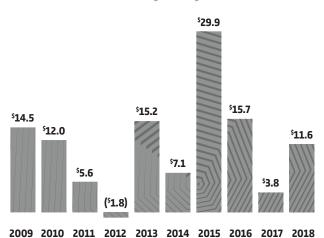
2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

PATRONAGE: TOTAL PAID IN CASH

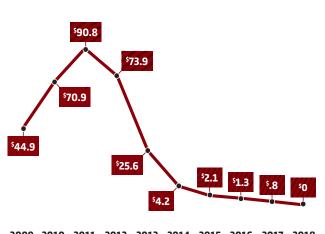


EARNINGS ON MFA OIL OPERATIONS





TOTAL INDEBTEDNESS



2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

American agriculture's dependency on exports makes trade the number-one issue in Conner's opinion. While rising tensions with China are concerning, Conner says he's been impressed with what President Trump negotiated in the United States-Mexico-Canada Agreement.

"I have to give him credit for that because I said he couldn't do it," Conner said. "I thought there was no way in the world we would get Canada to change its dairy policy. They wouldn't do it 25 years ago when we negotiated the North American Free Trade Agreement, and I thought they certainly won't do it now, but they did."

Conner said the real question is whether President Trump will be able to find

similar success with his ongoing trade war with China. Conner has personal experience negotiating with the Chinese and acknowledged it can be difficult to strike a deal with Beijing. He says it remains to be seen if Trump can silence his trade doubters.

"The stakes are high," Conner said. "If (Trump) is not successful, the impact for those of us in agriculture will be substantial."

In other business at the meeting, delegate caucuses were held for three of the cooperative's voting districts. MFA Oil delegates elected the following farmer-leaders to seats on the company's board of directors:

- District 2 Northwest Chuck Weldon of Gallatin, Mo.
- District 3 Southwest Glen Cope of Aurora, Mo.
- Distrct 6 Central Jake Taylor of Ashland, Mo.

The company also paid tribute to two retiring, longtime members of its board of directors. Benny Farrell served as the Northwest District's representative on the MFA Oil board for 27 years, including 21 years as chairman of the board. Ralph Schallert spent the past 15 years representing the Southwest District and most recently served as the board's vice chairman. MFA Oil thanks Farrell and Schallert fo their many years of service and their commitment to the cooperative.



Commodity Outlook for 2019 is Clouded by Missing Government Data, Trade Concerns

By Adam Buckallew



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As the partial government shutdown stretches to historic length, farmers, ranchers, agricultural economists and agribusinesses remain cut off from key reports from the U.S. Department of Agriculture.

The USDA was scheduled to release a collection of crop reports on Jan. 11, including data detailing the size of the 2018 harvests of corn, soybean, wheat and other crops, but the reports have been delayed indefinitely until the shutdown has ended. As of late January, the agency remained shuttered as President Donald Trump battled with congressional leaders over funding for his proposed wall along the U.S.-Mexico border.

"Without that data, it's hard to know how to make the best decisions, and we're going to have a lot of uncertainty," says Scott Brown, an agricultural economist with the University of Missouri.

USDA hasn't issued any new information since Dec. 22. In the meantime, anyone with access to private sources of similar data may have a leg up on the competition. The primary advantage to reviewing data, such as production and inventory reports, is that it allows producers to better gauge appropriate pricing levels for crops and livestock and anticipate how many acres may be devoted to specific crops in the year ahead.

"When we don't know what's going on in the market, and we don't have good information, prices tend to be less reliable and more volatile," says John Anderson, an economist with the College of the Ozarks.

According to a recent study published by a collection of U.S. ag economists, the impact of USDA's missing January reports on crop prices is significant compared to other months and has been increasing over time.

"We will be missing some of the most important information of the year from the USDA according to our research," tweeted Scott Irwin at the University of Illinois and one of the authors of the report.

"There is damage to the price discovery process in our grain and livestock markets due to the absence of the reports," Irwin recently said in an interview with DTN. "The question is, is it little or is it big? And the answer to that question really depends on how long the information is delayed."

As the uncertainty caused by the absence of vital agricultural production data grows, trade issues continue to be a primary concern for commodities in 2019. The United States and China have temporarily called a truce to their trade war, but the cease-fire has an early March deadline that is quickly approaching. Unless the high-stakes trade talks wrap successfully, new tariffs will be imposed between the world's two largest economies.

Pat Westhoff, director of the Food and Agricultural Policy Research Institute, says Chinese tariffs remain a top issue affecting soybean prices. While China has resumed purchasing U.S. soybeans, the volume of sales remains unclear, and USDA weekly export data is unavailable due to the shutdown.

If U.S. trade representatives can broker a deal with Beijing, Westhoff says it could be positive for soybean farmers so long as China agrees to purchase large quantities over the next two years.

"There's good reason for the market to be optimistic about that, but I'm afraid the downside risk is also very real right now," he says.

Westhoff says a large carryover of soybean seed in the United States is expected, and he cautions "prices could move a fair amount south of where they are now."

