MOMENTUM

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>> LETTER FROM THE PRESIDENT

Keeping the Main Thing the Main Thing

In a recent sermon, my pastor focused on the idea of ensuring the church understands and sticks to its mission of serving God. This notion, keeping the main thing the main thing, originated from famous self-improvement guru Stephen Covey. It's a strong point, and it made me reflect upon the work we do at MFA Oil and our mission.

The mission is quite simple, really. Our goal is to enrich the lives and prosperity of the farmers and ranchers we serve through our energy products and services. I suppose it sounds simple, but the diversity of our operations can make it seem harder than you would think.

For example, we are often questioned why we invest in our retail operations like APM, Big O Tires, Break Time and Jiffy Lube. It's a valid question, and one to which I believe we have good answers. Each of these business units contributes to the cooperative's profitability, which ultimately boosts the company's financial performance. Additionally, these business units:

- Provide strong fuel and lubricant volume, which enables us to negotiate with more buying power.
- Improve our cash flow when bulk fuel and propane sales hit seasonal lulls.
- Serve as a source of talented employees for us to develop for roles throughout the company.

But let's return to the question at hand: How do we keep the main thing the main thing? It starts with our culture, the things we do and say every minute of every day. We are always thinking of our commitment to our farmer-owners. When we make decisions about who we are and why we do what we do, we always come back to what's best for our member-owners. That goes for everyone at MFA Oil's



headquarters in Columbia, Mo., including myself and the rest of the executive team. We are all part of the supporting cast for the employees in the field who directly serve our farmers and ranchers.

I was recently asked by one of our retail partners whether we offer any differentiation between service for members and non-members. Outside of the obvious answer of patronage dividends, the answer is no. That may sound like it runs counter to what I've described above, but how do you think our business would be performing if we gave preferential treatment to some customers, but not others. The short answer is, not well.

The beauty of it is, both our members and non-members help us attain our goal. That's why we treat all customers with the respect they deserve by providing them all with the same level of elite service. This culture was instilled decades ago, and it's so ingrained it has become part of our DNA. We believe it's why our business continues to grow when others are not. At the end of the day, we need all our customers' business to be competitive, efficient and effective. It's how we keep the main thing the main thing, and we will continue to do so.

Mal Ferra

Mark Fenner, President and CEO



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ON THE COVER:

Land-grant universities are grappling with maintenance upkeep at agricultural research centers. *Photo by Kyle Spradley* | © 2014 -*Curators of the University of Missouri.*



Biodiesel Producer Grows with Industry

For the past 11 years, Mid-America Biofuels, a biodiesel production plant in Mexico, Mo., has become a large contributor to the growing renewable fuels industry. The plant, which became Missouri's first large-scale biodiesel production facility when it opened in 2006, has grown from its original production capacity of 30 million gallons to 50 million gallons of product per year.

Mid-America Biofuels is a joint venture of Biofuels LLC, a farmer-owned cooperative; Archer Daniels Midland Company (ADM); MFA Oil Company; Ray-Carroll County Grain Growers; and Growmark, Inc.

The biodiesel produced at Mid-America Biofuels is made through a chemical process called transesterification, which separates glycerin from soybean oil. The process results in two products: biodiesel and glycerin, which in its refined form can be used to manufacture soap, cosmetics, pharmaceuticals and many other products. Missouri is currently the second-leading producer of biodiesel in the country, but remains low on the list of biodiesel consumption by state.

"We invested in Mid-America Biofuels to support biodiesel production in Missouri, and to add value to the soybeans produced by the state's farmers," says James Greer, MFA Oil vice president of supply and government affairs. "While biodiesel had made good progress, we think there is great opportunity to raise the level of biodiesel consumption in Missouri."

Though most biodiesel plants rely on soybean oil for feedstock, there are other resources the industry can use to make the biofuel, such as corn oil, animal fats and recycled cooking oil. The diversity of feedstocks has made it possible for more companies to enter the market.

"Biodiesel isn't just an industry in the Midwest," says Cliff Smith, plant manager of Mid-America Biofuels. "Companies across the country, all the way from San Diego to New York, have gotten into the business. We are also facing competition from other countries importing the product, such as Argentina."

Complicating matters for the biodiesel industry, a biofuels tax credit expired at the end of 2016 and has not been renewed.

"Biodiesel producers are unsure at the beginning of every year if we will have a blender's tax credit to rely on financially," says Smith.



Mid-America Biofuels was Missouri's first large-scale biodiesel producer.

In a recent decision, the U.S. Department of Commerce found that Argentina and Indonesia provide subsidies to their biodiesel producers in violation of international trade rules. As a result of the department's ruling, importers of Argentinian and Indonesian biodiesel will be required to pay cash deposits on biodiesel imported from those countries.

Another measure aimed at supporting U.S. biodiesel production includes a new bipartisan biodiesel tax credit bill. The bill is expected to convert the recently expired tax credit for blenders of biodiesel to a credit for U.S. biodiesel producers in an effort to incentivize domestic production.

Domestically, biodiesel utilization has grown steadily over the past decade and reached a record high of 2.8 billion gallons in 2016.

In addition to growing its production, Mid-America Biofuels has focused on quality. The plant is recognized as meeting the industry's highest quality standards as an accredited producer under the National Biodiesel Accreditation Program, BQ-9000. Plants achieving BQ-9000 accreditation have passed a rigorous review of its quality control processes by an independent auditor.

The BQ-9000 program helps companies improve their fuel testing and greatly reduce any chance of producing or distributing inadequate fuel. A good onsite lab is one key to ensure a good quality biodiesel is produced.

Mid-America Biofuels produces the majority of the biodiesel MFA Oil sells to customers.

"MFA Oil has access to as many biodiesel blending facilities as anyone in the state," says Greer. "The nine different blending facilities in Missouri are important to help us get biodiesel out to locations where it's needed."

Farmers interested in purchasing biodiesel should contact their local MFA Oil plant manager. This is the best way to ensure biodiesel is in stock and available for purchase when farmers need it. **■** – **By Michelle Cummings**





A growing backlog of deferred maintenance at universities spells trouble for agricultural research

By Michelle Cummings

With limited funds designated for facility upkeep, universities around the country are facing a mounting backlog of maintenance needs, and farmers could soon feel the effect. The widespread problem of deferred maintenance has the potential to limit agriculture research findings, and ultimately halt future innovations the United States may make in the agriculture industry.

Any postponement of building repairs or a failure to keep technology up to date due to a lack of funds falls under the umbrella of deferred maintenance. A study completed by Sightlines, and sponsored by the Association of Public and Land-grant Universities (APLU), reported more than \$8.4 billion in total deferred maintenance occurred in the 91 colleges and universities surveyed around the country.

"At the very least, these failures can cause delays in research work and add extra costs in personnel time and in cost of mitigation," the APLU report states. "At worst, we are entering an era when the condition of facilities will limit our ability to conduct world-class research that is needed to keep our leadership edge in the agriculture industry."

The report studied deferred maintenance in buildings used for agriculture, food sciences, veterinary sciences, forestry and human sciences academic programs, as well as agriculture extension sites. Of the schools, 80 percent invest capital into facilities at such a low level that deferred maintenance is all but guaranteed to increase in coming years. The necessary updates to existing buildings and technology have especially fallen behind. Outdated field and research equipment, leaky roofs and faulty heating/cooling



units have all been cited as common issues in universities.

"We are woefully behind on our maintenance issues," says Mark Linit, University of Missouri senior associate dean for research and extension. "Maintaining roads, replacing roofs and mending fences are all issues that we have been forced to postpone due to a lack of funds designated for maintenance."

CAUSES

The root of the problem dates back several decades. Many campus buildings in land-grant institutions were built between 1960 to 1975 to house the baby boomer generation. This rapid flux of construction led to a surplus of cheap, poorly constructed buildings. Many of these buildings came due for renovations around the same time. Nearly 70 percent of the buildings built between 1950 and 1975 still need to be updated to match modern standards of functionality and technology. University administrators are now faced with a delicate balancing act of renovating these outdated buildings while simultaneously maintaining newer facilities.

These antiquated buildings have the potential to negatively affect the research that shapes the future of the agriculture industry.

"Our research centers provide farmers with unbiased product information," says Linit. "The work we do saves farmers money. If we can't keep up with our research standards, farmers won't have the latest, correct information to help them make the best decisions with products or methods affecting their crops. They might have to try out something that may cause their crop yield to fail, wasting lots of valuable time and money."

Land-grant universities have long been looked upon as a reliable source of quality, unbiased research information for farmers and the agricultural community. However, old technology and rundown buildings are limiting the scope and standards of the quality of research conducted at institutions. "Excellent facilities lead to an excellence in industry impacts and productivity," says Tim Cross, chancellor of the University of Tennessee Institute of Agriculture. "You need modern, state-of-the-art technology in order to accomplish this goal."

ESCALATING Competition

When academic institutions fail to keep pace with updating their laboratories, greenhouses, equipment and technology, it makes it harder to retain key researchers and extension specialists.

"We're in competition with the private sector (and they) may be able to provide better facilities for researchers," says Thomas Coon, vice president, dean and director of Oklahoma State University's division of agricultural sciences and natural resources. "Researchers are going to go where they are best equipped to advance science and make a difference in the agriculture industry."