From a livestock perspective, Anderson says while prices aren't likely where producers would like to see them, they are still in good shape considering the supply pressure that has continued to grow the past four years.

"If demand remains stable, I think we are in pretty good shape to absorb the supply that will be coming on in 2019," he says. "I think the risk is that we see some sort of economic disruption that undermines demand. An economic slowdown in the United States or an economic slowdown globally that would impinge on consumer demand (could create) real downside problems."

Westhoff says resolving the trade tariffs in place against Canada and Mexico will play a pivotal role in the 2019 livestock market. While the Trump Administration has renegotiated the North American Free Trade Agreement (NAFTA) and finalized a new United States-Mexico-Canada Agreement (USMCA), there are still questions as to how the situation will shake out.

"Trump could pull out of NAFTA and Congress could potentially not approve the (USMCA) deal," Westhoff says. "So there's potential we could lose our trade deals with Canada and Mexico completely."

Overall, Westhoff expects farm income to be down in 2019 in what he says will be "a much tighter year."

Anderson concurs and says he wouldn't be surprised if farm income dipped even lower than it did in 2016.

"It's a frustrating situation for producers," he says. "We seem to always tell (them) the same thing: do more, cut costs, be more efficient and continually chase that commodity price. That's a really difficult way to dramatically improve your income situation. I think we should encourage and support ways to move away from that strict commodity production model and look at value-added opportunities. We need multiple pathways for producers to be successful beyond hyper efficiency."

Brown points to five key points he will be watching in the year ahead that could move the markets.

"The domestic economy, USMCA agreement, tariffs with other countries, African swine fever in China and weather," Brown says. "It's all about risk management. There's lots of sideways action occurring right now and farmers need to protect themselves against lower prices. These are turbulent times." M

U.S. Shale Oil Boom Reshapes Global Energy Paradigm

U.S. CRUDE OIL PRODUCTION HIT NEW HEIGHTS

in October with output of more than 11.5 million barrels per day according to the latest data released from the U.S. Energy Information Administration (EIA) on Dec. 31.

The United States has become the world's new crude oil kingpin, surpassing Russia and Saudi Arabia. It's the first time America has held the distinction as the top oil producer since 1973.

Domestic crude output has more than doubled since 2011. Thanks to fracking, horizontal drilling and other technological advances in crude oil production, vast quantities of untapped shale oil buried within the Permian Basin, which spans western Texas and eastern New Mexico, and the Bakken region in North Dakota and Montana have been unlocked.

Oil produced from shale is generally cheaper to obtain than crude procured from conventional drilling rigs. While the International Monetary Fund estimates Saudi Arabian producers needed \$70 per barrel to break even on crude in 2018, the U.S. shale oil and gas industry requires an average of \$50 per barrel to maintain profitability. That's a primary reason why energy experts predict the boom in American oil production will continue to grow.

"The United States is set to put its stamp on global oil markets for the next five years," Fatih Birol, executive director of the International Energy Agency, said last March. Birol's agency predicts the United States will dominate global oil supply growth through 2023.

And don't look for the United States to cede its newfound oil crown anytime soon. EIA expects U.S. crude oil production will continue to outpace Russia and Saudi Arabia through 2019. M









A form of a vitamin associated with healthy aging in humans has been used by Kansas State University researchers to build muscle in chickens, a sign that could help the poultry industry meet future demand for its product.

Muscle biologist and meat scientist John Gonzalez and graduate student Stephanie Kruger said the university is pursuing a patent on a process in which scientists injected nicotinamide riboside—a compound similar to vitamin B3—into unhatched chicken eggs to enhance muscle development of the offspring.

"We found that their organs and their overall growth were not affected, but we did see an increase in muscle mass," Kruger said.

The findings have big implications for an industry that has seen global demand for chicken increase annually. Instead of trying to find ways to raise more birds, producers may one day be able to raise the same amount of birds more efficiently.

"We measured increases in the weight of the pectoralis major muscle, or the chicken breast," Gonzalez said. "So, we hope that will translate down the line into larger muscles on those birds when they go to market."

Nicotinamide riboside has been found to be a reliable analog—or substitute—for vitamin B3 in human health studies. The compound is thought to help delay the effects of aging by boosting biological functions that affect stress responses, metabolism and other cellular activities.

Kruger said K-State's work focused on injecting the compound into the unhatched eggs during the tenth day of incubation. She noted the researchers discovered the best success when injecting nicotinamide riboside into the yolk of the egg.

"The thing that is interesting to us is that the response is fairly consistent," Gonzalez said, noting that muscle mass increased by as much as 35 percent in the birds included in this study. "We've had different-sized eggs, we've had lots of eggs and we've run it four times, and we've had the same response each time."

The Kansas State University Research Foundation is pursuing a patent for the researchers' work, which will help to make the process available to the industry more quickly. M



Brothers Embrace Shrimp, Aquaculture to Differentiate Their Midwest Farm

Story and Photos By Nancy Demaree



Pacific white leg shrimp suddenly find themselves plunged into darkness, they panic. The translucent crustaceans start jumping in their tanks, rumbling like thunder; some even launch themselves out onto the concrete floor of the tank room in a desperate attempt to find light.