A lack of modern research technology can hinder researchers' ability to do their





Opposite Page: Rusted flush tanks at the University of Missouri Foremost Dairy Research Center represent the growing need for funds for the deferred maintenance issues occurring at the university's agriculture research centers. Left: Postponed maintenance has left many researchers working in sub-standard conditions at agricultural research centers across the country. Above: A lack of investment in facility repairs can hinder agricultural researchers' ability to do their jobs effectively and influence the quality of work done on behalf of farmers.

jobs in an efficient and effective manner and influence the quality of research that is attainable.

"Our research will continue to be accurate, but using old equipment really limits the kind of research that we can get done," says Robert Gillen, director of the Western Kansas Agricultural Research Centers for Kansas State University Research and Extension. "When we aren't able to stay on the cutting edge of technology, it may force us to abandon projects we might otherwise have pursued. A lack of modern equipment can have subtle effects on the direction we may take with our research."

Private firms often work together with land-grant universities on research advancements that provide useful answers for productivity issues farmers face. However, even with strong private sector research, if investment in the maintenance of land-grant research institutions continues to diminish, U.S. agriculture could potentially lose its leadership position in the international arena as other nations play catch up. China now spends approximately 6 percent, nearly \$5 billion more than in 2013, on agriculture research compared to the United States. In recent years, India's agriculture research investment continues to climb, while the United States investment rate shows a rate of decline.

"There's no guarantee that the United States will remain the leader of the agriculture industry," Gillen says. "If other countries put more investments into their research organizations, then eventually our leadership will erode."

INSUFFICIENT TECHNOLOGY

The caliber of future farmers and agriculture researchers is largely dependent on the quality of technology used in their education. Outdated classroom equipment puts students at a disadvantage in an industry where using the latest technology has become increasingly important.

Maintaining the quality of research conducted at agricultural universities and

colleges is also a crucial component of preserving an affordable, abundant food supply for U.S. consumers.

"The reason the United States has one of the highest levels of food security in the world is due to the agriculture research our land-grant universities conduct," says Ian L. Maw, vice president of food, agriculture and natural resources at APLU. "We already struggle with issues of food security in low-income areas, and this problem will only grow with outdated technology making research advancements more difficult."

Local farmers will also feel the strain of inefficient research advancements. Agriculture profits could decrease with longer labor hours required to yield products and an inability to provide products consistently. With less land, changing weather patterns and fewer resources to feed a projected world population of two billion people by 2050, achieving long-term agriculture research solutions have never been more important.



The University of Missouri's Bradford Research Center has the largest concentration of research plots in crops, soils and related disciplines in the state. Maintaining such facilities at land-grant universities is crucial to providing reliable, unbiased research information to farmers and the agricultural community.

"Deferred maintenance is often holding up our capacity to conduct research," says Oklahoma State University's Coon. "Our research provides critical information that is of strategic importance to farmers and consumers. The research we do is vital for continued food security and food safety in the U.S."

THE FUNDING ENIGMA

Academic agricultural research programs face a lack of funding for a number of reasons. At many institutions, the sheer amount of problems demanding immediate attention have overwhelmed the school's maintenance budgets. For example, at Kansas State University, repairs are prioritized by the amount of danger the problem poses. Only issues categorized as a serious or threatening safety concern are prioritized. Others maintenance problems are often postponed until major repairs are necessary.

While grants may provide some relief for the stress placed on state and federal funding for facilities, competition for these awards remains stiff. Additionally, grants are often awarded for specific projects, resulting in the money being spent on researchers' salaries or other operating costs associated with the project. This means maintenance upkeep funds come solely from already strained budgets of universities receiving lower levels of government funding.

Impacts may not yet be felt by farmers, as many land-grant institutions' buildings have only recently begun to fall into disrepair, but if the trend continues, the agriculture industry will be severely affected.

"I don't see an internal solution solving the deferred maintenance issue," says Linit of the University of Missouri. "We need to partner with the public to receive the funding to maintain quality research advancements."

Experts agree a simple solution to find funding for deferred maintenance probably does not exist.

"In order for infrastructure problems to be addressed, at least \$1 billion needs to be distributed among the land-grant universities annually," Dr. Maw says. "Such a solution will need to come from a partnership of federal dollars, state funding and a partnership with private entities, such as local farmers, to maintain our agriculture standards." While it may be difficult for such a coalition to amass the amount of money needed to address the maintenance issues these public research institutions are facing, the problems associated with deferred maintenance will only grow with time.

The Sightlines study from the APLU recommends a multifaceted set of strategies to address the problem, including: a federal infusion of capital funding to renovate or replace aging facilities currently funded by the U.S. Department of Agriculture; contributions from state governments; and the development of a long-term plan to decrease the deferred maintenance problem through major renovations and taking a proactive approach to maintenance of facilities in good condition.

"To be successful in reducing the deferred maintenance problem and not letting it grow further, key stakeholders need to pursue all of the above," the report concluded. "A single solution will not work. All levels of government and campuses need to do their parts in solving the deferred maintenance problem. Inaction has, over time, resulted in the problem that schools of agriculture are now facing. The future of agriculture research depends on people recognizing the problem and taking action."

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ELAINE EWIGMAN - MARCELINE, MO CIERRA FAMULINER - CARROLLTON, MO CIERRA FAMULINER – CARROLLION, ME LINDSEY FANKHAUSER – MADISON, KS JENNIFER FARMER – COWGILL, MO CADEN FARNAN – STANBERRY, MO ELIZABETH FETH – BEAUFORT, MO LIOYD FIDER – MIDDLETOWN, MO HOLLY FINDLING – NOVINGER, MO ELIZABETH FLEER - WARRENSBURG, MO ELIZABETH FLEER - WARRENSBURG, MO ERICA FLORES - WARSAW, MO NATHANIAL FORCK - JEFFERSON CITY, MO MACKENZIE FOWLER - LANCASTER, MO MARIAH FOX - GALT, MO ANGEL FOX - OSAGE BEACH, MO LINDY FRAKER - STRAFFORD, MO JON FRANSE - FLEMINGTON, MO JOCELYN FROST - MOUNT AYR, IA ELIAS GAFFNEY - COLUMBIA, MO KAYLA GARCIA - GREENFIELD, MO VERONICA GAZAWAY - CABTHAGE MO VERONICA GAZAWAY – CARTHAGE, MO JEREMIAH GEBHARDT – SALISBURY, MO JEREMIAH GEBHARDI – SALISBURY, MO LUCAS GERKE – BUNCETON, MO SETH GIBSON – NORBORNE, MO HANNAH GIDEON – COLUMBUS, KS TALLIS GIFFORD – STROUD, OK ALLISON GILMER – MATTHEWS, MO ALEXANDRA GILMORE – NEELYVILLE, MO ALEXANDRA GILMORE - NEELYVILLE, MO EMILIA GILPIN - WALKER, MO HAYLEIGH GLOVER - SKIATOOK, OK HANNAH GLUECK - CHAFFEE, MO TYLER GOATLEY - EL DORADO SPRINGS, MO HANNAH GOEDRICH - COLUMBIA, MO MIYA GOSS - ST JAMES, MO MIYA GOSS - ST JAMES, MO MADISON GOTSCH - CLINTON, MO TUCKER GRAHAM - ROSENDALE, MO THOMAS GRATHWOHL - BOONVILLE, MO CARTER GRAUE - NEOSHO, MO LYDIA GREENWOOD - JOPLIN, MO HAYDEN HACKMAN - GLASGOW, MO MEGAN HALEY - LANCASTER, MO HAYDEN HACKMAN – GLASGOW, MO MEGAN HALEY – LANCASTER, MO CHAD HALL – MARMADUKE, AR JOSHUA HAMMONS – PROCTOR, OK MADISON HANDLEY – STEELE, MO KALE HARRIS – NEW FRANKLIN, MO KALE HARRIS – NEW FRANKLIN, MO SARAH HARTLEY – HAMILTON, MO MATIA HARTLEY – FAIR GROVE, MO ALLIGON HAMLEY – JAMESTOWIN, MO ALLISON HAWLEY - JAMESTOWN, MO AARON HEAD – AURORA, MO AARON HEAD - AURORA, MO NOAH HEASLEY - GARDEN GROVE, IA MADISON HELMS - MAYSVILLE, MO SAMANTHA HENRY - MARMADUKE, AR JAY HENRY - WASHBURN, MO HALLE HERBERT - ELDON, MO HALLEY HILFIKER - PIGGOTT, AR KHLOE HILT - LEBANON, MO CASEY HILTE - APPLETON CITY, MO CASEY HILTE – APPLETON CITY, MO AUGUST HOEPKER – MARYVILLE, MO CHAYLA HOFFMAN – MEXICO, MO BREANNA HOLLIS – ASH GROVE, MO RILEY HOLSTINE – MOUND CITY, MO REBEKAH HOMAN – OTTERVILLE, MO ADAM HOMBS – MARTINSBURG, MO DANIELLE HOPPER – CHESTNUTRIDGE, MO BRAXTON HOUSMAN – CHARLESTON, MO KELSEY HOWARD – GREEN CITY, MO HEATHER HUBLER – CHELSEA, OK HEATHER HUBLER - CHELSEA, OK CASSIE HUDNUT - DURHAM, MO BRIDGET HUDSON - PALMYRA, MO MATTHEW HULET - KIRKSVILLE, MO BRENDAN HUNDLEY - FRANKLIN, MO HAYDEN JEFFRYES - WULNUT GROVE, MO ALLISON JENKINS - BUTLER, MO CODY JENKINS - LEETON, MO DURDREY KENNING - CADISEE AD CODY JENKINS - LEETON, MO JOURNEY JENNINGS - CARLISLE, AR EVELYN JOHNSON - BEVIER, MO SAGE JOHNSON - GARDEN CITY, MO RILEY JOHNSON - CLEVER, MO JACOB JOHNSON - RICHARDS, MO HALEY JOHNSON - PRINCETON, MO DAEGAN JONES - ELMO, MO ERIN JONES - BILLINGS, MO GRAVLIN KELLY - HORNERSVILLE, MO GRANT KELLY - CENTERVILLE, IA SHANNON KEYS - COLUMBIA. MO SHANNON KEYS - COLUMBIA, MO