But all is not lost: After 20 seconds of darkness, the nightlight kicks on, and Jeff and James Howell, flashlights in hand, dutifully throw any jumpers back into their tanks.

The Howell brothers have been raising Pacific white leg shrimp for about two years now. Triple J Farms, near Foristell, Mo., about an hour outside of St. Louis, is one of only three shrimp farms in the state. Jeff, who's sturdy with an open face and an easy manner, and James, taller and quieter, come from "an old farm family" in Defiance, where the Howells still farm a couple thousand acres of soybeans. (The third J, eldest brother Jason, works as a civil engineer in Kirkwood, Mo.)

Their father, Dave, came across an article in Corn and Soybean Digest on how Cargill, the Minnesotabased agricultural company, was trying to make shrimp feed out of soybeans.

"We're just dumb hicks from Missouri," Jeff jokes. "That got us to thinking: 'Why do you need shrimp feed? Don't you just catch those things out in the ocean?' So we started doing research, and what we found out is, no. Ninety-two percent of all shrimp consumed in the United States is imported, (mostly) from Asian shrimp farms. Of that, only 2 percent is inspected by the FDA, and about 60 percent of that is rejected for the use of tetracyclines, souped-up antibiotics and filth. We're thinking there is a better way you can do that."

Jeff and James first visited RDM Shrimp, a shrimp farm in Fowler, Ind., near Purdue University, to learn the ropes three years ago. They launched Triple J Farms in November 2016 with eight tanks, which look like small above-ground pools, and 40-day-old shrimp.

"It was a lot of trial and error," Jeff says, shaking his head as he recalls those early days. "Our first go-arounds on our tanks, we were having like 50 and 60 percent (survival rates). Just like anything else, we got more knowledgeable. And if that's your profit you lost in the tank, you'll start doing it right. So it took a little while, but we're getting to a point where we have a high 80s, low 90s survivability rate."

The thing that really sets Triple J apart—besides the fresh shrimp in landlocked Missouri, of course—is

how clean it is. At first, guests on tours are often alarmed by the brown-looking water, which gets its color from the food-grade shrimp feed and the heterotrophic bacteria.

The bacteria, which is the same kind humans have in their guts, will consume the waste put out by the shrimp and turn it into nitrites and then nitrates, and eventually carbon dioxide—meaning the Howells don't have to filter any waste out of the tanks. They also don't use any antibiotics, hormones or chemicals; instead, the shrimp live alongside the bacteria in their own little environment.

Jeff performs 11 tests on every one of their 14 tanks each day to ensure the shrimp are getting what they need. The tests check temperature, dissolved oxygen, salinity, alkalinity, pH, nitrites, nitrates, ammonia, carbon dioxide, heavy solids and mortality rates.

"I'm no chemist or scientist," Jeff says, though he has a lab full of testing equipment and chemical tests between the sales counter and the tank room. The shrimp—around 50,000 when fully stocked—are fed three times a day and sleep at night, just like humans, which is when the Howells must watch for jumpers. Generally, James, who lives in a farmhouse near the shrimp, will feed them dinner and breakfast, and Jeff will come in and feed them lunch and do his 11 tests.

The final test is mortality. Each tank is stocked with about 3,500 shrimp, and they'll lose a few every day. Even those, though, are frozen and sold as catfish bait.

"That's our lemonade out of lemons," Jeff says.

Triple J has already expanded since 2016, adding six tanks to the original eight and, more recently, installing two nurseries. These rectangular tanks hold 15,000 baby shrimp each. At 10 days old, the shrimp are the size of an eyelash.

"These guys are like human babies—they're really strong," Jeff says, fishing out some with a small net. "They'll bounce back from a lot of stuff."

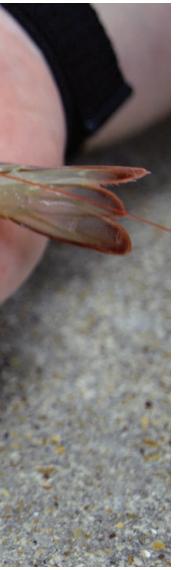
The baby shrimp came from a hatchery in St. James City, Fla., just over a week before. James marvels at their size.

"They're way bigger than they were a week ago," he says, as a tiny, wet sliver jumps around in the palm of Jeff's hand. After 27 days in the nursery, the baby shrimp will be about a gram in size and ready for a production tank, where they'll grow for three more months until they're ready for harvest.











LEFT PAGE, CLOCKWISE: Pacific white leg shrimp, also known as King Prawn, are raised in a sustainable salt water indoor environment at Triple J Farms near Foristell, Mo. The shrimp are grown in tanks that resemble small above–ground swimming pools. The shrimp are sold fresh and scooped into zip–top plastic bags upon demand for customers who visit the farm. ABOVE: James and Jeff Howell were looking for something unique to differentiate their farm when they decided to begin raising shrimp in 2016. Despite no prior experience in aquaculture, the brothers have learned how to make their venture successful through trial and error.

TRIPLE J IS OPEN Thursdays, Fridays and Saturdays, and about 90 percent of their business comes from customers who drive down a gravel road, through soybean fields, past James' farmhouse and up to the shrimp farm. The tanks are weighed each Wednesday, so the Howells know, more or less, how many and what size shrimp they have.

If someone wants a pound of 20/30 count shrimp, for example, Jeff will ask James to hit tank 9. James scoops a large net into the tank—at this point he can pretty much eyeball how many he'll need—and pulls out the translucent shrimp, who flop and jump around like fish. They have feelers several inches long and round, black eyes that look like they might burst if touched.

Jeff packs them into a zip-top plastic bag, tucking in errant feelers, and seals the bag before nestling it on ice in a small blue Triple J Farms tote. The brothers are quick to offer cooking suggestions, though the simplest is arguably the best: just boil them for three minutes and enjoy. The shrimp quickly take on a pleasant pink color and curl into the familiar shape.

The Howells even record mini cooking videos and post them to the Triple J Facebook page. The videos show them cooking up skewered shrimp with barbecue-glazed smoked sausage, baconwrapped shrimp with a maple-bourbon glaze and

a shrimp scampi tray appetizer with butter and lots of garlic. The two swear they don't get sick of eating shrimp.

"I eat it once or twice a week," James says.

"My wife wishes we ate it more," adds Jeff, "but we have two little girls who don't like shrimp."

Their friend Chris has stopped in to visit, and he admits it's great to be friends with the Howells. "I don't think I could get sick of (shrimp)," he says. "There's too many dishes to use it for. You can't get better shrimp than this unless you know somebody on the coast, or you're going to the coast. These are clean and natural and awesome."

Triple J is just starting out with the two nurseries, so James and Jeff hope that will continue to be a success and they can have a steady supply of shrimp. The next step would be to have their own hatchery, which would require adding a separate building. This spring, they're supplying shrimp to the highly anticipated Elmwood, a new restaurant opening in the St. Louis suburb of Maplewood.

"When you're looking to start up a business, you need something that's unique, something where there are high barriers to entry, and something that people are gonna talk about," Jeff says. "A shrimp farm in Missouri kinda hits all three." M

www.triplejfarmsstl.com



MFA Oil Company 2018 Fiscal Year Audit Report

Our auditors, Williams Keepers LLC of Columbia, Mo., recently completed our fiscal year audit for the period Sept. 1, 2017, through Aug. 31, 2018. Following is a summarized balance sheet and a consolidated statement of operations for our past fiscal year.

Williams Keepers provided the following statement: "In our opinion, the consolidated financial statements present fairly, in all material respects, the financial position of the Company as of August 31, 2018, and the results of its operations and its cash flows for the years then ended in accordance with generally accepted accounting principles."





CONSOLIDATED STATEMENT OF OPERATIONS AUGUST 31, 2018 AND 2017

2018	2017
\$1,086,737,338	\$900,048,145
\$893,071,457	\$720,929,265
\$193,665,881	\$179,118,880
\$2,678,778	\$2,638,371
(\$191,262,658)	\$(183,506,869)
\$5,082,001	\$(1,749,618)
\$1,026,163	\$7,427,980
\$1,647,396	\$1,352,564
(\$1,088,577)	(\$20,271)
\$1,371,011	\$886,342
\$4,568,632	\$3,558,911
\$7,524,625	\$13,205,526
\$12,606,626	\$11,455,908
\$(7,929,842)	\$3,120,000
\$20,536,468	\$8,335,908
	\$1,086,737,338 \$893,071,457 \$193,665,881 \$2,678,778 (\$191,262,658) \$5,082,001 \$1,026,163 \$1,647,396 (\$1,088,577) \$1,371,011 \$4,568,632 \$7,524,625 \$12,606,626 \$(7,929,842)

CONSOLIDATED BALANCE SHEET AUGUST 31, 2018 AND 2017

Assets

2018	2017
\$22,504,855	\$32,787,261
\$66,512,000	\$54,994,874
\$63,923,486	\$56,636,788
\$11,594,280	\$8,288,881
\$164,534,621	\$152,707,809
\$58,338,736 \$186,763,726 \$25,690,727 \$3,377,542 \$520,174	\$57,605, 169 \$176,892,684 \$23,787,399 \$4,627,794 \$488,938
\$439,225,526	\$416,109,793
	\$22,504,855 \$66,512,000 \$63,923,486 \$11,594,280 \$164,534,621 \$58,338,736 \$186,763,726 \$25,690,727 \$3,377,542 \$520,174

Liabilities, Members' Equities and Retained Savings

Total Liabilities	\$123,182,577	\$111,584,440
Deferred Income Tax	\$19,359,390	\$25,843,140
Other Long Term Liabilities	\$1,758,272	\$1,809,843
Long Term Debt	\$30,000,000	\$782,457
Current Liabilities	\$72,064,915	\$83,149,000