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HALEY KILBURN - MARSHFIELD, MO MICHAELA KILE – WINONA, MO MICHAELA KILE - WINONA, MO JAMIE KITTLE - NOVINGER, MO CAYSI KNIERIM - STOVER, MO BLAKE KRAUSS - PERRYVILLE, MO LUCAS KUHN - MORRISON, MO KATHERINE KUSSMANN - BRUNSWICK, MO AUSTIN LALLEMAND - WALNUT, KS ANN LANCASTER - SIKESTON, MO MADELINE LANCE - SKIDMORE, MO ALLISON LANDRETH - BIGGERS, AR VEISEV LANDRETH - BIGGERS, AR KELSEY LAUERMAN – CUSHING, OK JANIE LEATHERS – CAIRO, MO JAME LEAF HERS – CARLO, MO MEGAN LEE – ADVANCE, MO RACHEL LENZ – BOONVILLE, MO MEGHAN LEVERENZ – BOWLING GREEN, MO THOMAS LEY – NEW HAVEN, MO LUKE LOWER – FAIR PLAY, MO ASHLEY LUEHRMAN – LEXINGTON, MO HANNAH LUKEFAHR – PERRYVILLE, MO HANNAH LUKEFAHR - PERRYVILLE, MO NATHAN LUTHI - LAMAR, MO KYLE MACKEY - BLANCHARD, IA CARLEY MAHURIN - FAIRLAND, OK BRYCE MALAN - MALTA BEND, MO MARYEAH MARTIN - STANBERRY, MO ARIANNA MARTIN - BOSWORTH, MO ANNIE MARTIN - LORKSBURG, MO SARAH MASON - BRECKENRIDGE, MO SYDNEE MASON - MARSHALL, MO LANE MAYEAPDY - BEDNIE MO STUNEE MAJON - MARSHALL, MU LANE MAYBERRY - BERNIE, MO CARLEY MCCALL - MOBERLY, MO MAGGYE MCCALLIE - CARLISLE, AR MADISON MCCANN - MOUNT VERNON, MO SHELBY MCCARTNEY - TARKIO, MO MEAGHAN MCCONKEY – GUILFORD, MO TANNER MCCRAY – ROLLA, MO KEVIN MCKENZIE – KEOTA, OK HARLEE MEEK – MALOY, IA ALYSON MELSON – ROLLA, MO EMILY MENEELY – WHEELING, MO EMILY MENEELY – WHEELING, MO BRITNEY MENLEY – DILOT KNOB, MO LOGAN MILLER – CABOOL, MO JOEL MILLER – MADISON, KS CHASE MONTE – MEXICO, MO HUNTER MONTGOMERY – TRUMANN, AR KAMERON MORTON – LA MONTE, MO JOHN MOSELEY – EXETER, MO AARON MOTT – ROCHEPORT, MO ELIZABETH MUELLER – JEFFERSON CITY, MO ELIZABETH MUELLER – JEFFERSON CITY, M MANDY MURPHY – SHELDON, MO BLAKE MURRAY – OSCEOLA, MO ABIGAIL NEAL – STEELE, MO LUKE NEHER – UDELL, IA MCKENZIE NICKERSON – HALLSVILLE, MO BRYER NOE – MERCER, MO SHAWN O'DANIEL – ST CLAIR, MO KAELEE OCE – CONTER MO KAELEE OGLE – CENTER, MO LANI OGLE – SARCOXIE, MO LANI OGLE – SARCONE, MO JENNA OGLETREE – MACOMB, MO JASON OSBORN – POMONA, MO LYNDSEY PARKER – SALEM, MO ANIESA PARRIGON – PIERCE CITY, MO ANIESA PARRIGON – PIERCE CITY, MO MICAH PATRICK – BUTLER, MO JENSEN PEEL – SLATER, MO MALLORY PERKINS – LONOKE, AR CHEYENNE PETERSON – NEW BOSTON, MO SAMUEL PIONTEK – WASHINGTON, MO ELIJAH PLATTNER – CHILLICOTHE, MO MACOR DATE – LEDICO SADIMES MO ELDAH PLATTNEE - CHILLICOINE, MO JACOB POTTS - JERICO SPRINGS, MO NATHAN PRIBBLE - WYNNE, AR DEVIN RADCLIFF - GRAVOIS MILLS, MO BALEIGH RAEF - LEBANON, MO CARTER RANDOLPH - SULLIVAN, MO ABIGAIL RATEEGE - BENTON, MO JARED READ - COFFEY, MO HAIDEN REAM - LIVONIA, MO HAIDEN REAM – LIVONIA, MO EMMA REDEL SHARISIN – BONNOTS MILL, MO BROOK REID – PEACE VALLEY, MO TAYLOR RICE – FISK, MO AUSTIN ROETTGER – WENTZVILLE, MO CAROLGENE ROMANS – HIGGINSVILLE, MO ABBI ROSS – DEVALLS BLUFF, AR DACHEL BOTHUISEPECED – EADMINISTAN MO RACHEL ROTHLISBERGER - FARMINGTON, MO ZACHARY RUSH – CAMERON, MO JACE RUTLEDGE – HARRISONVILLE, MO

JARRETT SAPPINGTON - WALNUT GROVE, MO GABRIELLE SAUL - NORBORNE, MO DEVON SCHAEFFER - OREGON, MO ELIZABETH SCHEER – NEW HAVEN, MO ABBY SCHNEIDER – WARRENTON, MO EVAN SCHNITKER – CLARKSDALE, MO EMILY SCHREINER - BROWNING, MO EMILY SCHREINER – BROWNING, MO KYLE SCHROER – TROY, MO SAMANTHA SCHUMER – EVERTON, MO PARKER SCHUSTER – PILOT GROVE, MO DECLAN SCHWEIZER – GALLATIN, MO DECLAN SCHWEIZER – GALLATIN, MO AMANDA SCOTT – RICH HILL, MO EMILY SHANKS – VIENNA, MO RANDI SHARLEY – MACKS CREEK, MO MEGAN SHORT – LIBERAL, MO MADISON SHRUM – VERONA, MO KALEN SIMPSON – FORT SCOTT, KS BLAKE SKAGGS – BUNKER, MO LEAN SUIDER – QUENEMO KS LEON SLUDER - QUENEMO, KS AMANDA SMITH - VINITA, OK **GUNNER SMITH – KENNETT, MO** AARON SMITH – MAMMOTH SPRINGS, AR HADEN SMITH - WHEATLAND, MO BAILEY SMITH - MILLER, MO ABBIE SOENDKER - WELLINGTON, MO MEGAN SPEAR - BOLIVAR, MO CAITLIN SPEARS - CENTRALIA, MO CAILLIN SPEARS – CENTRALIA, MO VICTORIA SPENCER – SHELDON, MO BRYNNA SPENCER – MENDON, MO SOLANA SPERRY – CENTERVIEW, MO WILLIAM STEFAN III – LOCKWOOD, MO KAMRON STEPHENSON – MILAN, MO ALDON STEPHENSON – KEYTESVILLE, MO MATTIE STEPHENSON – CASSVILLE, MO MARLEY STOPPEN – CASSVILL MARLEY STOOPS – HOUSTON, MO MISTY STORRER – MORAN, KS MASON STRAUB – FAIRFAX, MO MASON STRAUB - FAIRFAX, MO JACOB STRUEMPH - ST ELIZABETH, MO EMILY SUMMERS - BAKERSFIELD, MO BAILY SUMMERS - SPARTA, MO COLTON SUTTERBY - SAVONBURG, KS DEJANAE THOMAS - COLUMBIA, MO KENDALL TIDMAN - AMORET, MO LARRY TILLEY III - LAKE CITY, AR JESSE TOOMBS - FAIR PLAY, MO MAKAYA VANDIVER - CAROOL MO MAKAYLA VANDIVER – CABOOL, MO MORGAN VANMETER – CHILHOWEE, MO JACOB VAUGHN - STURGEON, MO **KELSEY WACHTER – RICHWOODS, MO** MOLLY WADDLE – MACON, MO NATHAN WALSH – SMITHTON, MO ELLIE WANTLAND – NIANGUA, MO DAVIS WASHBURN – KING CITY, MO TYLER WATSON – BRASHEAR, MO AVERY WEBB – HUMPHREYS, MO MASON WEBER – PRINCETON, MO RYLEE WEIGEL – DEKALB, MO HUNTER WESSELL - GORDONVILLE, MO JACOB WEST - PARNELL, MO HANNA WESTERMIER – COLE CAMP, MO MOLLIE WIBBERG – LINN, MO GABRIELLE WICKER – EAST PRAIRIE, MO ELYSE WILHOIT – MACON, MO ALEXANDRIA WILKERSON – MONROE CITY, MO ALEXANDRIA WILKERSON - MONROE C BRITANY WILLIAMS - PARIS, MO CAYLA WILLIAMS - ST. JOSEPH, MO ZOE WILSON - CROCKER, MO AUDREY WILSON - CLEVER, MO MELANIE WILSON - ROCK PORT, MO MADISON WILSON - PARAGOULD, AR TREVOR WILSON - ALLERTON, IA JACOB WIMER - GRANT CITY, MO ASULEY WINDCOP - SCAPTA MO ASHLEY WINDSOR - SPARTA, MO ELLIE WIRTS - CALIFORNIA, MO REESE WOOD - CLARKSBURG, MO JOSEPH WOODRUFF, JR. – ARMSTRONG, MO EMILY WOODS – ODESSA, MO CASTIN WOOLLEY - VICHY, MO BOBBY WRIGHT, JR. - BELL CITY, MO SYDNEE YANCEY - HOLDEN, MO DALTON YOUTSEY - WINSTON, MO

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NO EASY ANSWER TO HERBICIDE CONTROVERSY

the

By Michelle Cummings





Uncertainty is swirling in the Midwest, where millions of acres of crops may have been damaged by a controversial herbicide. An estimated 3.1 million acres of soybeans have been affected by offtarget movement of dicamba across the country, and that figure doesn't include other crops.

More than 2,400 formal complaints have been filed citing plant injury caused by dicamba in 2017. Though the official reports are troubling, the true number of affected farmers is likely much higher since many attempt to settle issues among themselves rather than involve regulatory agencies.

Missouri and Arkansas saw enough dicamba-related complaints that state officials felt the need to issue temporary bans on the herbicide. The Missouri Department of Agriculture lifted its one-week ban in July after placing additional restrictions on how the herbicide could be used.

Arkansas may take further steps. A state task force recommended an April 15 cut-off date for spraying the weed killer in the 2018 crop year. The task force sent the recommendation to the Arkansas Plant Board and Arkansas Gov. Asa Hutchinson. They may forward it to lawmakers in Little Rock if changes to the state law are proposed.

VOLATILITY ISSUES

For many soybean farmers, dicamba has become an important tool in their war against weeds. In 2016, the introduction of Monsanto's Roundup Ready Xtend system with soybean and cotton traits tolerant to dicamba and glyphosate gave growers a means to combat resistant weeds. Consequently, the use of the herbicide has surged in the last two years.

Unfortunately, dicamba has frequently moved off-target, injuring plants in nearby fields, gardens and backyards and causing disputes among neighbors. A number of reasons could potentially account for why farmers experienced so much trouble with dicamba moving offtarget this year, including: physical drift, spraying with the wrong type of nozzle, spraying during a temperature inversion and the herbicide's volatile nature.

"The majority of fields I've been in are injured from one end to the other with no discernable difference in soybean symptomology," said Kevin Bradley, the University of Missouri's weed extension specialist. "This suggests problems with off-site movement through volatility."

When agro-chemicals volatize, it means they turn from liquids to gasses, which can enable them to travel farther than intended. In the case of dicamba, Bradley said the weed killer is not simply hopping field borders, but rather "it appears to be moving miles."

"The big debate is whether or not the stuff is volatilizing," Robert Hartzler, an Iowa State University weed scientist, told the Des Moines Register.

"New formulations were supposed to have taken care of the volatility problem," he said, "but all the research suggests that they've reduced the volatility, but not to a level that's safe" after plants have emerged from the ground.

The chemical companies which sell dicamba herbicides for the over-the-top spraying of crops – BASF, DuPont and Monsanto – have mostly deflected blame to farmers and applicators, who they say have failed to follow product labels. However, some extension experts say even farmers who do everything right have had trouble keeping dicamba in their fields.

Larry Steckel, a weed management specialist with the University of Tennessee, said the label on dicamba herbicides may "look straight forward on paper," but adhering to all the restrictions can be equated to a "Herculean task."

"Talk about threading the needle — you can't spray when it's too windy, you can't spray under 3 miles per hour, you got to keep the boom down — there are so many things," Steckel said. "It looks good on paper, but when a farmer or applicator is trying to actually execute



that over thousands of acres covering several counties, it's almost impossible."

GROWING CONCERN

Bradley has dealt with dicamba problems the last two years. Most dicamba-related problems occurring in 2016 were concentrated in Missouri's Bootheel region, but complaints have spread to more than 50 state counties in 2017.

"I get calls daily from those who say we have a major problem with off-target movement of dicamba, and something has to be done about it," said Bradley. "Most of these calls are from soybean farmers who have had their crops drifted onto."

Though Missouri's dicamba problems have shown up in more locations this year, the Bootheel is still the epicenter for the most complaints and damaged acres. Bradley estimates of the approximately 875,000 acres of soybeans planted in the Bootheel, about 65 percent have the Xtend trait and were almost certainly sprayed with dicamba. The remaining 306,000 acres of soybeans would be susceptible to damage from off-target dicamba applications, and Bradley estimates 195,000 acres of the non-Xtend soybeans (or 64 percent) have been injured by the herbicide.

The high concentration of cropland sprayed with dicamba in the Bootheel is significantly greater than other parts of the state and has influenced many farmers' seed-purchasing choices.

"When your neighbors are all using the same product, you have to adapt," said Kris Robinson, a Bootheel farmer in Steele, Mo. "I was seeing damage from other farmers' application of dicamba and was forced to switch to using Xtend soybeans."

Robinson plans to continue planting Xtend soybeans in an effort to avoid damage

from nearby fields. His decision to switch to the dicamba-resistant seed may work for his operation, but it is not viewed as a universal solution for other growers.

"Many farmers believe they should have the freedom to plant what they want," Bradley said. "There's a lot of harsh feelings with this issue. Many believe they shouldn't have to disregard their current personal seed of choice and plant a new product out of fear."

A PATH FORWARD

Tensions concerning dicamba continue to rise among farmers, researchers and the companies which supply the dicamba herbicides. The U.S. Environmental Protection Agency (EPA) is reviewing the issue. The agency has yet to determine what steps it will take to mitigate problems associated with dicamba, however, it plans to implement additional rules for the herbicide's use.

Though EPA has yet to publicly comment on how it will act, officials within the agency expressed concern to AgProfessional.

IT'S ESTIMATED 3.1 MILLION ACRES OF SOYBEANS HAVE BEEN AFFECTED BY OFF-TARGET MOVEMENT OF DICAMBA ACROSS THE COUNTRY AND THAT FIGURE DOESN'T INCLUDE OTHER CROPS.

"We don't consider this normal growing pains for a new technology," said Dan Kenny, acting Registration Division deputy director for the EPA Office of Pesticide Programs. "We don't feel it's helpful to solve a problem for one grower and create a problem for another."

EPA is aware farmers need to make decisions for 2018 soon.



Kevin Bradley, a weed extension specialist with the University of Missouri, has observed many soybean fields with dicamba damage, and he suspects volatility to be the primary reason for offsite movement of the herbicide. Photo by Kyle Spradley | © 2014 - Curators of the University of Missouri.

"We are working as fast as we can to make meaningful changes for the 2018 growing season," said Reuben Baris, acting branch chief of EPA's Office of Pesticide Programs, Registration Division herbicide branch. "We are working with the registrants to make meaningful regulatory changes so growers are able to make the most informed decisions for the 2018 season."

Iowa State University's Hartzler participated in a July 28 teleconference with EPA officials and academic weed scientists from states experiencing issues with dicamba. He said EPA is working to gather information on the scope of the problem to chart a path forward.

"Both groups (academics and regulatory) acknowledged the need for new tools to help manage the herbicide-resistant weed problem, but recognize that the extent of off-target injury observed in 2017 (and in some states last year) is unacceptable," Hartzler said. "Difficult decisions will need to be made on how dicamba is utilized in the future that will preserve the value of the tool while protecting sensitive plants in the landscape." M

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Truckers Welcome

Break Time unveiled its first truck stop in Moberly, Mo., in September. Located at the southern edge of the city where U.S. Highway 63 and State Highway M intersect, the store features many amenities for truck drivers, including: parking space for 25 tractor-trailers, a lounge, showers, laundry machines, free WiFi and several food service options with a large seating area.

"It's basically a convenience store on steroids," says Curtis Chaney, MFA Oil's senior vice president of retail. "There's 6,000 square feet of space in the store, which makes this the largest store we've ever built. We've pulled in the successful elements from our other Break Time stores, such as Smokestack Bar.B.Q, into this location."