Members' Equities and Retained Savings

Total Liabilities and Equities	\$439,225,526	\$416,109,793
Total Members' Equities	\$316,042,949	\$304,525,353
Other Comprehensive Income (loss)	(\$25,371)	\$19,340
Retained Savings	\$249,290,110	\$239,482,239
Members' Equities	\$66,778,210	\$65,023,774



How a Community Came Together to Bring in a Farmer's Final Crop



By Megan Hill | Photos Courtesy of the Buckman Family



Small communities, especially rural ones, are known to naturally come together when faced with misfortune. One northeast Missouri community recently demonstrated this phenomenon when volunteers pitched in to complete a farmer's last piece of labor following his unexpected death.

Early in the morning on Aug. 27, 2018, Floyd Buckman, a 61-year-old grain and livestock farmer from Stoutsville, Mo., was tragically killed in an automobile accident on a county road near his home.

"It was an overwhelming experience for me and my kids," said Deanna Buckman as she recalled the passing of her husband.

Following Floyd's passing, a group of friends and neighbors from the surrounding community banded together to make sure the Buckman family's crops were harvested.

"In a time of tragedy, it helped us out and brought people together," said Jacki Potterfield, one of Floyd's daughters.

Floyd's untimely death was felt not only by his family and friends, but also at MFA Oil, where he had served on the company's board of directors since 2011. As an active community member within the greater Monroe City, Mo., area, Floyd was known for playing his electric guitar in various local bands and for volunteering with organizations like the Knights of Columbus.

When he died, Floyd left behind not only his family and friends, but also several fields of corn and soybean crops. Aaron Benson, who owns and operates Hassard Grain Elevator in Monroe City, decided to take action following the tragedy.

"I just figured that this was a calling I had," Benson said. "It was something I could do to make things easier on the family."

People came from all around, even farmers from other areas. It's always been a small community, and I think if it was the other way around, Floyd would have been there for whoever needed help." — Deanna Buckman

Benson and members of the Buckman family gathered together to create a game plan to ensure the crops were harvested on time. Working closely with Deanna, Jacki and Jacki's husband, Josh, Benson coordinated a large group of at least 30 farmers from surrounding communities to help the family see to its fields of corn and soybean. The harvesting began with farmers who lived nearest the Buckmans' fields getting things done first, but Benson soon found he had no trouble recruiting help. There was no shortage of willing volunteers.

In September, the group began cutting corn and finished with that crop in five days. The soybeans would not be ready until October, but the volunteers graciously returned to complete the harvest.

Along with coordinating the field work, Benson also made sure the farmers participating were well-fed. Deanna, Jacki and several local women prepared and organized meals for the large group of neighbors who assisted with harvesting Floyd's final crop.





"It wasn't just the men, the ladies helped out too," said Jacki when she described the harvest effort. "The ladies gathered and prepared different dishes. They made sure the men had food to eat while they worked."

Deanna and Jacki both expressed deep gratitude for the greater community and the work that was completed out of the kindness of their hearts.

"People came from all around, even farmers from other areas," Deanna said. "It's always been a small community, and I think if it was the other way around, Floyd would have been there for whoever needed help."

As the harvesting process entered its final stretch, the Buckman family and volunteers were touched by an inexplicable act of nature.

"While the last load was brought in, a rainbow appeared over the grain bin," said Jacki. "The rainbow expanded out of the combine. It hadn't even rained in a while."

As the harvest ended, this unexpected sign in the sky offered Floyd's friends and loved ones a sense of comfort during a time of sorrow and new beginnings.

Five Questions with Joey Massey



With four new faces on the MFA Oil Board of Directors since this time last year, what opportunities do you see as we enter 2019?

The recent election results from our annual delegate meeting have introduced several new people to the board who bring their own perspectives and fresh ideas. The new board members will play a vital role in helping us ensure we are modernizing our cooperative to meet the needs of the next generation of farmers and ranchers.

You were recently elected to serve as the vice-chairman of the board. How are you approaching your new role?

A I've always wanted to be involved in guiding the company and making sure we keep it on the right

track. As the vice-chairman, I will offer Marion (Kertz), our new chairman, my complete support and help in any way I can. We are fortunate to have had many great leaders on our board throughout the years, and I will work hard to continue that tradition.

MFA Oil has implemented a number of improvements to its business practices to provide better service to members and customers in the past year. How have these changes been received in your district?

Everything that I have heard so far has been very positive. I think people appreciate our willingness to improve and our commitment to upgrading our business practices. I should mention that we haven't had any delegate meetings since the weather has turned cold. The feedback we hear in the spring and summer will probably give us a better idea of how we are truly doing,

but for now, I'm encouraged by the progress that has been made.

What do you view as the most important issue facing MFA Oil?

As a farmer-owned cooperative, we need to remain mindful of the wants and needs of our member-owners and customers. Providing excellent products and service is a core principle of our company and that will never change. Last year, we ran into some problems, and our employees have worked hard to rectify those issues. As we continue to grow and improve as a company, maintaining outstanding customer service will remain a primary focus.

What do you view as the most critical issues MFA Oil members are facing?

Profitability among the agricultural community remains a big challenge. Commodity prices remain low and, on top of that, there's so much uncertainty we are facing right now with the trade wars and government shutdown. The current environment is forcing many of us to make changes to our farms and ranches. While there is a lot of gloom and doom at the moment, I think we will be ok in the end. These types of boom-bust cycles are unfortunately common in agriculture, and we've been in similar situations in the past. We will adapt and adjust, and the farm families of the United States will come together and get through this. M



>> Joey Massey
Board Member,
District 8 - Mid-South

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Market Commentary

Fuel Contracting Enhancements Now Available

AS MFA OIL CONTINUES TO MAKE

system upgrades across its business lines, enhancements are coming to the company's forward contract program. Contracting is a valuable tool you can use to lock in pricing. The ability to secure a fixed or maximum price enables you to convert a variable cost into a fixed cost, which provides more clarity for budgeting your gasoline and/or diesel expenses. These benefits are hallmarks of our contracting program, and they will remain a part of the program.

To make contracting easier, we are streamlining the process of obtaining quotes and agreeing to a contract. Your local bulk plant will be able to generate a price quote and provide it to you in print or via email. If you agree to the quoted price, we will be able to upload the new contract into our system with just a few clicks. The system we had been using was introduced in 2001, and as we all know, a lot has changed since then.

Our upgraded software provides you with faster and more effective service. Additionally, as we transition to the new system, we have taken the opportunity to revise and improve some details. For example, fixed-price contracts will no longer require full pre-payment—you may only need to make a small deposit, and in some cases, no down payment may be required at all.

Offering fixed-price contracts for little to no money down should enable more of our members and customers to take advantage of this tool. Instead of worrying about paying a large deposit upfront, you can now contract what you need and pay as you go without tying up your cash.

Another aspect of the program that is changing will be how gallons are applied to



your contract. All gallons locked in on your contract will now be available from the first day of the contract. This will pertain to both sales made at Petro-Card 24 facilities and deliveries made by our drivers. Every gallon you purchase will be applied to your contract until its limit is reached. If you would prefer to limit the number of contracted gallons you purchase each month, or if you only want to contract for certain months, you can set up individual monthly contracts to meet your needs.

Instead of worrying about paying a large deposit upfront, you can now contract what you need and pay as you go without tying up your cash.

Though some things are changing, please be assured you will still be able to contract for all of your gasoline and diesel needs-whether you purchase your fuel by tank wagon delivery,

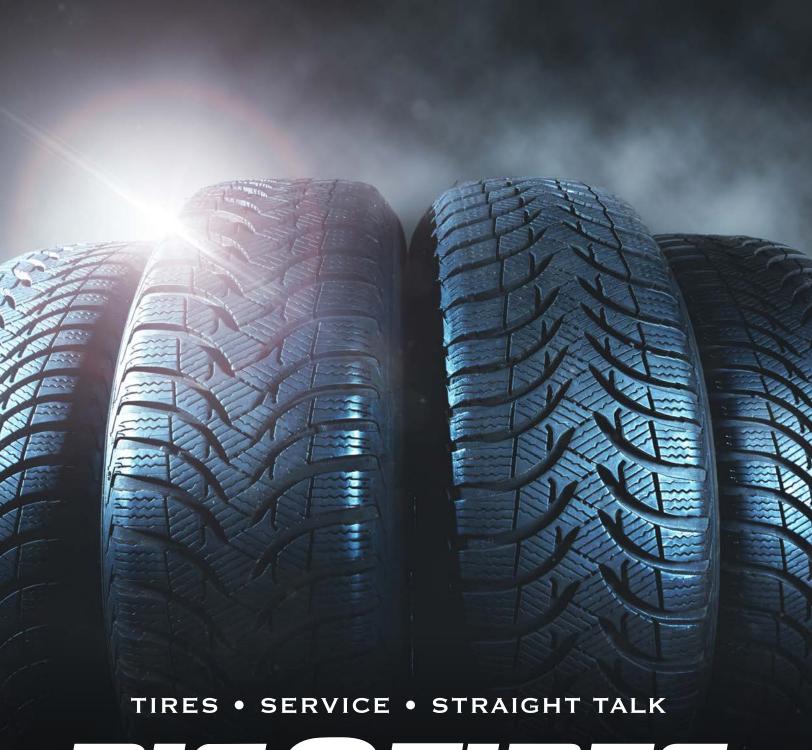
transport-sized loads or everyday purchases at Petro-Card 24 sites.