Break Time launched the Smokestack Bar.B.Q brand in early 2017, and the truck stop will be the fourth location to offer it. The menu includes barbecue classics such as brisket, burnt ends, smoked ribs, pulled pork and savory side dishes. The meats are smoked with native Ozark hickory wood and typically comes from local Midwest livestock.

"THERE'S 6,000 SQUARE FEET OF SPACE IN THE STORE, WHICH MAKES THIS THE LARGEST STORE WE'VE EVER BUILT. WE'VE PULLED IN THE SUCCESSFUL ELEMENTS FROM OUR OTHER BREAK TIME STORES, SUCH AS SMOKESTACK BAR.B.Q." – CURTIS CHANEY

In addition to barbecue, the truck stop will have Hunt Brothers Pizza and breakfast sandwiches available for hungry customers in store and through a drive-thru window. Break Time plans to continue expanding the number of stores where it sells Smokestack Bar.B.Q in the near future.





WINTER IS COMING 3 TIPS FOR PROPANE PREPAREDNESS

By Adam Buckallew | Photo by Casey Buckman

Fall is here and heating season is just around the corner. If you haven't planned for your propane needs yet, now is the time. MFA Oil is committed to keeping your home, farm or commercial business adequately supplied with propane all winter long.

The price of propane, like the prices of other energy sources, is driven by market forces. Weather is an important factor in propane demand, and it's hard to predict. However, history has shown you are most likely to get a lower price on propane if you buy now, rather than when demand peaks later this winter.

Communicating early and regularly with your local MFA Oil propane plant and planning ahead are the keys to staying warm, comfortable and safe during the cold weather months. Consider these tips to ensure you're prepared:

1. FILL NOW

Scheduling a tank fill now has its benefits. Filling tanks prior to winter increases the supply of propane in the places where it's needed most, which reduces the risks of spikes in demand and price. Taking advantage of the storage capacity in customer tanks greatly increases the available supply of propane for all. This is why it is in everyone's best interest to have their tank filled before the start of the heating season. Additionally, proactively filling up your propane tank now helps MFA Oil plan for its supply needs. If you haven't already filled your tank, ask about making arrangements for an early fill.

2. MAINTAIN ADEQUATE SUPPLY

Winter storms can hinder propane deliveries, so it's a good idea to regularly monitor your propane needs. Get familiar with your tank's fuel gauge and learn to recognize when your propane supply is running low to avoid interruptions in your service. MFA Oil recommends that you call for a delivery when your tank's fuel level is between 20 and 30 percent, or at least five business days before you would like to receive a delivery. Doing so gives us enough time to arrange a refill long before you run out of propane.

3. TAKE THE WORRY-FREE OPTION

Considering your busy life, wouldn't it be helpful to have one less thing to keep track of, like the level of propane in your tank? Sign up for MFA Oil's Auto-Fill program, and let the company track your propane needs and schedule deliveries as needed. It's that simple.

>> STAY SAFE WITH PROPANE

Propane is generally considered to be a safe fuel, but it's important to remember a few guidelines to protect yourself and others from potential hazards.

Dut-of-gas? Call immediately. If you discover your propane tank is empty, contact your local MFA Oil office as soon as possible. When propane tanks run out of gas, it creates serious safety hazards, including risks of fire and explosions. Additionally, a trained service technician from MFA Oil will need to perform a leak check of your propane system before your service can be restored.

b If you smell gas, take the right steps. Immediately put out all smoking materials and other open flames. Do not operate lights, appliances, telephones or cell phones. Get everyone away from the home or area where you suspect gas is leaking. If safe to do so, close or shut off the main gas supply valve by turning it to the right (clockwise). Call MFA Oil immediately from a safe place to report the leak. If you cannot reach MFA Oil, call 911. Do not return to the area until MFA Oil, an emergency responder or a qualified service technician gives the OK.

Bet a propane gas detector. Consider installing propane gas detectors and carbon monoxide detectors for additional security. Always follow the manufacturer instructions for installation, location and maintenance.

POLLINATOR PLOTS ENHANCE PASTURE BIODIVERSITY, ECOSYSTEMS SERVICES

By Fred Miller

Pollinator plants beautify farms and help insects that are important for many crops and gardens.

Fruit and vegetable farms, gardens and other agricultural sectors rely on pollinators to ensure abundant production, but wild pollinator populations are in decline, says Dirk Philipp, associate professor of animal science for the University of Arkansas System Division of Agriculture.

"The original prairies that covered much of the United States were species-rich," Philipp says. Those species include many animals — bees, flies, butterflies, moths, beetles and other insects, as well as some birds, lizards and mammals — that move pollen in and among plants.

Those pollinators helped propogate abundant diversity of wild and cultivated plant species.

But farm fields and pastures today contain only limited food and forage plants. Typically, those plants do not provide good habitat for pollinator species, Philipp says. Most of the perennial grasses and herbaceous flowering plants that make good habitat for pollinators would be considered weeds in a pasture.

Pastures don't rely heavily on pollinators, Philipp says, but they can make ideal places to locate plots of pollinator-friendly plants. Such habitats can encourage biodiversity that offers benefits to the environment, wildlife and neighboring gardens and farms that may rely on pollinators for abundant production.

Pastures make good places for pollinator plots because they are generally low-input and pesticide use is limited, Philipp says. Although many pollinator-friendly plants are undesirable in pastures, many areas around the farm may be suitable.

DELIBERATELY PLANTING HABITAT GRASSES AND FLOWERS FOR POLLINATORS CAN PROVIDE OTHER BENEFITS. SUCH PLANTS CAN SUPPRESS WEED GROWTH AND HALT SPREADING INTO PASTURES FROM PERIPHERAL AREAS.

Philipp suggests that edges of fields, fallow or unproductive areas, wetlands and stream banks — including intermittent stream banks — and unused areas around farm buildings could make good sites for pollinator plots.

Deliberately planting habitat grasses and flowers for pollinators can provide other benefits. Such plants can suppress weed growth and halt spreading into pastures from peripheral areas. Philipp says pollinator plots can be selected to complement existing habitats, such as ditches, fencerows and levees that offer nesting and foraging sites for pollinators.

Photo courtesy of Dirk Philipp

"Leaving all or some of these areas alone can provide refuge for pollinators," Philipp says. "Hedgerows and longer sections or patches of pollinator habitat will provide corridors for pollinator travel."

Some forage crops, such as clovers and alfalfa, could also offer pollinator habitat or feeding grounds, though they normally are grazed or harvested before flowering. Philipp suggests that small areas of some of these forages might be set aside and allowed to bloom.

"Habitat and feeding grounds should not be farther apart than half a mile," Philipp says. "Ideally, only a few hundred yards should be between feeding and nesting sites for smaller native bee species."

Planting and maintaining a multitude of smaller pollinator plots around the farm helps keep those areas within reach of the insects.

In addition to providing pollinator habitats, wildflowers can help beautify farms and make landscapes more attractive.

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A SMARTER WAY To June U

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By Adam Buckallew | Photo by Anthony Jinson

THIRTY YEARS AGO,

agricultural cooperative leaders from across the country gathered for a series of focus panels to discuss the future of farmer-owned cooperatives. The panelists' discussions were summarized by the U.S. Department of Agriculture in the report "Positioning Farmer Cooperatives for the Future," which concluded cooperatives must continually adapt to the changing marketplace and needs of farmers in order to meet the challenges of the years to come.

Farmers and agribusinesses have experienced considerable change since the report was published in 1987, but the need for adaptation remains as strong today as it's ever been. Cooperatives, such as MFA Oil, must embrace innovation in order to keep up with the rapid pace of change in agriculture and the overall business world.

The drive to stay competitive has led to the development of MFA Oil's new Fuel Smarter discount pricing program, which offers customers opportunities to earn deep discounts by agreeing to sign up for Auto-Fill or rightsizing their tank.

"We are trying to provide the best combination of service and price to our customers as we can, and this program gives us a chance to deliver significant value to both our members and non-members," says Kenny Steeves, MFA Oil vice president of bulk fuel and propane operations.

The program is straightforward with tiered discounts based on customers' tank size. Those who sign up for the company's Auto-Fill program or right-size their fuel tank are eligible for the program's Advanced Pricing category. Anyone who agrees to do both is eligible for the biggest savings in the Elite Pricing tier.

HIT THE EASY BUTTON

Why should farmers consider automatic fills scheduled by the company? Besides the new discount program, signing up for Auto-Fill ensures worry-free deliveries, which are coordinated based on customers' needs. MFA Oil uses tank-monitoring technology that factors in past usage and weather conditions to determine when deliveries need to be scheduled.

"Think of it like hitting the easy button," says Larry Ehrman, the cooperative's vice president of logistics. "You won't need to check your tank gauge, or worry about running low or calling us—we'll get you what you need, when you need it. We can track fuel and propane needs through a variety of means, including tank monitors, Julian-day forecasting and degree-day forecasting."

Another benefit of the Auto-Fill program is that it allows the company to plan its delivery routes more efficiently.

"When we know in advance how fuel and propane levels are looking in our customers' tanks, it drastically improves the efficiency of our delivery routing and makes things much easier for our drivers," Steeves says. "That's something our farmer-owners should appreciate, because the more efficient we become, the less we spend on operations – meaning there will be more money available to go back to our members in the form of patronage."

Customers who are interested in signing up for Auto-Fill should contact their local MFA Oil plant manager.

"Your manager can work with you to evaluate the needs of your farm or home and suggest the best course of action to ensure your tanks always have adequate supply," Ehrman says.

THE RIGHT FIT

Right-sizing fuel tanks is a proactive step farmers can take to ensure they have suitable supply levels during times of peak usage, such as planting and harvest.

"Proper sizing reduces dependency on multiple fills and limits the risk of costly interruptions in your operation," Steeves says.

Denis Dreiling, who manages multiple MFA Oil plants in southwest Missouri, has seen the benefits of right-sizing tanks firsthand. In the past year, more than 25 refined fuel tanks in his territory have been replaced by larger ones with greater storage capacity. The effort has cut down on the number of deliveries to the same customers by nearly 800 stops while increasing volume by roughly 90,000 gallons.

"I've got customers who went from 40 deliveries on a 300-gallon tank to ten deliveries with a 1,000-gallon tank," Dreiling says. "When you combine correctly sized tanks with monitoring devices, it really streamlines our delivery process and makes things so much easier on our drivers."

While not all customer tanks are in need of right-sizing, Dreiling says it doesn't hurt to ask.

"Your plant manager can review how much fuel your operation uses and determine whether installing a new tank makes sense," he says. "We have several affordable options for leasing or purchasing new tanks."

PROVIDING VALUE

MFA Oil has experienced many changes since its inception in 1929, and the discounted pricing offered through the Fuel Smarter program is simply the company's latest effort to retain its position as a competitive force in the marketplace.

Just as the cooperative leaders of yesteryear foresaw the need to adapt to meet the future needs of farmers, Steeves says MFA Oil is committed to taking the steps necessary to continue serving the energy needs of its farmer-owners.

"We're simply trying to provide a smarter way to do business with MFA Oil that helps people worry less and save more money," Steeves says. "When you take our premium products and excellent service, combined with the deep discounts we're offering in addition to patronage, it all adds up to an amazing value."

FED STUDY COULDEAD TO MORE EFFICIENT CATTLE BREEDS

By Lauren Quinn, University of Illinois Extension,



Photo by Kyle Spradley | © 2013 – Curators of the University of Missour A change is coming to the cattle seedstock industry. Breed associations have long been interested in finding the genetic basis for feed efficiency, with the aim of breeding more efficient animals. But the first step—accurately measuring how much cattle eat across different life stages and diet types—has been a missing piece. A new study from the University of Illinois helps fill the gap.

"Grain intake in the feedlot is relatively easy to measure and the industry now has a substantial number of feed intake records," says Dan Shike, associate professor of beef cattle nutrition in the Department of Animal Sciences at the University of Illinois. "But forage intake while a cow is grazing is extremely difficult to measure. We need to get a handle on that to really capture feed efficiency for the entire beef production system."

The concern relates to the fact that intake regulation varies depending on diet type. In other words, a cow can fill up on forages before meeting her basic nutritional requirements. The same cow being fed grain in a controlled setting like a feedlot will likely meet those requirements on less feed. However, feed intake evaluations are typically done in the feedlot, potentially misrepresenting the efficiency of the animal over her lifespan.

"Prior to our study, there were limited data evaluating the relationship of intake on a grain diet with intake on a forage diet," Shike explains. "If they are related, we may be able to use the intake data we have from the feedlot to extrapolate throughout the cow's life."

Shike and a large team of collaborators from 11 institutions set out to determine if there was a relationship between feed efficiency in forage-fed cattle and in grain-fed cattle. Both heifers and steers were fed out of a GrowSafe system, which precisely tracks intake to individual animals. Heifers were fed forage during a growing period of 70 days, then switched to grain for a 70-day finishing period. Steers were fed grain for both periods. The team looked for relationships between dry matter intake and average daily gain in the two periods, and they found a strong correlation for both heifers and steers for dry matter intake.

"The study suggests that dry matter intake is repeatable across varying stages of maturity and diet types in cattle, and accurate feed efficiency measures can be obtained in either the growing or finishing period," Shike says. "And our results show that measures of dry matter intake and feed intake in heifers are relevant, no matter what they were fed."

The team also analyzed the data by breaking the intake evaluation period into smaller chunks. "We found that intake evaluation periods can be shortened from the standard 70 days," he says. "We're not suggesting going clear down to 7 or 14 days, but I think you could go from 70 to 42." Some breed associations are already adopting a shorter feed intake evaluation period as a result of this and other work.

Having more information about feed intake can lead to a more economical operation. Raising more efficient animals can reduce feed waste and potentially increase profits.

"We, as a cattle industry, have gotten very good at tracking our outputs," Shike says. "We know how they grow, what their carcass characteristics are, and we can predict those very well in the next generation. But we don't have a good handle on the input; really just a handful of feed intake records existed prior to this project. Some breeds had no feed intake records."

An animal's feed intake is just one of the many traits that make up its phenotype, or outward appearance and behavior. The study provides more data on this trait across the lifespans of both steers and heifers.

The article, "Effects of timing and duration of test period and diet type on intake and feed efficiency of Charolaissired cattle," is published in the Journal of Animal Science. The project was supported by a USDA National Institute of Food and Agriculture grant, and the study's authors include researchers from the National Program for Genetic Improvement of Feed Efficiency in Beef Cattle, as well as associated graduate students and staff. **M**

PULLINGTOGETHER





Whether it's the thrill of competition, the fun of building custom machinery or the comradery found at the track, something about tractor pulling has captivated the Dohrman family for generations.

"The feeling you get when the tractor ignites and the wheels are spinning 70 miles per hour is sort of like being on a jet during takeoff. It pulls you back in the seat," says John Dohrman of Sweet Springs, Mo., who's been involved with pulling since the 1980s. "The rush it gives you is similar to racing. It's almost like an addiction." John, 56, and his sons, Keith, 31, and Tyler, 25, devote many of their summer weekends to tractor pulling events, which are also known as hooks. The pulling season begins in June and lasts through mid-September. During that span, the Dohrmans typically travel to between 20 and 25 hooks in locations across Iowa, Kansas, Missouri and Nebraska.

The weekend-long trips have to be balanced with the family's commitments back home. The Dohrmans own South Fork Farms, a family-run operation that includes John, Keith, John's brother Dennis, and Dennis' son, Adam. Together, they raise 4,500 acres of row crops, 100 cattle and 300 farrow-tofinish sows. Tyler has a full-time job at a local equipment dealership, but will also sometimes help with the farm work.

The family's love of tractor pulling traces back to John's father, Forest, who started competing in the middle of the 1960s.

"My dad pulled with an Allis-Chalmers 190XT, which was also our old farm tractor," John recalls. "It wasn't until the early to mid-70s that Dad bought his first motor specifically for pulling. He would switch the motors in and out when it was time to pull or do farm work. We didn't get our first tractor dedicated to pulling until 1978. It was a pile of junk, but we got a lot out of it."

While John was heavily involved on the tractor pulling circuit in the 80s and 90s, Keith and Tyler watched from the stands and developed their own appreciation for the world's heaviest motorsport. The boys would eventually join John's pulling team, Livin' Orange Pulling Team, named after Allis-Chalmers signature orange paint. The team was founded by their father and his partner, Jay Vogelsmeier. Keith and Tyler, along with Jay's son, Matt, and Butch Hedgpeth round out the rest of the team.

The two younger Dohrmans built their light super stock pulling tractor, a customized Allis-Chalmers D-21, from the ground up over the winter of 2011 and christened it the Allis Express.

"After all the modifications we've made to it, calling it a tractor is kind of a stretch at this point," says Keith. "It took us about 400 man hours to get it ready for competition, and we're still constantly tinkering with it to this day."

Keith serves as the team's crew chief and handles most of the maintenance work during the pulling season.

"I love turning wrenches and the mechanical side of pulling," Keith says. "The tractor never sits in the trailer between pulls. There's always something that needs to be done."

While many pulling aficionados purchase specialized racing oils for their tractors, Keith has stuck with MFA Oil's 15W40 Premium Heavy Duty Engine Oil and GP Hydraulic Fluid, the same products they use in all their farm equipment.

"We see no reason to go (another) route," he says. "We've never had any trouble, and the MFA Oil products have proven to be very reliable. We never had any problems with our bearings or the transmission."

Whereas Keith handles a lot of the behind-the-scenes work, Tyler is front and center when the competition heats up. He's the team's primary driver and enjoys the adrenaline that comes with lighting the engine and watching the black smoke billow out of the exhaust pipe as the tractor takes off.



At Left: Tyler, John and Keith Dohrman with their pulling tractor the Allis Express. Above: Tyler drives the Allis Express at many tractor pulls throughout the season. Photos courtesy of Tyler Dohrman.

"There's just something about seeing that smoke that gets me going," he says. "You're sitting there in the driver's seat wearing your flame-resistant suit and preparing yourself for a potentially wild ride. It all happens so quickly. It's normally over before you have a chance to think too much about it."