Currently, there is consensus among energy analysts that the volatility gripping the energy sector is expected to continue into the near term. While the market has fallen well off its recent October peak, there's no guarantee prices will remain at these levels. Any number of factors, such as natural disasters, geopolitical issues and crude production cuts, could result in unpredictable market activity. I encourage you to take advantage of the contracting options we offer to establish some pricing protection for your budget. This is historically the season when we see the year's most attractive pricing, so if you can obtain a quote that fits within your budgeted range, it's probably a good idea to lock in pricing on a percentage of your future fuel needs to manage your risk. M



>> Tim Danze is the hedging manager for MFA Oil.

WINTER 2019 30 /// MOMENTUM



THE TEAM YOU TRUST™





MFA Oil Employees Give Back



MFA OIL EMPLOYEES PLEDGED TO GIVE \$51,606 TO

four nonprofit organizations during the company's annual Week of Giving campaign.

More than 170 employees contributed to the fundraising effort which ran from Oct. 29 through Nov. 2 in support of Central Missouri Foster Care and Adoption Association, Children's Miracle Network at MU Children's Hospital, Food Bank of Central and Northeast Missouri and St. Jude's Children's Research Hospital.

"This is the second year we have extended the Week of Giving to all employees throughout the company, and it's impressive to see how much good we can do collectively," says Tom May, director of employee relations.

May is a member of the MFA Oil employee committee which annually organizes the Week of Giving. This year, the committee chose to focus the week's fundraising efforts on charities that benefit children.

"There are many ways these organizations are helping kids in our communities through whatever trials they may be facing," May says. "Whether it's providing medical care, finding a home or simply ensuring kids have enough food to eat, these groups do tremendous work."

Employees' pledged contributions during the Week of Giving will result in the following donations:

- Food Bank of Central and Northeast Missouri \$16,445
- St. Jude's Children's Research Hospital \$15,451
- Central Missouri Foster Care and Adoption Association \$9,857
- Children's Miracle Network at MU Children's Hospital \$9,852

Additionally, employees at the company's headquarters helped to raise an additional \$4,000 that will be split among the four charities through raffle ticket sales, a 50/50 drawing, concession sales and activities.

Recent MFA Oil Foundation Grants

The MFA Oil Foundation provides cash grants to support nonprofit organizations that are working to improve communities where MFA Oil has a significant concentration of members and employees. In December, the foundation approved more than \$50,000 in grants to 27 different organizations.

Ava Rural Fire Department – Ava, Mo.

Eastern Douglas County Volunteer Fire Department, Inc. – Drury, Mo.

Kenny Rogers Children's Center – Sikeston, Mo.

Keytesville Lions Club – Keytesville, Mo.

Maryville High School - Maryville, Mo.

Second Harvest Community Food Bank - St. Joseph, Mo.

Moberly Friends of the Park Foundation – Moberly, Mo.

Greenville High School - Greenville, Mo.

Cooper County R-IV School District – Bunceton, Mo.

DeKalb Fire Protection District - DeKalb, Mo.

South Central Buchanan County Fire Protection District
– Agency, Mo.

Newborns in Need, Inc. Southwest Missouri Chapter – Hartville, Mo.

Bible Grove Historical Preservation Committee – Bible Grove. Mo.

Community Ambulance District of Daviess County – Gallatin. Mo.

North Shelby School District – Shelbyville, Mo.

Mountain Grove School District – Mountain Grove, Mo.

Macon County Ministries – Macon, Mo.

Voluntary Action Center – Columbia, Mo.

Garnett Unified School District – Garnett, Kan.

City of Walker – Walker, Mo.

Girl Scout Troop 70090 - Marshfield, Mo.

Macon County Sheriff's Department – Macon, Mo.

Lives Under Construction Boys Ranch – Lampe, Mo.

Butler High School – Butler, Mo.

Alternative Community Training – Columbia, Mo.

Tri-County Care Center - Vandalia, Mo.

Missouri Community Betterment – Jefferson City, Mo.

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Kertz Named MFA Oil Chairman



MARION KERTZ, A FARMER FROM Ste. Genevieve, Mo., has been elected chairman of the MFA Oil Company Board of Directors. Kertz was elected

to his new role during the company's December board meeting and will succeed Benny Farrell of Maryville, Mo.

Kertz farms in both Missouri and Illinois with his sons and nephew. He currently serves as vice president of MRV Banks and is a board member for Citizens Electric Corporation. Kertz has also served on the boards of his local MFA Incorporated cooperative and the Ste. Genevieve Catholic Church. Serving as an MFA Oil delegate since 1997, Kertz was elected to the company's board of directors in 2011.

Kertz says his primary goal as chairman of the board will be to ensure the

company continues to provide value to its member-owners.

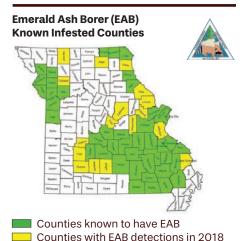
"We have a great group of board members that is committed to representing their fellow farmer-owners, and we are focused on making MFA Oil one of the best cooperatives in America," Kertz says.

As a cooperative, MFA Oil is controlled by its farmer-members who elect delegates at annual bulk plant meetings each fall. These delegates, in turn, elect an eight-member board of directors to establish company policy and set operating guidelines.