The Livin' Orange team has turned in some solid performances throughout their years competing in the Outlaw Truck and Tractor Pulling Association's events; however, that's not what keeps the Dohrmans coming back year after year.

"We've had some great years and some really bad ones," Keith says. "We finished the 2013 season in third place in points, but we'll never make enough of the money we've invested in pulling back with prize money. The thing all of us enjoy most about pulling is the social aspect."

The weekend-long hooks are great opportunities for family time and meeting new friends.

"Some of my best friends are people I met while I was pulling back in the 80s," John says. "It's neat to see so many of the same families are still involved. In most cases, it's passed from father to son, just like it has been in our family."

Keith and Tyler don't have any children of their own yet, but if they do, they are likely to extend the family tradition of tractor pulling to the next generation.

"It's something that our whole family has been involved with and something we really enjoy," Keith says. "I don't see that changing anytime soon." ■

Are You Prepared for Winter?

A hint of a chill has returned to remind us fall has arrived and will soon be followed by winter. What does Mother Nature have in store for us this year? It is hard to predict the weather, but that doesn't stop people from making predictions. Meteorologists have already begun releasing their winter outlooks. What can we take from these outlooks, and what does it mean with respect to propane?

First, let's review the supply situation. As of late August, the United States had a total of 73.5 million barrels of propane in its inventory. That's roughly 25 million barrels less than we had stockpiled at this point last year. In the Midwest, the situation looks similar, with an inventory of about 23 million barrels, which is 5.7 million barrels behind las year. These numbers are a concern for market and industry experts, who generally would prefer to see around 100 million barrels in storage by the end of September. With only a few weeks left before demand starts to kick up, it appears unlikely we get anywhere near an inventory of 100 million barrels of propane.

IT WAS ONLY FOUR YEARS AGO THAT MOST MIDWEST PROPANE SUPPLIERS WERE DEALING WITH HIGH DEMAND AND PROPANE SHORTAGES. I HOPE OUR MFA OIL PROPANE CUSTOMERS REMEMBER HOW WE TOOK CARE OF THEM DURING THIS CRISIS.

Now, let's consider the demand side. Besides cold weather, the other factors which could significantly affect demand are grain drying and exports. As of late September, there appears to be ample supply to handle farmers' crop-drying demand. However, if the nation's corn harvest falls behind schedule, it could mean more propane will be needed to dry it down for storage. Meanwhile,



propane exports were temporarily stopped by Hurricane Harvey, and it remains unclear how the export market will respond to the disruption.

Most of the weather outlooks for this winter have forecast normal to aboveaverage temperatures. A few recent projections have called for colder temperatures in the key winter months of December, January and February. Colder weather creates more demand, and some propane industry experts are concerned that stronger demand, coupled with our lower inventory situation, could push propane prices higher.

Only four years ago, most Midwest propane suppliers were dealing with high demand and propane shortages. I hope our MFA Oil propane customers remember how we took care of them during this crisis. We honored our contract agreements while many of our competitors would not. We rationed our propane supplies to make sure all our customers had product while a few of our competitors decided to temporarily go out of business. MFA Oil even sent trucks to Texas and Mississippi to bring propane back to our customers. We make agreements with our suppliers to purchase volumes year-round, and in return, we are awarded volumes during allocations (shortages). Some competitors just buy from the rack each day, leaving them with no security or guaranteed supply when things get tight. Additionally, MFA Oil leases underground storage in Kansas and Texas and can store a few weeks' worth of propane sales in the winter. This means we have access to propane when shortage situations occur. If you are not a MFA Oil propane customer, I would encourage you to ask your supplier if they do these things for you!

Bottom line, if you are not on a route with MFA Oil, please call us and get your tank filled today and sign up for our Auto-Fill program. No one can predict the future, but if you do these things, you can rest easy knowing we will take care of your propane needs no matter what winter may bring.



>> TIM DANZE is the hedging manager for MFA Oil.



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FROM THE BOARD

Acting with Integrity



Since 1998, the MFA Oil Foundation has awarded approximately \$1.5 million in grants to support youth, education, human services and civic projects.

There is no gray area when it comes to MFA Oil's stance on ethics and corporate citizenship in the company's guiding principles: "When in doubt, do the right thing, ethically and morally."

Those words set forth an unequivocal directive for the cooperative to operate with integrity, fairness and respect in all its dealings. No matter the relationship whether it be with owners, customers, employees, vendors or communities where the company does business—the principles set clear expectations for how MFA Oil interacts with its stakeholders.

The goal of these standards is to ensure the cooperative's farmer-owners and employees can take pride in being a part of MFA Oil. One of the ways the company seeks to do right by its patrons is by striving for win-win solutions to problems, issues and negotiations.

"We stress fairness in all our business dealings," says Wayne Wright, a farmer from Cincinnati, Iowa, and a member of the MFA Oil Board of Directors. "The cooperative's actions reflect back on everyone who is affiliated with it. The board takes this to heart and works hard to make certain the company is acting in accordance with our ethical expectations."

One of the ways the company endeavors to be a good corporate citizen is by giving back to the communities where it does business. Wright sees this as an integral part of the cooperative's culture.

"We give to a number of communities every year with grants from the MFA Oil Foundation and through corporate donations," Wright says. "It's nice to be able to show people we care about their community and remind them of our presence and support."

The MFA Oil Foundation awarded nearly \$300,000 in grants to 81 nonprofit organizations throughout the company's trade territory, in 2016. Since its inception in 1998, the foundation has given out approximately \$1.5 million in grants to support youth, education, human services and civic projects. The grants are primarily funded by pre-tax, non-member income. "I've been able to attend several of the grant presentations, and the recipients are always so thankful for our assistance," Wright says. "It's really a win-win situation for everyone involved. The nonprofits get financial assistance, the members get support for their communities and the cooperative benefits from building stronger relations in the area."

Additionally, the company provides scholarships through the MFA Foundation, a nonprofit organization jointly administered by MFA Oil and MFA Incorporated. The scholarships are given to high school seniors in the companies' trade territories. The majority of the scholarships are for \$2,000, and all may be used at any college or university. Last year, the MFA Foundation awarded \$680,000 in scholarships to 342 students.



>> WAYNE WRIGHT Board of Director, District 2 – Northeast

New Grease Available

MFA Oil is rolling out a new grease product with molybdenum disulfide (moly) that provides enhanced plating protection to equipment. Sho-Me 3% Moly Grease reduces friction between sliding metal parts during extreme pressure and was formulated to meet the requirements of original equipment manufacturers.

Moly-based greases work great on roller bearings subjected to heavy loads, shock loading and highs speeds. Sho-Me 3% Moly Grease will be available by the end of October. Talk to your local plant manager to place an order.

USDA Forecasts Hope for Farm Economy

Farm income is expected to rise for the first time since 2013, signaling a potential bottom to agriculture's prolonged slump. New projections from the U.S. Department of Agriculture show net farm income, a broad measure of agricultural profits, at \$63.4 billion, up \$1.9 billion or 3.1 percent compared to 2016. Much of the increase came from sales of inventory in grain bins and higher revenue from livestock and milk. Another sign of stability in the farm sector is the projected rise in land values of 2.3 percent, up from a dip of 0.3 percent in 2016. USDA forecast cash receipts from chicken broilers and hogs to increase 15 percent, with cattle up 5.7 percent.

Seeking 2018 Interns

Nine students joined MFA Oil for a successful summer internship program this year, and the company is already looking for recruits for 2018. Positions are available in a number of departments across the company and offer students hands-on, real-world experience.

The internship program runs from late May to early August and is focused on providing participants with meaningful projectbased assignments.

If you know of anyone who may be interested in an internship with MFA Oil Company, please have them contact our recruitment team by email at hrrecruiter@mfaoil.com.



Building for the Future

The construction department at MFA Oil Company may not have many employees, but what it lacks in manpower it more than makes up with its productivity. The department is primarily staffed by Brian Arnold, senior construction specialist, who works directly with architects, engineers and contractors on the company's projects.

"I oversee the work on all new construction jobs and any major remodels or repairs the company's facilities may need," Arnold says. "New construction is fun, but the renovation projects are just as important to our operations."

The department has been responsible for many projects in recent years, including construction of nine new Break Time stores, two bulk fuel and propane offices, two Big O Tires stores, a Big O Tires warehouse and 20 major remodels since 2012.

"We've been busy reimaging many of our Break Time stores with new soda fountains and coffee service stations," Arnold says. "The schedule with remodels is usually more intense than new construction projects because we are trying to minimize any downtime for customers."

The Break Time division has kept Arnold busy this past year with new stores being constructed in Lee's Summit, Mo.; Clinton, Mo.; and Moberly, Mo.

"The Lee's Summit store was a fun project because it's a new prototype we are testing for future Break Time locations," Arnold says. "It was designed with an open, customer-centric layout, raised ceilings, a carwash and a redesigned logo."

MFA Oil's Big O Tires franchise stores have also taken advantage of the construction department's services. New stores were built in Fayetteville, Ark., and Jefferson City, Mo., within the last year, and the company purchased and remodeled two additional locations in Oklahoma.

"BUILDING THE BUSINESS SUPPORT CAMPUS ENABLED US TO UPGRADE MANY OF OUR OUTDATED FACILITIES BY MOVING THEM TO A CENTRAL LOCATION WITH STATE-OF-THE-ART TECHNOLOGY." – ED HARPER

In addition to projects for the company's retail business units, the department has managed the construction of new offices for bulk fuel and propane plants in Centerville, Iowa, and Rogersville, Mo.

Easily the biggest project the construction department has recently been involved with was the opening of the MFA Oil Business Support Campus in Moberly, Mo., in 2016. The 33-





acre property is now home to the company's distribution center, maintenance department, parts and packaged goods warehouses, training center, logistics department, product development and quality control lab, 32,000-square-foot truck services shop, and bulk lubricant storage facility.

"Building the Business Support Campus enabled us to upgrade many of our outdated facilities by moving them to a central location with state-of-the-art technology," says Ed Harper, vice president of retail automotive, who manages the construction department. "That facility has given us many of the resources our employees needed to better serve our farmer-owners more efficiently."

As the company continues to grow, the construction department stands ready to guide upcoming building and remodeling efforts.

Westward Expansion Bolsters Kansas Operations

Not long ago, MFA Oil's sales in the state of Kansas came strictly from cross-state commerce. Now, through a series of recent acquisitions, the cooperative has secured a strong base of operations in the Sunflower State.

The latest additions, Chanute LP Gas Inc., based in Chanute, Kan., and Tri-Star Propane Inc., based in Severy, Kan., were announced in late August. Both companies are propane retailers located in southeast Kansas.

"These businesses fit well with our expanding operational footprint in Kansas and will enhance our ability to provide premium service and products to customers in the area," says Jon Ihler, MFA Oil vice president of sales and marketing. "The owners of Chanute LP Gas and Tri-Star Propane have built great businesses with excellent reputations, and we are honored to have the opportunity to carry on their traditions."

MFA Oil made its initial move into Kansas when it acquired Lybarger Oil Inc. in Garnett, Kan., in October 2015. The company soon followed that purchase with a deal to acquire S&S Oil and Propane Company, Inc. of Emporia, Kan., in February 2016. MFA Oil also purchased Spring Hill Oil Company of Spring Hill, Kan., this past June.

"There's no doubt the broadening of our territory into Kansas has been a major step forward for us," says Ihler. "We have acquired several high-quality companies, and the volume of business we picked up brings great value to our member-owners."

The acquisitions of Chanute LP Gas Inc. and Tri-Star Propane Inc. represent the sixth and seventh companies MFA Oil purchased in its 2017 fiscal year, which began Sept. 1, 2016. The company plans to continue evaluating acquisition opportunities in its existing market area and new territories.



• 2.3 million gallons of refined fuel and 515,000 gallons of propane annually

Lending Disaster Victims a Helping Hand

Kent Kunkel got his first taste of disaster relief when he traveled with volunteers from his church to help the victims of the catastrophic tornado that ripped through the city of Joplin, Mo., in 2011.

"That type of experience makes you appreciate what's really important in life," Kunkel says. "It gets in your blood and has motivated us to find ways to keep helping people."

Kunkel and fellow members of St. Paul's Lutheran Church in Concordia, Mo., were so inspired by their trip to Joplin that they have acquired a disaster response trailer stocked with equipment to provide essential aid during times of emergencies.

The church purchased the trailer with the help of grants from the Lutheran Church-Missouri Synod's Office of National Mission Disaster Response, the Lutheran Women's Missionary League and the MFA Oil Foundation.

"We are so grateful to the MFA Oil Foundation for its contribution to our efforts," says Kunkel, who coordinates his congregation's disaster relief team. "The grant we received helped to purchase chainsaws, pole saws, safety gear, radios, a wheelbarrow and a propane-powered generator."

The trailer has already been dispatched to the Missouri communities of Oak Grove, Odessa and Smithville in response to a series of tornadoes that struck on March 6, 2017. The storms damaged hundreds of homes in the region.

"WE HAVE QUITE A FEW MFA DIL FARMER-MEMBERS WHO ARE ON DUR DISASTER RELIEF TEAM. WHEN WE RESPOND TO A CALL FOR HELP, WE USUALLY SEND ABOUT 12 VOLUNTEERS WITH THE TRAILER. THIS HAS BEEN A GREAT WAY FOR OUR CONGREGATION TO BAND TOGETHER AND HELP OTHERS." - KENT KUNKEL

"We do what we can to help people in their time of need," Kunkel says. "We're not an immediate response crew – we let the professionals go first, and we also need the permission of the homeowners – but we can lend people a hand when their community is overwhelmed with cleanup efforts."

The volunteers who work with the church's disaster response trailer are required to participate in a Lutheran Early Response Training class. The St. Paul's congregation has already held two classes where volunteers undergo a full day's worth of training on safety do's and don'ts, how to work through stressful situations and the call to serve.





Members of St. Paul's Lutheran Church in Concordia, Mo., use their disaster relief trailer to help clear debris following destructive storms and provide homeowners with assistance in cleanup efforts.

"We have quite a few MFA Oil farmer-members who are on our disaster relief team," Kunkel says. "When we respond to a call for help, we usually send about 12 volunteers with the trailer. This has been a great way for our congregation to band together and help others."

The MFA Oil Foundation regularly provides grants to support nonprofit organizations in communities where MFA Oil has a significant concentration of members and employees. The grants are primarily funded by pre-tax, non-member income. The foundation awarded more than \$290,000 in grants to 81 organizations during MFA Oil's 2016 fiscal year. More information about the MFA Oil Foundation, program guidelines, eligibility and grant applications can be found at mfaoil.com/foundation. ■

Four Tips to Improve Fuel Tank Maintenance

Fuel tank maintenance is an indispensable part of ensuring the quality of diesel fuel. Incorporating a preventative tank care plan protects stored fuel and maximizes the service life of diesel-powered equipment. Don North, MFA Oil director of product development and quality control, offers four important tips for proper tank maintenance.

1. CHANGE THE FUEL FILTER TWICE A YEAR

One way to easily care for a storage tank is to replace the fuel filter every six months. Changing the filter prevents sediment and other fuel contaminants from building up inside a storage tank.

"Typically a 10 micron filter is recommended to prevent and remove fuel contamination," says North. "Using a good 10 micron filter on your transfer pump will help reduce contaminated fuel in your fleet and help prevent engine damage."

2. PAINT YOUR TANK WHITE

Simply painting your fuel tank white will help prevent one of the most common maintenance issues: water contamination. Condensation is a common way water finds its way inside a tank and contaminates fuel. Tanks painted white stay cooler, which lessens the amount of condensation produced when temperatures fluctuate. Fuel contaminated by water has reduced lubricity and can cause pump and injector failures.

Additionally, tanks with water contamination are susceptible to bacteria growth, which can lead to plugged fuel filters and have the potential to spread from storage tanks to equipment fuel tanks. If your fuel



tests positive for bacteria, you need to use a biocide to correct the issue. Biocides are available from the MFA Oil laboratory, after recommendation.

A water gauge can help you detect water contamination in tanks, but there is a cheaper option. You can check for water by smearing a stick with waterfinding paste and dipping it in the tank. If the paste changes color, you have a water contamination problem.

3. ROTATE AND CLEAN THE TANK REGULARLY

Frequent fuel rotation is important in maintaining fuel quality. Having the right size tank with regular rotation helps preserve the quality of your fuel and increase the life of the tank.

"People often fail to completely fill their tank with fuel," says North. "If there's open space at the top of the tank, it can lead to condensation, rust and fuel contamination. This is why it's important to make sure you have a properly sized tank."

If sediment or water is suspected to be in the tank, or a rotten egg smell is present, a deep clean may be necessary. Clogs in fuel transfer pumps less than six months old are another sign of sediment presence.

Safety is important to consider when deep cleaning tanks. North recommends contacting MFA Oil or a professional tank cleaning company to determine ways to clean the tank in the safest and most efficient manner possible.

4. PURCHASE PREMIUM DIESEL FUEL

North says the easiest way to ensure fuel quality is to start with a premium diesel fuel.

"We formulate our BOSS Performance Diesel with oxidation inhibitors and fuel stabilizers that help improve the storage life of the fuel in the tank," North says. "If you've got a significant amount of money invested in your fleet, it only makes sense to buy premium diesel fuel to protect that investment."

Following these tips will help protect the quality of your fuel and integrity of your tank, while simultaneously keeping equipment running effectively and dependably. **□** – **By Michelle Cummings**



ARE YOU A YOUNG FARMER BETWEEN THE AGES OF 21 AND 45?

MFA Oil invites you to apply for its 2018 Young Farmers Conference.

During this all-expenses-paid, two-day event, you and a guest will hear from first-class speakers and agribusiness experts. You will also take part in discussions on issues and challenges facing agriculture, cooperatives and rural America. This is a great opportunity to provide feedback about the needs and expectations of young farmers. Additionally, the Young Farmers Conference provides a unique networking opportunity to gain valuable, ongoing connections for the future.

January 10-11, 2018 The Lodge at Old Kinderhook • Camdenton, Missouri



www.youngfarmers.mfaoil.com

Hurry! The application deadline is November 15.

Participants will be selected and notified by December 1.