Invasive Emerald Ash Borer Confirmed in Six More Missouri Counties

FORESTERS WITH THE MISSOURI

Department of Conservation (MDC) have confirmed the presence of Emerald Ash Borer (EAB) in six more counties across Missouri. New detections have been confirmed in Caldwell, Gasconade, Harrison, Hickory, Webster and Wright counties. Since EAB was first detected in Missouri in July 2008, the exotic, tree-



killing pest has spread to a total of 59 Missouri counties and the City of St. Louis.

EAB is a small, metallic green beetle native to Asia that attacks all species of ash trees, including the commonly planted green ash and white ash. At approximately a half-inch long, the green adult beetle feeds on leaves and does very little damage to trees. However, in its larval stage, the insect kills ash trees by feeding on the water- and nutrient-conducting tissues just under the bark.

MDC Forest Entomologist Robbie Doerhoff suspects EAB is present in several other counties besides those on the most recent map of confirmations.

"After EAB arrives in a new location, it can take at least five years for the population to build to the point where we can detect it using specialized insect traps," said Doerhoff. "We really rely on public reports to help us find new EAB locations, particularly in the winter months."

You can help MDC track the spread of this invasive pest by keeping an eye out for bark blonding on ash trees. Bark blonding is caused by woodpeckers removing a tree's outer bark while searching for insect larvae. On ash trees, this feeding activity reveals a white inner bark that is highly noticeable.

"Ash trees with bark blonding may not have EAB, but it is certainly worth reporting these trees for a closer look by MDC foresters," added Doerhoff.

MDC encourages Missourians to report possible EAB infestations in counties where the pest has not yet been confirmed. Reports can be made by using the online form at eab.missouri. edu or by calling MDC's Forest Pest Hotline at 866-716-9974. You can help slow the spread of EAB and other invasive forest pests by using locally harvested firewood. Buy firewood near where you plan to burn it. M

How MFA Oil Safeguards Your Personal Data



A NUMBER OF HIGH-PROFILE DATA

breaches compromised the private data of hundreds of millions of people in 2018. In what seemed like a weekly occurrence, company after company sent notifications to customers that their personal data may have been exposed to cyberthieves. From hotel giant Marriott to telecom provider T-Mobile and tech titans Facebook and Google, the steady stream of breaches underscored the importance of digital security vigilance.

MFA Oil takes many steps to safeguard the data of its members and customers. The company took part in National Cybersecurity Awareness Month in October by distributing newsletters to employees and posting informational bulletins to keep MFA Oil staff up-to-date on the latest digital threats.

"Employees are the number-one area hackers will target first when attacking a company, so it's imperative that we ensure our personnel are aware of potential vulnerabilities," says Nick O'Neil, a senior security administrator with MFA Oil.

O'Neil and other members of the company's security team routinely test employees' ability to recognize cybersecurity threats with mock phishing emails intended

to deceive the recipients. The tactic has helped MFA Oil employees strengthen their familiarity with the types of tricks cybercriminals deploy.

"Our employees are almost eight times more likely to detect and avoid cybersecurity threats compared to other oil and gas companies and greater than six times more likely to fend off hackers than worldwide averages," O'Neil says.

The company's recent digital defense efforts include bolstering its security standards for credit card transactions. As a Level 1 merchant, MFA Oil follows the most stringent guidelines set forth by the Payment Card Industry Security Standards Council, a global organization devoted to developing, enhancing and disseminating payment account security.

One area where customers can see upgrades to the cooperative's security systems is at the pump at Break Time convenience stores. MFA Oil has begun to install new credit card readers with the capability to read chip-based cards and expects to have the new readers installed at every location by the midpoint of 2019. After testing, the new credit card readers will have the chip functionality enabled sometime before October 2020. Chip cards have embedded microchips that encrypt cardholder information into a unique code, which significantly increases transaction and account data security when used in tandem with a chip-enabled reader, and makes card cloning and fraud more difficult.

As technology threats continue to grow more advanced, MFA Oil remains committed to protecting the private data of its members and customers. The company regularly reviews and updates its policies to ensure everything that can be done to thwart hackers is put into practice.

Protecting Yourself from Cybercrime

Nick O'Neil, a senior security administrator with MFA Oil, recommends the following tips to minimize your chances of falling victim to cybercriminals:

- Keep your operating system, browser, anti-virus and other critical software up-to-date and only install programs from trusted sources.
- Scrutinize your inbox and never click a link or open an attachment from a suspiciouslooking email.
- Before entering personal information on a website, look to see if the site's URL begins with https:// or if there is a padlock icon before the address. This indicates the page is secure and your information will be encrypted. Use caution if the site is not secure.
- The safest way to store and use passwords is to rely on a password manager. Simply create one lengthy and complex master password for access to your password manager and the program will encrypt all your other passwords and remember them for you.
- Use two-step verification when available. It adds an additional layer of security to your accounts by requiring two forms of authentication (generally a password and code sent to your cell phone) during every sign in. This prevents cyberthieves who have your password from accessing your information.



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